



The MARYLAND
HEALTH SERVICES COST REVIEW COMMISSION

University of Maryland Capitol Region Health

FY 2018 Community Benefit Narrative Report

PART ONE: ORIGINAL NARRATIVE SUBMISSION

Q1.

Introduction:

COMMUNITY BENEFIT NARRATIVE REPORTING INSTRUCTIONS

The Maryland Health Services Cost Review Commission's (HSCRC's or Commission's) Community Benefit Report, required under §19-303 of the Health General Article, Maryland Annotated Code, is the Commission's method of implementing a law that addresses the growing interest in understanding the types and scope of community benefit activities conducted by Maryland's nonprofit hospitals.

The Commission developed a two-part community benefit reporting system that includes an inventory spreadsheet that collects financial and quantitative information and a narrative report to strengthen and supplement the inventory spreadsheet. The guidelines and inventory spreadsheet were guided, in part, by the VHA, CHA, and others' community benefit reporting experience, and was then tailored to fit Maryland's unique regulatory environment. This reporting tool serves as the narrative report. The instructions and process for completing the inventory spreadsheet remain the same as in prior years. The narrative is focused on (1) the general demographics of the hospital community, (2) how hospitals determined the needs of the communities they serve, (3) hospital community benefit administration, and (4) community benefit external collaboration to develop and implement community benefit initiatives.

The Commission moved to an online reporting format beginning with the FY 2018 reports. In this new template, responses are now mandatory unless marked as optional. If you submit a report without responding to each question, your report may be rejected. You would then be required to fill in the missing answers before resubmitting. Questions that require a narrative response have a limit of 20,000 characters. This report need not be completed in one session and can be opened by multiple users.

For technical assistance, contact HCBHelp@hilltop.umbc.edu.

Q2. Section I - General Info Part 1 - Hospital Identification

Q3. Please confirm the information we have on file about your hospital for FY 2018.

	Is this information correct?		If no, please provide the correct information here:
	Yes	No	
The proper name of your hospital is: UM Capitol Region Health	<input checked="" type="radio"/>	<input type="radio"/>	
Your hospital's ID is: Laurel - 210055, Prince George's 210003	<input checked="" type="radio"/>	<input type="radio"/>	
Your hospital is part of the hospital system called University of Maryland Medical System.	<input checked="" type="radio"/>	<input type="radio"/>	
Your hospital was licensed for Laurel - 61, Prince George's - 230 beds during FY 2018.	<input checked="" type="radio"/>	<input type="radio"/>	
Your hospital's primary service area includes the following zip codes: Laurel - 20705, 20706, 20707, 20708, 20723, 20724, 20740, 20770, 20784, 20904; Prince George's - 20706, 20737, 20743, 20746, 20747, 20748, 20774, 20784, 20785	<input checked="" type="radio"/>	<input type="radio"/>	
Your hospital shares some or all of its primary service area with the following hospitals: Doctors Community Hospital, Fort Washington Medical Center, Holy Cross Hospital, Howard County General Hospital, MedStar Montgomery Medical Center, MedStar Southern Maryland Hospital Center, Suburban Hospital, Washington Adventist Hospital	<input checked="" type="radio"/>	<input type="radio"/>	

Q4. The next two questions ask about the area where your hospital directs its community benefit efforts, called the Community Benefit Service Area. You may find [these community health statistics](#) useful in preparing your responses.

Q5. (Optional) Please describe any other community health statistics that your hospital uses in its community benefit efforts.

Transforming Health in Prince George's County, Maryland: A Public Health Impact Study, University of Maryland School of Public Health, July 2012

Q6. (Optional) Please attach any files containing community health statistics that your hospital uses in its community benefit efforts.

[UMDSPH_ImpactStudy.pdf](#)
4.9MB
application/pdf

Q7. Section I - General Info Part 2 - Community Benefit Service Area

Q8. Please select the county or counties located in your hospital's CBSA.

- Allegany County
- Charles County
- Prince George's County
- Anne Arundel County
- Dorchester County
- Queen Anne's County
- Baltimore City
- Frederick County
- Somerset County

- Baltimore County
- Calvert County
- Caroline County
- Carroll County
- Cecil County

- Garrett County
- Harford County
- Howard County
- Kent County
- Montgomery County

- St. Mary's County
- Talbot County
- Washington County
- Wicomico County
- Worcester County

Q9. Please check all Allegany County ZIP codes located in your hospital's CBSA.

This question was not displayed to the respondent.

Q10. Please check all Anne Arundel County ZIP codes located in your hospital's CBSA.

- | | | | |
|---|--------------------------------|--------------------------------|--------------------------------|
| <input type="checkbox"/> 20701 | <input type="checkbox"/> 20764 | <input type="checkbox"/> 21060 | <input type="checkbox"/> 21144 |
| <input type="checkbox"/> 20711 | <input type="checkbox"/> 20776 | <input type="checkbox"/> 21061 | <input type="checkbox"/> 21146 |
| <input type="checkbox"/> 20714 | <input type="checkbox"/> 20778 | <input type="checkbox"/> 21076 | <input type="checkbox"/> 21226 |
| <input checked="" type="checkbox"/> 20724 | <input type="checkbox"/> 20779 | <input type="checkbox"/> 21077 | <input type="checkbox"/> 21240 |
| <input type="checkbox"/> 20733 | <input type="checkbox"/> 20794 | <input type="checkbox"/> 21090 | <input type="checkbox"/> 21401 |
| <input type="checkbox"/> 20736 | <input type="checkbox"/> 21012 | <input type="checkbox"/> 21108 | <input type="checkbox"/> 21402 |
| <input type="checkbox"/> 20751 | <input type="checkbox"/> 21032 | <input type="checkbox"/> 21113 | <input type="checkbox"/> 21403 |
| <input type="checkbox"/> 20754 | <input type="checkbox"/> 21035 | <input type="checkbox"/> 21114 | <input type="checkbox"/> 21405 |
| <input type="checkbox"/> 20755 | <input type="checkbox"/> 21037 | <input type="checkbox"/> 21122 | <input type="checkbox"/> 21409 |
| <input type="checkbox"/> 20758 | <input type="checkbox"/> 21054 | <input type="checkbox"/> 21140 | |

Q11. Please check all Baltimore City ZIP codes located in your hospital's CBSA.

This question was not displayed to the respondent.

Q12. Please check all Baltimore County ZIP codes located in your hospital's CBSA.

This question was not displayed to the respondent.

Q13. Please check all Calvert County ZIP codes located in your hospital's CBSA.

This question was not displayed to the respondent.

Q14. Please check all Caroline County ZIP codes located in your hospital's CBSA.

This question was not displayed to the respondent.

Q15. Please check all Carroll County ZIP codes located in your hospital's CBSA.

This question was not displayed to the respondent.

Q16. Please check all Cecil County ZIP codes located in your hospital's CBSA.

This question was not displayed to the respondent.

Q17. Please check all Charles County ZIP codes located in your hospital's CBSA.

This question was not displayed to the respondent.

Q18. Please check all Dorchester County ZIP codes located in your hospital's CBSA.

This question was not displayed to the respondent.

Q19. Please check all Frederick County ZIP codes located in your hospital's CBSA.

This question was not displayed to the respondent.

Q20. Please check all Garrett County ZIP codes located in your hospital's CBSA.

This question was not displayed to the respondent.

Q21. Please check all Harford County ZIP codes located in your hospital's CBSA.

This question was not displayed to the respondent.

Q22. Please check all Howard County ZIP codes located in your hospital's CBSA.

- | | | |
|---|--------------------------------|--------------------------------|
| <input type="checkbox"/> 20701 | <input type="checkbox"/> 21036 | <input type="checkbox"/> 21104 |
| <input checked="" type="checkbox"/> 20723 | <input type="checkbox"/> 21042 | <input type="checkbox"/> 21163 |
| <input type="checkbox"/> 20759 | <input type="checkbox"/> 21043 | <input type="checkbox"/> 21171 |
| <input type="checkbox"/> 20763 | <input type="checkbox"/> 21044 | <input type="checkbox"/> 21723 |
| <input type="checkbox"/> 20777 | <input type="checkbox"/> 21045 | <input type="checkbox"/> 21737 |
| <input type="checkbox"/> 20794 | <input type="checkbox"/> 21046 | <input type="checkbox"/> 21738 |
| <input type="checkbox"/> 20833 | <input type="checkbox"/> 21075 | <input type="checkbox"/> 21794 |
| <input type="checkbox"/> 21029 | <input type="checkbox"/> 21076 | <input type="checkbox"/> 21797 |

Q23. Please check all Kent County ZIP codes located in your hospital's CBSA.

This question was not displayed to the respondent.

Q24. Please check all Montgomery County ZIP codes located in your hospital's CBSA.

- | | | | | | |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|---|
| <input type="checkbox"/> 20705 | <input type="checkbox"/> 20833 | <input type="checkbox"/> 20853 | <input type="checkbox"/> 20871 | <input type="checkbox"/> 20882 | <input type="checkbox"/> 20903 |
| <input type="checkbox"/> 20707 | <input type="checkbox"/> 20837 | <input type="checkbox"/> 20854 | <input type="checkbox"/> 20872 | <input type="checkbox"/> 20886 | <input checked="" type="checkbox"/> 20904 |
| <input type="checkbox"/> 20812 | <input type="checkbox"/> 20838 | <input type="checkbox"/> 20855 | <input type="checkbox"/> 20874 | <input type="checkbox"/> 20889 | <input type="checkbox"/> 20905 |
| <input type="checkbox"/> 20814 | <input type="checkbox"/> 20839 | <input type="checkbox"/> 20860 | <input type="checkbox"/> 20876 | <input type="checkbox"/> 20895 | <input type="checkbox"/> 20906 |
| <input type="checkbox"/> 20815 | <input type="checkbox"/> 20841 | <input type="checkbox"/> 20861 | <input type="checkbox"/> 20877 | <input type="checkbox"/> 20896 | <input type="checkbox"/> 20910 |
| <input type="checkbox"/> 20816 | <input type="checkbox"/> 20842 | <input type="checkbox"/> 20862 | <input type="checkbox"/> 20878 | <input type="checkbox"/> 20899 | <input type="checkbox"/> 20912 |
| <input type="checkbox"/> 20817 | <input type="checkbox"/> 20850 | <input type="checkbox"/> 20866 | <input type="checkbox"/> 20879 | <input type="checkbox"/> 20901 | <input type="checkbox"/> 21771 |
| <input type="checkbox"/> 20818 | <input type="checkbox"/> 20851 | <input type="checkbox"/> 20868 | <input type="checkbox"/> 20880 | <input type="checkbox"/> 20902 | <input type="checkbox"/> 21797 |
| <input type="checkbox"/> 20832 | <input type="checkbox"/> 20852 | | | | |

Q25. Please check all Prince George's County ZIP codes located in your hospital's CBSA.

- | | | | |
|---|---|---|---|
| <input type="checkbox"/> 20601 | <input checked="" type="checkbox"/> 20712 | <input checked="" type="checkbox"/> 20743 | <input type="checkbox"/> 20772 |
| <input type="checkbox"/> 20607 | <input type="checkbox"/> 20715 | <input type="checkbox"/> 20744 | <input checked="" type="checkbox"/> 20774 |
| <input type="checkbox"/> 20608 | <input type="checkbox"/> 20716 | <input checked="" type="checkbox"/> 20745 | <input checked="" type="checkbox"/> 20781 |
| <input type="checkbox"/> 20613 | <input type="checkbox"/> 20720 | <input checked="" type="checkbox"/> 20746 | <input checked="" type="checkbox"/> 20782 |
| <input type="checkbox"/> 20623 | <input type="checkbox"/> 20721 | <input checked="" type="checkbox"/> 20747 | <input checked="" type="checkbox"/> 20783 |
| <input checked="" type="checkbox"/> 20705 | <input type="checkbox"/> 20722 | <input checked="" type="checkbox"/> 20748 | <input checked="" type="checkbox"/> 20784 |
| <input checked="" type="checkbox"/> 20706 | <input type="checkbox"/> 20735 | <input type="checkbox"/> 20762 | <input checked="" type="checkbox"/> 20785 |
| <input checked="" type="checkbox"/> 20707 | <input checked="" type="checkbox"/> 20737 | <input type="checkbox"/> 20769 | <input checked="" type="checkbox"/> 20904 |
| <input checked="" type="checkbox"/> 20708 | <input checked="" type="checkbox"/> 20740 | <input checked="" type="checkbox"/> 20770 | <input type="checkbox"/> 20912 |
| <input checked="" type="checkbox"/> 20710 | <input checked="" type="checkbox"/> 20742 | <input type="checkbox"/> 20771 | |

Q26. Please check all Queen Anne's County ZIP codes located in your hospital's CBSA.

This question was not displayed to the respondent.

Q27. Please check all Somerset County ZIP codes located in your hospital's CBSA.

This question was not displayed to the respondent.

Q28. Please check all St. Mary's County ZIP codes located in your hospital's CBSA.

This question was not displayed to the respondent.

Q29. Please check all Talbot County ZIP codes located in your hospital's CBSA.

This question was not displayed to the respondent.

Q30. Please check all Washington County ZIP codes located in your hospital's CBSA.

This question was not displayed to the respondent.

Q31. Please check all Wicomico County ZIP codes located in your hospital's CBSA.

This question was not displayed to the respondent.

Q32. Please check all Worcester County ZIP codes located in your hospital's CBSA.

This question was not displayed to the respondent.

Q33. How did your hospital identify its CBSA?

Based on ZIP codes in your Financial Assistance Policy. Please describe.

Based on ZIP codes in your global budget revenue agreement. Please describe.

Based on patterns of utilization. Please describe.

UM Prince George's Hospital Center and UM Laurel Regional Hospital primary and secondary service areas.

Other. Please describe.

In 2018, the CBSA also, includes zip codes/geographic areas where the most vulnerable populations (including but not necessarily limited to medically underserved, low-income, and minority populations) reside, based on the SocioNeeds Index. The 2018 SocioNeeds Index, created by Conduent Healthy Communities Institute, is a measure of socioeconomic need that is correlated with poor health outcomes. The SocioNeeds Index is calculated by Conduent Healthy Communities Institute using data from Claritas

Q34. (Optional) Is there any other information about your hospital's Community Benefit Service Area that you would like to provide?

Q35. Section I - General Info Part 3 - Other Hospital Info

Q36. Provide a link to your hospital's mission statement.

<https://umcapitalregion.org/about/mission-vision-values/>

Q37. Is your hospital an academic medical center?

Yes

No

Q38. (Optional) Is there any other information about your hospital that you would like to provide?

UNIVERSITY OF MARYLAND CAPITAL REGION HEALTH University of Maryland Capital Region Health (formerly Dimensions Healthcare System), is the largest not-for-profit provider of healthcare services in Prince George's County, Maryland. UM Capital includes University of Maryland Prince George's Hospital Center, Cheverly, MD; University of Maryland Laurel Regional Hospital, Laurel, Maryland; and University of Maryland Bowie Health Center, Bowie, Maryland. University of Maryland Capital Region Health is wholly owned by the University of Maryland Medical System. Leadership: Chairman, UM Capital Board of Directors – Bradford Seamon President & CEO, UM Capital Region Health - Sherry B. Perkins PhD, RN, FAAN Senior Vice President Strategic Planning & Business Development - Jeffrey L. Johnson, MBA, FACHE Senior Vice President & Chief Nurse Executive – Ron Laxton, DNP, RN Senior Vice President Clinical Integration and Ambulatory Services - Tiffany Sullivan, MPH Senior Vice President and Chief Medical Officer - Joseph L. Wright, MD, MPH, FAAP UNIVERSITY OF MARYLAND PRINCE GEORGE'S HOSPITAL CENTER: Located in Cheverly, Maryland, University of Maryland Prince George's Hospital Center (UM PGHC) is a private not-for-profit acute care teaching hospital and regional referral center which has been providing quality healthcare services to the southern Maryland region since 1944. Over the past 70 years, University of Maryland Prince George's Hospital Center has grown to become the region's major tertiary care center and one of its largest employers. UM PGHC is a member of the University of Maryland Capital Region Health (UM Capital), formerly Dimensions Healthcare System. Location: 3001 Hospital Drive, Cheverly, Maryland 20785 Facility type: Acute care teaching hospital and regional referral center Specialty services: A comprehensive range of inpatient and outpatient medical and surgical services including: • Emergency and trauma services (designated Level II regional trauma center for southern Maryland) • Critical care services • Cardiac care services (comprehensive cardiac care – only program of its kind in the County) o Open-heart surgery o Two cardiac catheterization labs (diagnostic & therapeutic cardiac cath, cardiac stenting) o 10 bed CCU and 66 telemetry beds o Cardiac diagnostic evaluation center o Cardiac rehabilitation • Laboratory and pathology testing • Medical and surgical services (virtually all adult specialties performed) • Maternal and child health o Labor and delivery postpartum units o Perinatal diagnostic center o Diabetes and pregnancy program o Neonatal intensive care unit (designated Level III, regional center for Prince George's County) o Inpatient pediatric unit o Chronic pediatric inpatient unit and outpatient program Other specialty services: • Ambulatory and outpatient services o Surgical short-stay center o Special procedures o Diabetes treatment center o Mt. Washington Pediatric Hospital at UM Prince George's Hospital Center o University of Maryland Bowie Health Center o University of Maryland Capital Region Surgery Center (a freestanding ambulatory surgery center located on the University of Maryland Bowie Health Center campus) o University of Maryland Family Health and Wellness Center at Cheverly (Honoring Gladys Noon Spellman) o University of Maryland Family Health and Wellness Center at Laurel o University of Maryland Family Health and Wellness Center at Suitland o University of Maryland Senior Health Center (Honoring Rachel H. Pemberton) • Behavioral health services o Inpatient psychiatric unit for adults o Hospital-based sexual assault center o Partial hospitalization program o Emergency psychiatric services • Domestic Violence and Sexual Assault Center • Graduate medical education, internal medicine and family medicine residency programs Facilities: • The Surgical Services and Critical Care Center Pavilion houses a 24 bed intensive care unit, 10 operating suites, a 15 bay Post Anesthesia Care Unit, 11 private room Short Stay Center, two state-of-the-art cardiac catheterization labs with 10 Transcure bays and 2 endoscopy suites with 9 recovery bay s. • The UM PGHC Emergency Department includes 15 acute care rooms, 4 hall area beds, a 4 bed resuscitation area, 2 isolation rooms, 2 dedicated trauma rooms, an 8 bed ambulatory emergency area, with 2 minor trauma/suture rooms and a designated ENT room, point-of-care testing, a 16-bed distinct observation unit and a blood bank. • UM PGHC also has a licensed, freestanding emergency department, located on the Bowie Health Center campus. The emergency department was recently renovated and expanded from 15 beds to a total of 27 beds, including two cardiac rooms, 2 suture rooms and an isolation room. The department also has a stat lab, and radiology services, including CT and ultrasound. UNIVERSITY OF MARYLAND LAUREL REGIONAL HOSPITAL: University of Maryland Laurel Regional Hospital (UM LRH) was founded in 1978 and is a not-for-profit, full-service community hospital serving residents of Prince George's County and portions of Anne Arundel, Howard, and Montgomery counties. Laurel Regional Hospital is conveniently located in Laurel, Maryland Leadership: President, UM LRH (Interim) – Trudy Hall, M.D. Location: 7300 Van Dusen Road, Laurel, Maryland 20707 Facility type: Full-service community hospital Services: University of Maryland Laurel Regional Hospital provides a comprehensive range of inpatient and outpatient services including: • Behavioral Health Services (with an inpatient psychiatric unit for adults and outpatient partial hospitalization program) □ • Cardiorespiratory Services (Echo, EKG, Stress tests, EEG, PFT) □ • Diabetes Services (inpatient and outpatient services) □ • Critical Care Services (includes-bed intensive care unit) □ • Emergency Services (24- hour emergency care) □ • Infusion Services (outpatient intravenous infusion services) □ • Medical / Surgical Services (virtually all adult specialties performed) □ • Physical Rehabilitation (only hospital-based accredited inpatient rehabilitation unit in Prince George's County) □ • Pulmonary Rehabilitation (outpatient pulmonary rehabilitation program) □ • Sleep Wellness Center (sleep medicine services) □ • Specialty Care Unit (chronic care specialty unit providing comprehensive nursing care in a full-service hospital environment) □ • Wound Care & Hyperbaric Medicine Center (wound treatment and healing services) Facilities: □ The emergency department includes 14 acute rooms; 10 intermediate rooms; 6 fast track rooms (ambulatory care) and one resuscitation/trauma room; 4 isolation rooms and 3 more that can be converted to negative pressure isolation rooms; POC (Point of Care) lab, and blood bank located in the main lab. □ In-house Infusion Services (3 chairs). □ In-house Specialty Care Unit includes 46 beds. □ Surgical services houses 3 operating suites, a 10-bed intensive care unit and 2 endoscopy suites.

Q39. (Optional) Please upload any supplemental information that you would like to provide.

Q40. Section II - CHNA Part 1 - Timing & Format

Q41. Within the past three fiscal years, has your hospital conducted a CHNA that conforms to IRS requirements?

- Yes
- No

Q42. Please explain why your hospital has not conducted a CHNA that conforms to IRS requirements, as well as your hospital's plan and timeframe for completing a CHNA.

This question was not displayed to the respondent.

Q43. When was your hospital's first-ever CHNA completed? (MM/DD/YYYY)

06/07/2013

Q44. When was your hospital's most recent CHNA completed? (MM/DD/YYYY)

06/06/2016

Q45. Please provide a link to your hospital's most recently completed CHNA.

https://umcapitalregion.org/wp-content/uploads/2017/11/6-2-16-CHNA-Report_1.pdf

Q46. Did you make your CHNA available in other formats, languages, or media?

- Yes
- No

Q47. Please describe the other formats in which you made your CHNA available.

Printed copies are provided on demand.

Q48. Section II - CHNA Part 2 - Participants

Q49. Please use the table below to tell us about the internal participants involved in your most recent CHNA.

	CHNA Activities										Other - If you selected "Other (explain)," please type your explanation below:
	N/A - Person or Organization was not Involved	N/A - Position or Department does not exist	Member of CHNA Committee	Participated in development of CHNA process	Advised on CHNA best practices	Participated in primary data collection	Participated in identifying priority health needs	Participated in identifying community resources to meet health needs	Provided secondary health data	Other (explain)	
CB/ Community Health/Population Health Director (facility level)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not Involved	N/A - Position or Department does not exist	Member of CHNA Committee	Participated in development of CHNA process	Advised on CHNA best practices	Participated in primary data collection	Participated in identifying priority health needs	Participated in identifying community resources to meet health needs	Provided secondary health data	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:
CB/ Community Health/ Population Health Director (system level)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not Involved	N/A - Position or Department does not exist	Member of CHNA Committee	Participated in development of CHNA process	Advised on CHNA best practices	Participated in primary data collection	Participated in identifying priority health needs	Participated in identifying community resources to meet health needs	Provided secondary health data	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:
Senior Executives (CEO, CFO, VP, etc.) (facility level)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not Involved	N/A - Position or Department does not exist	Member of CHNA Committee	Participated in development of CHNA process	Advised on CHNA best practices	Participated in primary data collection	Participated in identifying priority health needs	Participated in identifying community resources to meet health needs	Provided secondary health data	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:
Senior Executives (CEO, CFO, VP, etc.) (system level)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not Involved	N/A - Position or Department does not exist	Member of CHNA Committee	Participated in development of CHNA process	Advised on CHNA best practices	Participated in primary data collection	Participated in identifying priority health needs	Participated in identifying community resources to meet health needs	Provided secondary health data	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:
Board of Directors or Board Committee (facility level)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not Involved	N/A - Position or Department does not exist	Member of CHNA Committee	Participated in development of CHNA process	Advised on CHNA best practices	Participated in primary data collection	Participated in identifying priority health needs	Participated in identifying community resources to meet health needs	Provided secondary health data	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:
Board of Directors or Board Committee (system level)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not Involved	N/A - Position or Department does not exist	Member of CHNA Committee	Participated in development of CHNA process	Advised on CHNA best practices	Participated in primary data collection	Participated in identifying priority health needs	Participated in identifying community resources to meet health needs	Provided secondary health data	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:
Clinical Leadership (facility level)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not Involved	N/A - Position or Department does not exist	Member of CHNA Committee	Participated in development of CHNA process	Advised on CHNA best practices	Participated in primary data collection	Participated in identifying priority health needs	Participated in identifying community resources to meet health needs	Provided secondary health data	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:
Clinical Leadership (system level)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not Involved	N/A - Position or Department does not exist	Member of CHNA Committee	Participated in development of CHNA process	Advised on CHNA best practices	Participated in primary data collection	Participated in identifying priority health needs	Participated in identifying community resources to meet health needs	Provided secondary health data	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:
Population Health Staff (facility level)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not Involved	N/A - Position or Department does not exist	Member of CHNA Committee	Participated in development of CHNA process	Advised on CHNA best practices	Participated in primary data collection	Participated in identifying priority health needs	Participated in identifying community resources to meet health needs	Provided secondary health data	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:

N/A - Person or Organization was not involved	N/A - Position or Department does not exist	Member of CHNA Committee	Participated in development of CHNA process	Advised on CHNA best practices	Participated in primary data collection	Participated in identifying priority health needs	Participated in identifying community resources to meet health needs	Provided secondary health data	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:
---	---	--------------------------	---	--------------------------------	---	---	--	--------------------------------	-----------------	--

Q50. Section II - CHNA Part 2 - Participants (continued)

Q51. Please use the table below to tell us about the external participants involved in your most recent CHNA.

	CHNA Activities										Click to write Column 2
	N/A - Person or Organization was not involved	Member of CHNA Committee	Participated in development of the CHNA process	Advised on CHNA best practices	Participated in primary data collection	Participated in identifying priority health needs	Participated in identifying community resources to meet health needs	Provided secondary health data	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:	
Other Hospitals -- Please list the hospitals here: Doctor's Community Hospital, Fort Washington Medical Center, Medstar Southern Maryland Hospital Center	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Local Health Department -- Please list the Local Health Departments here: Prince George's County Health Department	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Local Health Improvement Coalition -- Please list the LHICs here: Prince George's Health Action Coalition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Maryland Department of Health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Maryland Department of Human Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Maryland Department of Natural Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Maryland Department of the Environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		

Maryland Department of Transportation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
	N/A - Person or Organization was not involved	Member of CHNA Committee	Participated in the development of the CHNA process	Advised on CHNA best practices	Participated in primary data collection	Participated in identifying priority health needs	Participated in identifying community resources to meet health needs	Provided secondary health data	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:
Maryland Department of Education	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
	N/A - Person or Organization was not involved	Member of CHNA Committee	Participated in the development of the CHNA process	Advised on CHNA best practices	Participated in primary data collection	Participated in identifying priority health needs	Participated in identifying community resources to meet health needs	Provided secondary health data	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:
Area Agency on Aging -- Please list the agencies here: Prince George's County Area Agency on Aging	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not involved	Member of CHNA Committee	Participated in the development of the CHNA process	Advised on CHNA best practices	Participated in primary data collection	Participated in identifying priority health needs	Participated in identifying community resources to meet health needs	Provided secondary health data	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:
Local Govt. Organizations -- Please list the organizations here: Prince George's County Health Department; Maryland National Capital Park and Planning Commission; City of Laurel; City of Greenbelt; City of District Heights; Prince George's County Department of Housing and Community Development; Prince George's County Department of Social Services; Prince George's County Fire/EMS Department; Prince George's County Department of Family Services; Prince George's County Department of Public Works and Transportation; Maryland House of Delegates; Maryland Senate; Prince George's County Department of Housing and Community Development; Prince George's County Department of Corrections; Prince George's County Police Department	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not involved	Member of CHNA Committee	Participated in the development of the CHNA process	Advised on CHNA best practices	Participated in primary data collection	Participated in identifying priority health needs	Participated in identifying community resources to meet health needs	Provided secondary health data	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:
Faith-Based Organizations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not involved	Member of CHNA Committee	Participated in the development of the CHNA process	Advised on CHNA best practices	Participated in primary data collection	Participated in identifying priority health needs	Participated in identifying community resources to meet health needs	Provided secondary health data	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:
School - K-12 -- Please list the schools here: Prince George's County Public Schools	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not involved	Member of CHNA Committee	Participated in the development of the CHNA process	Advised on CHNA best practices	Participated in primary data collection	Participated in identifying priority health needs	Participated in identifying community resources to meet health needs	Provided secondary health data	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:
School - Colleges and/or Universities -- Please list the schools here: University of Maryland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not involved	Member of CHNA Committee	Participated in the development of the CHNA process	Advised on CHNA best practices	Participated in primary data collection	Participated in identifying priority health needs	Participated in identifying community resources to meet health needs	Provided secondary health data	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:
School of Public Health -- Please list the schools here: University of Maryland School of Public Health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not involved	Member of CHNA Committee	Participated in the development of the CHNA process	Advised on CHNA best practices	Participated in primary data collection	Participated in identifying priority health needs	Participated in identifying community resources to meet health needs	Provided secondary health data	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:

School - Medical School -- Please list the schools here:

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
N/A - Person or Organization was not involved	Member of CHNA Committee	Participated in the development of the CHNA process	Advised on CHNA best practices	Participated in primary data collection	Participated in identifying priority health needs	Participated in identifying community resources to meet health needs	Provided secondary health data	Other (explain)	

Other - If you selected "Other (explain)," please type your explanation below:

School - Nursing School -- Please list the schools here:

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
N/A - Person or Organization was not involved	Member of CHNA Committee	Participated in the development of the CHNA process	Advised on CHNA best practices	Participated in primary data collection	Participated in identifying priority health needs	Participated in identifying community resources to meet health needs	Provided secondary health data	Other (explain)	

Other - If you selected "Other (explain)," please type your explanation below:

School - Dental School -- Please list the schools here:

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
N/A - Person or Organization was not involved	Member of CHNA Committee	Participated in the development of the CHNA process	Advised on CHNA best practices	Participated in primary data collection	Participated in identifying priority health needs	Participated in identifying community resources to meet health needs	Provided secondary health data	Other (explain)	

Other - If you selected "Other (explain)," please type your explanation below:

School - Pharmacy School -- Please list the schools here:

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
N/A - Person or Organization was not involved	Member of CHNA Committee	Participated in the development of the CHNA process	Advised on CHNA best practices	Participated in primary data collection	Participated in identifying priority health needs	Participated in identifying community resources to meet health needs	Provided secondary health data	Other (explain)	

Other - If you selected "Other (explain)," please type your explanation below:

Behavioral Health Organizations -- Please list the organizations here:

Community Counseling and Mentoring Services, Inc., Prince George's County Health Department

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
N/A - Person or Organization was not involved	Member of CHNA Committee	Participated in the development of the CHNA process	Advised on CHNA best practices	Participated in primary data collection	Participated in identifying priority health needs	Participated in identifying community resources to meet health needs	Provided secondary health data	Other (explain)	

Other - If you selected "Other (explain)," please type your explanation below:

Social Service Organizations -- Please list the organizations here:

The ARC, Heart to Hand, The Community Foundation of Prince George's County, River Jordan Project, Inc., United Way

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
N/A - Person or Organization was not involved	Member of CHNA Committee	Participated in the development of the CHNA process	Advised on CHNA best practices	Participated in primary data collection	Participated in identifying priority health needs	Participated in identifying community resources to meet health needs	Provided secondary health data	Other (explain)	

Other - If you selected "Other (explain)," please type your explanation below:

Post-Acute Care Facilities -- please list the facilities here:

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
N/A - Person or Organization was not involved	Member of CHNA Committee	Participated in the development of the CHNA process	Advised on CHNA best practices	Participated in primary data collection	Participated in identifying priority health needs	Participated in identifying community resources to meet health needs	Provided secondary health data	Other (explain)	

Other - If you selected "Other (explain)," please type your explanation below:

Community/Neighborhood Organizations -- Please list the organizations here:

Wild Turkey Clan, Cedarville Band of Piscataway Conoy,

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
N/A - Person or Organization was not involved	Member of CHNA Committee	Participated in the development of the CHNA process	Advised on CHNA best practices	Participated in primary data collection	Participated in identifying priority health needs	Participated in identifying community resources to meet health needs	Provided secondary health data	Other (explain)	

Other - If you selected "Other (explain)," please type your explanation below:

Consumer/Public Advocacy Organizations -- Please list the organizations here:

African Women's Cancer Awareness Association, La Clinica del Pueblo, Prince George's County Chamber of Commerce

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
N/A - Person or Organization was not involved	Member of CHNA Committee	Participated in the development of the CHNA process	Advised on CHNA best practices	Participated in primary data collection	Participated in identifying priority health needs	Participated in identifying community resources to meet health needs	Provided secondary health data	Other (explain)	

Other - If you selected "Other (explain)," please type your explanation below:

Other -- If any other people or organizations were involved, please list them here:

United Healthcare Community Plan, Norvartis (Pharmacy), Mary's Center, Greater Baden Medical Center, Community Clinic, Inc.

N/A - Person or Organization was not involved	Member of CHNA Committee	Participated in the development of the CHNA process	Advised on CHNA best practices	Participated in primary data collection	Participated in identifying priority health needs	Participated in identifying community resources to meet health needs	Provided secondary health data	Other (explain)
				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other - If you selected "Other (explain)," please type your explanation below:

Q52. Section II - CHNA Part 3 - Follow-up

Q53. Has your hospital adopted an implementation strategy following its most recent CHNA, as required by the IRS?

Yes
 No

Q54. Please enter the date on which the implementation strategy was approved by your hospital's governing body.

January 26, 2017

Q55. Please provide a link to your hospital's CHNA implementation strategy.

<https://www.umms.org/capital/community/community-health-needs-assessment-and-implementation-report>

Q56. Please explain why your hospital has not adopted an implementation strategy. Please include whether the hospital has a plan and/or a timeframe for an implementation strategy.

This question does not display until the respondent.

Q57. Please select the health needs identified in your most recent CHNA. Select all that apply even if a need was not addressed by a reported initiative.

- Access to Health Services: Health Insurance
- Access to Health Services: Practicing PCPs
- Access to Health Services: Regular PCP Visits
- Access to Health Services: ED Wait Times
- Adolescent Health
- Arthritis, Osteoporosis, and Chronic Back Conditions
- Blood Disorders and Blood Safety
- Cancer
- Chronic Kidney Disease
- Community Unity
- Dementias, Including Alzheimer's Disease
- Diabetes
- Disability and Health
- Educational and Community-Based Programs
- Emergency Preparedness
- Environmental Health
- Family Planning
- Food Safety
- Genomics
- Global Health
- Health Communication and Health Information Technology
- Health-Related Quality of Life & Well-Being
- Hearing and Other Sensory or Communication Disorders
- Heart Disease and Stroke
- HIV
- Immunization and Infectious Diseases
- Injury Prevention
- Lesbian, Gay, Bisexual, and Transgender Health
- Maternal & Infant Health
- Mental Health and Mental Disorders
- Nutrition and Weight Status
- Older Adults
- Oral Health
- Physical Activity
- Preparedness
- Respiratory Diseases
- Sexually Transmitted Diseases
- Sleep Health
- Social Determinants of Health
- Substance Abuse
- Telehealth
- Tobacco Use
- Violence Prevention
- Vision
- Wound Care
- Other (specify)

Q58. Please describe how the needs and priorities identified in your most recent CHNA compare with those identified in your previous CHNA.

The needs and priorities identified in UM Capital's most recent CHNA are significantly the same or similar to those identified in the previous CHNA. The most recent joint CHNA assessed and identified significant community health needs in the County. Input was solicited from County residents using key informants interviews and surveys. Through a prioritization process involving a variety of community stakeholders and community-based organizations, the following were identified as CHNA priority community health needs: Behavioral Health o Mental Health o Substance Abuse o Domestic Violence/Violence o Metabolic Syndrome o Obesity o Diabetes o Heart Disease o Hypertension/Stroke o Cancer The previous CHNA identified similar needs, specifically, barriers associated with the high cost of care/insurance and the need for affordable prescription drugs; the need for adequate preventive and basic care; high prevalence of behavioral health issues; high prevalence of chronic disease; and the need for greater health education and awareness.

Q59. (Optional) Please use the box below to provide any other information about your CHNA that you wish to share.

In 2016, UM Capital Region Health completed a Community Health Needs Assessment (CHNA) for Fiscal Years 2017 - 2019 in collaboration with other area hospitals (Doctor's Community Hospital, Fort Washington Medical Center, MedStar Southern Maryland Hospital Center). The joint community health needs assessment process was led by the Prince George's County Health Department ("Health Department"). The objective of the joint effort was to design and produce the first County-wide community health needs assessment. The CHNA stakeholders engaged in a collaborative process to conduct a comprehensive community health needs assessment process in Prince George's County, Maryland that complies with the CHNA requirements as set forth by the Internal Revenue Code and Public Health Department certification requirements. The process involved the collection and analysis of valid data (quantitative and qualitative) to ascertain residents' health status, identify trends in health problems, as well as the social and economic determinants impacting the health of Prince George's County residents. A written report of the community health needs assessment process and findings was prepared and presented to the Health Department and hospitals. The report included recommendations to address health need and other areas of concern to the Health Department and County-based hospitals, based on the CHNA findings. Recommendations include public health policy, processes, programs or interventions. - Behavioral Health o Mental Health o Substance Abuse o Domestic Violence/Violence o Metabolic Syndrome o Obesity o Diabetes o Heart Disease o Hypertension/Stroke - Cancer The most recent Community Health Needs Assessment (2017 - 2019) included the following findings: Over three-fourths of the population in Prince George's County is comprised of minorities, led by 62.1% Black, Non-Hispanic (NH) followed by the Hispanic population (16.9%). Between 2010 and 2014, the Hispanic population grew the fastest with an 18.3% increase. The Asian population grew by 13.6% and the Black or African American population grew by 2.3%. The White, Non-Hispanic population declined slightly, from 129,668 in 2010 to 128,234 in 2014. Overall, the demographics of Prince George's County differ from the state of Maryland. While Maryland has a majority White, Non-Hispanic (NH) population, Prince George's County has a majority Black, NH population. Prince George's County also has a higher proportion of Hispanics than the state. Prince George's County has a younger population compared to Maryland and the U.S. The median age in the county is 36.1 years, while the state is at 38.3 and the U.S. is at 37.7. A larger percent of the County's population is under 45 years of age. There are some variations by race and ethnicity, as demonstrated in Table 2, with the median age of the Hispanic population of 28.4, which is much younger compared to other residents. In contrast, the White, NH population is older, with a median age of 44.6. Foreign Born Residents. In Prince George's County, 1 out of every 5 residents (21.8%) is born outside the United States. The countries that contribute the most to the foreign-born population include El Salvador, Guatemala, Nigeria, Mexico, and Jamaica; these five countries account for nearly half of the total foreign-born population. Of the nearly 200,000 foreign born residents in the County, 40% are naturalized U.S. citizens with a median household income of \$72,093, compared to \$56,274 for the 60% who are not U.S. citizens. Approximately 7% of families in Prince George's County live in poverty, which is similar to Maryland at 7.1% and lower than the United States at 11.3%. Fewer married couple families experience poverty (3.4%), but 12.4% of families with a female head of household lived in poverty. This figure increases to 17.6% among single-mother households with children under 18 years of age. Family poverty by race and ethnicity shows a disparity with approximately two times the percent of Hispanic families lived in poverty across the different families types. Education. Approximately 85% of County residents age 25 years and older have at least a high school degree, which is lower than Maryland (90%) and the U.S. (87%) While Prince George's County is similar to the U.S. for those with Bachelor's Degrees and higher (31% and 30%), the County falls behind when compared to Maryland (38%). There is more of disparity when comparing the County to the neighboring jurisdiction of Washington, D.C., which has 55% of residents with a Bachelor's Degree or higher. There are noticeable differences within the County by race and ethnicity, with Asian residents having high educational attainment, followed by White, Non-Hispanic (NH) residents. Most Black residents do have a High School Degree, but fewer have a college degree compared to Asian and White, NH residents. The County's Hispanic residents have the most significant disparity, with over 50% lacking a High School Degree or equivalent, and less than 10% having a Bachelor's Degree or higher. In 2015, 127,576 County children and adolescents enrolled in public schools. While the overall graduation rate has increased since 2012, Hispanic students are still less likely to complete high school in the County. Overall, Prince George's County has a lower graduation rate (78.75%) compared to Maryland (86.98%) in 2015. Part of that difference may be due to the graduation rate for Hispanic students in Maryland being over 10 percent higher (76.89% compared to 67.37% for the County). Employment. In 2014, 9.1% of Prince George's County residents were unemployed, which is higher than both Maryland and the U.S. at 7.2%. The county unemployment rate varies by education, disability status, and by race and Hispanic ethnicity. Overall, one-third of residents age 16 and older living in poverty are unemployed. Unemployment can result in residents being unable to acquire basic resources such as healthy food, housing, transportation, and health care and medication. Income. The median household income in the County is \$72,290 which is lower than Maryland (\$73,971), but is higher than the U.S. When looking at income by groups, Maryland has more residents making below \$25,000 compared to Prince George's County; however, Maryland also has more residents making above \$150,000 compared to Prince George's County, which helps to explain the higher mean and median income for the state. Income by Race and Ethnicity in the County shows both that more White, Non-Hispanic (NH) and Asian households have an income over \$100,000. The Hispanic population has an income disparity, with nearly half of the households with an income under \$50,000, and only 3% of households earning over \$150,000 compared to over 15% Black, Asian, and White, NH households. Challenges & Health Statistics The CHNA identified specific drivers of poor health outcomes that significantly impact County residents. They are: 1. Poor social determinants of health drive many of our health disparities. Poverty, food insecurity, access to healthy food, affordable housing, employment, lack of educational attainment, inadequate financial resources, and a disparate built environment result in poorer health outcomes for Prince George's county residents. Resources may be available in communities with greater needs, but are of poorer quality. For example, a recent study in access to healthy foods in an urban area of the county show that there are many grocery stores, but they lack quality healthy food options. 2. Access to health insurance through the Affordable Care Act has not helped everyone. Many residents still lack health insurance (some have not enrolled, some are not eligible). In addition, many with health insurance cannot afford healthcare (co-pays). 3. Residents lack knowledge of or how to use available resources. The healthcare system is challenging to navigate, and providers and support services need more coordination. There are services available, but they are perceived as underutilized because residents do not know how to locate or use them. Low literacy and low health literacy contribute to poor outcomes. 4. The county does not have enough healthcare providers to serve the residents. There is a lack of behavioral health providers, dentists, specialists, and primary care providers (also noted in the 2015 Primary Healthcare Strategic Plan for the county). 5. Cancer. By cancer site, Black residents in the county had higher incidence and mortality rates for breast, colorectal, and prostate cancers. However, overall, White non-Hispanic residents had a higher cancer mortality rate (2014). 6. HIV. Prince George's County had the second highest rate of HIV diagnoses in the state in 2013, and had the highest number of actual cases in the state. 7. Asthma. For adults, Black county residents have an age-adjusted hospitalization rate due to asthma that is more than twice as high as White, non-Hispanic residents (2010-2012). Although the joint CHNA encompassed the needs of the County's hospitals as a whole it was not a series of hospital-specific needs assessments. The assessment utilized quantitative and qualitative data, as available. The joint County-wide CHNA provides required data and information for the hospitals to use. Each hospital used the data collected in the CHNA process to: 1) identify their own geographical priority issues; 2) develop and implement strategies and action plans for each priority issue, and 3) establish accountability to ensure measurable health improvement. It is believed the proposed community involvement in the County-wide CHNA process will meet the requirements of the Internal Revenue Service (IRS) for CHNA for the hospitals, including implementation plans that outline the hospitals' approaches to addressing the needs identified in the joint CHNA. The final County-wide CHNA was submitted to the hospitals in early June 2016. Each participating hospital then produced its Community Health Implementation Plan (CHIP), which outlines the priorities for each hospital and initiatives it will implement to address the needs identified in the CHNA.

Q60. (Optional) Please attach any files containing information regarding your CHNA that you wish to share.

[Primary Healthcare Strategic Plan \(PDF\).pdf](#)
5.3MB
application/pdf

Q61. Section III - CB Administration Part 1 - Participants

Q62. Please use the table below to tell us about how internal staff members were involved in your hospital's community benefit activities during the fiscal year.

	Activities										
	N/A - Person or Organization was not Involved	N/A - Position or Department does not exist	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:
CB/ Community Health/Population Health Director (facility level)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
CB/ Community Health/ Population Health Director (system level)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Other - If you selected "Other (explain)," please type your explanation below:
Senior Executives (CEO, CFO, VP, etc.) (facility level)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not Involved	N/A - Position or Department does not exist	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:

Social Workers	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not Involved	N/A - Position or Department does not exist	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:
Community Benefit Task Force	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not Involved	N/A - Position or Department does not exist	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:
Hospital Advisory Board	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not Involved	N/A - Position or Department does not exist	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:
Other (specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not Involved	N/A - Position or Department does not exist	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:

Q63. Section III - CB Administration Part 1 - Participants (continued)

Q64. Please use the table below to tell us about the external participants involved in your hospital's community benefit activities during the fiscal year.

	Activities										Click to write Column 2
	N/A - Person or Organization was not involved	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)		Other - If you selected "Other (explain)," please type your explanation below:
Other Hospitals -- Please list the hospitals here: Totally Linking Care Maryland - Doctors Community Hospital, Fort Washington Medical Center, Medstar Southern Maryland Medical Center, Calvert Memorial Medical Center	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not involved	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)		Other - If you selected "Other (explain)," please type your explanation below:
Local Health Department -- Please list the Local Health Departments here: Prince George's County Health Department	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
	N/A - Person or Organization was not involved	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)		Other - If you selected "Other (explain)," please type your explanation below:
Local Health Improvement Coalition -- Please list the LHICs here:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	N/A - Person or Organization was not involved	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)		Other - If you selected "Other (explain)," please type your explanation below:
Maryland Department of Health	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	N/A - Person or Organization was not involved	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)		Other - If you selected "Other (explain)," please type your explanation below:
Maryland Department of Human Resources	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	N/A - Person or Organization was not involved	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)		Other - If you selected "Other (explain)," please type your explanation below:

Maryland Department of Natural Resources	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not involved	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:
Maryland Department of the Environment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not involved	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:
Maryland Department of Transportation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not involved	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:
Maryland Department of Education	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not involved	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:
Area Agency on Aging -- Please list the agencies here: Prince George County Area Agency on Aging	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not involved	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:
Local Govt. Organizations -- Please list the organizations here: Maryland National Capital Parks and Planning, Prince George's County Economic Development Corporation, Prince George's County Health Department, Prince George's County Department of Social Services, Prince George's County Public Schools, Prince George's County Fire/EMS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not involved	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:
Faith-Based Organizations	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not involved	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:
School - K-12 -- Please list the schools here: Bladensburg High School, Potomac High School, Laurel High School, Parkdale High School, Fairmont Heights High School	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not involved	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:
School - Colleges and/or Universities -- Please list the schools here: University of Maryland, Bowie State University, Prince George's Community College	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not involved	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:
School of Public Health -- Please list the schools here: University of Maryland School of Public Health	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	N/A - Person or Organization was not involved	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:

School - Medical School -- Please list the schools here: Ross University School of Medicine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N/A - Person or Organization was not involved	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:	
School - Nursing School -- Please list the schools here: Bowie State University , Prince George's Community College, University of Maryland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
N/A - Person or Organization was not involved	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:	
School - Dental School -- Please list the schools here: 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
N/A - Person or Organization was not involved	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:	
School - Pharmacy School -- Please list the schools here: University of Maryland School of Pharmacy	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N/A - Person or Organization was not involved	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:	
Behavioral Health Organizations -- Please list the organizations here: Prince George's County Health Department Behavioral Health	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
N/A - Person or Organization was not involved	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:	
Social Service Organizations -- Please list the organizations here: March of Dimes, Access to Wholistic and Productive Living Institute, United Communities Against Poverty, Laurel Advocacy and Referral Services, Salvation Army, La Union Multi-Service Center	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N/A - Person or Organization was not involved	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:	
Post-Acute Care Facilities -- please list the facilities here: 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
N/A - Person or Organization was not involved	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:	
Community/Neighborhood Organizations -- Please list the organizations here: Access to Wholistic and Productive Living Institute	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N/A - Person or Organization was not involved	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:	
Consumer/Public Advocacy Organizations -- Please list the organizations here: Prince George's County Chamber of Commerce	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
N/A - Person or Organization was not involved	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:	
Other -- If any other people or organizations were involved, please list them here: 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
N/A - Person or Organization was not involved	Selecting health needs that will be targeted	Selecting the initiatives that will be supported	Determining how to evaluate the impact of initiatives	Providing funding for CB activities	Allocating budgets for individual initiatives	Delivering CB initiatives	Evaluating the outcome of CB initiatives	Other (explain)	Other - If you selected "Other (explain)," please type your explanation below:	

Q66. Does your hospital conduct an internal audit of the annual community benefit financial spreadsheet? Select all that apply.

- Yes, by the hospital's staff
- Yes, by the hospital system's staff
- Yes, by a third-party auditor
- No

Q67. Does your hospital conduct an internal audit of the community benefit narrative?

- Yes
- No

Q68. Please describe the community benefit narrative review process.

The community benefit narrative is prepared by the executive in charge of community benefit at UM Capital Region Health. The narrative is then submitted for review and approval to the UM Capital Region Health President and CEO and the University of Maryland Medical System Senior Vice President, Government, Regulatory and Community Health. After review, the community benefit narrative is presented to the Board of Directors for review and approval. Once approved by the Board, the community benefit narrative is final and approved for submission.

Q69. Does the hospital's board review and approve the annual community benefit financial spreadsheet?

- Yes
- No

Q70. Please explain:

This question was not displayed to the respondent.

Q71. Does the hospital's board review and approve the annual community benefit narrative report?

- Yes
- No

Q72. Please explain:

This question was not displayed to the respondent.

Q73. Does your hospital include community benefit planning and investments in its internal strategic plan?

- Yes
- No

Q74. Please describe how community benefit planning and investments are included in your hospital's internal strategic plan.

UM Capital Region Health has not established its new strategic plan. With the installation of a new Board of Directors in January 2019, UM Capital will begin the work of establishing the strategic plan that will guide UM Capital in FY2020 and beyond. Currently, UM Capital operates consistent with the last strategic plan adopted by Dimensions Healthcare System. The Dimensions Healthcare System Strategic Plan for Fiscal Years 2015 - 2017 establishes six major goals: I. Leadership & Cultural Transformation II. Exceptional Patient Experience III. Efficient Operational Performance IV. Integrated, Value-Based Healthcare V. Strong Financial Performance VI. Expanded Market Position The Goal IV goal statement provides that DHS will: "Achieve clinical and financial integration of information resulting in more effective healthcare delivery among the health system & other community providers." The Strategic initiatives under Goal IV are: • Develop a population health management infrastructure to reduce unnecessary utilization of hospital resources. • Develop a formal structure / integrated network of community providers and institutions (e.g., FQHCs, Health Department, post-acute care facilities, and other agencies) to improve access and coordination of care. • Develop the necessary IT platforms to support clinical decision-making, clinical integration, access of health information to community providers, and provide linkages of clinical and financial data. The hospital's community benefit program has established strategic objectives to achieve the Goal IV initiatives under the DHS strategic plan. They are: • Align Dimensions Health Care System with Local Community Agencies and Business Community to Assess and Respond to Community Need • Establish DHS Initiatives in Alignment with Strategic Plan, Community Needs Assessment, Public Health Study, MOU. • Improve Community Health - Dimensions will become the key partner with State and County governments and local community groups in addressing the major health needs identified by State and County health plans. • Support Community Benefit • Address community needs and priorities primarily through disease prevention and improvement of health status, including: health services provided to vulnerable or underserved populations • Financial or in-kind support of public health programs • Donations of funds, property or other resources that contribute to a community priority • Healthcare cost containment activities • Health education screening and prevention services

Q75. (Optional) If available, please provide a link to your hospital's strategic plan.

Q76. (Optional) Is there any other information about your hospital's community benefit administration and external collaboration that you would like to provide?

Q77. (Optional) Please attach any files containing information regarding your hospital's community benefit administration and external collaboration.

Q78. Based on the implementation strategy developed through the CHNA process, please describe *three* ongoing, multi-year programs and initiatives undertaken by your hospital to address community health needs during the fiscal year.

Q79. Section IV - CB Initiatives Part 1 - Initiative 1

Q80. Name of initiative.

Improve Transitional Chronic Care Management & Care Coordination (Inclusive of Chronic Disease Self-Management Education Classes and Chronic Disease Screenings)

Q81. Does this initiative address a need identified in your CHNA?

- Yes
- No

Q82. Select the CHNA need(s) that apply.

- | | |
|---|---|
| <input type="checkbox"/> Access to Health Services: Health Insurance | <input checked="" type="checkbox"/> Heart Disease and Stroke |
| <input checked="" type="checkbox"/> Access to Health Services: Practicing PCPs | <input type="checkbox"/> HIV |
| <input checked="" type="checkbox"/> Access to Health Services: Regular PCP Visits | <input type="checkbox"/> Immunization and Infectious Diseases |
| <input type="checkbox"/> Access to Health Services: ED Wait Times | <input type="checkbox"/> Injury Prevention |
| <input type="checkbox"/> Adolescent Health | <input type="checkbox"/> Lesbian, Gay, Bisexual, and Transgender Health |
| <input type="checkbox"/> Arthritis, Osteoporosis, and Chronic Back Conditions | <input type="checkbox"/> Maternal and Infant Health |
| <input type="checkbox"/> Blood Disorders and Blood Safety | <input type="checkbox"/> Mental Health and Mental Disorders |
| <input type="checkbox"/> Cancer | <input checked="" type="checkbox"/> Nutrition and Weight Status |
| <input type="checkbox"/> Chronic Kidney Disease | <input type="checkbox"/> Older Adults |
| <input type="checkbox"/> Community Unity | <input type="checkbox"/> Oral Health |
| <input type="checkbox"/> Dementias, Including Alzheimer's Disease | <input type="checkbox"/> Physical Activity |
| <input checked="" type="checkbox"/> Diabetes | <input type="checkbox"/> Preparedness |
| <input type="checkbox"/> Disability and Health | <input type="checkbox"/> Respiratory Diseases |
| <input checked="" type="checkbox"/> Educational and Community-Based Programs | <input type="checkbox"/> Sexually Transmitted Diseases |
| <input type="checkbox"/> Emergency Preparedness | <input type="checkbox"/> Sleep Health |
| <input type="checkbox"/> Environmental Health | <input checked="" type="checkbox"/> Social Determinants of Health |
| <input type="checkbox"/> Family Planning | <input type="checkbox"/> Substance Abuse |
| <input type="checkbox"/> Food Safety | <input type="checkbox"/> Telehealth |
| <input type="checkbox"/> Genomics | <input type="checkbox"/> Tobacco Use |
| <input type="checkbox"/> Global Health | <input type="checkbox"/> Violence Prevention |
| <input type="checkbox"/> Health Communication and Health Information Technology | <input type="checkbox"/> Vision |
| <input type="checkbox"/> Health-Related Quality of Life and Well-Being | <input type="checkbox"/> Wound Care |
| <input type="checkbox"/> Hearing and Other Sensory or Communication Disorders | <input type="checkbox"/> Other. Please specify. <input type="text"/> |

Q83. When did this initiative begin?

The expansion of Chronic Disease Management Education and Transition of Care programming began in 2016.

Q84. Does this initiative have an anticipated end date?

- The initiative will end on a specific end date. Please specify the date.
- The initiative will end when a community or population health measure reaches a target value. Please describe.

- The initiative will end when a clinical measure in the hospital reaches a target value. Please describe.

- The initiative will end when external grant money to support the initiative runs out. Please explain.

The initiative will end when a contract or agreement with a partner expires. Please explain.

Other. Please explain.

Q85. Enter the number of people in the population that this initiative targets.

The total eligible population is 377,088. The target population are patients with one or more hospital visits to our hospitals within the last 12 months and/or other risk factors described below. The target population resided in zip codes that are in UM Prince George's Hospital Centers primary service area

Q86. Describe the characteristics of the target population.

One or more visits to the hospital within the last 12 months (ER, Admit, or Observation) No PCP or PCP but unable to see/schedule appointment in next 7 days Age ≥ 18 years >2 chronic diseases Positive Drug Screen Current resident with one of the following insurance type and a recent hospitalization; Medicare Medicaid Medicare + Medicaid All payers Uninsured Or Under insured high Or rising risk utilizer Lives in PG County Does not live in an assisted living facility. > 2 ED visits w/in 30 days Hospital LOS > 5 days Living Well with Chronic Diseases Management Education Program- Patients seen at our community practice locations diagnosed with 2 or more chronic diseases.

Q87. How many people did this initiative reach during the fiscal year?

2,967

Q88. What category(ies) of intervention best fits this initiative? Select all that apply.

- Chronic condition-based intervention: treatment intervention
- Chronic condition-based intervention: prevention intervention
- Acute condition-based intervention: treatment intervention
- Acute condition-based intervention: prevention intervention
- Condition-agnostic treatment intervention
- Social determinants of health intervention
- Community engagement intervention
- Other. Please specify.

Q89. Did you work with other individuals, groups, or organizations to deliver this initiative?

Yes. Please describe who was involved in this initiative.

Totally Linking Care-Maryland
Prince George's County Fire & EMS
Prince George's Health Care Alliance
Community Care Coordination Team
UM Capital Region Health Medical Group
UM Chest Pain Program
UM Stroke Center
UM School of Pharmacy eHealth Services Center
Prince George's County Family Service's Department (Area on Aging)
Access to Wholistic & Productive Institute,
Greater Baden Medical Center

No.

Q90. Please describe the primary objective of the initiative.

To keep the population healthy within the communities served by UM Capital hospitals through effective care transition, care coordination and disease management.

Q91. Please describe how the initiative is delivered.

Transition of care program services; implemented through an inter-professional team-based clinic and community approach consisting of; case managers who identify patients who meet the criteria for inclusion in appropriate interventions, telehealth center professionals who connect with patients post-discharge, and a nurse practitioner, pharmacist and social worker who conduct initial visits and continuous follow-up to address social determinants of health, until the patient is successfully connected with a primary care provider or linked to the appropriate community referral. The Living Well with Chronic Disease Self-Management health education workshop is a licensed program developed and regularly updated by Stanford University and is delivered in partnership with the Prince George's County Department of Family Services (Area Agency on Aging Division).Trained community health workers facilitate the sessions guided by evidence based standards.

Q92. Based on what kind of evidence is the success or effectiveness of this initiative evaluated? Explain all that apply.

- Count of participants/encounters
- Other process/implementation measures (e.g. number of items distributed)
- Surveys of participants
- Biophysical health indicators
- Assessment of environmental change
- Impact on policy change
- Effects on healthcare utilization or cost
- Assessment of workforce development
- Other

Q93. Please describe the outcome(s) of the initiative.

Transition of Care Programming average re-admission rate: 54.86% Living Well Chronic Disease Self-Management Education: At the completion of each living well health education class, survey satisfaction questionnaires are completed. On a scale from 0-10 (10 being the most successfully) all respondents indicated an overall success rate at 80% and above.

Q94. Please describe how the outcome(s) of the initiative addresses community health needs.

Needs were identified as a result of the 2016 Community Health Needs Assessment conducted in partnership with the county's five hospitals and the Prince George's County Health Department. The process included key informant interviews with county residents from diverse backgrounds with varying perspectives on health in the county. The needs were prioritized by hospital and Health Department representatives and key community stakeholders representing Local government; patient advocates; faith-based organizations; the public school health service; local politicians; safety net providers; state government; physician providers; academia; private industry; local philanthropy and special populations - seniors, Hispanics, the Piscataway Indian tribe; veterans, and the disabled. The representatives live and work in all areas of the County. A Key CHNA finding was that the leading physical health concerns are a result of the incidence and prevalence of chronic disease- cardiovascular disease, hypertension, Type 2 diabetes in adults.

Q95. What was the total cost to the hospital of this initiative in FY 2018? Please list hospital funds and grant funds separately.

\$729,883.77

Q96. (Optional) Supplemental information for this initiative.

Q97. Section IV - CB Initiatives Part 2 - Initiative 2

Q98. Name of initiative.

UM Capital Region Women's Health Specialty Services (Mama and Baby Bus Program)

Q99. Does this initiative address a need identified in your CHNA?

- Yes
- No

Q100. Select the CHNA need(s) that apply.

- Access to Health Services: Health Insurance
- Access to Health Services: Practicing PCPs
- Access to Health Services: Regular PCP Visits
- Access to Health Services: ED Wait Times
- Adolescent Health
- Arthritis, Osteoporosis, and Chronic Back Conditions
- Blood Disorders and Blood Safety
- Cancer
- Chronic Kidney Disease
- Community Unity
- Dementias, Including Alzheimer's Disease
- Diabetes
- Heart Disease and Stroke
- HIV
- Immunization and Infectious Diseases
- Injury Prevention
- Lesbian, Gay, Bisexual, and Transgender Health
- Maternal and Infant Health
- Mental Health and Mental Disorders
- Nutrition and Weight Status
- Older Adults
- Oral Health
- Physical Activity
- Preparedness

- Disability and Health
- Educational and Community-Based Programs
- Emergency Preparedness
- Environmental Health
- Family Planning
- Food Safety
- Genomics
- Global Health
- Health Communication and Health Information Technology
- Health-Related Quality of Life and Well-Being
- Hearing and Other Sensory or Communication Disorders
- Respiratory Diseases
- Sexually Transmitted Diseases
- Sleep Health
- Social Determinants of Health
- Substance Abuse
- Telehealth
- Tobacco Use
- Violence Prevention
- Vision
- Wound Care
- Other. Please specify

Q101. When did this initiative begin?

The partnership agreement was executed in winter of 2016 and programming launched in the summer 2017.

Q102. Does this initiative have an anticipated end date?

- The initiative will end on a specific end date. Please specify the date.
- The initiative will end when a community or population health measure reaches a target value. Please describe.

- The initiative will end when a clinical measure in the hospital reaches a target value. Please describe.

- The initiative will end when external grant money to support the initiative runs out. Please explain.

UM Capital Region Health signed a three-year partnership agreement to provide health services in Prince George's County through the Mama & Baby Mobile Unit; a traveling mobile health unit owned by the March of Dimes. Grant funds will end December of 2019, unless extended.

- The initiative will end when a contract or agreement with a partner expires. Please explain.

- Other. Please explain.

Q103. Enter the number of people in the population that this initiative targets.

Eligible population in Target Zip codes: 89,007 (based on 2010 population census data); The initiative targets mothers and infants impacted by disparities in maternal/fetal and infant health care in Prince George's County.

Q104. Describe the characteristics of the target population.

Communities in Prince George's County with a poverty rate at 16% or higher based on Community health needs assessment data and input from community partners. The following communities are also home to relatively large proportions of uninsured women and children according to the US Census Bureau 2015 data report. o Target areas include: Lahnham (20706), laurel/Beltsville (20707,20787), Fort Washington (20744), Hyattsville/Langley Park (20783,20784,20785). o Disparities in Maternal/Fetal and Infant Health exist in Prince George's County: Mothers who received early pre-natal care is 53.1% in Prince George's compared to 62.2% in Maryland and 77.1% in U.S.; infant Mortality in Prince George's is 8.9/deaths per 1,000 live births compared to 6.7 in Maryland and 5.9 in U.S.

Q105. How many people did this initiative reach during the fiscal year?

283 women served

Q106. What category(ies) of intervention best fits this initiative? Select all that apply.

- Chronic condition-based intervention: treatment intervention
- Chronic condition-based intervention: prevention intervention
- Acute condition-based intervention: treatment intervention
- Acute condition-based intervention: prevention intervention
-

Condition-agnostic treatment intervention

Social determinants of health intervention

Community engagement intervention

Other. Please specify.

Q107. Did you work with other individuals, groups, or organizations to deliver this initiative?

Yes. Please describe who was involved in this initiative.

March of Dimes & the UM Capital Region Health Medical Group as well as a host of community organizations. Key partnering organizations include:
Prince George's Community College
Prince George's County Health Department
Laurel Advocacy & Referral Services
La Union Multi-Service Center
United Communities Against Poverty/ Shepherd's Cove
Port Towns Family Health & Wellness Center, Bright Beginnings Infant Mortality Program
Southern Management Corporation & Oak Ridge Apartments/Townhomes

No.

Q108. Please describe the primary objective of the initiative.

The Mama & Baby Mobile Unit serves as a healthcare access point for under-insured, uninsured and under-served women and children. The Mama & Baby Mobile Unit provides basic, uncomplicated maternal and child health services through partnerships with local community based organizations, shelters, food pantries, faith institutions, schools and institutions of higher learning.

Q109. Please describe how the initiative is delivered.

The Mobile health services team consists of a variety of providers including a team of Midwives, Family Medicine and Ob/Gyn Providers. Prince George's County partnering organizations also work in collaboration with the mobile health unit to provide community health workers and health insurance navigators to assist patients with aspects related to social determinants of health. The bus midwives manage low-risk patients using protocols developed consistent with recommendations of the American College of Obstetricians and Gynecologists (ACOG), which allow a minimum number of visits in the schedules for prenatal care. This approach accommodates a variety of life challenges the women must overcome to attend regular prenatal care appointments and minimizes the some of the barriers these women may face. For women who are at high and medium risk the bus staff follows the pregnancy management guidelines of the America College of Obstetricians and Gynecologist related to those specific populations. The staff will also employ ACOG's well women visit guidelines. Patients will be routinely screened for HIV per the preventive health guidelines from the Centers of Disease Control and Prevention. Postpartum care will follow ACOG guidelines and address breastfeeding support, level of available social support, depression, physical activity, contraception etc, in addition to the patients overall health. Every attempt will be made to link women to a full range of supportive services provided by the bus's partners so that they and their infants will attain optimal health outcomes.

Q110. Based on what kind of evidence is the success or effectiveness of this initiative evaluated? Explain all that apply.

- Count of participants/encounters
- Other process/implementation measures (e.g. number of items distributed)
- Surveys of participants
- Biophysical health indicators
- Assessment of environmental change
- Impact on policy change
- Effects on healthcare utilization or cost
- Assessment of workforce development
- Other

Q111. Please describe the outcome(s) of the initiative.

283 Patients seen on mobile unit: - 10% referred to insurance services and social support needs - 100% received a depression screening - 5% received smoking cessation referrals - 22% received HIV Testing - 50% received preventive screenings (Diabetes, Flu vaccines Blood Pressure, breast exams, birth control and pre-conception counseling.) - 33% received well women exams - Less than 5% referred for dental care. - Less than 5 % of Infants and children receiving well child visits

Q112. Please describe how the outcome(s) of the initiative addresses community health needs.

Key findings from the CHNA indicate significant concerns with Maternal and infant health indicators in Prince George's County. The infant mortality rate in the 2016 CHNA for Prince George's county was reported at 6.9% compared to the Healthy People(HP) 2020 Goal of 6.0% and the MD State Health Improvement Process(SHIP) Goal of 6.3%. The percent of low weight infants in Prince George's county was reported at 9.2% compared to the Healthy People 2020 goal of 7.8% and the MD SHIP goal at 8.0% . And, the percent of low birth weight infants of black non-Hispani race was reported at 11.0% compared to the healthy people goal at 7.8% and the MD SHIP goal at 8.0%. In addition, over 20% of those who participated in key informant interviews during the CHNA process indicated Maternal/infant health as a major problem in Prince George's County.

Q113. What was the total cost to the hospital of this initiative in FY 2018? Please list hospital funds and grant funds separately.

Hospital funds: 103,876.58 Grant Funds: \$99,850.00

Q114. (Optional) Supplemental information for this initiative.

Q115. Section IV - CB Initiatives Part 3 - Initiative 3

Q116. Name of initiative.

Develop Behavioral Health Outreach and Education Programs in Clinical and Community-based Settings.

Q117. Does this initiative address a need identified in your CHNA?

- Yes
- No

Q118. Select the CHNA need(s) that apply.

- | | |
|---|---|
| <input type="checkbox"/> Access to Health Services: Health Insurance | <input type="checkbox"/> Heart Disease and Stroke |
| <input type="checkbox"/> Access to Health Services: Practicing PCPs | <input type="checkbox"/> HIV |
| <input type="checkbox"/> Access to Health Services: Regular PCP Visits | <input type="checkbox"/> Immunization and Infectious Diseases |
| <input checked="" type="checkbox"/> Access to Health Services: ED Wait Times | <input type="checkbox"/> Injury Prevention |
| <input checked="" type="checkbox"/> Adolescent Health | <input type="checkbox"/> Lesbian, Gay, Bisexual, and Transgender Health |
| <input type="checkbox"/> Arthritis, Osteoporosis, and Chronic Back Conditions | <input type="checkbox"/> Maternal and Infant Health |
| <input type="checkbox"/> Blood Disorders and Blood Safety | <input checked="" type="checkbox"/> Mental Health and Mental Disorders |
| <input type="checkbox"/> Cancer | <input type="checkbox"/> Nutrition and Weight Status |
| <input type="checkbox"/> Chronic Kidney Disease | <input type="checkbox"/> Older Adults |
| <input type="checkbox"/> Community Unity | <input type="checkbox"/> Oral Health |
| <input type="checkbox"/> Dementias, Including Alzheimer's Disease | <input type="checkbox"/> Physical Activity |
| <input type="checkbox"/> Diabetes | <input type="checkbox"/> Preparedness |
| <input type="checkbox"/> Disability and Health | <input type="checkbox"/> Respiratory Diseases |
| <input checked="" type="checkbox"/> Educational and Community-Based Programs | <input type="checkbox"/> Sexually Transmitted Diseases |
| <input type="checkbox"/> Emergency Preparedness | <input type="checkbox"/> Sleep Health |
| <input type="checkbox"/> Environmental Health | <input checked="" type="checkbox"/> Social Determinants of Health |
| <input type="checkbox"/> Family Planning | <input checked="" type="checkbox"/> Substance Abuse |
| <input type="checkbox"/> Food Safety | <input type="checkbox"/> Telehealth |
| <input type="checkbox"/> Genomics | <input type="checkbox"/> Tobacco Use |
| <input type="checkbox"/> Global Health | <input checked="" type="checkbox"/> Violence Prevention |
| <input type="checkbox"/> Health Communication and Health Information Technology | <input type="checkbox"/> Vision |
| <input type="checkbox"/> Health-Related Quality of Life and Well-Being | <input type="checkbox"/> Wound Care |
| <input type="checkbox"/> Hearing and Other Sensory or Communication Disorders | <input type="checkbox"/> Other. Please specify.
<input type="text"/> |

Q119. When did this initiative begin?

2016

Q120. Does this initiative have an anticipated end date?

- The initiative will end on a specific end date. Please specify the date.
- The initiative will end when a community or population health measure reaches a target value. Please describe.

- The initiative will end when a clinical measure in the hospital reaches a target value. Please describe.

- The initiative will end when external grant money to support the initiative runs out. Please explain.

The initiative will end when a contract or agreement with a partner expires. Please explain.

Other. Please explain. Ongoing. UM Capital Region will continue to develop behavioral health outreach and educational programs in the clinic and community based settings. Service line expansion and development will include a specific focus outpatient/community based support and service.

Q121. Enter the number of people in the population that this initiative targets.

Eligible population: 507,468 (population residing in LRH and PGHC primary service areas). The initiative targets community organizations serving patients with a behavioral health diagnosis and entities/individuals that could benefit from training related to initial assessment and intervention.

Q122. Describe the characteristics of the target population.

Partnering organizations (Businesses, Fire/Ems, schools & faith based institutions) in Prince George's county seeking Mental Health First Aid trainings for their organizations and/or staff members. Identified county residents with behavioral health issues

Q123. How many people did this initiative reach during the fiscal year?

400 individuals

Q124. What category(ies) of intervention best fits this initiative? Select all that apply.

- Chronic condition-based intervention: treatment intervention
- Chronic condition-based intervention: prevention intervention
- Acute condition-based intervention: treatment intervention
- Acute condition-based intervention: prevention intervention
- Condition-agnostic treatment intervention
- Social determinants of health intervention
- Community engagement intervention
- Other. Please specify.

Q125. Did you work with other individuals, groups, or organizations to deliver this initiative?

Yes. Please describe who was involved in this initiative.

Sheppard Pratt Health System- Mosaic Community Services.
Laurel High School
Maryland National Capital Park and Planning Commission (Parks & Recreation)
Salvation Army
And a host of local faith-based institutions.

No.

Q126. Please describe the primary objective of the initiative.

To educate the public about behavioral health risk factors, behavioral health promotion, and basic wellness issues; To promote engagement in appropriate primary and specialty care; To educate service providers and educators on Mental health first aid; To increase screening and referral activities in clinical, community, school-based, and work-site settings.

Q127. Please describe how the initiative is delivered.

UM Capital Region currently conducts Mental Health First Aid trainings for adults and Youth Mental Health First Aid Training (YMHFA) for adults who regularly interact with adolescents between the ages of 12-18. The Mental Health First Aid USA curriculum is an 8 hour public education program which introduces participants to the unique risk factors and warning signs of mental problems and substance abuse both in adults and adolescents. The YMHFA training specifically builds understanding of the importance of early intervention, and teaches individuals how to help an adolescent in crisis or experiencing a mental health challenge. Behavioral Health Symposium Series: NOT ALL WOUNDS ARE VISIBLE: A Community Conversation: Let's Talk About Addiction & Substance Abuse (Wednesday, November 29, 2017); and A Community Conversation: Let's Talk About Depression & Anxiety- Part I (May 23, 2018). Laurel High School & UM Capital Region, Enough is Enough Mental/ Violence Awareness event- Part 1: An educational forum hosted at Laurel Regional Hospital that consisted of local law enforcement officials, hospital and school administrators, community members, parents and students. The objective of the event was to promote and develop collaboration between the high school and LRH as it relates to how we as a community in laurel identify and provide effective intervention mental health observed not just within our hospital and schools but the broader community. UM Capital Region's Tobacco Use Prevention and Cessation-The TUPAC provides Hospital and community based group smoking cessation classes, hosts educational awareness seminars, one-to-one sessions as well as telephone consultations. The program currently partners with over 20 community organizations including the Maryland National Capital Park and Planning Commission, the Prince George's County Housing Authority and the Maryland Department of health and Mental Hygiene. In FY 18, 109 program participants completed cessation classes internally and 264 participates completed community based cessation classes with an 80% overall success rate. In addition, a total of 200 telephone consultations were provided. Behavioral health community stakeholder's meeting- Consisted of UM LRH providers, behavioral health community providers, hospital administrators, clinicians, Health Department officials and UMMS communication, marketing and community health leadership staff. The intent of the stakeholders meeting was to foster an educational discussion regarding how we as a healthcare community better align, partner and link residents in need of behavioral health prevention and treatment to community based resources.

Q128. Based on what kind of evidence is the success or effectiveness of this initiative evaluated? Explain all that apply.

- Count of participants/encounters
- Other process/implementation measures (e.g. number of items distributed)
- Surveys of participants
- Biophysical health indicators
- Assessment of environmental change
- Impact on policy change
- Effects on healthcare utilization or cost
- Assessment of workforce development
- Other

Q129. Please describe the outcome(s) of the initiative.

Provided behavioral health services to approximately 400 participants.

Q130. Please describe how the outcome(s) of the initiative addresses community health needs.

Key findings from the CHNA indicate behavioral health problems are on the rise among adults and children due to the stigma around seeking help for mental conditions and limited access to behavioral health services due to a lack of providers in Prince George's County.

Q131. What was the total cost to the hospital of this initiative in FY 2018? Please list hospital funds and grant funds separately.

\$95,161.19

Q132. (Optional) Supplemental information for this initiative.

Q133. Section IV - CB Initiatives Part 4 - Other Initiative Info

Q134. Additional information about initiatives.

Q135. (Optional) If you wish, you may upload a document describing your community benefit initiatives in more detail, or provide descriptions of additional initiatives your hospital undertook during the fiscal year. These need not be multi-year, ongoing initiatives.

Q136. Were all the needs identified in your CHNA addressed by an initiative of your hospital?

- Yes
- No

Q137. Please check all of the needs that were NOT addressed by your community benefit initiatives.

- Access to Health Services: Health Insurance
- Access to Health Services: Practicing PCPs
- Access to Health Services: Regular PCP Visits
- Heart Disease and Stroke
- HIV
- Immunization and Infectious Diseases

- Access to Health Services: ED Wait Times
- Adolescent Health
- Arthritis, Osteoporosis, and Chronic Back Conditions
- Blood Disorders and Blood Safety
- Cancer
- Chronic Kidney Disease
- Community Unity
- Dementias, Including Alzheimer's Disease
- Diabetes
- Disability and Health
- Educational and Community-Based Programs
- Emergency Preparedness
- Environmental Health
- Family Planning
- Food Safety
- Genomics
- Global Health
- Health Communication and Health Information Technology
- Health-Related Quality of Life and Well-Being
- Hearing and Other Sensory or Communication Disorders
- Injury Prevention
- Lesbian, Gay, Bisexual, and Transgender Health
- Maternal and Infant Health
- Mental Health and Mental Disorders
- Nutrition and Weight Status
- Older Adults
- Oral Health
- Physical Activity
- Preparedness
- Respiratory Diseases
- Sexually Transmitted Diseases
- Sleep Health
- Social Determinants of Health
- Substance Abuse
- Telehealth
- Tobacco Use
- Violence Prevention
- Vision
- Wound Care
- Other. Please specify.

Q138. How do the hospital's community benefit operations/activities align with the State Health Improvement Process (SHIP)? The State Health Improvement Process (SHIP) seeks to provide a framework for accountability, local action, and public engagement to advance the health of Maryland residents. The SHIP measures represent what it means for Maryland to be healthy. Website: <http://ship.md.networkofcare.org/ph/index.aspx>. To the extent applicable, please explain how the hospital's community benefit activities align with the goal in each selected measure.

Enter details in the text box next to any SHIP goals that apply.

Reduce infant mortality	The Mama and Baby Bus program(MBB); providing high quality evidence-based preconceptional, interconceptional, prenatal and postpartum care to underserved women and infants under the age of 2.
Reduce rate of sudden unexpected infant deaths (SUIDs)	MBB; providing high quality, evidence based preconceptional, interconceptional, prenatal and postpartum care and education to expectant moms.
Reduce the teen birth rate (ages 15-19)	The MBB program offers birth control prescriptions and counseling to young women who receive care on the mobile unit. 50% of patients seen on the bus received a preventive service (included in this percentage is birth control counseling).
Increase the % of pregnancies starting care in the 1st trimester	MBB- providing high quality preconceptional, interconceptional, prenatal and postpartum care to underserved women and infants under the age of 2.
Increase the proportion of children who receive blood lead screenings	n/a
Increase the % of students entering kindergarten ready to learn	n/a
Increase the %of students who graduate high school	n/a
Increase the % of adults who are physically active	Living Well w/ Chronic Disease Self-Management, evidence based workshop, incorporates in its curriculum the importance of physical activity and the role it plays in keeping one's self healthy.
Increase the % of adults who are at a healthy weight	Living Well w/ Chronic Disease Self-Management, evidence based workshop includes sessions and topics educating participates on body mass index (BMI) measures and how to either maintain or achieve a healthy weight.
Reduce the % of children who are considered obese (high school only)	n/a
Reduce the % of adults who are current smokers	Living Well w/ Chronic Disease Self-Management, evidence based workshop, includes sessions and topics educating participates on body mass index (BMI) measures and how to either maintain or achieve a healthy weight.
Reduce the % of youths using any kind of tobacco product (high school only)	The Tobacco Use Prevention and Cessation program conducts regular health education outreach within a variety of settings, inclusive of high schools, on the dangers of smoking and addiction.
Reduce HIV infection rate (per 100,000 population)	The MBB provided HIV screenings to 22% of patients who received care on the mobile unit.
Reduce Chlamydia infection rate	MBB: Preconception and interconception care will follow evidence based practices and focus on the prevention and management of chronic disease as well as sexually transmitted diseases. 50% of all services provided on the bus have been preventive screenings and educational counseling.
Increase life expectancy	
Reduce child maltreatment (per 1,000 population)	MBB: Preconception and interconception care will follow evidence based practices and focus on the prevention and management of conditions including, physical activity and nutrition.
Reduce suicide rate (per 100,000)	Launched community-based Mental Health First Aid Trainings
Reduce domestic violence (per 100,000)	n/a
Reduce the % of young children with high blood lead levels	n/a
Decrease fall-related mortality (per 100,000)	n/a
Reduce pedestrian injuries on public roads (per 100,000 population)	n/a
Increase the % of affordable housing options	n/a
Increase the % of adolescents receiving an annual wellness checkup	n/a
Increase the % of adults with a usual primary care provider	Transition of Care Program; targets those who do not have a PCP and deploys community services until the patient is successfully connected with a primary care provider or linked to the appropriate community referral.
Increase the % of children receiving dental care	n/a
Reduce % uninsured ED visits	Transition of Care Program; targets patients with one or more visits to the hospital within the last 12 months (ER, Admit, or Observation).
Reduce heart disease mortality (per 100,000)	Living Well w/ Chronic Disease Self-Management evidence based workshops. Provided 617 health promotion, disease prevention screenings.
Reduce cancer mortality (per 100,000)	n/a

Reduce diabetes-related emergency department visit rate (per 100,000)	Transition of Care program and Living Well Health education workshops target those with 2 or more chronic diseases. 54.86 % re-admission rate
Reduce hypertension-related emergency department visit rate (per 100,000)	Transition of Care program and Living Well Health education workshops target those with 2 or more chronic diseases. 54.86 % re-admission rate
Reduce drug induced mortality (per 100,000)	n/a
Reduce mental health-related emergency department visit rate (per 100,000)	n/a
Reduce addictions-related emergency department visit rate (per 100,000)	n/a
Reduce Alzheimer's disease and other dementias-related hospitalizations (per 100,000)	n/a
Reduce dental-related emergency department visit rate (per 100,000)	n/a
Increase the % of children with recommended vaccinations	n/a
Increase the % vaccinated annually for seasonal influenza	Provided 60 flu vaccinations, community vaccination clinics and MBB program
Reduce asthma-related emergency department visit rate (per 10,000)	n/a

Q139. (Optional) Did your hospital's initiatives in FY 2018 address other, non-SHIP, state health goals? If so, tell us about them below.

2016 Prince George's County Community Health Needs Assessment Report identified community-specific needs that are addressed by the initiatives.

Q140. Section V - Physician Gaps & Subsidies

Q141. As required under HG §19-303, please select all of the gaps in physician availability in your hospital's CBSA. Select all that apply.

- No gaps
- Primary care
- Mental health
- Substance abuse/detoxification
- Internal medicine
- Dermatology
- Dental
- Neurosurgery/neurology
- General surgery
- Orthopedic specialties
- Obstetrics
- Otolaryngology
- Other. Please specify.

Q142. If you list Physician Subsidies in your data in category C of the CB Inventory Sheet, please indicate the category of subsidy, and explain why the services would not otherwise be available to meet patient demand.

Hospital-Based Physicians	UM PGHC's emergency departments, and other specialties including intensive care, anesthesia, cardiology, endocrinology, internal medicine, neurology, orthopedics, otolaryngology psychiatry, pathology, physical medicine and radiology, are staffed by Hospital-based physicians, with whom the hospital has exclusive contracts, seeking guaranteed levels of compensation through hospital provided subsidies.
Non-Resident House Staff and Hospitalists	The subsidies cover gaps in physician services due to lack of adequate community providers who practice within the hospital. Additionally the hospital supports a disproportionate share of underinsured or uninsured patients.
Coverage of Emergency Department Call	The subsidies cover gaps in physician income that are the outcome of UM PGHC's disproportionate share of underinsured or uninsured patients.
Physician Provision of Financial Assistance	The provision of physician reimbursement subsidies to cover free or discounted care through the Hospital's FAP is consistent, appropriate and essential to the execution of the Hospital's mission, vision, and values, and is consistent with its tax-exempt, charitable status.
Physician Recruitment to Meet Community Need	The UM PGHC physician subsidies also include expenses incurred for ongoing physician recruitment consistent UM Capital Region Health's Medical Staff Development Plan.
Other (provide detail of any subsidy not listed above)	<input type="text"/>
Other (provide detail of any subsidy not listed above)	<input type="text"/>
Other (provide detail of any subsidy not listed above)	<input type="text"/>

Q143. (Optional) Is there any other information about physician gaps that you would like to provide?

An adequate supply of primary care physicians can reduce rates of complications that can result in high cost ED visits and hospitalizations. In recent years, the per capita number of primary care physicians has declined in Prince George's County. Also, the per capita number of primary care physicians in Baltimore, Howard, and Montgomery counties, and the District of Columbia, exceeded that of Prince George's County by one and a half to two times. The Health Department prepared the 2016 Prince George's County Community Health Needs Assessment that includes a detailed description of the process and the major. The Health Department also produced a comprehensive inventory of community resources and assets and hospital specific profiles, including Prince George's Hospital Center Service Profile and Laurel Regional Hospital Center Service Profile. These documents are included as appendices to this report. The County-wide CHNA found that many of the health disparities in the County were driven by social determinants of health including poverty, food insecurity, lack of access to healthy food, affordable housing, low employment, lack of educational attainment, inadequate financial resources and disparate built environment. Findings also indicated that, while progress has been made with implementation of components of the primary healthcare strategic plan, the County continues to have a shortage of primary care providers, medical specialists, behavioral health providers, and dentists.

Q144. (Optional) Please attach any files containing further information regarding physician gaps at your hospital.

[Primary Healthcare Strategic Plan \(PDF\).pdf](#)
5.3MB
application/pdf

Q145. Section VI - Financial Assistance Policy (FAP)

Q146. Upload a copy of your hospital's financial assistance policy.

[CRH Financial-Assistance-Policy_English-1.pdf](#)
429.8KB
application/pdf

Q147. Upload a copy of the Patient Information Sheet provided to patients in accordance with Health-General §19-214.1(e).

[What You Should Know as A Patient.pdf](#)
11.6MB
application/pdf

Q148. What is your hospital's household income threshold for medically necessary free care? Please respond with ranges as a percentage of the federal poverty level (FPL).

UMMS HV CBO Financial Assistance Sliding Scale is based on MD DHMH Income Eligibility Limits, not FPL: o 1) Household income at 276% of the FPL o 2) Household income at 200% of the MD DHMH Income Eligibility Limits

Q149. What is your hospital's household income threshold for medically necessary reduced cost care? Please respond with ranges as a percentage of the FPL.

UMMS HV CBO Financial Assistance Sliding Scale is based on MD DHMH Income Eligibility Limits, not FPL: o 1) Household income between 277% - 414% of the FPL, at 10% increments o 2) Household income between 200% - 300% of the MD DHMH Income Eligibility Limits , at 10% increments

Q150. What are your hospital's criteria for reduced cost medically necessary care for cases of financial hardship? Please respond with ranges as a percentage of the FPL and household income. For example, household income between 301-500% of the FPL and a medical debt incurred over a 12-month period that exceeds 25 percent of household income.

Medical debt that exceeds 25% of the Annual Household income and the same percentages stated above regarding FPL and MD DHMH Income Eligibility Limits would be applied.

Q151. Provide a brief description of how your hospital's FAP has changed since the ACA Expansion became effective on January 1, 2014.

1. UMMS adopted the Medicaid expansion income eligibility limits (MD DHMH, Medicaid Planning Administration Income Eligibility Limits) that Maryland implemented, to close the gap between Medicaid income eligibility and our FA income eligibility. 2. UMMS changed the eligible household dependent age limit to from under 18 to 21 years old The following additional changes were also made to the hospital's financial assistance policy pursuant to the most recent 501(r) regulatory requirements: 1. LANGUAGE TRANSLATIONS a. Requirement: The new 501(r) regulations lowered the language translation threshold for limited English proficient (LEP) populations to the lower of 5% of LEP individuals in the community served/1000-LEP individuals. University of Maryland Medical Center translated its financial assistance policy into the following languages: English, Spanish, French, and Chinese. 2. PLAIN LANGUAGE SUMMARY a. Requirement: The new 501(r) regulations require a plain language summary of the FAP that is clear, concise, and easy for a patient to understand. University of Maryland Medical Center created a new plain language summary of its financial assistance policy in addition to its already-existing patient information sheet. 3. PROVIDER LISTS a. Requirement: The new 501(r) regulations require each hospital to create and maintain a list of all health care providers (either attached to the FAP or maintained as a separate appendix) and identify which providers on that list are covered under the hospital's FAP and which providers are not. University of Maryland Medical Center maintains that list which is available for review.

Q152. (Optional) Is there any other information about your hospital's FAP that you would like to provide?

Q153. (Optional) Please attach any files containing further information about your hospital's FAP.

Q154. Summary & Report Submission

Q155.

Attention Hospital Staff! IMPORTANT!

You have reached the end of the questions, but you are not quite finished. Once you proceed to the next screen using the right arrow button below, you cannot go backward. For that reason, we strongly recommend that you use the Table of Contents to return to the beginning and double-check your answers.

When you click the right arrow button below, you will see a page with all of your answers together. You will see a link to download a pdf document of your answers, near the top of the page. You can download your answers to share with your leadership, board, or others as required by your internal processes.

Location Data

Location: [\[39.285598754883, -76.689903259277\]](#)

Source: GeolIP Estimation

PART TWO: ATTACHMENTS

TRANSFORMING HEALTH IN PRINCE GEORGE'S COUNTY, MARYLAND: **A PUBLIC HEALTH IMPACT STUDY**

UNIVERSITY OF MARYLAND SCHOOL OF PUBLIC HEALTH
JULY 2012



SCHOOL OF
PUBLIC HEALTH

TABLE OF CONTENTS**SECTION I: SUMMARY**

INTRODUCTION AND PURPOSE	i
SNAPSHOT OF FINDINGS	ii
ANSWERS TO FRAMING QUESTIONS	iv
CONCLUSION	xix
RECOMMENDATIONS	xx
VISION	xxii
SELECTED REFERENCES	xxiv
GLOSSARY OF KEY TERMS	xxv
STUDY TEAM MEMBERS AND CONTRIBUTORS	xxvii
ADVISORY COMMITTEE MEMBERS AND PARTICIPANTS	xxviii
LIST OF TABLES AND FIGURES	xxix

SECTION II: TECHNICAL REPORTS

This document is available at sph.umd.edu/princegeorgeshealth.

ACKNOWLEDGEMENTS

The Study Team benefited from sound advice and input from a variety of individuals. We extend our appreciation to and acknowledge the support of individuals from the following organizations:

PRINCE GEORGE'S COUNTY HEALTH DEPARTMENT AND OTHER GOVERNMENT ENTITIES
PRINCE GEORGE'S COUNTY OFFICE OF THE COUNTY EXECUTIVE
PRINCE GEORGE'S COUNTY DEPARTMENT OF PARKS AND RECREATION
MARYLAND DEPARTMENT OF HEALTH AND MENTAL HYGIENE
UNIVERSITY OF MARYLAND EXTENSION
MARYLAND HEALTH CARE COMMISSION
UNIVERSITY OF MARYLAND MEDICAL SYSTEM CORPORATION

Prince George's County, Maryland is poised for changes that will lead to improved health and quality of life for its citizens. Plans for a transformed new regional health care system that focuses on population health are under way through a unique partnership among the County, the state and academic and health care institutions. These plans come at a time of great momentum at the national, state and County levels to advance health care reform and eliminate health disparities.

On June 28, 2012, the Supreme Court upheld the constitutionality of the Patient Protection and Affordable Care Act (ACA). Under the leadership of the O'Malley-Brown administration, the state of Maryland has created a Health Benefit Exchange, designed to expand health care coverage and fulfill the provisions of the ACA. The state also is

proactively pursuing strategies to promote health equity, as demonstrated by the passage of legislation creating "health enterprise zones" to expand and improve access to care in underserved areas. Prince George's County Executive Rushern L. Baker, III has placed health as one of his administration's top priorities, and together with the County Council has taken deliberate steps to enhance the County's safety net system and to address social and environmental determinants of health.

To inform the design of this new system to improve health and health care in Prince George's County, the University of Maryland School of Public Health was commissioned to assess the proposed system's potential public health impact and to answer key questions. The study sponsors are Prince George's County, the Maryland Department of Health and Mental Hygiene (DHMH), the University of Maryland Medical System and Dimensions Healthcare System. These parties, plus the University System of Maryland, signed a Memorandum of Understanding in July 2011 to address long-standing challenges and gaps in the health care delivery system and achieve improved health for the County.

The Public Health Impact Study of Prince George's County comes at an early stage in the development of a

"strategy to transform the system into an efficient, effective and financially viable health care delivery system with a regional medical center," a system that is "supported by a comprehensive ambulatory care network, which will improve the health of residents of the County and Southern Maryland region by providing community-based access to high quality, cost-effective medical care" (from the July 2011 Memorandum of Understanding).

An interdisciplinary team of senior School of Public Health researchers produced the Public Health Impact Study of Prince George's County by building upon existing relevant reports and studies, such as the 2009 Rand report, "Assessing Health and Health Care in Prince George's County," and collecting and analyzing a wealth of new data. Representatives of the study sponsors served on the advisory committee that helped guide the study.

The study team learned from resident experiences; listened to policy-makers, County and state leaders and health care providers; and explored and documented best practices from comparable health care systems. The study highlights policy-relevant opportunities, focuses on improving health outcomes, provides regional and sub-county mapping of all categories of primary care providers and assesses County

PRINCE GEORGE'S COUNTY AT A GLANCE

The nation's most affluent County with an African American majority

Maryland's most diverse County: "minority" groups account for more than 80 percent of the population (blacks, whites and Hispanics made up 65 percent, 15 percent and 15 percent of the population in 2010, respectively)

The second most populous County in the state of Maryland (after Montgomery County)

Home to the University of Maryland, College Park; NASA's Goddard Space Flight Center; Joint Base Andrews (previously Andrews Air Force Base) and USDA's Beltsville Agricultural Research Center

Bordered by Washington, D.C., and Montgomery, Howard, Anne Arundel, Calvert and Charles counties in Maryland

resident-specific recent hospital discharge and readmission data.

This study adds new information related to:

- how residents use and perceive health care and health issues in the County,
- what works in other model health care systems that can be applied in Prince George’s County,
- how state and County leaders and stakeholders perceive what is needed for a new health care system to succeed,
- where there is an inadequate supply of primary care providers and resources,
- what exists in the public health and public sectors to complement the new system, and
- how residents with key chronic health conditions use hospitals in the County and region.

A SNAPSHOT OF FINDINGS FROM THE PUBLIC HEALTH IMPACT STUDY COMPONENTS

The study team used multiple novel and integrated approaches to answer the study’s key framing questions and to inform the design of the new system.

The Public Health Impact Study was guided by the need to:

- promote health, prevent disease and support wellness, health equity, health literacy and

- quality of life in the County,
- address population health broadly, not focus just on those seeking health care, and
- improve the capacity to deliver high-quality primary prevention and health and hospital care.

In the snapshot of our results from each study component we highlight findings that provide new information about health care in the County.

SURVEY OF COUNTY RESIDENTS

We learned from the Random Household Survey of 1,001 County residents (referred to throughout as “the survey”) about current use of and attitudes toward health care services and gained an understanding of the factors that drive residents’ health care decisions. Key findings include:

- While 75 percent of residents have a “personal doctor,” 10 percent of these residents go outside the County to see this provider.
- Of those who use a doctor outside the County, more than 7 percent indicated that their insurance required them to see a physician outside the County, and more than 7 percent reported being unable to get an appointment with a specialist inside the County.

The frequency with which residents use hospitals outside the County remains an even greater issue, and is driven by insurance carriers, provider

referrals, availability of specialty care and perceptions of the quality of care at local hospitals. Almost 31 percent of residents who reported using a hospital outside of the County did so because their physician referred them to do so, and 13 percent reported that their insurance coverage dictated their hospital selection. Addressing these issues will require a multi-pronged effort aimed at County residents, health care providers and insurers.

INTERVIEWS WITH STATE, COUNTY AND LOCAL STAKEHOLDERS

The study team conducted 40 personal interviews with key stakeholders. They provided input regarding the current status of the County’s health care and recommendations for the design of a new health care system.

The lack of primary care resources and concerns about both the perceptions of quality and the actual quality of the current health care and hospital system emerged as themes. As one stakeholder put it, “Perception becomes reality unless otherwise challenged and the perception is that we don’t have a good hospital system, and for some parts, they’re right, but there are other parts of the hospital system that ought to be duplicated.” Recommendations for the new system included the need for an academic university framework, culturally appropriate health education and prevention, effective branding and centers of excellence among others.

STUDY COMPONENTS

Random survey of 1,001 County residents

Interviews with 40 stakeholders

Analysis and mapping of health care workforce in the County

Analysis of hospital discharge and readmission data

Brief overview of public and private sector resources

Interviews with leaders from 13 health care systems around the U.S.

CATEGORIES OF KEY STAKEHOLDERS

Policymakers, elected officials
and administrators

Health practitioners

Academic administrators

Health system, insurance
company and hospital
administrators

Community leaders

HEALTH CARE WORKFORCE ASSESSMENT

The study team cast a wide net to capture existing information and document the capacity of the full range of primary health care workers, including primary care physicians, nurse practitioners, physician assistants, dentists, dental hygienists, social workers, psychologists, therapists/counselors and psychiatrists. We found that there are far fewer primary care providers for the population in Prince George's County compared to that in surrounding jurisdictions. Within the County, there is a need for additional providers within the Beltway and in the southern portion.

OVERVIEW OF PUBLIC HEALTH AND PUBLIC SECTOR HEALTH RESOURCES

We compiled an overview of public health and related facilities and programs that provide health and wellness services for County residents. This overview highlights existing capacity and identifies opportunities to fill gaps and strengthen the health system for County residents, particularly for the underserved.

EXAMINATION OF HOSPITAL DISCHARGES AND READMISSIONS OF COUNTY RESIDENTS

The study team analyzed hospital discharges of County residents for conditions like diabetes, asthma and other chronic diseases to understand the County's overall system of care and resident experiences. We reviewed hospitalizations for conditions that can

ideally be managed more effectively outside of a hospital setting. Using County data, we developed an economic model and found an association between fewer hospitalizations and specific health care providers (those typically focused on care management).

LESSONS FROM OTHER HEALTH CARE SYSTEMS

We conducted interviews with leaders from 13 health care systems around the U.S. From these interviews, we identified the following best practices aimed at achieving integrated, coordinated high-quality care that improves population health and reduces costs. These practices include:

- creating patient-centered, user-friendly and population-focused system goals and values,
- establishing clear and tested metrics for measuring progress and quality of care,
- using information technology systems that reinforce quality assurance and improvement, patient care coordination and use of evidence-based protocols of care,
- focusing on (and creating a culture of) health promotion, disease prevention and care management interventions that are culturally appropriate, enhance health literacy and build upon community-based partnerships with established community programs that educate about and reinforce healthy lifestyles,
- creating and supporting culturally

sensitive, innovative, team-based and interprofessional care delivery, including embedding primary care providers in aftercare settings to prevent readmissions,

- investing in building care capacity of primary care physicians, such as strengthening their ability to address co-existing mental health conditions by adding behavioral health providers to the primary care physician teams,
- incorporating a mixture of entities to cover primary and tertiary care, such as community health centers, as well as hospitals, private and non-profit entities and mobile clinics (mix of public and private health systems),
- planning for care strategies to meet the needs of the uninsured and other vulnerable populations, such as the homeless and recent immigrants,
- providing incentives for health care teams to reduce disease rates, and
- developing their own and/or negotiating insurance plan coverage for populations they serve.

These snapshots summarize select findings from our research. It is imperative to go beyond the statistics about gaps in the health care workforce and to understand the complex factors that affect health and health care in the County. For further detail on each study component, please see the extensive technical reports (in Section II), available at sph.umd.edu/princegeorgeshealth.

FRAMING QUESTIONS TO INFORM THE PRINCE GEORGE’S COUNTY HEALTH CARE SYSTEM TRANSFORMATION

What are the key health outcomes in the County most amenable to improvement by a new health care system?

What is the geographic distribution of health care resources and where are the areas of greatest need for primary care?

What resources can be mobilized in the public health sector to complement the impact of the health care system?

What are the key issues to maximize uptake and achieve the potential of a health care system for public health?

What elements of a health care system can affect the key health outcomes and by how much?

1. WHAT ARE THE KEY HEALTH OUTCOMES IN THE COUNTY MOST AMENABLE TO IMPROVEMENT BY A NEW HEALTH CARE SYSTEM?

ANSWER Chronic diseases—specifically diabetes, heart disease, hypertension, asthma and cancer—are the health conditions most amenable to improvement by a new health care system in Prince George’s County. County residents experience a higher rate of these chronic diseases than those in most of the neighboring counties and in several cases, at a rate higher than the state average. Racial and ethnic differences reveal even greater disparities.

These five chronic conditions are prevalent in the County. Evidence-based interventions are available to prevent these conditions, and to manage them once they are diagnosed. Initiatives using these interventions are under way in the County and state, with a focus on promoting healthy lifestyles. In addition, primary care networks, a component of the new system plans, are designed to coordinate care and manage such conditions.

RATIONALE

Both the State Health Improvement Process (SHIP) and the County’s Health Improvement Plan (CHIP) highlight these conditions as ones to be monitored closely. Table 1 provides health outcome rates for the selected chronic conditions. The rate of emergency department visits is used for

TABLE 1 RATE OF EMERGENCY DEPARTMENT (ED) VISITS AND DEATH RATES PER 100,000 PEOPLE FOR SELECTED CHRONIC CONDITIONS IN MARYLAND COUNTIES AND FOR THE STATE (REFERENCE: BASELINE DATA FROM MARYLAND SHIP)

Rate per 100,000	Prince George’s County	Montgomery County	Howard County	Anne Arundel County	Maryland
Asthma ED visits*	717.0	406.0	505.4	786.0	850.0
Diabetes ED visits*	308.4	168.8	142.1	315.3	347.4
Hypertension ED visits*	257.7	123.3	117.4	183.8	237.9
Heart disease deaths	224.2	130.2	169.6	198.8	194.0
Cancer deaths	173.8	130.1	161.2	195.2	177.7

*The data for ED visits are limited to Maryland hospitals. Full baseline data should include ED visits of Prince George’s County residents to EDs in Washington D.C.

TABLE 2 IMPACT OF LEADING CHRONIC DISEASES ON EMERGENCY DEPARTMENT (ED) VISITS AND DEATH RATES BY RACIAL AND ETHNIC POPULATIONS IN PRINCE GEORGE'S COUNTY

Health Outcome	Measure (per 100,000 population)	Entire County Baseline Rate per 100,000	Rate per 100,000 by Racial/Ethnic Group in County			
			White Rate	Black Rate	Hispanic Rate	Asian Rate
Asthma	Rate of ED visits for asthma*	717.0	258.0	909.0	305.0	177.0
Diabetes	Rate of ED visits for diabetes*	308.4	179.5	388.2	101.6	N/A
Hypertension	Rate of ED visits for hypertension*	257.7	101.8	341.7	54.3	67.6
Heart disease	Rate of heart disease deaths	224.2	187.5	271.5	66.4	96.0
Cancer	Rate of cancer deaths	173.8	157.0	194.5	70.9	87.0

*The data for ED visits are limited to Maryland hospitals. Full baseline data should include ED visits of Prince George's County residents to EDs in Washington D.C.

these conditions because the evidence suggests that these visits could have been prevented with well-coordinated primary care in the County. Additionally, we examine death rates for two conditions, heart disease and cancer, which are leading causes of death in the County and state.

While the overall health measures for several of these conditions appear to be better than that for the state as a whole, the rates for racial and ethnic County populations (see Table 2) provide the imperative for the new system. Rates for blacks exceed rates for whites for all conditions. Emergency department visits by blacks are more than three times higher for asthma and hypertension and nearly twice as high for diabetes than for whites. Addressing the underlying causes for these and other differences is needed to improve the County's health outcomes.

County residents identified the five key chronic conditions among those they viewed as the most critical ones to address. However, almost 16 percent

of residents did not know which health conditions were urgent, indicating a need to inform residents of prevalent conditions and of how to prevent and manage them.

The survey gathered more specific information about residents' experiences with chronic diseases. More than a third (37 percent) of the residents responded that their doctor or a health care professional had told them that they have a medical condition or chronic disease. When asked which conditions they were diagnosed with, residents noted the five key health conditions among their top listed diagnoses (see Table 3).

We were further interested in diagnoses of two key conditions that can contribute to significant morbidity and mortality of these key health conditions if they are not addressed. When asked if they ever had been told by a doctor or other health care professional that they have pre-diabetes or borderline diabetes, 17 percent reported being diagnosed with pre-diabetes. Similarly,

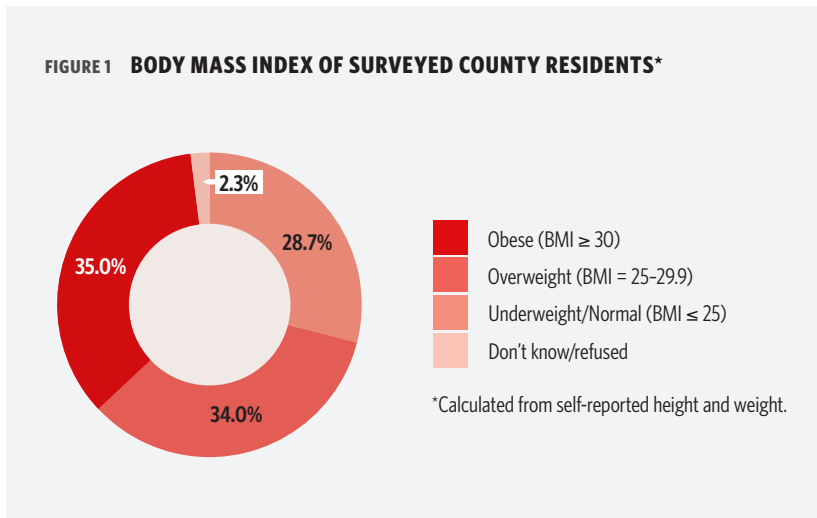
TABLE 3 DIAGNOSED MEDICAL CONDITIONS FOR RESIDENTS WHO HAVE BEEN TOLD BY THEIR DOCTOR THEY HAVE A MEDICAL CONDITION OR CHRONIC DISEASE

Condition	Percent
High blood pressure/hypertension	5.5
Diabetes	3.7
Asthma	3.3
Heart disease	2.6
High cholesterol	2.6
Cancer	2.3
Chronic arthritis	2.0
Thyroid problem/Hypothyroidism	1.7
Mental illness	1.4
Chronic bronchitis	1.0

Note: To estimate the most appropriate prevalence for the County, we adjusted the results from that sub-sample of 423 to the entire sample.

when asked if a doctor or other health care professional had told them that they have pre-hypertension or borderline high blood pressure, 33 percent reported pre-hypertension.

County residents are at greater risk for these chronic disease conditions due to contributing factors such as tobacco use and obesity. More than 11 percent reported daily use of cigarettes while 6 percent reported smoking cigarettes between one and 29 days a month. Body Mass Index, a calculation using a person’s height and weight, is also an important indicator of chronic disease risk. We found that 34 percent of County residents are overweight and 35 percent are obese by using this measure (see Figure 1).



A new health care system that incorporates efforts aimed at addressing and preventing these and other risk factors

will further contribute to improvements in these chronic conditions.

2. WHAT IS THE GEOGRAPHIC DISTRIBUTION OF HEALTH CARE RESOURCES AND WHERE ARE THE AREAS OF GREATEST NEED FOR PRIMARY CARE?

ANSWER The County has a substantially lower ratio of primary care providers to the population compared to surrounding counties and the state. The areas of highest primary care need are within the Beltway and in the southern region of the County. An additional 61 primary care physicians (13 percent increase) and 31 dentists (7 percent increase) are needed to meet the minimum recommended ratios in these areas.

We reviewed the geographic distribution of primary health care resources at the County and two sub-county levels. There are fewer providers for the population for each medical, dental and mental health primary care category compared to surrounding counties. In addition, there are sub-county areas where this ratio appears worse than the ratio used by the federal government to designate Health Professional Shortage Areas. For primary care physicians, four of the County’s seven Public Use Microdata Areas (PUMAs)

have provider-to-population ratios that meet the federal criteria for primary care physician shortages. For dentists, two PUMAs have ratios that meet the criteria for dentist shortages. We identified geographic primary care need by ZIP code using several measures. We looked at the ratio of primary care physicians to the population and found that nearly half of County residents live in areas that have a sufficient number of primary care physicians, while a third live in areas where there is a high need for these providers. For a more specific

look at geographic need for primary care, we included population characteristics and hospital use patterns in addition to physician count. Using this approach, we found seven ZIP codes have high primary care need, representing 16 percent of County residents.

RATIONALE

We used a variety of approaches to review County and sub-county geographic areas of need for primary care. One approach uses the ratio of health care providers to the population.

Another approach adds population and hospital event characteristics to that of provider information.

ANALYSIS BY PRIMARY CARE PROVIDER CATEGORIES

We closely examined physician availability and capacity, and also reviewed the full array of primary care providers, including nine groups that represent three major categories of primary care providers: medical (primary care physicians, nurse practitioners, physician assistants); dental (dentists, dental hygienists); and mental (clinical social workers, psychologists, therapists/counselors, psychiatrists).

Databases for active licensed providers were obtained from the respective DHMH licensing boards. For all provider groups, except for physicians, counts were based on their practice location and no adjustments were made for specialty focus. We only counted licensed, board-certified

primary care physicians who report providing patient care for 20 hours or more per week in a practice in the County. The County has 465 primary care physicians, which results in 54 primary care physicians per 100,000 people (1:1,851). When pediatricians alone are reviewed, the ratio is 39 per 100,000 children up to age 18 (1:2,564). More of the County's primary care physicians (42 percent) are involved only in patient care, compared with primary care physicians (37 percent) in the state as a whole. Fewer County primary care physicians reported being involved in teaching (21 percent vs. 30 percent) and research (6 percent vs. 10 percent) compared with those in the state.

A review of provider-to-population ratios for each category of primary care provider is shown on Table 4. The supply of health care providers for Prince George's County is far below that of other jurisdictions, and for the state as a whole, for every provider group.

PRIMARY CARE WORKFORCE NEED BY SUB-COUNTY GEOGRAPHIC AREA

To gain a better understanding of which areas of the County are served adequately, we looked at provider-to-population ratios for each category of providers, and compared them to the Health Resources and Services Administration's (HRSA) criteria used to designate Health Professionals Shortage Areas (HPSAs) for those categories.

PRIMARY CARE PHYSICIAN-TO-POPULATION RATIOS BY ZIP CODE

One condition used by HRSA to designate an area as a medical HPSA is a primary care physician-to-population ratio of 1:3,500 or worse, while a ratio of 1:2,000 is deemed sufficient. Map A highlights for each County ZIP code in which three categories of ratios are met: those that meet the recommended ratios for primary care physicians per 100,000 population

TABLE 4 THE RATIO OF MEDICAL, DENTAL AND MENTAL HEALTH PROVIDERS PER 100,000 POPULATION IN MARYLAND COUNTIES AND FOR THE STATE

Jurisdiction	Medical Care			Dental Care		Mental Health Care			
	Primary Care Physician*	Physician Assistant	Nurse Practitioner	Dentist	Dental Hygienist	Social Worker	Counselor	Psychologist	Psychiatrist
Prince George's	53.9	39.0	24.2	54.4	171	45.9	42.2	13.2	3.6
Anne Arundel	65.7	70.3	64.5	63.1	57.8	78.5	56.4	27.5	3.9
Baltimore County	112.9	115.3	77.3	78.8	48.3	137.8	94.5	47.3	22.4
Howard	77.0	70.7	96.5	123.7	75.9	173.8	78.7	99.6	171
Montgomery	94.6	73.0	47.0	123	38.6	146.4	51.7	85.7	18.0
Maryland	84.5	79.0	51.5	71.4	43.8	99.23	68.76	40.37	11.8

*Primary care physicians include specialists in pediatrics, family medicine, internal medicine and obstetrics and gynecology.

(green), those that reflect a shortage (red) and those that fall in between (yellow). Almost half (46 percent) of County residents live in areas that have a sufficient number of primary care physicians, while a third (34 percent) of the residents live in areas where there is a high need for these providers.

PRIMARY CARE PROVIDER-TO-POPULATION RATIOS BY PUMA

We used the County’s PUMAs to designate sub-county geographic areas. The County has seven PUMAs, each reflecting populations about 100,000. Based on the provider counts in each of the three primary care categories, and the ratio of these providers to the population, we identified PUMAs with sufficient providers and those that do not meet HRSA ratios for sufficient providers. These ratios include 1:2000 for physicians, 1:3,000 for dentists and 1:10,000 for core mental health providers. Table 5 provides current counts and additional estimated counts needed for each category by PUMA.

Using this approach, we found that several PUMAs need additional primary care physicians and dentists to reach a sufficient provider-to-population ratio. We estimate that the County needs to increase the number of primary care physicians by 61 (about 13 percent) to meet the sufficient provider-to-population ratio. Most of the PUMAs within the Beltway and one PUMA outside the Beltway would benefit from additional physicians. Two PUMAs within the Beltway would also benefit from additional dentists, which translates to 31 dentists (about a 7 percent needed increase). While the ratio of core mental health providers to population for each PUMA appears

TABLE 5 CURRENT COUNTS AND ESTIMATED ADDITIONAL NEEDED PRIMARY CARE MEDICAL, DENTAL AND CORE MENTAL HEALTH PROVIDERS BY PUMA BASED ON PROPOSED SUFFICIENT PROVIDER-TO-POPULATION RATIOS

Region	Physicians		Dentists		Core Mental Health*	
	Count	Additional Needed	Count	Additional Needed	Count	Additional Needed
Inside Beltway						
PUMA 1	37	15	57	—	85	—
PUMA 3	34	13	21	10	56	—
PUMA 4	35	22	17	21	75	—
PUMA 7	62	—	43	—	36	—
Outside Beltway						
PUMA 2	102	—	85	—	184	—
PUMA 5	128	—	151	—	274	—
PUMA 6	67	11	96	—	195	—
Total	456	+61	470	+31	905	—

*Includes Clinical Social Workers, Psychologists, Counselors and Psychiatrists

sufficient, the count of providers per PUMA is substantially lower in the PUMAs inside the Beltway than outside. If psychiatrists alone are used to estimate capacity for mental health care, we estimate the County would need to double the number of psychiatrists. A more detailed review of the County’s mental health providers would allow for a better assessment of the capacity of this workforce category.

ZIP CODE-LEVEL ANALYSIS OF HIGH PRIMARY CARE NEED

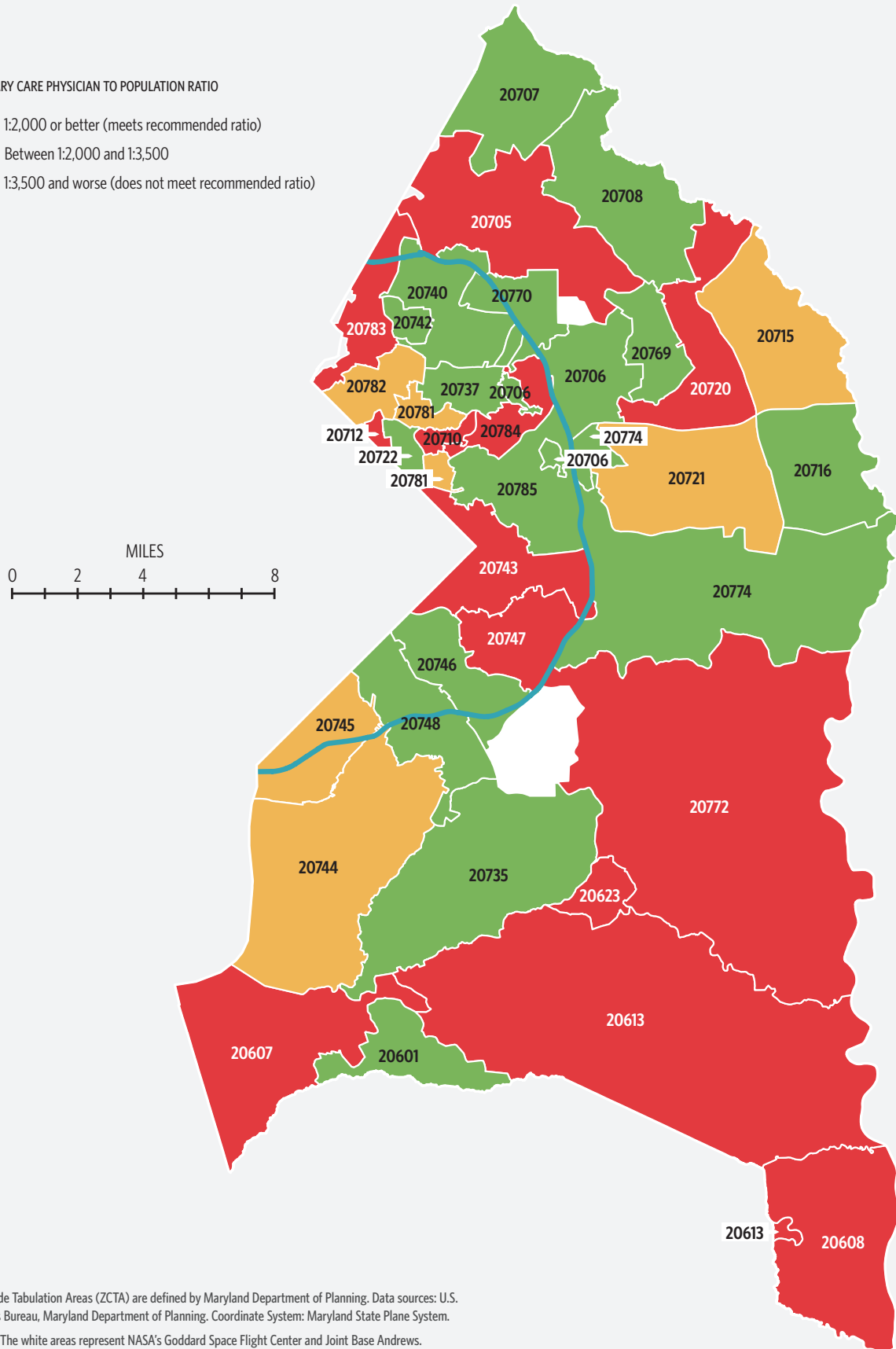
This assessment complements the ZIP code area assessment of the primary care physician to population ratios (Map A). We developed an algorithm

to identify ZIP codes where residents may be at higher need for primary care services, using provider, population and hospitalization data. We reviewed population income and education data since poor health status is associated with low income and low education status. We examined the pattern of hospital events by ZIP code, using the ratio of hospital discharges for preventable conditions and 30-day readmissions. Hospital readmissions within a 30-day period after discharge are viewed as a reflection of insufficient treatment to resolve the health condition in the prior hospitalization or the lack of appropriate primary care and home care. For hospital discharges, we looked specifically at conditions associated with the chronic diseases and conditions identified as being most

MAP A PRIMARY CARE PHYSICIAN-TO-POPULATION RATIO BY ZIP CODE IN PRINCE GEORGE'S COUNTY

PRIMARY CARE PHYSICIAN TO POPULATION RATIO

- 1:2,000 or better (meets recommended ratio)
- Between 1:2,000 and 1:3,500
- 1:3,500 and worse (does not meet recommended ratio)

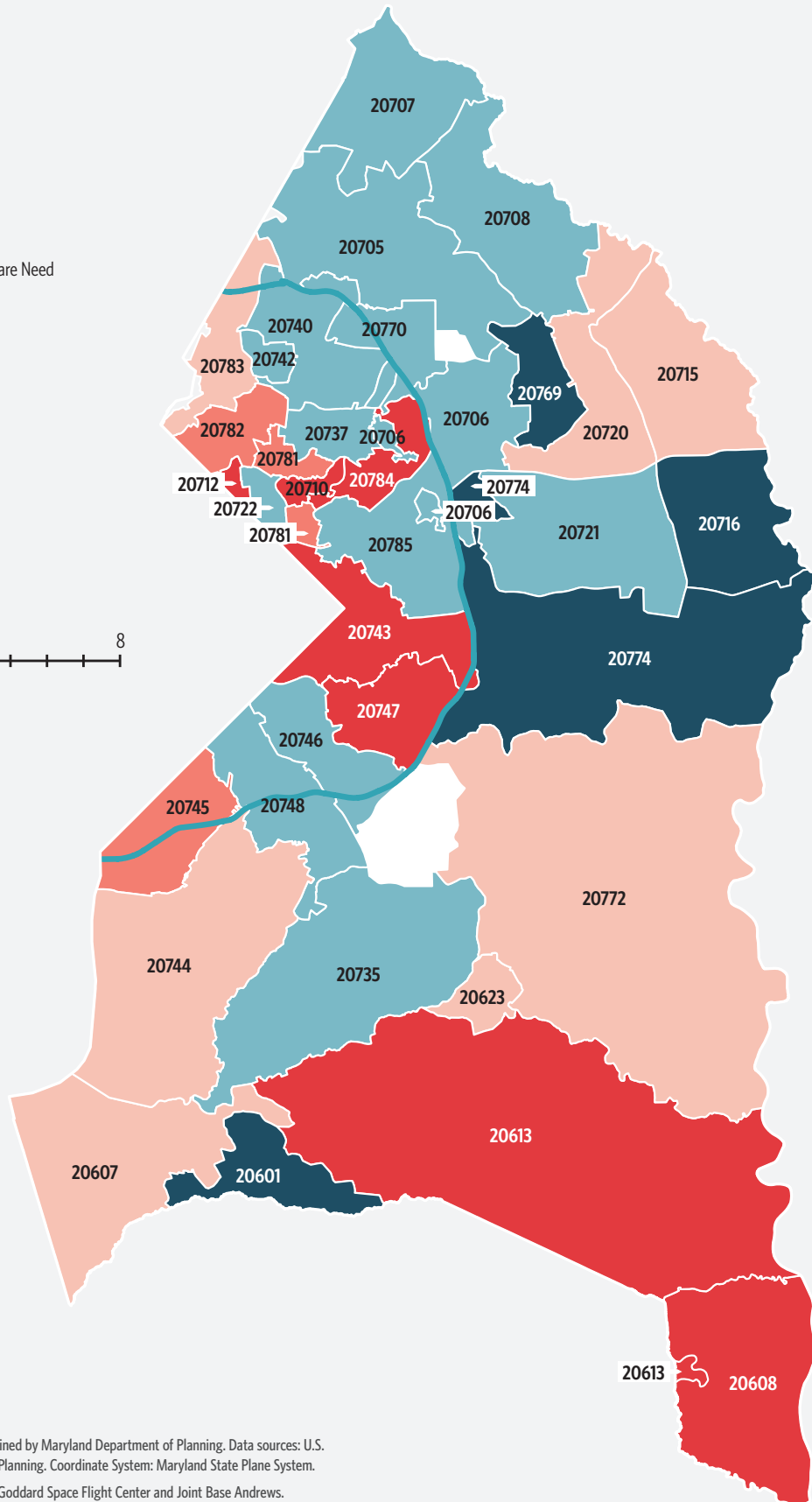
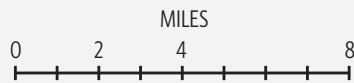


ZIP Code Tabulation Areas (ZCTA) are defined by Maryland Department of Planning. Data sources: U.S. Census Bureau, Maryland Department of Planning. Coordinate System: Maryland State Plane System. NOTE: The white areas represent NASA's Goddard Space Flight Center and Joint Base Andrews.

MAP B ZIP CODE-LEVEL ANALYSIS OF PRIMARY CARE NEED IN PRINCE GEORGE'S COUNTY

PRIMARY CARE NEED

- High Need
- Trending to High Need
- Medium Need
- Trending to Medium Need
- Adequate to Meet Primary Care Need



ZIP Code Tabulation Areas (ZCTA) are defined by Maryland Department of Planning. Data sources: U.S. Census Bureau, Maryland Department of Planning. Coordinate System: Maryland State Plane System.
 NOTE: The white areas represent NASA's Goddard Space Flight Center and Joint Base Andrews.

amenable for improvement with a new health care system.

We defined areas of high-primary care need as those that meet *each* of three criteria:

- primary care physician-to-population ratio at or worse than 1:3,500,
- a population with a median income and/or education level lower than the County average, and
- a population whose 30-day readmission ratio and/or hospital discharge ratio is higher than the County average (2007–2009 data).

Map B provides a visual of several levels of primary care need, ranging from high need for primary care (red) to adequate primary care (blue) with levels in between. Using this approach, the County has seven ZIP code areas with high need for primary care. These areas represent about 16 percent of the County’s population. Several of these ZIP codes include an existing federally designated medically underserved population. We also identified additional levels of risk by identifying ZIP codes that meet the same population and hospital event

criteria, but with a marginal provider-to-population ratio (worse than the recommended 1:2,000, but better than 1:3,500). These are designated “trending to high need.” ZIP code areas with the latter provider-to-population ratio, but that have either the population or hospital event characteristics are designated as areas with medium need. The light blue areas reflect some need for primary care. This assessment adds an additional dimension of primary care need to that of the provider-to-population ratios in the County.

3. WHAT RESOURCES CAN BE MOBILIZED IN THE PUBLIC HEALTH SECTOR TO COMPLEMENT THE IMPACT OF THE HEALTH CARE SYSTEM?

ANSWER Integrating primary care and public health can link programs and activities to “promote overall efficiency and effectiveness and achieve gains in population health” (IOM, 2012). We used secondary data to identify the presence and range of services provided by programs serving County residents, with a focus on vulnerable populations throughout the life span.

The County’s resources include:

- public health and social services;
- behavioral/mental and dental health programs;
- community-based primary care clinics;
- long-term care facilities;
- health programs in public schools; and
- other partners such as Parks and Recreation, the University of Maryland Extension and hospital-sponsored programs.

County-led efforts to improve the public’s health and expand access

to primary care will complement the impact of a new health care system. Achievement of the County’s 2020 goal of an accredited health department will ensure that the basic public health functions of assessment, assurance and policy development are in place. These functions can contribute to effective integration of programs within the County’s public health sector, collaborative efforts among hospitals to address community benefit programs and the integration of public health programs with primary care. Also the County is in a position to take advantage of the ACA provisions to enhance its safety net clinic capacity and extend

facilities such the School-based Wellness Centers. The County’s public sector and academic programs are additional assets that support health and wellness of residents. The County’s Health Care Coalition formed during the Baker administration provides an important foundation on which to build strong partnerships among public health, primary care and medical center programs and to create a more integrated system of care.

RATIONALE

Improving health outcomes requires building upon the existing assets within the County. We describe selected resources and the opportunities and challenges inherent in integrating them into a broader health system.

PRINCE GEORGE'S COUNTY HEALTH DEPARTMENT

The Health Department provides general screening and referral programs, health education and counseling services, and about a third of the locations provide clinical care. Realizing the County Health Improvement Plan's goal of achieving an accredited health department in 2020 will be a major asset for the County. With the capacity to provide the essential public health services of assessment, assurance and policy development, the County Health Department will be in a position to facilitate effective partnerships and tailor public health resources to meet population needs.

Our study of health care systems reveals that public health departments and Federally Qualified Health Centers were mentioned most often as potential public health resources that can be mobilized to complement the health care system's impact on health outcomes. Despite lack of adequate funding for health departments, creative ideas for mobilizing public health resources should be considered when designing the new health system. One example includes creating a state health department-sponsored chronic care initiative where insurers are required to participate in an integrated, collaborative system or community coalition with community health centers.

COMMUNITY-BASED PRIMARY CARE CLINICS

The County's capacity of community-based primary care, including the safety net clinics, remains severely limited. These programs serve a critical role in the health care delivery system, and provide primary care health services to vulnerable and uninsured or underinsured populations. Federal designation of Medically Underserved Areas (MUA) and Medically Underserved Populations (MUP) and designation of Health Professional Shortage Areas (HPSAs) identify areas of high need. These designations allow communities to request providers through the National Health Service Corps and establish of certification of facilities such as Federally Qualified Health Centers (FQHCs) or FQHC "look-alike" centers. The County has eight MUAs or MUPs, and is the only County in the state with multiple MUPs. The County has only one well-established FQHC—Greater Baden Medical Services—that has multiple locations. In addition, two other FQHCs, Mary's Center and Community Clinic Inc. have recently established clinical sites within the County. The health care systems we interviewed highlighted the importance of FQHCs in providing primary care to underserved populations. The ACA contains provisions to expand FQHCs. Given the magnitude of the uninsured population in the County, it is clear that resources must be invested into expanding community health centers.

HOSPITAL COMMUNITY BENEFIT PROGRAMS

The County hospitals are in a position to enhance community-based activities in partnership with the

public health sector. Community Benefit Reports are collected from state hospitals by the Health Services Cost Review Commission (HSCRC) to determine the hospital's tax-exempt status. Community benefit is defined by the Maryland law as "an activity that is intended to address community needs and priorities primarily through disease prevention and improvement of health status, including: health services provided to vulnerable or underserved populations; financial or in-kind support of public health programs; donations of funds, property, or other resources that contribute to a community priority; health care cost containment activities; and health education screening and prevention services (HSCRC, 2011)." Currently, the ACA requires every hospital to conduct a community health needs assessment at least once every three years to maintain its tax-exempt status and avoid an annual penalty. The County would benefit from coordinated efforts among the hospitals to conduct needs assessments and to develop subsequent targeted community-based programs.

BEHAVIORAL AND MENTAL HEALTH SERVICES

The County Health Improvement Plan (CHIP) highlights the need for additional behavioral and mental health services, which are an essential part of primary care. The County's Department of Family Services, Mental Health and Disabilities Division provides leadership for an array of high-quality public mental health services, oversees all public mental health services and monitors the mental health programs and professionals in this system. In addition, the County's Department of Health and safety net facilities

provide behavioral and/or mental health services, as do several non-governmental entities. Behavioral and mental health programs are available in all hospitals and services are provided by private sector practitioners. A targeted review of the integration and capacity of the County's mental health services would be beneficial.

PRINCE GEORGE'S COUNTY DENTAL HEALTH SERVICES AND PROGRAMS

Dental care is another essential primary care service that requires a more targeted review. The County Health Department, professional organizations and practicing dental professionals provide select programs. There has been significant activity since the death of 12-year-old Deamonte Driver, a County boy who died in 2007 due to complications from untreated tooth decay. However, there is still a major need for resources to provide evidence-based preventive and health promotion services and programs to the dentally uninsured and underinsured in the County.

PRINCE GEORGE'S COUNTY PUBLIC SCHOOLS

Public schools traditionally have contributed to the health education of children and youth and provided or contracted for basic health care services as needed for children while they are in school. Schools provide a natural link between families and teachers, communities and the public education system. Many County schools have access to a registered school nurse, and several have additional providers such as psychologists,

speech pathologists and occupational therapists. All schools are part of the Alliance for a Healthier Generation sponsored by the American Heart Association, the Michael and Susan Dell Foundation and the Clinton Foundation. There are four School-based Wellness Centers managed by the County Health Department located in high schools. Opportunities to extend these and initiate other school-based health centers would provide additional support for the County's residents.

NURSING HOMES AND HOME HEALTH CENTERS

Nursing homes and home health centers provide institutional and home-based services for the elderly and for special needs populations. There are 20 nursing home facilities in the County, which include respite and rehabilitative services and outpatient rehabilitative services. Home health centers provide nursing services, home health aides and one or more other services such as physical therapy, occupational therapy and social services. There are opportunities for the County to look at federal options to support innovative programs for special need populations.

PROGRAMS THAT SUPPORT HEALTH PROMOTION

Prince George's County Parks and Recreation offers residents vast parkland and community centers. These centers provide a health improvement programs, such as fitness centers and nutrition and cooking classes, and offer a significant opportunity for the provision of clinical services. Many of these centers are located at or near schools and could be linked with School-based

Wellness Centers or community health centers. The University of Maryland Extension (UME)-Prince George's County implements programs that address obesity; food insecurity; low levels of fitness; unhealthy diets for youth, families and senior citizens; sustainable agriculture; school and community gardens; and outdoor education. UME collaborates with many organizations throughout the County, including the school and library systems, municipal and County government and County Health Department, and programs such as Head Start and Judith P. Hoyer Early Child Care and Family Education Centers.

HIGHER EDUCATION HEALTH-RELATED ACADEMIC RESOURCES IN THE COUNTY

The County has a number of higher education academic resources that contribute to health and wellness capacity through their continuing education, research, community outreach and student training programs. Health workforce training opportunities include Bowie State University's nursing program, Prince George's Community College's Academy of Health Sciences and the University of Maryland's School of Public Health and other academic programs that train public health providers, couple and family therapists, experts in physical activity, clinical psychologists and others. In addition, health professions students from University of Maryland, Baltimore rotate through sites in the County as part of their training. The health care systems we interviewed had two innovative programs that could serve as models. One involved a partnership between the academic health care system and

a community-based clinic to establish a “medical home” with case managers for the under- and uninsured, achieving cost savings and improvements in quality of care. Another system formed

a communitywide “Nurse Advice Line” in collaboration with the public health department, managed care organizations and the university. This Nurse Advice Line helped the state health

department identify illnesses statewide and resulted in decreased emergency department visits, increased use of medical homes and better coordination of patient care.

4. WHAT ARE THE KEY ISSUES TO MAXIMIZE UPTAKE AND ACHIEVE THE POTENTIAL OF A HEALTH CARE SYSTEM FOR PUBLIC HEALTH?

ANSWER Decisions about where to seek care are generally driven by individuals, but the extent to which insurance and provider referral practices influence these choices is critically important. County residents and key stakeholders alike identified key issues that would influence the use and success of a health care system for public health. They highlighted the importance of affiliation with academic institutions, the role of insurance policies and practices, perceptions of health care quality, provision of health and wellness services, addressing health literacy and cultural competence, availability of primary care (both facilities and a sufficient workforce), effective design and use of technologies such as health information systems and system branding. The leaders we interviewed from the comparable models assessment also mentioned these issues.

Maximizing uptake will require system improvements that include needed services and those valued by residents, changes in insurer policies and provider referral practices, careful consideration of location, and a major focus on quality of care. The potential to significantly improve how County residents perceive the health care system would be enhanced by the affiliation with an academic institution. As these improvements are implemented, ongoing communication with the public, health care providers and policymakers will be essential.

RATIONALE

We found the following to be key factors influencing consumer choice and the potential success of a new health care system.

AFFILIATION WITH AN ACADEMIC MEDICAL CENTER

Stakeholder interviews focused on a new system that would be affiliated with an academic institution, including a medical school and teaching hospital. A teaching hospital would increase the status of the health care services,

improve quality of care provided by physicians and compete with the university-based health care available in Washington, D.C. Leaders from model health care organizations also identified the university affiliation as one strategy for enhancing perceived and actual quality.

INSURANCE AND PROVIDER REFERRAL PRACTICES

Physician referral practices and health insurance options and policies are other critical issues that impact

residents' choice of hospital. In the household survey, 85 percent indicated they were very likely to use a new hospital if their insurance company allowed its use. With regard to their most recent hospitalization, 31 percent of residents reported that their providers referred them to a hospital outside the County, and 13 percent reported that their insurer required use of a hospital outside the County. In the stakeholder interviews, this issue arose as well, including reference to Prince George's County employees whose health insurance carrier requires them to leave the County for hospitalization.

REPUTATION AND QUALITY OF CARE

Reputation and perceived excellence of a health care system are two key factors that contribute to maximizing the uptake of the system's services. Key stakeholder interview data showed that it is the reputation of the current health care in the County, and not always the actual care, that turns residents away or encourages physicians to make out-of-County referrals. In the random household survey, the reputation and perceived quality of hospitals were factors associated with the choice to leave the County for hospitalization. Additionally, when asked their choice of hospital, residents selected those outside the County. This again reflects general stakeholder opinion, which is that there is a perception problem that has impacted use.

When residents were asked what would make them more likely to use a new hospital in the County, they identified high-quality care, the availability of specialist care and referrals from their family and peer network, with 90 percent of residents considering quality of care the most important factor. Stakeholders emphasized the

concept of building a "world-class facility," along with centers of excellence that specialize in certain chronic diseases, as very important. Survey results demonstrated that residents do and will seek care at a hospital, often despite location, if it is associated with excellent care. The new system would be successful in a competitive market if it could build excellence in areas critically important to the County and provide distinctive programs.

Attention to quality of care can draw residents back to the County for health care and influence physicians to keep referrals in the County for specialized services. While several stakeholders believed that the poor reputation is in perception only, all acknowledged that perception is reality when it comes to health care decisions.

PERCEPTIONS OF AREA HOSPITALS

Despite perception challenges, over 40 percent of residents believe that quality of service at the hospital closest to them was excellent or very good and 24 percent rated the care as good. We asked residents about which hospitals they would choose for different conditions and found perceptions varied. Interestingly, while Doctors Community Hospital was ranked highest among area hospitals for overall best quality (16 percent), it was not the first choice for general hospitalization. Conversely, Washington Hospital Center was the first choice for general hospitalization with 15 percent and 11 percent of residents identifying it for overall best quality.

For the two hospitals associated with Dimensions Healthcare System, opinions varied significantly. More than 47 percent had favorable opinions about Prince George's Hospital Center, while 40 percent of residents reported

unfavorable opinions. With Laurel Regional Hospital, however, the issue was less that it was viewed unfavorably than it was not well known. Fifty percent viewed it favorably, but 13 percent had never heard of it and more than 20 percent had no opinion. In each case, more than 30 percent of residents indicated that increasing the quality of staff and physicians would improve their perceptions of each hospital.

INTEGRATION OF WELLNESS AND DISEASE PREVENTION EFFORTS

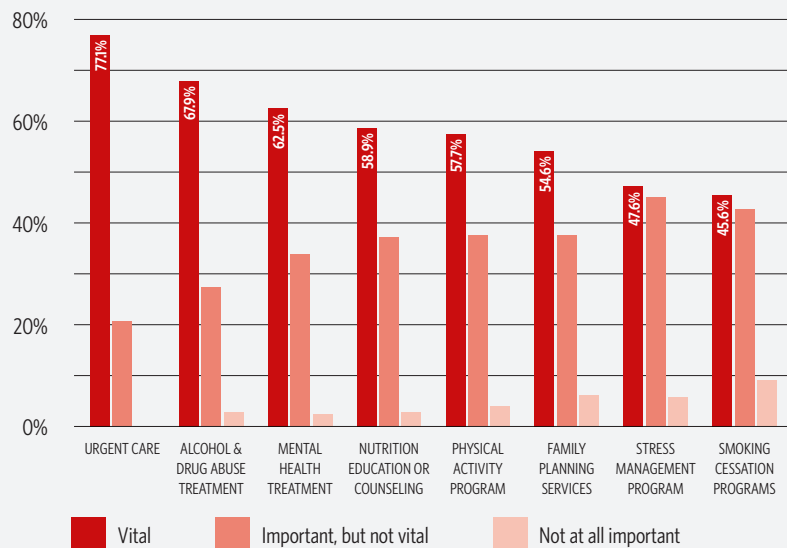
The integration of health promotion and disease prevention services into the new system could enhance the likelihood of making an impact on health status at the County level and attract residents. The survey showed strong interest in several of these services (see Figure 2). Stakeholder interviews support these findings. Given the focus on prevention in the ACA, along with the County's Health Improvement Plan, these services could prove integral to the public health impact of the new health care system.

CULTURAL COMPETENCY AND HEALTH LITERACY

In a County as diverse as Prince George's, the new system has the unique potential to become known as a culturally competent health care system that addresses the health literacy needs of the communities it serves. More than a quarter of the residents surveyed needed some level of help reading medical materials, and 23 percent had some problems learning about their medical conditions due to difficulty understanding written information. Similarly, only 48 percent of residents whose primary language

FIGURE 2 COUNTY RESIDENTS' PERCEPTIONS OF SERVICES FOR A NEW HEALTH CARE SYSTEM

IN PLANNING A NEW HEALTH CARE SYSTEM FOR THE COUNTY, DECISIONS HAVE TO BE MADE ABOUT WHAT SERVICES ARE VITAL TO THE COMMUNITY. BASED ON YOUR EXPERIENCES AND THE EXPERIENCES OF YOUR FAMILY, PLEASE TELL ME IF THE AVAILABILITY OF (INSERT SERVICE) IS VITAL, IMPORTANT BUT NOT VITAL, OR NOT AT ALL IMPORTANT TO HAVE IN PRINCE GEORGE'S COUNTY? (N=1,001)



was not English reported having access to a provider who spoke their language, and only 21 percent reported having an interpreter. One mark of distinction for the new health care system could be a large and mobile translator/interpreter program, and health education materials that are culturally sensitive and language appropriate. Stakeholders and other interviewees also suggested developing patient navigator and community outreach worker programs.

RECRUITMENT AND RETENTION OF HEALTH CARE PROVIDERS

Recruitment and retention of qualified primary care and specialty physicians are needed to fill the current gaps in quantity, type and prestige of physician working in the County. The new health care system can begin to fill these gaps by considering part-time appointments for well-known providers from

surrounding jurisdictions. Providing incentives to medical school and other health professions graduates through existing federal loan repayment plans, coupled with potential economic incentives, such as low-interest mortgages, could assist in attracting providers to practice in the County. Enhancing the quality of other staff in the system can also impact perceptions of care.

LOCATION AND ACCESSIBILITY OF CARE

Location of care is a factor that contributes to use of services. When asked to identify their top three priorities for deciding where to seek care, more than 51 percent of residents surveyed indicated that a priority was whether the facility or doctor was close to home. The usage of the new system will be similarly affected by accessibility of care: hours of operation, ease of getting appointments and availability of

specialist care.

In the survey, we asked about different health care services and how vital they are for residents. More than 77 percent reported that urgent care services were a vital need for Prince George's County. This type of service reflects care that is readily and routinely available at the time of need.

CAPACITY OF HEALTH INFORMATION TECHNOLOGY

The capacity and appropriate use of health information technology supports the success of a system for public health. The County's physicians and facilities are moving to adopt such technology, which ultimately would integrate care across systems, deliver decision support systems for providers to implement evidence-based protocols and contribute to population health. In our interviews with model systems, some said they use automated reminders that prompt providers about care needs and milestones, contributing to better health outcomes.

BRAND MARKETING

Effective marketing and positive branding of a health care system also contribute to increased uptake. Individuals need to be informed of the availability and unique types of services in a targeted way that is sensitive to cultural and language differences. From interviews with individuals in other model systems, it is clear that a communication campaign must "sell" excellent services and quality and the image that the system serves more than uninsured or the poor. Involvement of residents in deciding a campaign strategy and messages would enhance its credibility and effectiveness. This is an ongoing process, similar to the communication

campaigns used by Holy Cross, Adventist and Doctors Community hospitals, which include mailings to Prince George's County households. Additionally, the careful use of community

benefit funds can enhance health and also raise visibility of the system while providing necessary services, such as health fairs and health promotion programs. Marketing and communication

to providers are also critical, particularly as they will need to understand and appreciate the breadth and quality of the new system in order to refer their patients to the system.

5. WHAT ELEMENTS OF A HEALTH CARE SYSTEM (HOSPITAL AND COMMUNITY) CAN AFFECT THE KEY HEALTH OUTCOMES AND BY HOW MUCH?

ANSWER Prince George's County can make significant strides in improving the health of residents with a new health care system committed to population health and prevention that includes a high-quality regional hospital center affiliated with a university, a strong primary care network and integrated public health services. The establishment of such a transformative system would enhance the health of a County with major health needs and create a model for the nation.

In addition, we forecast achievable 2020 health outcome targets for the County of a system with these elements. We estimate the resulting improvements in asthma, diabetes, hypertension, heart disease and cancer through effective prevention and management would be reflected in reductions in ED visits and deaths in 2020 and for each subsequent year. We forecast for 2020 a 16 percent reduction in cumulative emergency department visits for asthma, diabetes and hypertension and 340 lives saved that would have been lost due to heart disease or cancer.

RATIONALE

Lessons learned by model health systems, input from key stakeholders and residents, and findings from the scientific literature reveal system elements and practices that contribute to health improvements and health care efficiencies.

A university-affiliated regional

teaching hospital center involved in interprofessional education, care and research would provide an anchor for a revitalized high-quality health care system in Prince George's County. As the anchor, the hospital center would:

- apply the latest technologies and knowledge to improve health and restore function,
- use interprofessional, team-based approaches to provide sustainable gains in health, and
- partner with primary care for effective care management of chronic diseases.

These attributes would:

- attract and retain high-quality health care providers,
- earn the trust of residents who now seek care outside the County, and
- earn the trust of providers and insurance companies that now refer residents elsewhere.

Strong primary care networks are associated with higher quality of care, lower health care spending and reduced health disparities. The creation of a strong primary care network in the County would require:

- increasing the number of primary care practitioners to address the identified shortages,
- increasing the number of ambulatory care centers in targeted areas of the County,
- empowering primary care through the adoption of the "medical home" model and access on nights and weekends,
- integrating primary care with dental health and behavioral/mental health,
- assuring connectivity through health information technology,
- measuring the quality of care through regular reporting, and
- collaborating closely with the public health system.

TABLE 6 ESTIMATED 2020 ACHIEVABLE COUNTY TARGETS AND IMPLICATIONS FOR KEY HEALTH CONDITIONS

Health Condition and Measure (per 100,000 population)	County Baseline Total	County Target Total Achievable by 2020 (estimated percent decrease from baseline)	Implications (as ED visits averted or lives saved annually)
Asthma—Rate of ED visits for asthma*	717.0	573.6 (20%)	1,233 ED visits averted
Diabetes—Rate of ED visits for diabetes*	308.4	277.6 (10%)	265 ED visits averted
Hypertension—Rate of ED visits for hypertension*	257.7	231.9 (10%)	222 ED visits averted
Heart disease—Rate of heart disease deaths ⁿ	224.2	201.8 (10%)	193 lives saved
Cancer—Rate of cancer deaths	173.8	156.4 (10%)	150 lives saved

*The data for ED visits are limited to Maryland hospitals. Full baseline data should include ED visits of Prince George’s County residents to EDs in Washington D.C.

The interface of the primary care network and the hospital with the public health sector contributes to improved health outcomes and population health. Key aspects of an integrated public health system include:

- primary disease prevention—such as health promotion activities like health education, support for healthy lifestyles and the incorporation of health literacy principles,
- appropriate integration among public health sector community-based programs, and
- integration and coordination of services that cross sectors, such as health and social services playing a key role in affecting health outcomes.

To estimate how much the new system as described would affect key health outcomes, we used our study findings and reviewed the relevant literature, ongoing and planned County and state activities and the County’s baseline data. We realize that several of the key elements of the new system will not be in place until 2014 or thereafter. Table 6 presents the County target that should be achievable by

2020 with a new system in place for each of the key health outcomes, holding population constant.

Even with this conservative approach, we estimate these improvements would result in a collective reduction of emergency department (ED) visits for asthma, diabetes and hypertension by about 16 percent each year. With a strong primary care network and the use of evidence-based interventions, even greater benefits should be achievable. A review of studies of care management approaches for chronic conditions revealed a range of interventions that decrease health care utilization and increase cost savings. For example, some studies have shown a significant reduction in asthma-related ED visits with in-person care management. Both in-person and telephone-based care management studies found similar results for patients with diabetes, including a telephone care management study that found more than 30 percent reductions in ED visits and inpatient admissions (AHRQ, 2012).

For heart disease and cancer deaths, we estimate that a 10 percent reduction is achievable by 2020. This would

equate to more than 340 lives saved each year, with potential for an even greater number of lives saved in each subsequent year. The collective and coordinated efforts of the primary care network and public health sector in reducing risk factors for all five of these health outcomes, and attention to the relevant social determinants of health, could add to the rates of improvement.

The ACA has specified innovations and initiatives that are already contributing to each of the elements of the new health care system. Maryland is taking actions that will further support improvements in the County, such as the formation of the Maryland Health Benefit Exchange that will extend insurance coverage and the creation of Health Enterprise Zone to reduce disparities, improve health outcomes and reduce health care costs by reducing hospital admissions and re-admissions. Coordinated efforts will extend the impact of the ACA and benefit the County.

CONCLUSION

The overall assessment of the Public Health Impact Study of Prince George’s County is that the proposed new regional medical center, supported by a comprehensive ambulatory care network, comes at the right time: the right time in leadership, the right time for health care reform and the right time for County residents. With its vision of transforming the County’s health care system, this initiative can catalyze partnerships and health care innovation, and most importantly, improve the health status of residents and the region.

The study provides a detailed and expanded assessment of the public health capacity and potential impact on health outcomes of a new health care delivery system in the County. We designed our study to address gaps in data identified by previous assessments of the County’s health care workforce, hospital use patterns and health status and to learn from County residents, other key stakeholders

and comparable health care delivery models. As part of the study process, we developed a number of new products that provide the basis for future and ongoing work: instruments used for the resident survey, stakeholder interviews and health system assessment; a novel approach to assessing population variables and presenting those data by geographic maps, and an econometric model that can be

applied and modified for further planning purposes. The answers to the five framing questions provide insights from the range of study components and serve as the major findings of this study. The technical reports in Section II, available at sph.umd.edu/princegeorgeshealth, provide additional detail for each of the components.

RECOMMENDATIONS

The following recommendations are meant to support the success of the new health care system with its high-quality medical center and strong primary care network.

To achieve this transformational change, it will be necessary to:

ESTABLISH A HIGH-QUALITY, ACADEMICALLY AFFILIATED REGIONAL MEDICAL CENTER WITH A STRONG AND COLLABORATIVE PREVENTION-FOCUSED AMBULATORY CARE NETWORK.

The medical center and network will serve as the anchor to the transformation of the health care system. It will need to establish strong relationships with the community and demonstrate its commitment to population health. The planning phase should include meetings with insurance providers and with physician groups to understand and address patient referral patterns.

DEVELOP A COUNTY-LED PROCESS TO IMPROVE PUBLIC HEALTH, EXPAND ACCESS TO HIGH-QUALITY PRIMARY CARE AND SUPPORT SYSTEMS INTEGRATION.

DELINEATE LEAD ROLES AND CREATE AN INCLUSIVE CENTRAL PLANNING PROCESS Achieving large-scale transformational change requires the clear contributions and coordination among many sectors. The County is in the unique position to lead the innovation and transformation of the public health and primary care network. Engaging residents in the planning and monitoring of the new system will ensure the services meet needs and support appropriate use. A “master health planning process” should be implemented to facilitate and guide partnerships and new health care entities that have an interest in serving the County, along with coordinating their efforts with the overall County Health Improvement Plan (CHIP). This process can address social determinants of health, reflect the concept of “health in all policies” and target priority areas identified by the County. Also as part of the “master health planning process,” County hospitals, the Health Department and academic institutions should

collaborate to fulfill mandates such as the hospital community benefit efforts.

COORDINATE EFFORTS TO MAXIMIZE THE IMPACT OF THE ACA IN PRINCE GEORGE’S COUNTY BY EMPHASIZING IMPROVED ACCESS, HEALTH EQUITY, HEALTH LITERACY, PREVENTION, POPULATION HEALTH AND DELIVERY INNOVATION. This emphasis is necessary to take advantage of health care reform. Residents will need tailored and frequent support to benefit from reform initiatives and new health care system components. A prevention program that produces clear, understandable, culturally sensitive, actionable education materials will improve health literacy and strengthen the capacity of all residents to enhance their health. This program will need to use appropriate channels to reach the diverse segments of the County, and offer ways to help residents understand and act upon prevention messages.

ADDRESS AREAS OF HIGH PRIMARY CARE NEED WITHIN THE COUNTY WITH A PARTICULAR FOCUS ON WORKFORCE DEVELOPMENT, COMMUNITY-BASED HEALTH FACILITIES AND OUTREACH PROGRAMS. Multiple approaches are needed to meet the primary care needs in select areas of the County. Strategies to recruit and retain primary care providers will

require securing necessary government funding and use of loan repayment and other mechanisms. Innovative workforce development programs are needed to extend prevention and care throughout the population and integrate all needed disciplines into the primary care network. These programs could include strategies to train and grow the workforce capacity of County residents, as well as address the County's health needs. These programs will include the traditional health professions programs with innovative education strategies that support team learning and care. They also should include the development of innovative health care extenders, such as community health workers and navigators. Strategies for establishing new primary care centers would benefit from exploring additional federal designation of medically underserved areas/populations and health workforce shortage areas.

SUPPORT INNOVATION IN HEALTH CARE, PREVENTION AND PUBLIC HEALTH DELIVERY. The time is right to seize opportunities to enhance programs such as the School-based Wellness Centers, incorporate promising practices such as the patient-centered medical home and accountable care

organizations, and integrate behavioral/mental and dental health into the new system. A new health care system could create a novel and model network, one that integrates primary care, public health and the active partnerships necessary for primary, secondary and tertiary prevention to improve health outcomes and curb disease progression. A critical review of existing public health functions and programs is needed in order to prepare to achieve the goal of an accredited health department. Given the emphasis on primary care and on reducing preventable hospitalizations and emergency department use, a detailed review also is needed of each of the identified priority health outcomes to implement appropriate health promotion, disease prevention and health care workforce initiatives. Support is needed for health information technology to facilitate and reinforce these linkages among public health, other public sector programs and clinical health care (outpatient and hospital) and provide real-time surveillance and evaluation. Lessons learned from comparable models provide a wide range of options from which to choose and adapt as needed.

DEVELOP A CLEAR BRAND THAT PROMOTES A HIGH-QUALITY HEALTH CARE SYSTEM, ENCOURAGES RESIDENTS TO RETURN TO THE COUNTY FOR CARE AND CONTRIBUTES TO A SUCCESSFUL AND THRIVING SYSTEM.

Thinking about the branding and marketing at this early stage will contribute to the system design. The County is rich in history and has a long legacy of commitment to community. A strategic marketing campaign's goals for the new health care system would include: creating a positive brand for the County's system, increasing the perceived stature of the quality of care that will be available, focusing on centers of excellence and unique facets of the system and increasing utilization of the new health care services.

VISION FOR THE FUTURE

Today, Prince George’s County is primed for change with its new leadership and a renewed commitment to improving the health and quality of life of its citizens. Partnering with the state of Maryland, the University of Maryland Medical System, Dimensions Healthcare System and the public health system, the County has an exciting opportunity to re-imagine a health care system that enhances individual patient care, improves population health and reduces per capita costs of care. By integrating public health, primary care and a world-class regional medical center to serve the County and Southern Maryland, this new system would be known for its key characteristics:

- Guided by a master health plan that integrates the public and private sectors, along with philanthropy, in a broader vision to improve the social determinants of health and actual health care in the County,
- Committed to improving both health care and the health status of the County,
- Affiliated with the University of Maryland and positioned to offer innovative inter-professional care,
- Comprised of a robust network of strategically placed primary care providers,
- Distinguished by a state-of-the-art medical center with centers of excellence that draw insured patients from the region,
- Focused on the integration of health promotion and disease prevention services and programs that address common risk factors, such as obesity, physical inactivity and tobacco use, the leading causes of morbidity and mortality
- Characterized by health literacy principles infused into health care, health facilities and health education for the public and providers and by culturally, competent health professionals
- Built on a sophisticated electronic and personal health care records system and other health information technology that facilitates coordinated care and enhances population health.

To be successful, this new health care system, including its regional medical center, must grapple with the complex racial, ethnic, income and educational diversity of Prince George's County. There are significant pockets of lower-income populations inside the Beltway, many without health insurance, while there are also higher income and education communities that are well-insured. As we move outside the Beltway, income and educational levels generally rise along with the proportion of individuals with insurance coverage. Yet, in 2014, as the health benefit exchange component of the ACA is realized, the County will have significantly more of its population insured, providing additional opportunities for residents to benefit from comprehensive preventive and primary care services.

While increased insurance coverage will benefit the new system and contribute to better health outcomes, the new system must grapple with the demands of partnering with others to assure that safety net facilities, such as FQHCs, are in place. This must be done early on while the new system also positions itself to meet market demands for high-quality care that will

prove compelling to insured County residents and insurers themselves. The larger integrated system, working in partnership with other County agencies, can facilitate progress toward the realization of health equity in the County.

Building this innovative health system can stimulate complex changes in the County and state. Improving the health of the County is essential to improving the health rankings for the state. As the health of the County's population improves, so does its attractiveness as location with a vital workforce, which will potentially stimulate new economic investments. Therefore, the health system itself can reap the benefits of new economic investment in the County by the private and public sectors and drive its new economic vitality.

SELECTED REFERENCES

- Abt SRBI. (2012). *2011 Prince George's County Health Survey Methodology Report*.
- Agency for Healthcare Research and Quality. (2012). Prevention Quality Indicators Overview. Retrieved from www.qualityindicators.ahrq.gov/Modules/pqi_overview.aspx
- Berwick, D.M., Nolan, T.W., Whittington, J. (2008). The Triple Aim: Health, Care and Cost. *Health Affairs*, 27(3), 759-769.
- Institute of Medicine. (1994). *Defining Primary Care: An Interim Report*. Retrieved from www.nap.edu/openbook.php?record_id=9153&page=R1
- Institute of Medicine. (2012). *Primary Care and Public Health: Exploring Integration to Improve Population Health*. Washington DC: The National Academies Press.
- Lurie, N., Harris, K. M., Shih, R. A., Ruder, T., Price, A., Martin, L. G., Acosta, J., & Blanchard, J. C. (2009). *Assessing health and health care in Prince George's County*. Prepared for the Prince George's County Council, by RAND Corporation.
- Maryland Department of Health and Mental Hygiene. (2010). *2010 Primary Care Needs Assessment*. Retrieved from ideha.dhmh.maryland.gov/IDEHASharedDocuments/PCO_Needs_Assessment_11_16_11.pdf
- Maryland Department of Health and Mental Hygiene. (2011). *Health Care Reform Coordinating Council. Created by Executive Order 01.01.2010.07 Final Report and Recommendations*. Retrieved from www.familiesusa.org/conference/health-action-2011/speaker-materials/Health-Reform-ExecutiveSum-12111.pdf
- Maryland Department of Health and Mental Hygiene. (n.d.). *State Health Improvement Process Home*. Retrieved from dhmh.maryland.gov/ship/SitePages/Home.aspx
- Maryland Governor's Workforce Investment Board. (2011). *Preparing Maryland's Workforce for Health Reform: Health Care 2020*. Retrieved from www.gwib.maryland.gov/pub/healthreformcare2020.pdf
- Maryland Health Care Commission. (2008). *Task Force on Health Care Access and Reimbursement Established under Senate Bill 107*. Retrieved from www.healthequity.umd.edu/documents/Task%20Force%20on%20Health%20Care%20Access%20and%20Reimbursement%20%282008%29.pdf
- Maryland Health Care Commission. (2011). *Maryland Physician Workforce Study: Applying the Health Resources and Services Administration Method to Maryland Data*. Retrieved from mhcc.dhmh.maryland.gov/workforce/Documents/sp.mhcc.maryland.gov/workforce/physician_workforce_study_20110513.pdf
- Maryland Health Services Cost Review Commission. (2010). *Maryland Hospital Community Benefits Report FY 2010*. Retrieved from www.mdhospitals.org/File%20Library/Community/Community%20Benefits/FY2010-HSCRC-Maryland-Hospital-Community-Benefits-Report_July-2011.pdf
- Maryland Physician Workforce Study. (2008, April). Boucher and Associates. Sponsored by Maryland State Medical Society and the Maryland Hospital Association.
- Partnering Toward a Healthier Future. (2007). Center on Health Disparities, Adventist Health Care. Retrieved from www.adventisthealthcare.com/pdf/ahc-chd-progressreport-2007.pdf
- Prince George's County Health Department. (2011). *Prince George's County Health Improvement Plan 2011 to 2014, Blueprint for a Healthier County*. Retrieved from www.princegeorgescountymd.gov/Government/AgencyIndex/Health/pdf/LocalhealthPlanPrefinal.pdf
- Robert Wood Johnson Foundation. (2012). 2012 County Health Rankings Highlight Healthiest, Least Healthy Counties in Every State. Retrieved from www.rwjf.org/publichealth/product.jsp?id=74147&cid=XEM_A5857
- Stine, N. W., & Chokshi, D. A. (2012). Opportunity in Austerity—A Common Agenda for Medicine and Public Health. *New England Journal of Medicine*, 366(5), 395-397.
- United States Department of Health and Human Services. (2010). *Healthy People 2020*. Retrieved from www.healthypeople.gov/2020/default.aspx
- United States Department of Health and Human Services. Health Resources and Services Administration. (2011). *HRSA Shortage Designation: Health Professional Shortage Areas & Medically Underserved Areas/Populations*. Retrieved from bhpr.hrsa.gov/shortage
- United States Department of Health and Human Services, Health Resources and Services Administration. (2012). *Shortage Areas: HPSA by State & County*. Retrieved from hpsafind.hrsa.gov/

GLOSSARY OF KEY TERMS

ACCOUNTABLE CARE ORGANIZATIONS (ACOs) Groups of doctors, hospitals and other health-care providers, who come together to give coordinated high-quality care to their Medicare patients and ensure that patients get the right care at the right time.

AMBULATORY CARE Health-care services offered on an outpatient basis

AMBULATORY CARE SENSITIVE CONDITIONS Conditions that are preventable and treatable in a primary care setting and, when addressed, should prevent/avoid hospitalization

BASELINE DATA Data collected to establish and understand the existing conditions before any kind of intervention or experimental manipulation begins

BODY MASS INDEX (BMI) A measure calculated from a person's height and weight used to screen for body fatness. This measure is used to identify weight conditions that may lead to health problems.

DEAMONTE DRIVER A boy from Prince George's County Maryland who died at age 12 from a brain infection caused by bacteria from tooth decay in February 2007. His infection, which could have been prevented, and his tragic death have galvanized a national critical review of the capacity to provide oral health care and have stimulated legislative and programmatic actions.

EVIDENCE-BASED PROTOCOLS (OR EVIDENCE-BASED HEALTH CARE) The conscientious use of current best evidence in making decisions about the care of individual patients or the delivery of health services to a population. Current best evidence is up-to-date information from relevant, valid research about the effects of different forms of health care and health promotion efforts.

FEDERALLY QUALIFIED HEALTH CENTER (FQHC) A health organization that offers primary care and preventive health services to all patients regardless of their ability to pay for care. A FQHC is a public or private nonprofit organization that has been reviewed by the federal government and meets specific criteria to receive government funding. It must serve a medically underserved area or population.

HEALTH DISPARITIES Differences in the presence of disease, health outcomes, or access to health care that are closely linked with social, economic and/or environmental disadvantage based on race and ethnicity; religion; socio-economic status; gender; age; mental health; cognitive, sensory, or physical disability; sexual orientation, or gender identity; geographic location; or other characteristics historically linked to discrimination or exclusion.

HEALTH EQUITY The state of achieving the highest level of health for all people. This requires valuing everyone equally with focused and ongoing societal efforts to address avoidable inequalities, historical and contemporary injustices, and eliminate health and health-care disparities.

HEALTH LITERACY The degree to which individuals have the capacity to obtain, process and understand basic health information and services needed to make appropriate health decisions. Health literacy is enhanced when providers give patients accurate, actionable health information in plain language and health facilities include design and system changes that improve health information, communication, informed decision-making and access to health services.

HEALTH OUTCOME A measure of a health condition such as disease status or death.

HEALTH PROMOTION The process of enabling people to increase control over and to improve their health. Health promotion not only strengthens the skills and capabilities of individuals, but also involves changing social, environmental and economic conditions that impede public and individual health.

HOSPITAL EVENTS Several terms are used in this report to define hospital events:

A **hospital discharge** is the process by which a patient is released from the hospital at the time inpatient care is no longer needed. Discharges or hospital admissions can be defined by the specific conditions that stimulate them. If these conditions are related to ambulatory care-sensitive conditions (see above), then these can reflect adequacy of the primary care network.

Hospital readmissions are used to describe hospitalizations that result seven to 30 days after a patient

has been released from a hospital. Hospital readmissions reflect on the quality of the hospital discharge process and on the capacity of the primary care network.

PATIENT-CENTERED MEDICAL HOME

A team-based health care delivery model led by a physician that integrates patients as active participants and provides comprehensive and continuous preventive, acute and chronic care to patients with the goal of obtaining the best health outcomes.

PATIENT PROTECTION AND AFFORDABLE

CARE ACT The health care reform law passed by the U.S. Congress in 2010

POPULATION HEALTH The health outcomes of a group of individuals, including the distribution of such outcomes within the group. The goal of population health is to reduce inequities and improve the health of the entire population.

PRIMARY CARE General health care services provided by clinicians who are accountable for addressing a large majority of personal health care needs. These clinicians often are the first point of contact for patients, will develop sustained partnership with patients, and practice in the context of family and community.

PRIMARY CARE PHYSICIANS A category of physicians that includes specialists in the general practice of family medicine, internal medicine, pediatrics and obstetrics and gynecology.

PRIMARY PREVENTION Efforts to keep diseases from occurring among susceptible people by reducing exposures or eliminating risk factors. These generally include health promotion and health education activities provided through public health, primary care and community programs.

PROVIDER-TO-POPULATION RATIO

A measure used to determine the capacity of the number of providers available in a geographic region to serve the population size.

PUBLIC HEALTH The art and science of protecting and improving the health of communities.

PUBLIC USE MICRODATA AREA (PUMA)

Areas defined by Census records in which each contains approximately 100,000 people. PUMAs are redefined every ten years in conjunction with the decennial census.

RANDOM (OR RANDOMIZED) SURVEY

A survey of a sample population in which every person in the population has an equal chance of being selected.

SECONDARY PREVENTION Efforts focused on detecting disease early and stopping its progression. These include screening, periodic health examinations and reduction of risk factors through primary care and public health sectors.

TERTIARY PREVENTION Efforts focused on reducing further complications, disability and death once disease has been identified. These include rehabilitation, chronic disease treatment, specialty care and acute care through hospital services.

SCHOOL OF PUBLIC HEALTH STUDY TEAM MEMBERS
Linda Aldoory, Ph.D.

Endowed Director and Chair, Herschel S. Horowitz Center for Health Literacy and Associate Professor, Department of Behavioral and Community Health

Brad Boekeloo, Ph.D.

Director, University of Maryland Prevention Research Center and Professor, Department of Behavioral and Community Health

Rada K. Dagher, Ph.D., M.P.H.

Assistant Professor, Department of Health Services Administration

Robert S. Gold, Ph.D., Dr.P.H.

Founding Dean, School of Public Health

Alice M. Horowitz, Ph.D.

Research Associate Professor, Horowitz Center for Health Literacy

Dushanka V. Kleinman, D.D.S., M.Sc.D.

Associate Dean for Research and Professor, Department of Epidemiology and Biostatistics

Mei-Ling Ting Lee, Ph.D.

Director, Biostatistics and Risk Assessment Center, and Professor and Chair, Department of Epidemiology & Biostatistics

Karoline Mortensen, Ph.D.

Assistant Professor, Department of Health Services Administration

Sandra Crouse Quinn, Ph.D.

Associate Dean for Public Health Initiatives; Senior Associate Director, Maryland Center for Health Equity; and Professor, Department of Family Science

Elliot A. Segal, M.P.H.

Director, Healthy Futures Program and Professor of the Practice, Department of Health Services Administration

Lori Simon-Rusinowitz, M.P.H., Ph.D.

Associate Professor, Department of Health Services Administration and Center on Aging

Stephen B. Thomas, Ph.D.

Director, Maryland Center for Health Equity and Professor, Department of Health Services Administration

Min Qi Wang, Ph.D.

Professor, Department of Behavioral and Community Health

Laura Wilson, Ph.D.

Associate Dean for Academic Affairs and Professor and Chair, Department of Health Services Administration

STUDY CONTRIBUTORS

Kelly E. Blake, M.A.

Erica Casper, M.A.

Raul Cruz-Cano, Ph.D.

Dawn Hamilton, J.D.

Sylvette La Touche-Howard, Ph.D.

Kevin Kim, Ph.D.

Leona F. Peterson Naudé

Susan Passmore, Ph.D.

Blakely Pomeitto, M.P.H.

Wesley H. Queen

Sarah Radice

Amber Simms, M.P.H.

ADVISORY COMMITTEE MEMBERS

Pamela B. Creekmur
Health Officer, Prince George's County

Betty Hager Francis
Deputy Chief Administrative Officer,
Office of the Prince George's County
Executive

Jeffrey L. Johnson, M.B.A., FACHE
System Vice President for Planning/
Special Projects, University of
Maryland Medical System

Neil J. Moore
President and CEO, Dimensions
Healthcare System

Daniel J. O'Brien Jr., Esq.
General Counsel, Dimensions
Healthcare System

Frances Phillips, R.N., M.H.A.
Deputy Secretary for Public Health,
Maryland Department of Health and
Mental Hygiene

Bradford L. Seamon
Chief Administrative Officer, Office of
the Prince George's County Executive

Stephen V. Witman, M.B.A., CPA
Director, Healthcare Advisory Services,
KPMG LLP

ADVISORY COMMITTEE PARTICIPANTS

Gordon Barrow
Special Assistant to the Health Officer

John O'Brien
Chief Operating Officer, Dimensions
Healthcare System, and President,
Prince George's Hospital Center

Debra C. Ross
Special Assistant to the Deputy, Chief
Administrative Officer for Health
and Human Services and Education,
Office of the Prince George's County
Executive

INDEX OF TABLES AND FIGURES

TABLE 1	Rate of Emergency Department (ED) Visits and Death Rates per 100,000 People for Selected Chronic Conditions in Maryland Counties and for the State.....	iv
TABLE 2	Impact of Leading Chronic Diseases on Emergency Department (ED) Visits and Death Rates by Racial and Ethnic Populations in Prince George’s County	v
TABLE 3	Diagnosed Medical Conditions for Residents Who Have Been Told by their Doctor They Have a Medical Condition or Chronic Disease	v
FIGURE 1	Body Mass Index of Surveyed County Residents	vi
TABLE 4	The Ratio of Medical, Dental and Mental Health Providers per 100,000 Population in Maryland Counties and for the State	vii
TABLE 5	Current Counts and Estimated Additional Needed Primary Care Medical, Dental and Core Mental Health Providers by PUMA Based on Proposed Sufficient Provider-to-Population Ratios.....	viii
MAP A	Primary Care Physician-to-Population Ratio by ZIP Code in Prince George’s County	ix
MAP B	ZIP Code-Level Analysis of Primary Care Need in Prince George’s County	x
FIGURE 2	County Residents’ Perceptions of Services for a New Health Care System	xvi
TABLE 6	Estimated 2020 Achievable County Targets and Implications for Key Health Conditions.....	xviii

SECTION II

Technical Reports and Supporting Documents

Section II of the Public Health Impact Study of Prince George's County report includes technical reports that document the methods, findings, limitations and a summary for each of the seven study components. We also include copies of the study instruments, where appropriate. While the findings of these study components formed the basis for the integrated answers to the study's five framing questions, the technical reports include more detailed data than was possible to include in Section I, and also provide insights for the study as a whole.

TABLE OF CONTENTS

TECHNICAL REPORT 1 RANDOM HOUSEHOLD HEALTH SURVEY Sandra Crouse Quinn, Stephen B. Thomas and Susan Passmore	1
TECHNICAL REPORT 2 INTERVIEWS WITH KEY STAKEHOLDERS Linda Aldoory	47
TECHNICAL REPORT 3 PHYSICIAN COUNT AND CATEGORIZATION AND CHARACTERISTICS OF PHYSICIANS IN THE STATE OF MARYLAND AND PRINCE GEORGE'S COUNTY Mei-Ling Ting Lee and Raul Cruz-Cano.....	69
TECHNICAL REPORT 4 IDENTIFICATION OF GEOGRAPHIC AREAS OF NEED FOR PRIMARY CARE: AN ASSESSMENT OF THE GEOGRAPHIC DISTRIBUTION OF SELECTED HEALTH CARE RESOURCES Min Qi Wang	95
TECHNICAL REPORT 5 AN OVERVIEW OF THE PUBLIC AND PUBLIC HEALTH RESOURCES IN PRINCE GEORGE'S COUNTY Elliot A. Segal, Amber Sims and Sylvette LaTouche Howard	137
TECHNICAL REPORT 6 CURRENT (2007–2009) EXPERIENCES AND FUTURE PROJECTIONS OF PRINCE GEORGE'S COUNTY RESIDENTS' HOSPITAL ENCOUNTERS Karoline Mortensen	157
TECHNICAL REPORT 7 AN ASSESSMENT OF COMPARABLE MODEL HEALTH CARE SYSTEMS: INTERVIEWS WITH KEY PROFESSIONALS Laura Wilson, Rada Dagher, Lori Simon-Rusinowitz and Dawn Hamilton	193
APPENDIX A OVERVIEW OF DATA SOURCES	214
APPENDIX B STUDY LIMITATIONS	215
INDEX OF TABLES AND FIGURES	217

TECHNICAL REPORT 1

Random Household Health Survey

Sandra Crouse Quinn, Ph.D.; Stephen B. Thomas, Ph.D.; Susan Passmore, Ph.D.

INTRODUCTION

Improving residents' health and meeting residents' health care needs are priorities of both the state of Maryland and Prince George's County. Both the state and County Health Improvement Plans include ensuring residents receive the health care they need and the prevention and control of chronic diseases among their top goals (State Health Improvement Plan, Maryland Department of Health and Human Services, n.d.; Prince George's County, 2012). Specifically, the Prince George's County Health Improvement Plan, 2011-2014, outlines a comprehensive agenda that seeks to reduce barriers to health care, reduce risk factors for leading causes of death in the County, reduce morbidity and mortality, and enhance access to care (Prince George's County, 2012). Understanding what those health care needs are, what the current health care practices and beliefs include and which chronic diseases are perceived to most affect residents is critical to achieve these goals.

Information about County residents' experiences and perceptions of the health care system within Prince George's County is lacking, yet is critical to the County's plans to design a transformative new health care system. To address this gap, the Public Health Impact Assessment is informed by a random household survey, representative of the population in Prince George's County, in order to garner community

insights into health care utilization, pressing health issues and related topics. This is the first survey for the County and the state that delves into these topics. The results can help shape the development of a new ambulatory care health system that will attract an economically viable patient base and impact key health issues faced by the County's diverse population.

OVERVIEW A representative sample of 1,001 residents of Prince George's County completed the survey. The study consisted of a landline component (n=701) and a cell phone component (n=300). The survey instrument was developed by the School of Public Health (SPH) team. All sampling, data collection and subsequent weighting of data was completed by Social Science Research Solutions (SSRS).

METHODS

INSTRUMENT

The survey instrument was developed by the SPH team with input from

various stakeholders. Additionally, its development was informed by a review of the Behavioral Risk Factor Surveillance Survey (CDC, 2011) and the

Kaiser Family Foundation DC Health Care Access Survey (2003). Please find a copy of the instrument at the end of the technical report.

PRETESTING

The survey was pretested prior to fielding to ensure that proper wording, question sequencing and informational objectives were being met. SPH team members participated in the monitoring of pretests. Information gained through the pre-test was used in the final refinement of the survey instrument.

SAMPLE

To address concerns about coverage, the study employed a dual-frame landline/cell phone random digit dial (RDD) telephone design. The landline sample was disproportionately stratified to provide sufficient numbers of high- and low-income respondents and allow independent analysis of these groups. Table 1 shows the distribution of County households at each income level and the percent and number of interviews allocated to each stratum as targets for the landline sample plan. Table 2 shows the actual number and allocation of interviews after data collection.

All samples were generated by SSRS's sister company, Marketing Systems Group (MSG).

The RDD landline sample was drawn from telephone exchanges within Prince George's County. Following generation, the landline sample was prepared using MSG's proprietary procedures that not only limit sample to non-zero banks, but also identify and eliminate approximately 90 percent of all non-working and business numbers and ported cell phones. For the RDD cell phone sample, numbers were initially drawn from the three switch-points (central routing mechanisms that send cell phone calls to different parts of the country) located in the County. Additional analyses were conducted through the Telcordia database that identified telephone numbers in blocks of 1,000 connected with

TABLE 1 LANDLINE SAMPLE PLAN WITH STRATIFICATION BY INCOME

Strata	Population	% of Households	Allocation of Interviews	Total Interviews
Low Income (<35K)	69,478	24%	48%	334
Medium Income (35K-100K)	158,592	55%	20%	138
High Income (>100K)	63,101	22%	33%	228
Total	291,171	100%	100%	700

TABLE 2 FINAL DISTRIBUTION OF LANDLINE COMPLETES BY STRATUM

Strata	Actual Percent of Total LL Interviews	Actual Number of Interviews
Low Income (<35K)	35%	248
Medium Income (35K-100K)	19%	131
High Income (>100K)	46%	322
Total	100%	701

switch-points outside of the County that are in fact routed to households within the County. These blocks were also included in the sample file. Furthermore, specific 100 blocks of cell phone numbers that were found to route specifically to the County were oversampled, since the incidence of finding households that are actually located in the County from the initial sample selected was quite low.

DATA COLLECTION

The field period for this study was Jan. 30 through March 4, 2012. All interviews were done through the Computer-assisted telephone interviewing (CATI) system. The CATI system ensured that questions followed logical skip patterns and that complete

dispositions of all call attempts were recorded. The SPH secured access to a University of Maryland telephone number for SSRS in order to increase the likelihood that residents would respond to the call.

Both landline and cell phone respondents were screened for being residents of Prince George's County. Respondents who either did not live in Prince George's County or who did not know or refused to give their County of residence and ZIP code were eliminated from the process. In order to maximize survey response, SSRS enacted the following procedures during the field period:

- An average of five follow-up attempts were made to contact non-responsive numbers (no answer, busy, answering machine).

- Each non-responsive number was contacted multiple times, varying the times of day, and the days of the week that call-backs were placed using a programmed differential call rule.
- Sample rested for one to two weeks between the first four call attempts and the last two attempts.
- Sample rested for one to two weeks between an initial refusal and a refusal conversion attempt.
- Interviewing staff was limited to the top tier of interviewers, resulting in a slower but more productive field period.
- Respondents were offered the option to set a schedule for a call back.
- Every refusal received one refusal conversion attempt from an experienced interviewer.

WEIGHTING

The final data were weighted to correct for variance in the likelihood of selection for a given case and to balance the sample to known population parameters in order to correct for systematic under- or over-representation of meaningful social categories. Survey data were weighted to census population figures using the American Community Survey (ACS) totals. The ACS provides data for areas down to the PUMA (Public Use Microdata Area) level. Although PUMAs do not overlap perfectly with the boundaries of Prince George’s County, we included data in weighting targets from any PUMAs that had any significant portion within the borders of the County.

Phone use (cell phone only, dual users and landline only) was modeled by averaging two techniques for

assessing cell phone use at the County level. First, we utilized the same procedure used by the National Health Interview Survey to estimate phone use at the state level. Specifically, a logistic regression was run within National Health Interview Survey data, predicting these three phone-use types separately. Then, Claritas and ACS estimates of the district were utilized to solve the regression equation for Prince George’s County specifically. As well, Marketing Systems Group is beta testing their own model of phone use, and they provided us with the

percent cell phone only for the County based on their model. Overall, we found that 30.2 percent of Prince George’s County households are cell phone only, compared to only 12 percent that are landline-only.

The weighting procedure involved the following steps:

- I. **PHONE-STATUS CORRECTION (WPS)**
Respondents whose household members answer both landlines and cell phones have a higher likelihood of inclusion in the sample. To correct for this, cases from dual-frame

TABLE 3 COMPARISON OF BENCHMARK DATA, UNWEIGHTED SAMPLE AND WEIGHTED SAMPLE

Parameter	Value Label	Benchmark*	Unweighted*	Weighted*
Education	Less than High School	13.9%	4.4%	9.5%
	High School Graduate	28.4%	22.8%	28.9%
	Some College	30.5%	32.5%	31.9%
	College+	27.1%	40.3%	29.6%
Gender	Male	47.3%	40.9%	46.7%
	Female	52.7%	59.1%	53.3%
	18-29	21.6%	14.8%	21.2%
	30-49	40.6%	29.6%	39.5%
Age	50-64	25.0%	33.7%	26.0%
	65+	12.3%	21.5%	12.7%
	Race	White	18.3%	24.5%
Race	Black (non-Hispanic)	63.6%	60.6%	64.5%
	Hispanic	11.4%	6.9%	10.7%
	Other (non-Hispanic)	4.4%	5.6%	4.7%
Phone Use	Cell phone only	29.9%	10.2%	28.7%
	Not Cell Phone Only	69.7%	89.3%	70.8%

* Percentages may not add to 100 percent to account for cases where respondents refused to provide this demographic information.

TABLE 4 SAMPLE DISPOSITIONS

	LL	Cell	Total
Eligible, Interview (Category 1)			
Complete	701	300	1,001
Eligible, non-interview (Category 2)			
Refusal (Eligible)	1,067	614	1,681
Physically or mentally unable	11	5	16
Language problem	50	119	169
Unknown eligibility, non-interview (Category 3)			
Always busy	358	34	392
No answer	367	126	493
Answering machine	2,078	1,223	3,301
Call blocking	1	7	8
Technical phone problems	23	16	39
No screener completed	3	0	3
Not eligible (Category 4)			
Fax/data line	612	71	683
Non-working number	11,357	2,716	14,073
Business, government office, other organizations	882	414	1,296
No eligible respondent	95	1,572	1,667
Total phone numbers used	17,605	7,217	24,822

households were assigned a weight equal to half the weight assigned to single-mode households.

2. **WITHIN HOUSEHOLD SELECTION CORRECTION (WHC)** To correct for the fact that only one qualifying adult was selected in any given household, landline cases from households with a single qualifying adult received a weight of one, and those with two or more received a weight of two. Respondents with missing data were assigned the mean weight. Cell phone respondents received a weight of one, as there was no

within-household selection on the cell phones.

3. **STRATIFICATION CORRECTION (WST)** The sample was weighted to correct for the disproportionality in the stratification plan. The correction adjusts for the fact that households in the high- and low-income strata were sampled at rates higher than their proportion of the population, and households in the middle-income stratum were sampled at a rate lower than their percent of the population. To adjust for this, data are weighted back to their actual population proportions.

The product of these three stages was the base weight for the sample:

$$BW = W_{PS} \times W_{HC} \times W_{ST}$$

4. **POST-STRATIFICATION WEIGHTING:** The base weight was used as a balancing weight in the iterative proportionate fitting (IPF) process, or “raking.” Universe counts were attained—through the procedure described earlier—for age, educational attainment, gender, phone use and race.

We also included a target for population density in the post-stratification weighting. We used self-reported ZIP code to determine the population density (total population divided by total land area in square miles) for the ZIP codes in which the respondent lives and then the ZIP codes are ranked to recode the density variable into quintiles, where 1 equals lowest density and 5 equals highest density. Following the raking stage, the weights were truncated (“trimmed”) to control the variance created by the weight and avoid having a small number of cases that affect the data too strongly. The final weights were trimmed to range from 0.25 to just over 4.0.

Weighting procedures increase the variance in the data, with larger weights causing greater variance. Complex survey designs and post-data collection statistical adjustments affect variance estimates and, as a result, tests of significance and confidence intervals. The final design effect for the survey was 2.0, and the margin of sampling error was 3.1 (4.4 with design effect).

RESPONSE RATE

The landline response rate was 32.2 percent and the cell phone response rate was 23.3 percent, for an overall response rate of 29

percent, using American Association for Public Opinion Research's RR3 formula (AAPOR, 2011). Table 4 is a full disposition of the sample selected for the survey.

DATA ANALYSIS

Descriptive statistics and two-way chi-square tests were performed in STATA 11.2 adjusting for complex survey sampling. A weighted proportion is reported for each category in descriptive statistics, while a weighted row or column proportion is reported in a two-way chi-square test. The significances of the two-way chi-square tests were performed using Wald F-test. Alpha was set at .05. We examined selected questions by income, race, education,

gender, age and insurance status.

We also examined selected questions by region. According to the U.S. Census Bureau, there are seven non-overlapping PUMAs within Prince George's County. Red indicates statistically significant differences. Figure 1 provides the PUMAs in the County.

SELECTED COMPARISONS WITH THE 2011 PRINCE GEORGE'S PRELIMINARY FINDINGS

Prince George's County had supported an enhanced sample of the Behavioral Risk Factor Surveillance System (BRFSS) for calendar year 2011, and preliminary results are made available in March 2012 (Abt SRBI, 2012). In

some instances, results from our survey are compared to data from this 2011 Prince George's County Health Survey (hereafter referred to as PGCBRFSS). The PGCBRFSS random digit dial survey was conducted by Abt SRBI in late 2011-January 2012. In total, the sample included 1,624 interviews with 1,245 from the broader County and 379 from an oversample from the Port Towns. Utilizing the survey instituted by CDC in 1984, the BRFSS collects annual information on health risk behaviors, preventive health practices, and access to health care from adults in the U.S. and in U.S. territories (CDC, 2012). The PGCBRFSS was a completely separate effort from our survey, which was conducted as part of the Public Health Impact Assessment of Prince George's County.

FINDINGS

DESCRIPTION OF THE SAMPLE

All results presented in the narrative, tables and charts represent the weighted data and as such can be generalized to the population of Prince George's County.

The majority of sample respondents were African American and residents of the County for at least 10 years. Of the 615 respondents who identified as Black or African American, 10 percent reported either they or their parents were born in the Caribbean and 9 percent reported Africa. Twenty-three percent (n=169) were born outside the U.S. Of those, 31 percent had lived in the U.S. one to 10 years, 31 percent from 11 to 20 years, 24 percent from 21 to 30 years and the remainder more than 31 years. Twenty percent speak a language other than English at home.

Thirteen percent had served in the military. Most are homeowners, have household incomes over \$50,000 and 49 percent reported being employed full time. Table 5 presents a delineation of sample demographics. Approximately 9.5 percent of respondents reported less than a high school education, making the sample a relatively educated group of respondents with 29 percent stating they were college-educated with bachelor's (15.1 percent) and post-graduate (14.5 percent) degrees.

Although 84 percent reported that they had health insurance, 15 percent (n=93) reported they were not insured. The primary reasons given for not being insured were in order: 43 percent could not afford insurance, 19 percent indicated some other reason, 18 percent were unemployed, 7 percent reported that either their employer or their spouse's employer offers insurance, but

they could not afford it, and 6 percent tried to apply for Medicaid/Healthy Families, but were not able to secure insurance. For the insured, the primary companies were CareFirst/Blue Cross/Blue Shield (33 percent), Medicare (15 percent), Aetna (12 percent), Kaiser (12 percent) and United Healthcare (10 percent). All others were less than 10 percent. Our finding of 84 percent insured is slightly higher than the 82.2 percent reported in the County's Children's Health Insurance Program (CHIP), but remains below its goal of 91.1 percent coverage by 2020.

FIGURE 1 PUBLIC USE MICRODATA AREAS (PUMAS) IN PRINCE GEORGE'S COUNTY

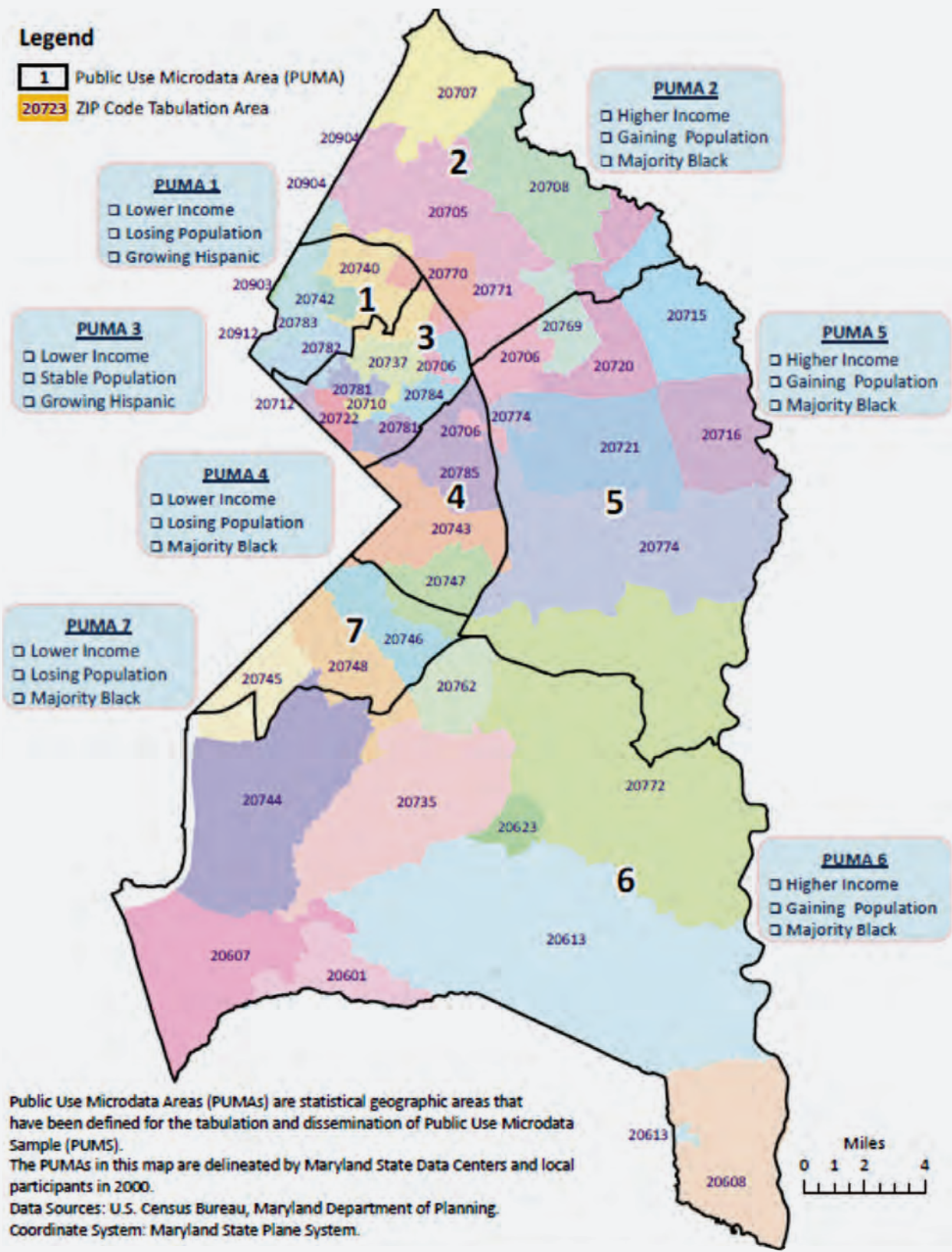


TABLE 5 SAMPLE DEMOGRAPHICS (N=1,001)

Race/Ethnicity	%	10-20 years	21.9%	Education		Military status	
White Non-Hispanic	19.0%	20+ years	43.7%	Grade school	1.3%	yes	13.3%
Black Non-Hispanic	65.5%	All my life	8.6%	Some high school	8.2%	Home	
Asian	2.7%	Health Insurance		High school or GED	28.9%	Own	64.2%
Native Hawaiian or other Pacific Islanders	0.5%	Yes	83.8%	Some college	23.4%	Rent	34.4%
American Indian or Alaska Native	1.0%	Employment status		Associate degree	8.5%	Other arrangement	0.8%
Hispanic/Latino	11.1%	Full time	49.0%	Bachelor's degree	15.1%	Born in the United States	
Other	0.3%	Part time	7.4%	Postgraduate degree	14.5%	yes	77.4%
Gender		Self-employed in the home	2.1%	Relationship status		Income*	
Male	46.7%	Self-employed outside of the home	4.0%	Single	36.8%	< \$20,000	15.2%
Female	53.3%	A homemaker or stay at home parent	2.5%	Living together with partner	3.2%	\$20,000-\$40,000	18.4%
Years lived in County		Retired	15.7%	Engaged	2.7%	\$40,000-50,000	8.6%
< 1 year	3.0%	A student	5.4%	Married	40.3%	\$50,000-\$65,000	14.0%
1-3 years	5.6%	Unemployed	9.1%	Separated	4.0%	\$65,000-\$100,000	20.0%
3-5 years	5.5%	Laid off	1.6%	Divorced	6.6%	\$100,000-\$150,000	14.9%
5-10 year	11.3%	Disabled	3.2%	Widowed	6.1%	\$150,000-\$200,000	5.7%
						\$200,000-\$250,000	1.9%
						>= \$250,000	1.4%

* Excluded refused and do not know; reports only valid percent

PRESENTATION OF FINDINGS BY FRAMING QUESTION

The analysis and subsequent presentation of findings are organized by five framing questions posed by Secretary of Health and Mental Hygiene Joshua Scharfstein in planning discussions. These questions are as follows:

1. What are the key health outcomes in the County most amenable to improvement by a new health care system?
2. What elements of a health care system (hospital and community) can affect these outcomes and by how much (model)?
3. What is the geographic distribution of health care resources and where are the areas of greatest need for primary care?
4. What are the key issues to maximize uptake and achieve the potential of the health care system for public health?
5. What resources can be mobilized in the public health sector to complement the impact of the health care system?

The random household survey data will be used to address four of the five questions. These are I, II, III and IV. Results are presented for the entire sample and by PUMA for selected items.

**FRAMING QUESTION 1:
WHAT ARE THE KEY HEALTH
OUTCOMES IN THE COUNTY
THAT ARE MOST AMENABLE
TO IMPROVEMENT BY A NEW
HEALTH CARE SYSTEM?**

In this section, we include results on County residents’ perception of health issues, current health status and key risk factors that are amenable to improvement.

Respondents were asked, “What do you see as the one most urgent health condition or disease facing residents living in Prince George’s County?” (see Table 6). Cancer is perceived as the most urgent health issue facing the County (17.2 percent) followed by Type 2 Diabetes (15.7 percent). However, it is noteworthy that 14.7 percent of County residents stated that they “do not know” the one most urgent health issue facing residents.

Perceptions of the most critical health issues in the County differed by PUMA. Residents in PUMAs 3, 5 and 6 felt diabetes is the most urgent health issue, while 27.6 percent of PUMA 7 and 24.7 percent of PUMA 2 felt cancer is the most urgent issue (Table 7).

Given the focus of the larger assessment on the health care system, we asked about the magnitude of health care access barriers as perceived by County residents. More than 77 percent saw the cost of care and the cost of insurance as major problems. Access and quality were considered major problems by 50 percent and 47 percent, respectively (see Figure 2).

There were significant differences by PUMA in the perceptions about these health care access issues. In Table 8, 58 percent of residents in PUMA 3 felt access to health care was a major problem compared to only 38 percent of residents in PUMA 5. More than 69 percent of residents in PUMA 7 felt quality of health care was a major problem compared to only 37 percent of

TABLE 6 PERCEIVED URGENT HEALTH CONDITION IN THE COUNTY (N=1001)

Condition	%	Condition	%
Cancer	17.2%	Other	4.9%
Diabetes	15.7%	Flu/cold	3.0%
Don't know	14.7%	Lung disease	2.0%
Obesity	10.0%	None	1.6%
High blood pressure/ Hypertension	9.1%	Asthma	1.5%
HIV/AIDS	8.4%	Sexually transmitted diseases	1.4%
Heart disease	8.1%	Substance abuse	1.4%

TABLE 7 TOP PERCEIVED HEALTH ISSUES BY PUMA (N=1,001)

Condition	PUMA 1	PUMA 2	PUMA 3	PUMA 4	PUMA 5	PUMA 6	PUMA 7
Cancer	11.5%	24.7%	22.6%	14.0%	15.5%	13.4%	27.6%
Diabetes	17.4%	7.3%	25.2%	15.0%	19.1%	15.2%	10.0%
Obesity	13.1%	11.7%	11.6%	5.5%	7.3%	13.4%	6.4%
High blood pressure	2.0%	13.0%	2.6%	10.6%	10.6%	11.2%	11.0%
Don't know	18.8%	13.1%	10.4%	18.3%	17.2%	10.6%	11.5%

* bold denotes statistically significant difference at p<.05.

FIGURE 2 HEALTH CARE ISSUES POLL NOW, I'M GOING TO READ YOU A LIST OF HEALTH CARE ISSUES. PLEASE TELL ME IF YOU THINK (INSERT ITEM) IS A MAJOR PROBLEM, A MINOR PROBLEM, OR NOT A PROBLEM AT ALL IN PRINCE GEORGE'S COUNTY. HOW ABOUT (INSERT ITEM)? IS THIS A MAJOR PROBLEM, A MINOR PROBLEM OR NOT A PROBLEM AT ALL IN PRINCE GEORGE'S COUNTY?

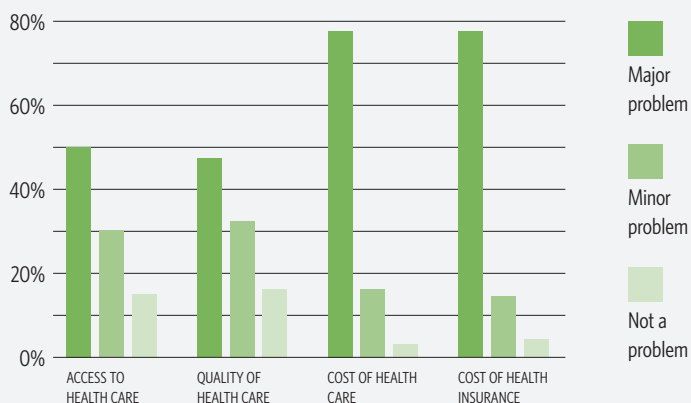


TABLE 8 PERCENT OF RESIDENTS WHO PERCEIVE THESE HEALTH CARE ISSUES AS A MAJOR PROBLEM IN THE COUNTY

Health Care Issue	PUMA 1	PUMA 2	PUMA 3	PUMA 4	PUMA 5	PUMA 6	PUMA 7
Access to health care	51.8%	46.9%	58.0%	57.2%	38.1%	53.2%	49.6%
Quality of health care	41.7%	37.7%	58.7%	56.0%	37.6%	47.7%	69.1%
The cost of health care	77.4%	88.1%	82.9%	77.2%	69.4%	77.5%	82.8%
The cost of health insurance	80.8%	79.5%	84.5%	75.8%	66.9%	80.7%	82.7%

TABLE 9 PERSONAL HEALTH POLL

IN GENERAL, WOULD YOU SAY YOUR HEALTH IS EXCELLENT, VERY GOOD, GOOD, FAIR OR POOR?

	Survey (n=1,001)	PGCBRFSS (n=1,624)
Excellent	20.7%	21.7%
Very good	28.3%	29.5%
Good	35.9%	32.3%
Fair	12.8%	14.1%
Poor	2.3%	3.0%
Don't know	0.1%	**

residents in PUMAs 2 and 5.

We included a number of items that assessed the health status of County residents. One common survey measure is self-reported health status. In response to the item, "In general, would you say your health is Excellent, Very Good, Good, Fair or Poor?," 49 percent responded excellent or very good. Only 2.3 percent of County residents reported that their health was poor and 12.8 percent reported their health was fair (see Table 9). In Table 9, responses from residents in

TABLE 10 DIAGNOSED MEDICAL CONDITIONS YOU MENTIONED THAT YOU HAD BEEN DIAGNOSED WITH A MEDICAL CONDITION OR CHRONIC DISEASE. PLEASE TELL ME WHICH CONDITIONS YOU HAVE BEEN DIAGNOSED WITH (N=1,001)

Other	6.0%
High blood pressure/hypertension	5.5%
Diabetes	3.7%
Asthma	3.3%
Heart disease	2.6%
High cholesterol	2.6%
Cancer	2.3%
Chronic arthritis	2.0%
Thyroid problem/Hypothyroidism	1.7%
Mental illness	1.4%
Chronic bronchitis	1.0%

our survey are listed alongside data from the 2011 PGCBRFSS. Results from both surveys are similar.

In response to the question, "Have you ever been told by your doctor or a health care professional that you have a medical condition or chronic disease?," 37.1 percent of the sample reported they had received such a diagnosis. For that 37.1 percent, the next item was "You mentioned that you had been diagnosed with a medical condition or chronic disease. Please tell me which conditions you have been diagnosed with?" To garner the most appropriate prevalence estimate for the County, we adjusted the results from that sub-sample of 423 to the entire sample. Therefore, the top conditions of County residents, generalizable to the whole County, are: other, high blood pressure and diabetes (see Table 10).

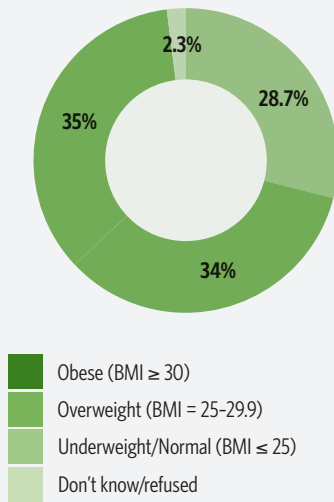
We were further interested in diagnoses of two key conditions that can contribute to significant morbidity and mortality if they are not managed. These data represent additional diagnoses that are not accounted for in the 37.1 percent who reported a disease diagnosis in the previous question. When asked of the entire sample (n=1,001), "Have you ever been told by a doctor or other health care professional that you have pre-diabetes or borderline diabetes?," 16.7 percent reported being diagnosed with pre-diabetes. This is substantially different from the PGCBRFSS finding of 8.9 percent. Further analysis of both data sets would be necessary to understand this difference in magnitude. Diabetes did emerge as an important issue in the stakeholder interviews of the Public Health Impact Study.

Similarly, when asked "Have you ever been told by a doctor or other health care professional that you have pre-hypertension or borderline high blood pressure?," 33.2 percent of County residents reported pre-hypertension.

While the survey only included one item on tobacco risk, we did ask,

FIGURE 3 BODY MASS INDEX*

(R2; SELECTED RISK FACTORS)



*Calculated from self-reported height and weight.

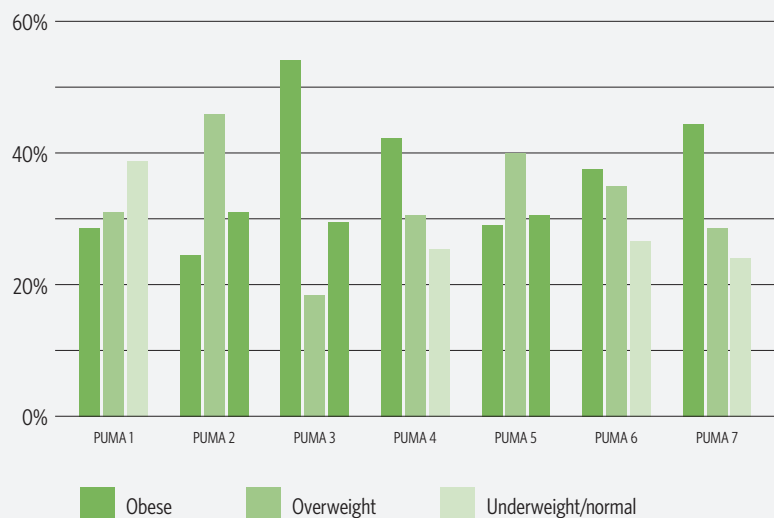
“During the past 30 days, on how many days did you smoke cigarettes?” More than 11 percent reported daily use of cigarettes, while 6 percent reported smoking cigarettes between one and 29 days a month (n=997). This differs from the PGCBRFSS, which found that 25.4 percent reported smoking cigarettes every day. Further analyses would be necessary to understand this difference. Although our results indicate a lower prevalence, given the critical nature of tobacco use as a risk factor for multiple chronic diseases, this issue warrants further study.

Body mass index is considered to be an important risk factor for many chronic diseases. In order to assess body mass index (BMI), we asked all participants two questions: About how much do you weigh without shoes? About how tall are you without shoes? We then calculated BMI, finding that 34 percent of County residents are overweight and 35 percent are obese (see Figure 3). However, only 0.5 percent of residents who indicated they had been diagnosed with a chronic condition responded that they had been

diagnosed by a health care professional with obesity, and 10 percent of residents reported obesity as the one most urgent health issue facing the County. Clearly, there is some significant disconnect between BMI and diagnosis of obesity by a health care provider as well as a lack of awareness of obesity as an urgent health issue.

Using two-way chi squares tests, we find some statistically significant differences in BMI by PUMA (see Figure 4). Seventy-two percent of residents in PUMA 7 were overweight or obese compared to 59 percent of residents in PUMA 1. Furthermore, although not statistically significant, PUMAs 3, 4, 6 and 7 all have greater than 70 percent in the overweight and obese categories combined.

The data in Appendix B illustrate significant differences between Prince Georgians along a variety of demographic and economic variables, which is consistent with relevant literature. For example, we compared respondents aged 65 and older (late life) with those age 18 to 64 (young and midlife) and found a statistically significant

FIGURE 4 BODY MASS INDEX BY PUMA

difference in being diagnosed with a chronic disease (58 vs. 35 percent), being told by a physician they had pre-diabetes (27 vs. 14 percent) and being told they had pre-hypertension (65 vs. 29 percent). We also compared the prevalence of disease and found significant differences in being diagnosed with other diseases by late life compared to young and midlife: cancer, 8 percent vs. 2 percent; heart disease, 6 percent vs. 2 percent; diabetes, 13 percent vs. 3 percent; and high blood pressure, 10 percent vs. 5 percent. Asthma was an exception to this pattern where 4 percent of the young and midlife respondents reported being diagnosed by a physician with the disease compared to only 1 percent of the late life respondents. The data also expose other statistically significant differences by gender, insurance status, income and race including:

- Female respondents (20 percent) were more likely to be diagnosed with pre-diabetes compared to 13 percent of males.

- BMI was calculated from self-reported data on height and weight. Approximately, one third of both males and females were normal weight. Overall, 70 percent of males and 71 percent of females were overweight or obese. However, females (42 percent) were significantly more likely than males (28 percent) to be obese.
- Whites (55 percent) were more likely to report being diagnosed with a chronic disease compared to 36 percent of African Americans. The data also revealed a significantly higher prevalence of reported cancer among whites (5 percent) compared to African Americans (2 percent).
- Respondents with health insurance compared to those without were more likely to report being diagnosed with a chronic disease (40 vs. 24 percent), pre-diabetes (19 vs. 6 percent) and pre-hypertension (37 vs. 13 percent). On each of these objective measures, people with health insurance appear sicker than those without insurance. However, when we examine subjective fair/poor self-rated health among people with health insurance (13 percent) to those without (30 percent), a different pattern emerges. The objective vs. subjective health-status measures are complex and will be explored in a more detailed multivariate manner in subsequent analysis.
- We examined daily tobacco use in past 30 days and compared respondents across levels of education, income, race, gender and age. We revealed an expected pattern where smoking changes with educational attainment: bachelor's degree (3 percent), graduate school (7 percent), some college or associate degree (10 percent) and

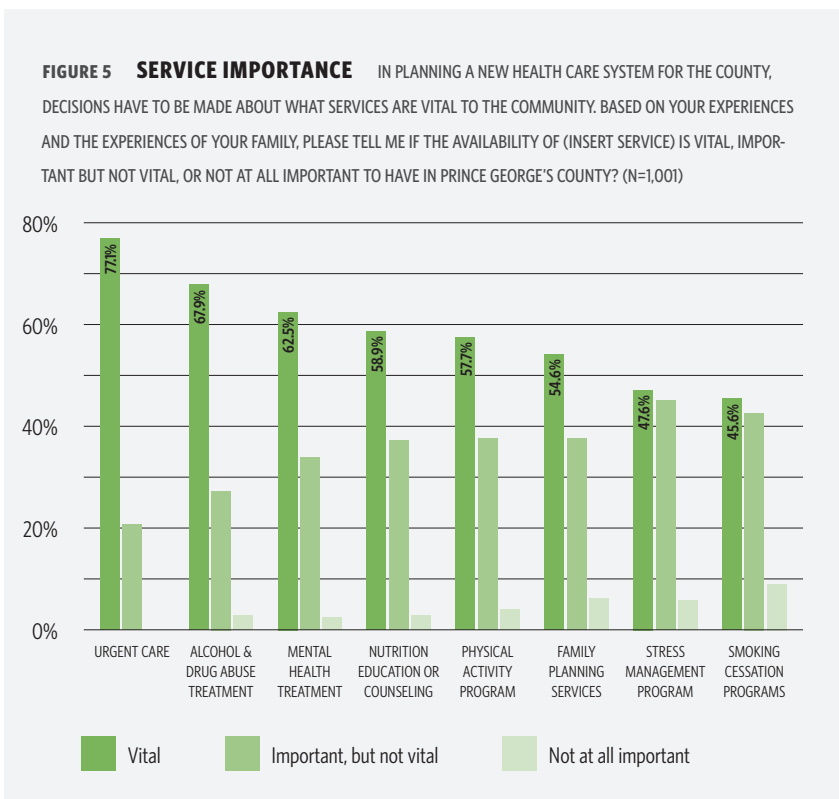
high school or below (17 percent). This was statistically significant. Similarly, there was a statistically significant difference in tobacco use with lower- and mid-income respondents reporting daily use less than higher income respondents.

Clearly, our findings confirm the County Health Improvement Plan's focus on reducing chronic disease and the associated risk factors, particularly obesity. However, these results also call for careful consideration of the impact of demographic factors and social determinants of health on the health status of County residents.

FRAMING QUESTION 2: WHAT ELEMENTS OF A HEALTH CARE SYSTEM (HOSPITAL AND COMMUNITY) CAN AFFECT THESE OUTCOMES?

Planning for a new health care system is a complex endeavor that requires multiple decisions. We asked respondents for their assessment of what services would be vital to the County.

More than 77 percent reported that urgent care services were a vital need for Prince George County; this need was also identified in stakeholder interviews. Alcohol and drug abuse treatment was identified as the second vital health service need. This seems contradictory to the low percent (1.4 percent) reporting substance abuse as a major health concern for the County (see Table 6). However, the CHIP estimates that 8 percent of County residents have a substance abuse problem (Prince George's County, 2012). This proportion is also more consistent with the identification of treatment as the second most-vital need.



FRAMING QUESTION 3: WHAT IS THE GEOGRAPHIC DISTRIBUTION OF HEALTH CARE RESOURCES AND WHERE ARE THE AREAS OF GREATEST NEED FOR PRIMARY CARE?

The household survey included a series of questions focused on utilization of health care services including, but not limited to, where respondents received care and reasons for seeking medical care outside of Prince George's County.

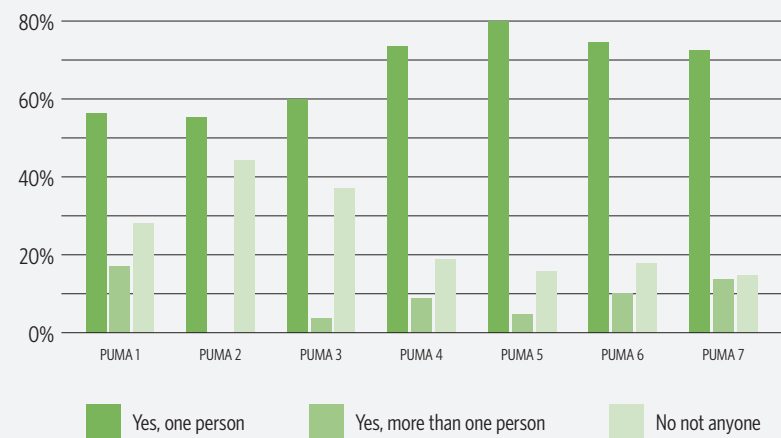
When asked, "What kind of place do you *usually* go to when you are sick or you need advice about your health? Is it a doctor's office, hospital emergency room, hospital outpatient department, urgent care facility, a clinic or health center, or some other place?," 69.7 percent reported doctor's office, followed by clinic or health center (11.4 percent), hospital emergency room (8 percent), hospital outpatient department (3.7 percent), urgent care facility (3.6 percent) and no place (2.2 percent). There were statistically significant differences in the usual place of care, with higher income, white/non-Hispanic, female, older and insured individuals more likely to report that they go to the doctor's office. In the next question, respondents were asked to rate the quality of health care they receive at their usual location of care. In response, 31.9 percent rated their care as excellent, 34.3 percent as very good and 25.4 percent as good. Quality of care remains an issue for some with 7.4 percent rating the quality of their care as fair and 0.9 percent reporting the quality as poor. We then asked their assessment of care in a more specific question (see Table 11). More than 50 percent of respondents rated their doctor's office or the hospital outpatient department as excellent or very good. For the other locations, the greatest percentage of responses fell into the good rating category.

When asked if they have one person

TABLE 11 PERCEIVED QUALITY OF CARE FROM USUAL SOURCE OF CARE

Location of care	Excellent	Very Good	Good	Fair	Poor	Don't Know
Doctor's office (n=753)	37%	37%	19%	6%	1%	—
Emergency room (n=52)	14%	29%	36%	17%	4%	—
Hospital outpatient department (n=31)	19%	43%	37%	1%	—	—
Urgent care facility (n=33)	17%	20%	56%	7%	—	—
Clinic or health center (n=103)	23%	24%	40%	12%	—	1%

FIGURE 6 ACCESS TO A PERSONAL DOCTOR OR HEALTH CARE PROVIDER BY PUMA



they thought of as their personal doctor or health care provider, 67.9 percent reported they have one person, 7.5 percent reported having more than one person they consider their personal doctor and nearly a quarter of all respondents (24.6 percent) reported not having a personal doctor or health care provider. In the PGC-BRFSS, they found that 68.1 percent reported having one person as their health care provider, but a larger proportion, 16.9 percent, reported having two people. The PGCBRFSS found that a smaller proportion, 15 percent, reported that they did not

have a provider. When examined by PUMA, we find that there are statistically significant differences in access to a health care provider (see Figure 6)

For those who reported having a provider (75.4 percent), we then asked the following, "Of all the people you consider to be your personal doctors or providers, choose the most important one to you. What is that provider's specialty?" The largest proportion (58 percent) reported family practice, followed by internist (21.1 percent), do not know (7.9 percent), obstetrician (4.7 percent), other (3.1 percent), cardiologist (2.8 percent) and pediatrician (1.3

TABLE 12 IN WHAT CITY OR TOWN IS THEIR OFFICE LOCATED?

Washington, D.C.	11.1%	Largo	4.5%
Bowie	9.0%	Lanham	4.2%
Hyattsville	7.3%	Other Prince George's locations	3.5%
Greenbelt	7.0%	Ft. Washington	2.6%
Laurel	6.3%	Upper Marlboro	2.4%
Clinton	5.9%	Riverdale	2.1%
Silver Spring	4.9%		

All other respondents are 1% or below

TABLE 13 REASONS FOR SEEKING CARE OUTSIDE OF PRINCE GEORGE'S COUNTY (N=182)

I prefer to use my own provider	36.5%
The physician I go to was recommended by family or friends	11.3%
Other	10.2%
I commute outside of Prince George's County to work and my physician's office location is more convenient for me	9.0%
My insurance requires that I go see a physician located outside of Prince George's County	7.5%
Can't get an appointment to see a Prince George's County physician with this specialty	7.1%
Better quality of care	5.2%
I am military/a veteran/go to the military facility or veterans' hospital	5.1%
I am not comfortable with the quality of the Prince George's County physicians	3.7%
Refused	1.9%

TABLE 14 REASONS FOR DELAY OR DIFFICULTY IN GETTING HEALTH CARE (N=147)

No insurance at the time	34%
Couldn't afford the cost	24%
Couldn't get an appointment	20%
Other	11%
Insurance company denied coverage for service	8%
Long waiting periods	7%
Lack of transportation	3%
I couldn't find a provider	3%
My own choice	2%

percent). Although the location of their offices varied, 65 percent were in Prince George's County (see Table 12 for the top 13 locations).

Of those reporting they have a provider (n=988), 74.7 percent reported that they drive themselves to their doctor, followed by 11 percent who are driven by someone else and 9.7 percent who take a Metro bus. More than 80 percent of residents in PUMA regions 2 and 6 drive themselves

compared to only 60 percent of residents in region 1. About 20 percent of residents in region 1 and 3 take the Metro bus to the doctor's office, as do 15 percent of residents in region 7.

It is critical to understand why County residents go outside the County for care. If they responded that their provider was outside of the County, the following question was asked, "You said that the provider who is most important to you is not located in Prince George's County. Why do you go outside of Prince George's County to seek care?." More than 36 percent reported they preferred using their own provider. Further analyses could identify whether these are newer County residents who had a provider outside the County with whom they preferred to remain. Two items are of particular interest. More than 7 percent indicated that their insurance required them to see a physician outside the County and more than 7 percent reported being unable to get an appointment with a specialist inside the County. Table 13 reports these results.

We examined differences in who has their primary provider outside the County by race, income, education, gender, insurance and age. There were no statistically significant differences.

We were also concerned with delays or difficulty in getting needed health care. We asked about such delays within the last 12 months. A response: "Sometimes people have difficulty getting health care when they need it. By health care, I mean medical care as well as other kinds of care like dental care and mental health services." Approximately 17 percent of respondents stated they had difficulty getting health care they needed. There were differences by PUMA with more than 25 percent of residents in regions 2 and 3 reporting a delay in getting health care in the last 12 months compared to only 5.5 percent in region 7 and 7 percent in region 5.

Of those who reported a delay, 65 percent reported that they delayed seeking medical care, dental care (29 percent), mental health services (4 percent) and other (3 percent). Of particular concern was the reason for the delay or lack of care. When asked,

“Why was that care delayed or not received?,” the results were interesting. Even though 83.8 percent of County residents had health insurance at the time of the survey, data in Table 14 demonstrate that 34 percent of County residents stated the health service was

delayed due to lack of insurance, while 20 percent couldn’t get an appointment. The CHIP goal is to reduce those experiencing a delay in treatment to 15 percent by 2014.

TABLE 15 WHAT ARE YOUR TOP THREE PRIORITIES WHEN DECIDING ON THE LOCATION WHERE YOU WILL GET HEALTH CARE SERVICES? (N=1,001)

ACCESSIBILITY TO CARE (NET)	43%	Competent/quality doctors/medical staff (education/experience/ qualifications)	8%
Hours/Appointments (Subnet)	22%	Caring doctors/medical staff	2%
Flexibility of hours	9%	Other quality of care/reputation mentions	1%
How quickly I can get an appointment/how quickly I can get treated	13%	LOCATION-RELATED (NET)	79%
Accessible to Doctors/Facilities/Services (Subnet)	20%	Whether or not the facility or doctor is close to my home	51%
Having access to specialist care	6%	Whether or not the facility or doctor is close to my place of work	6%
Having access to my personal doctor	9%	Closeness/the distance/proximity (general)	2%
Access to/affiliation with other multiple doctors	*	Convenience/easy to get there/accessibility (general/unspecified close, near highways, etc.)	2%
Hospitals affiliations	1%	The area/neighborhood (safety of the area, etc.)	2%
Types of treatment/services available at the facility	3%	Close to other medical services/facilities (labs, hospitals, etc.)	*
Other accessible to doctors/facilities/ services mentions	1	Location (general)	2%
Having access to my medical records	1%	Accessible to transportation	12%
Other accessibility to care mentions	*	Parking (easy/free)	1%
COST/COVERAGE (NET)	24%	Other location-related mentions	1%
If they accept my insurance	10%	FACILITY-RELATED (NET)	6%
Cost	14%	Cleanliness	3%
Other cost/coverage mentions	*	The setting/facility (appearance, comfort, etc) (general)	1%
QUALITY OF CARE/REPUTATION (NET)	61%	Other facility-related mentions	*
Reputation/Recommendation (Subnet)	9%	Language needs	1%
Reputation of doctor/facility (history, Trustworthiness, etc.)	4%	Depends on factors at the time (medical condition/ time of day, etc.)	1%
Recommendations/referrals (family/friends/other doctors reviews/etc.)	5%	SOME OTHER REASON	1%
Whether I will receive a higher quality of care	36%	DON'T KNOW/NOT SURE	6%
Professionalism/good customer service/quality of facilities	5%		

**FRAMING QUESTION 4:
WHAT ARE THE KEY ISSUES
TO MAXIMIZE UPTAKE AND
ACHIEVE THE POTENTIAL OF
A HEALTH CARE SYSTEM FOR
PUBLIC HEALTH?**

Numerous factors can influence uptake of the services of a new system. We explored several of these factors including priorities for seeking care, awareness of hospitals, quality of care, impact of insurance and providers, health communication and literacy, and the role of culture in health care encounters.

PRIORITIES

Survey participants were asked the question, “What are your top three priorities when deciding on the location where you will get healthcare services?”. All responses were then grouped into the following broad categories: accessibility to care, cost of care, quality of care, location of care,

TABLE 16 PRIORITIES SEEKING PRIMARY CARE BY REGION

	PUMA 1	PUMA 2	PUMA 3	PUMA 4	PUMA 5	PUMA 6	PUMA 7
Whether or not the facility or doctor is close to my house	38.2%	46.0%	58.8%	47.7%	55.1%	58.3%	56.5%

TABLE 17 WHEN YOU THINK OF HOSPITALS SERVING PRINCE GEORGE’S COUNTY RESIDENTS, WHICH HOSPITAL COMES TO MIND FIRST?

Prince George’s Hospital Center	20.6%	Children’s National Medical Center	0.7%
Doctors Community Hospital	16.4%	Kaiser	0.7%
Washington Hospital Center	12.5%	Suburban Hospital	0.5%
Southern Maryland Hospital	12.1%	University of Maryland Medical Center	0.5%
Holy Cross Hospital	6.9%	Shady Grove Hospital	0.4%
Washington Adventist Hospital	5.4%	Howard University Hospital	0.4%
Laurel Regional Hospital	4.6%	Howard County General Hospital	0.3%
Don’t know	3.9%	Adventist hospital	0.3%
Anne Arundel Medical Center	3.5%	Bowie Health Campus	0.2%
Fort Washington Medical Center	1.8%	Virginia hospital	0.2%
George Washington University Hospital	1.7%	Bethesda Medical Center	0.2%
Providence Hospital	1.1%	United Medical Center	0.2%
Other	1.0%	National Rehabilitation Hospital	0.2%
Montgomery General Hospital	1.0%	Greater Southeast hospital	0.1%
Georgetown University Hospital	0.9%	Sibley Memorial Hospital	0.1%
Malcolm Grove Medical Center	0.8%	Walter Reed Army Medical Center	0.1%
Johns Hopkins Hospital	0.7%		

TABLE 18 WHICH HOSPITAL IS LOCATED CLOSEST TO YOU? (N=1,001)

Prince George’s Hospital Center	22.9%
Fort Washington Medical Center	3.6%
Southern Maryland Hospital	18.4%
Holy Cross Hospital	2.9%
Doctors Community Hospital	17.4%
Providence Hospital	2.8%
Laurel Regional Hospital	9.8%
Washington Hospital Center	2.0%
Don’t know	5.4%
Bowie Health Campus	1.9%
Washington Adventist Hospital	4.9%
Anne Arundel Medical Center	1.7%

Note: hospitals with less than 1% are not shown in table

care facility and other. Each of the broad categories was then divided into sub-categories and the sub-categories themselves were broken down to further illustrate the responses. For example, 43 percent of the participants gave a response that fell into the category of accessibility to care. These 43 percent were further broken down to hours (22 percent), accessibility to doctors/facilities/services (20 percent) and access to medical records (1 percent). The 22 percent of responses that listed hours as a priority were subdivided into flexibility of hours (9 percent) and how quickly treatment or an appointment is available (13 percent). Overall, 51.4 percent stated that proximity to home was their top priority, followed by accessibility of care (43 percent) and quality of care (36). Table 15 includes more detailed sub-categories of responses given by residents.

However, when we analyzed these priorities by region, we found that there were no significant differences for most priorities given, with the exception of the following factor. There were significant differences between region on proximity, with PUMA 1 reporting this as a priority significantly less than PUMAs 3 and 6 (Table 16). Interestingly, 1, 3 and 6 are all adjacent to the District of Columbia.

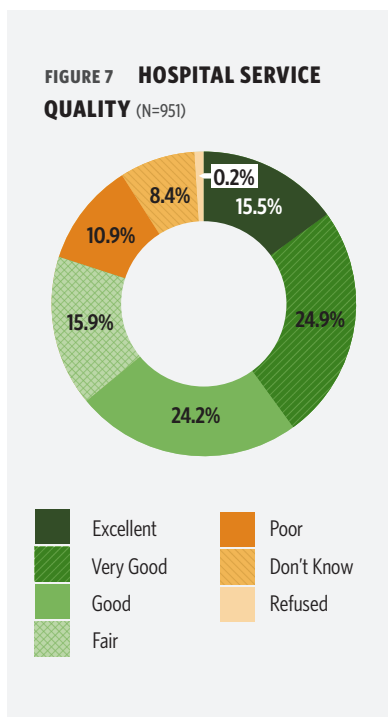
HOSPITALS

In an effort to better understand respondents' perceptions of hospitals in Prince George's County, we asked them to tell us what hospital came to mind first. Table 17 reports that Prince George's Hospital Center topped the list with 20 percent of respondents followed by Doctors Community Hospital (16.4 percent), Washington Hospital Center (12.5 percent) and Southern Maryland Hospital (12.1 percent) as the first hospital that comes to mind serving County residents.

The largest proportion (22.9 percent) of residents reported that Prince George's Hospital Center was the closest to them (see Table 18).

QUALITY OF CARE AND HOSPITAL CHOICE

When asked about the service quality of the hospital closest to them, 40.4 percent of respondents stated the service was Excellent/Very Good, 24.2 percent stated it was Good and 26.8 percent stated the hospital services were Fair/Poor. Figure 7 illustrates a breakdown of each response category.



We asked respondents to identify their choice of local hospitals for specific medical services. In a separate question, we also asked them to rate the overall quality of hospitals. In Table 19, we focus on choice of hospital for two key services, general hospitalization and care for the leading cause of death, heart attack. The table also includes the percentage of respondents' overall best quality ranking of the hospital. In terms of respondent choice

for general hospitalization, a plurality of respondents selected Washington Hospital Center (15.3 percent) followed by Doctors Community Hospital (13.5 percent), which was essentially tied with Holy Cross (13.3 percent). There were statistically significant differences with higher income, more educated and females more likely to report choosing a hospital outside the County.

There is a similar clustering in how respondents rated the overall best quality of these three institutions, 16.3 percent for Doctors Community Hospital, 11.4 percent for Washington Hospital Center and 10.3 percent for Holy Cross. However, when respondents were asked to identify which hospital they would choose in the event of a heart attack, 31 percent selected Washington Hospital Center while far fewer selected Doctors (7.1 percent) or Holy Cross (6.4 percent). Prince George's Hospital Center was in single digits for general hospitalization (7.3 percent) and overall best quality (7.8 percent). It is noteworthy that in the event of a heart attack, 8.1 percent of respondents selected Prince George's Hospital Center, placing it second to Washington Hospital Center and tied with Washington Adventist Hospital. However, Washington Hospital Center is clearly the people's choice for cardiac care. For choice of hospital for a heart attack, again, there were statistically significant differences with those with higher incomes choosing a hospital outside of the County.

When we examine which hospital respondents would choose for care by PUMA, respondents do not choose the hospital that is closest to them (see Figure 8). For example, in PUMA 1, 10 percent live closest to Holy Cross, but 18 percent choose this hospital for procedures. In PUMA 2, only 2.2 percent live closest to Holy Cross, but 24.6 percent choose this hospital for procedures. In PUMA 4, 67.4 percent live closest to Prince George's Hospital

TABLE 19 CHOICE OF HOSPITAL FOR GENERAL HOSPITALIZATION AND HEART ATTACK SORTED BY BEST OVERALL QUALITY (N=1,001)

Hospitals	Choice for general hospitalization	Choice for heart attack	Overall best quality
Doctors Community Hospital	13.5%	7.1%	16.3%
Washington Hospital Center	15.3%	30.8%	11.4%
Holy Cross Hospital	13.3%	6.4%	10.3%
Southern Maryland Hospital	6.8%	5.2%	9.1%
Prince George's Hospital Center	7.3%	8.1%	7.8%
Anne Arundel Medical Center	5.8%	2.7%	3.9%
Washington Adventist Hospital	4.6%	8.1%	3.7%
Laurel Regional Hospital	2.2%	1.1%	2.8%

Hospitals	Choice for general hospitalization	Choice for heart attack	Overall best quality
Johns Hopkins Hospital	2.7%	5.4%	2.5%
George Washington University Hospital	4.1%	3.5%	2.2%
Shady Grove Hospital	0.5%	0.6%	1.7%
Georgetown University Hospital	1.9%	1.0%	1.4%
Children's National Medical Center	1.3%	0.8%	1.2%
Providence Hospital	1.8%	1.0%	1.2%
Fort Washington Medical Center	1.9%	0.6%	1.0%

Note: hospitals with less than 1% responding to "overall best" are excluded from table

FIGURE 8 TO WHICH HOSPITAL WOULD YOU CHOOSE TO BE ADMITTED IF YOU NEEDED HOSPITALIZATION FOR ANYTHING OTHER THAN AN EMERGENCY? (N=1,001)

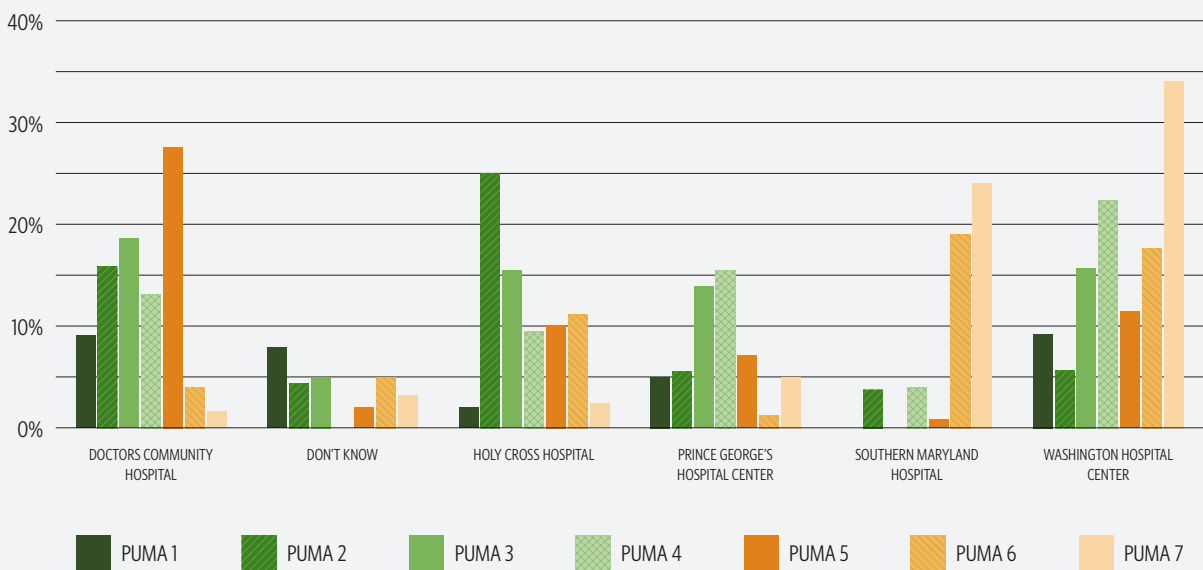


FIGURE 9 TO WHICH HOSPITAL WOULD YOU CHOOSE TO BE ADMITTED IF YOU NEEDED HOSPITALIZATION FOR A HEART ATTACK? (N=1,001)

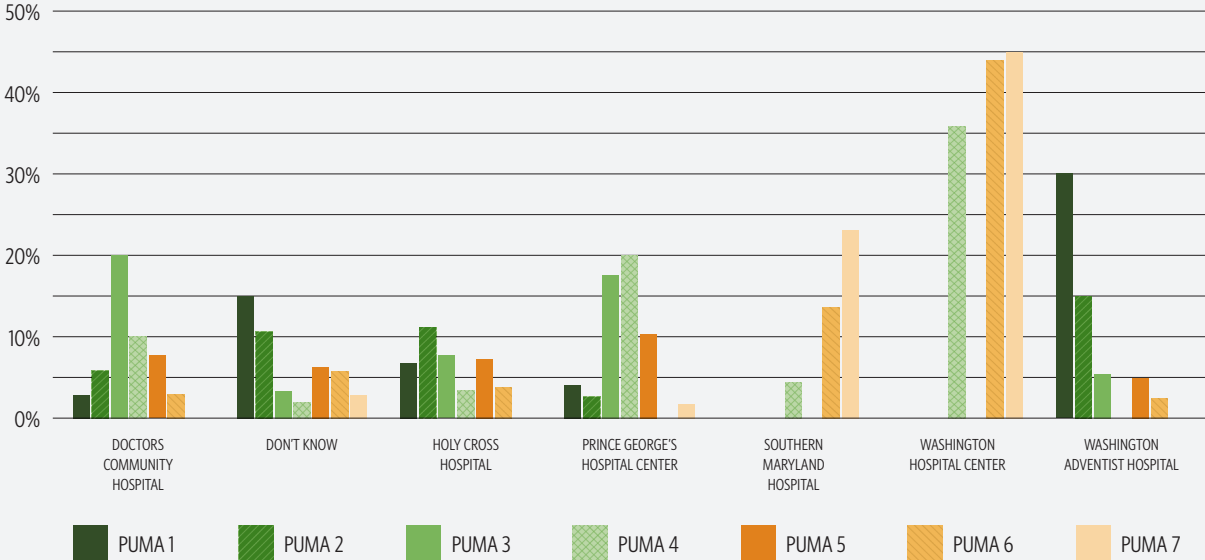


TABLE 20 THINKING OF THE LAST HOSPITAL STAY BY YOU OR SOMEONE IN YOUR HOUSEHOLD, IN WHICH HOSPITAL WAS THAT LAST STAY? (N=932)

Doctors Community Hospital	11.8%	Anne Arundel Medical Center	3.1%
Washington Hospital Center	11.2%	Johns Hopkins Hospital	2.1%
Holy Cross Hospital	10.4%	Providence Hospital	1.9%
Southern Maryland Hospital	8.3%	Shady Grove Hospital	1.8%
Prince George's Hospital Center	8.2%	Fort Washington Medical Center	1.5%
Washington Adventist Hospital	7.2%	Georgetown University Hospital	1.4%
Don't know	6.8%	Howard University Hospital	1.2%
Other	5.9%	Virginia hospital	1.1%
Laurel Regional Hospital	4.4%	Walter Reed Army Medical Center	1.1%
Children's National Medical Center	3.7%	George Washington University Hospital	1.0%

FIGURE 10 HOW PLEASED WERE YOU WITH YOUR HOSPITAL EXPERIENCE? (N=932)

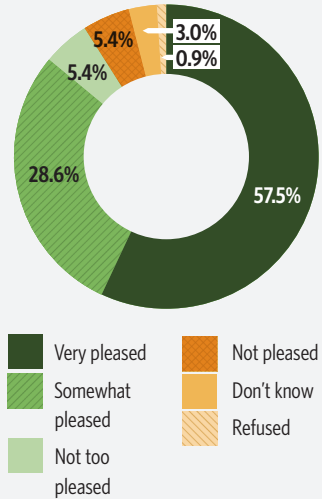


TABLE 21 WHY DID YOU NOT USE A HOSPITAL LOCATED WITHIN PRINCE GEORGE'S COUNTY? (N=399)

Referred to hospital by primary or specialty care physician	31%	Some other reason	8%
Have insurance that dictated where I could go to receive hospital care	13%	Had a medical condition that required utilizing a hospital outside of Prince George's County	7%
The hospital had a better reputation than those within Prince George's County	12%	Familiarity	6%
Closer/closest to me/household member	11%	Don't know	4%
Do not have positive perceptions of hospitals located within Prince George's County	10%	Refused	2%
		All of my records are already at that hospital I went to	2%
		Work outside of Prince George's County	0.2%

Center, but only 15.6 percent would choose to go there.

However, there is variation in preferred hospital for different medical needs. For example, Washington Hospital Center was the top choice for the treatment of heart attack and general surgery for the residents of all PUMAs except region 1. The residents of region 1 chose Washington Adventist Hospital for heart attack (30.1 percent) and Holy Cross Hospital (19.6 percent)

for general surgery (see Figure 9).

We asked Prince Georgians, "When was the last time you or someone in your household stayed overnight as a patient in a hospital?" Approximately 36.4 percent stated it was three or more years, followed by 31.3 percent reporting less than one year, 14 percent reporting one to two years, 9.6 percent stated two to three years with 7.1 percent responding "never" and 1.6 percent responding that they did not

know. When asked "In which hospital was the last stay for you or someone in your household," 11.8 percent reported Doctors Community Hospital, followed closely by 11.2 percent for Washington Hospital Center and 10.4 percent for Holy Cross Hospital (see Table 20).

Figure 10 displays their responses to the question, "How pleased were you with your hospital experience?" More than 57 percent indicated they were very pleased, followed by more than 28 percent who were somewhat pleased.

If respondents reported using a hospital outside the County, they were asked their reasons for doing so (Table 21). Almost 31 percent were referred to a hospital outside the County by their physician, followed by 13 percent who reported that their insurance coverage dictated their hospital choice. Additionally, two quality measures were also important factors with 12 percent reporting that the hospital they chose had a better reputation and 10 percent reporting that they do not have positive perceptions of hospitals within the County. We did further analyses in which we collapsed all responses into three categories: quality of care, insurance and location. We then examined those by demographic variables. There were no statistically significant differences.

PERCEPTIONS OF PRINCE GEORGE'S HOSPITALS

We were interested in perceptions of existing hospitals in Prince George's County, particularly those associated with Dimensions Healthcare. When asked, "Thinking specifically of Prince George's Hospital Center in Cheverly, whether you have ever been a patient there or not, what is your overall opinion of the hospital?," 47.2 percent reported a favorable view and 34.9 percent reported their view was

unfavorable. More than 17 percent did not know. There were no statistically significant differences in perceptions of the hospital center by demographic characteristics except with insurance. Those with insurance were more likely to have less favorable perceptions of the hospital center than those without insurance.

If they responded with unfavorable, we asked what would change their

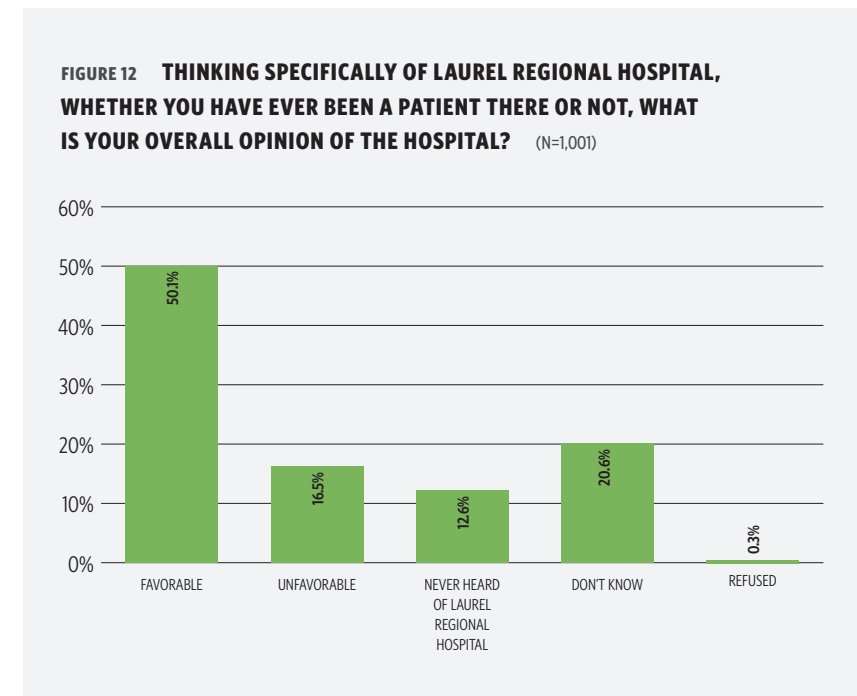
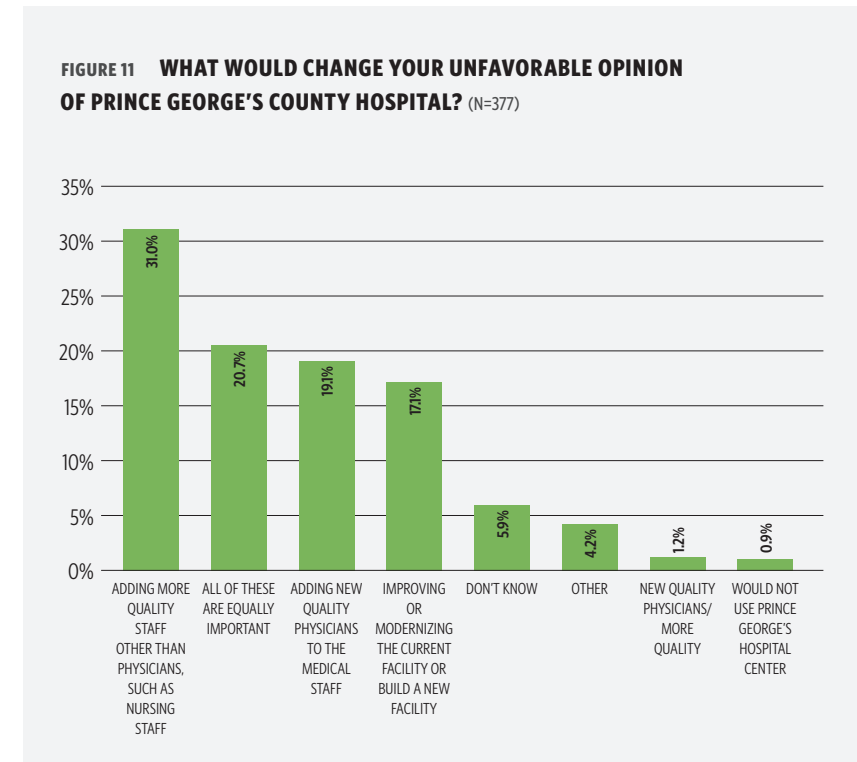
opinion (see Figure 11). Most important factors in changing their opinion were adding more quality staff (31 percent), followed by 20.7 percent who reported that adding quality staff, adding quality physicians and improving or building a new facility were all equally important. We did find some differences in opinions by group for this question. Significantly more minorities reported that a new facility would improve their

perception of the hospital as compared to whites. There was a statistically significant difference by gender with women reporting that more quality staff was important as compared to men. Residents over 65 years of age were significantly less likely to see a new facility as important; older residents were also more likely than other age groups to see the combination of facility, physicians and staff as important.

We asked the same set of questions about Laurel Regional Hospital. We saw interesting results when we asked for their overall opinion of the hospital (see Figure 12). Just over 50 percent viewed it favorably but 12.6 percent had never heard of the hospital and 20.6 percent had no opinion.

If they reported an unfavorable opinion, we asked what would change that opinion (see Figure 13). In this case, adding more quality staff and quality physicians were the most important factors in modifying opinions of the hospital.

We asked, "If there was a new state-of-the-art hospital built in Prince George's County, how likely would you be to use it?" The results indicated a high degree of willingness with 55.1 percent indicating they were very likely, 37.1 percent reporting likely and 3.5 percent reporting they did not know. For the proportion (9.7 percent) who indicated they were not likely to use the hospital, we would need to do further analysis to determine whether insurance provider or physician would be the inhibiting factor. When examined by PUMA, there were no significant differences in likelihood of use by region. There were no statistically significant differences by income with all income categories from 50 to 62 percent very likely to use a new hospital. There were statistically significant differences between racial and ethnic groups with only 40 percent of whites reporting they were very likely to use a new hospital compared to 62 percent of all



other races. Age was a significant factor with 62 percent of those between 35 and 64 years reporting they were very likely to use a new hospital compared to 40 percent of those over 65.

Of critical importance is to understand what factors would contribute to residents' use of a new hospital. We

asked them to rate the importance of specific factors in their decision to use the hospital (Figure 14). Quality of care was the most critical factor followed closely by insurance coverage and specialist care.

FIGURE 13 WHAT WOULD CHANGE YOUR UNFAVORABLE OPINION OF LAUREL REGIONAL HOSPITAL (N=153)

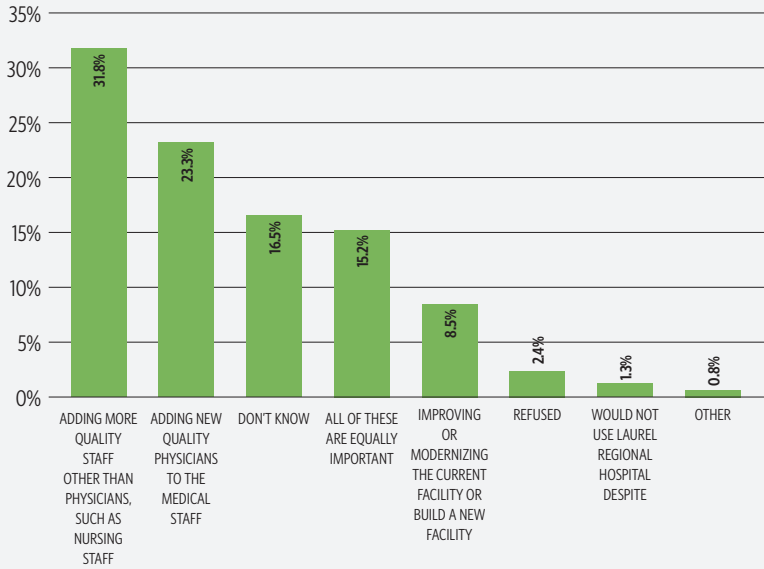


FIGURE 14 IMPORTANCE OF FACTORS IN DECISION TO USE NEW HOSPITAL (N=1,001)

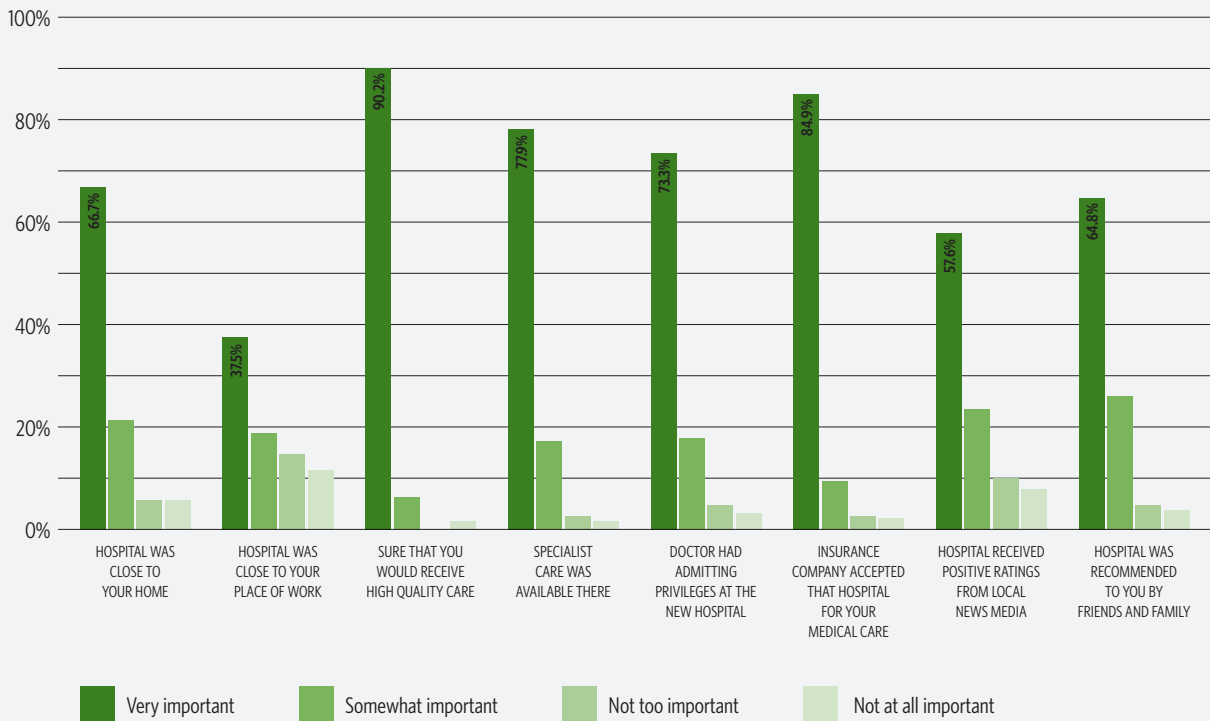


TABLE 22 HEALTH LITERACY (N=1,001)

Item	Always	Very often	Sometimes	Rarely	Never	Don't Know	Refused
How often do you have someone help you read medical materials?	3.9%	4.3%	17.0%	18.4%	56.2%	0.1%	**
How often do you have problems learning about your medical condition because of difficulty understanding the written information?	1.6%	3.0%	18.4%	25.3%	51.2%	0.1%	0.2%

EXPERIENCES IN A MULTI-CULTURAL HEALTH CARE SETTING

Critical to ensuring the successful uptake of the new system and realizing its promise for health is effective communication, particularly in the multi-cultural context of the County. The survey included a number of questions on health literacy and communication across cultures. Overall, respondents did not report difficulty understanding medical information and materials (see Table 22). Almost 74.6 percent reported never or rarely needing help reading medical materials and 76.8 percent reported feeling very confident or extremely confident filling out medical forms (see Table 22 and Figure 15). This is not surprising given the overall high education level of survey respondents. Further analysis is needed to explore the association between race, ethnicity, income and education with health literacy.

Another point of interest regarding patient/provider communication was to what extent respondents had experienced difficulties due to discordance—that is, difference on the basis of gender, race/ethnicity or culture. We asked this overall question, “Please tell me if the following has been a major problem for you, a minor problem for you, or not a problem at all during the last 12 months: a) being treated by a

doctor or other health care provider who is from another country; b) being treated by a doctor or other health care provider who is not of your race/ethnic group; c) being treated by a doctor or other health care provider who is not a man/woman; d) communicating with doctors or other health care providers because of language differences.” Overall, respondents reported little difficulty communicating with providers of another country, different race/ethnicity, or different gender (Figure 16). While 21.6 percent of respondents reported experiencing a problem due to language differences, only 3.5 percent considered this to have been a major problem.

However, communication may be a concern for those respondents who do not have access to providers who speak their language, since few reported having been provided with interpreter services. Of those respondents reporting a primary language other than English, a little less than half (48.5 percent) have access to professionals who speak their language. Of this small group of respondents who are limited in their ability to directly communicate with their providers, only 20.9 percent reported access to interpreter services.

REACTIONS TO RACE

The literature on provider bias in health care is well documented. We were interested in a number of factors that can shape County residents’ responses to the health care system. From the Reactions to Race segment of the Behavioral Risk Factor Surveillance System, we asked this question, “Within the past 12 months, when seeking health care, do you feel your experiences were worse than, the same as, or better than for people of other races?” Just over 81 percent responded they were treated the same as other races, 7.5 percent reported worse than other races, 6.1 percent reported better than other races and 3.3 percent did not know.

FIGURE 15 HOW CONFIDENT ARE YOU FILLING OUT MEDICAL FORMS BY YOURSELF?

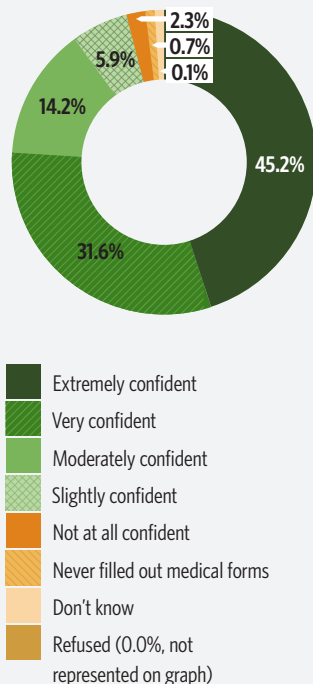
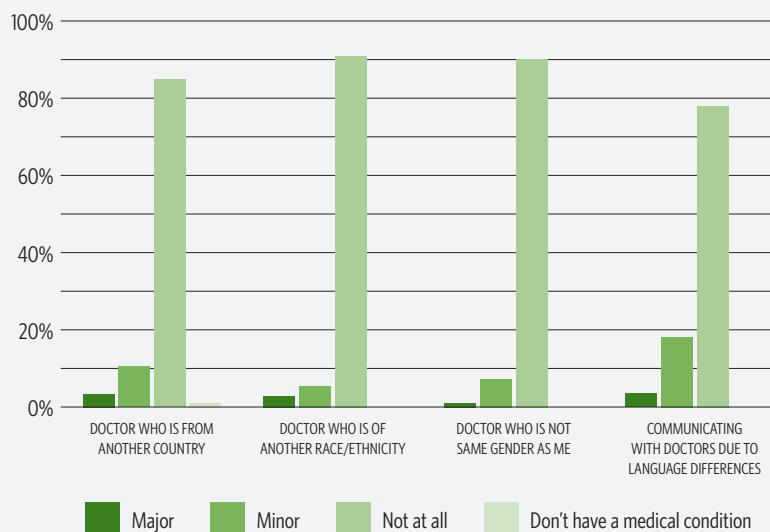


FIGURE 16 PLEASE TELL ME IF THE FOLLOWING HAS BEEN A MAJOR PROBLEM FOR YOU, A MINOR PROBLEM FOR YOU, OR NOT A PROBLEM AT ALL DURING THE LAST 12 MONTHS?



Note: Zero percent of sample chose "don't know" or refusal as preferred option.

DISCUSSION

This household survey provides valuable insights into the current utilization of health care services including local hospitals, as well as offers some understanding of the factors that drive decisions by County residents. Of critical importance is that it is representative of the County's population, thereby allowing us to make generalizations about the County as a whole.

In 2008, Prince George's County contracted with RAND Corporation to study the health care needs of County residents and to assess the ability of the County to meet those needs. Results of the RAND study began to form the picture of health and health care concerns specific to Prince George's County, and in particular how these needs and concerns compared to the neighboring counties and the

state. The RAND study indicated that while, overall, Prince George's County residents were no more likely than the rest of the state to self-report fair or poor health, Prince George's County residents were more likely to report being overweight or obese and having been diagnosed with diabetes relative to Maryland as a whole, as well as the neighboring jurisdictions of Howard and Montgomery Counties (Lurie et al. 2009).

While the reports of other chronic diseases were similar between Prince George's County and other jurisdictions within Maryland, the health status of residents within the County varies widely, and is dependent largely upon educational attainment and income. Residents with more education were significantly less likely to report having

a chronic condition, including heart disease, cerebrovascular disease, diabetes, asthma and disability. Likewise, residents with household incomes greater than \$50,000 per year were less likely to report that they had been diagnosed with heart disease, cerebrovascular disease, or disability than residents with lower annual incomes. Furthermore, the RAND report indicates that Prince George's County residents are uninsured at relatively high rates, especially as compared to residents of Montgomery and Howard counties, with 14 percent of adult residents reporting that they were uninsured. Additionally, 10 percent of residents reported missing needed care because the cost was too high, and nearly 16 percent reported having no regular source of care. Access to care was dependent

on specific demographic and socio-economic characteristics. For example, males were nearly four times more likely to lack a regular source of care than females, and were almost three times less likely as females to have had a routine check-up within the past two years. Blacks were less likely than whites to report having a usual source of care (Lurie et al., 2009).

RAND found that Prince George's County has fewer primary care physicians per capita than any other area jurisdiction, and many of the primary care doctors in the County are located outside of the areas where they would have the most impact on reducing the number of preventable hospitalizations and emergency department visits. While in 2009 RAND assessed hospital capacity as adequate, the County had a relatively low supply of emergency

department slots, even though residents used the emergency department more intensively than residents of other jurisdictions. Finally, many residents of Prince George's County seek medical care outside of the County, a practice that is likely driven by a combination of convenience, preferences, and provider availability and referral patterns (Lurie et al., 2009).

The results from the RAND report help identify some areas of health and health care concern for residents of Prince George's County. One major limitation of that report, however, was that it lacked information about residents' experiences with and attitudes toward health care services within the County. Our random household survey has helped fill that gap. Overall, our results lend support to many of the goals identified in the County's

Health Improvement Plan while we also identify a few areas of difference. For example, only 8 percent of residents identified HIV/AIDS as a major concern for the County and infant mortality was not identified as an issue at all. Other health conditions and risk behaviors—from diabetes, cardiovascular disease, obesity, cancer and the associated behaviors—are consistent across our survey and the CHIP.

We clearly found that while 65 percent of residents were receiving care from their doctor within the County, the use of hospitals outside the County remains an issue, driven by insurance, provider referrals, availability of specialty care and perceptions. Addressing these issues will require a multi-pronged effort aimed at County residents, health care providers and insurers.

FUTURE ANALYSES

As with all research studies, the data provides other opportunities for a more sophisticated examination of critical questions. Specific areas for further analyses include:

- A more detailed analysis of health care utilization by categories of insurance (private insurance/public insurance);
- Further comparisons with the PGCBRFSS on risk behaviors and chronic conditions;
- Future examination of choices for hospital care in specific conditions in a more complex analysis with key demographic variables;
- Examination of the health literacy and patient/provider communication variables by race, ethnicity, income, education, length of time in the U.S. and other demographic variables; and
- Examination of the Reactions to Race module by demographic variables and perceived socio-economic position.

LIMITATIONS The primary limitation was that lack of resources limited the length of the survey, in particular curtailing questions about health behaviors. Additionally, our questions about race and ethnicity provided only limited data about sub-groups within racial categories, thereby limiting our ability to conduct sub-group analyses.

SUMMARY

This household survey provides valuable data on the perceptions, experiences and health care behaviors of a representative sample of County residents, thereby filling gaps in existing reports and strengthening the planning process for a new health care system.

REFERENCES

The American Association for Public Opinion Research. 2011. *Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys*. 7th edition. AAPOR.

Abt SRBI. (2012). 2011 *Prince George’s County Health Survey Methodology Report*.

Centers for Disease Control and Prevention. (2012). *Behavioral Risk Factor Surveillance System*. Retrieved from www.cdc.gov/brfss/index.htm.

Kaiser Family Foundation DC Health Care Access Survey, 2003. (n.d.). Retrieved from www.kff.org/minority-health/minorityhelath103003pkg.cfm.

Lurie, N., Harris, K. M., Shih, R. A., Ruder, T., Price, A., Martin, L. G., Acosta, J., & Blanchard, J. C. (2009). *Assessing health and health care in Prince George’s County*. Prepared for the Prince George’s County Council, by RAND Corporation.

Maryland Department of Health and Mental Hygiene. (n.d.). State Health Improvement Process Home: Measures. Retrieved from dhmh.maryland.gov/ship/SitePages/measures.aspx.

Prince George’s County Health Department. (2012). Prince George’s County Health Improvement Plan 2011 to 2014, Blueprint for a Healthier County. Retrieved from www.princegeorgescountymd.gov/Government/AgencyIndex/Health/pdf/LocalhealthPlanPrefinal.pdf.

APPENDIX A THE PRINCE GEORGE’S COUNTY PUBLIC HEALTH IMPACT ASSESSMENT SURVEY

The study was conducted for the University of Maryland via telephone by SSRS, an independent research company. Interviews were conducted from January 30–March 4, 2012 among a sample of 1,001 residents of Prince George’s County in Maryland. The margin of error for total respondents is +/-4.3% at the 95 percent confidence level. More information about SSRS can be obtained by visiting www.ssrs.com.

KEY Em dash (—) means item was not mentioned. Asterisk (*) indicates a less than 1 percent response.

First, I’d like to ask some general background questions.

INITIAL DEMOGRAPHIC DATA

D1. WHAT IS YOUR AGE?

18-29	21
30-49	40
50-64	26
65+	13
Refused	1

D1A. HOW LONG HAVE YOU LIVED IN PRINCE GEORGE’S COUNTY?

Less than 1 year	3.0
1 to less than 3 years	5.6
3 to less than 5 years	5.5
5 to less than 10 years	11.3
10 to less than 20 years	21.9
20 years or more	43.7
All my life	8.6
Don’t know	1
Refused	—

D2. IN WHAT TOWN OR CITY DO YOU WORK?

CITIES IN PRINCE GEORGE’S COUNTY (NET)	25
Accokeek	—
Adelphi	*
Andrews Air Force Base	*
Aquasco	—
Beltsville	1
Bladensburg	*
Bowie	2
Brandywine	*
Brentwood	*
Camp Springs	*
Capitol Heights	1
Cheltenham	—
Cheverly	*
Clinton	1
College Park	3

District Heights	*	VIRGINIA CITIES (NET)	8	D4. WHICH ONE OR MORE OF THE FOLLOWING WOULD YOU SAY IS YOUR RACE?	White	19.0
Fort Washington	*	Alexandria	1		Black or African American	65.5
Glenn Dale	—	Arlington	2		Asian	2.7
Greenbelt	1	Chesapeake	—		Native Hawaiian or Other Pacific Islander	0.5
Hyattsville	2	Hampton	*		American Indian or Alaska Native	1.0
Landover	2	Newport News	*		Hispanic/Latino	11.1
Lanham	2	Norfolk	—		Other	0.3
Largo	1	Portsmouth	—		(Asked of total respondents who are Black or African American or Haitian/Other Caribbean; n=615)	
Laurel	3	Richmond	—		D4A. WERE YOU OR EITHER OF YOUR PARENTS BORN IN THE CARIBBEAN, OR NOT?	
Mount Rainier	*	Roanoke	—		Yes	10
Mitchellville	—	Virginia Beach	*		No	89
Oxon Hill	1	Other Virginia	5		Don't Know	*
Riverdale	*	WASHINGTON D.C.	19		Refused	1
Southern MD Facility	—	Other	1		(Asked of total respondents who are Black or African American or Haitian/Other Caribbean; n=615)	
Suitland	1	Retired/not currently employed	31		D4B. WERE YOU OR EITHER OF YOUR PARENTS BORN IN AFRICA, OR NOT?	
Temple Hills	1	Don't know	1		Yes	9
Upper Marlboro	1	Refused	*		No	90
Other Prince George's County Cities	2				Don't know	1
OTHER MARYLAND CITIES (NET)	14				Refused	1
Annapolis	1	D2A. AND WHAT STATE IS THAT IN?			D5. GENDER	
Baltimore	1	Maryland	—		Male	53.3
Bethesda	1	Virginia	—	Female	46.7	
Columbia	1	Washington DC	—			
Dundalk	--	Other	100			
Ellicott City	--	Don't know/	—			
Frederick	--	Not sure	—			
Gaithersburg	1	Refused	—			
Germantown	—					
Silver Spring	2	<i>Also, so we can include people of all races and ethnicities ...</i>				
Wheaton	*	D3. DO YOU CONSIDER YOURSELF TO BE HISPANIC OR LATINO?				
Other Anne Arundel County	1	Yes	11			
Other Montgomery County	3	No	89			
Other Maryland	3	Don't know	—			
		Refused	—			

COUNTY HEALTH ISSUES

CH1. WHAT DO YOU SEE AS THE ONE MOST URGENT HEALTH CONDITION OR DISEASE FACING RESIDENTS LIVING IN PRINCE GEORGE’S COUNTY?

Cancer	17.2
Heart disease	8.1
Diabetes	15.7
HIV/AIDS	8.4
High blood pressure/Hypertension	9.1
Asthma	1.5
Stroke	*
Dental/Oral health	*
Sickle cell anemia	*
Lung disease	2.0
Mental illness	0.7
Substance abuse	1.4
Infant mortality	*
Obesity	10.0
STDs	1.4
Flu/colds	3.0
Other	4.9
None	1.6
Don't know/not sure	14.7
Refused	--

CH2. NOW, I’M GOING TO READ YOU A LIST OF HEALTH CARE ISSUES. PLEASE TELL ME IF YOU THINK (INSERT ITEM) IS A MAJOR PROBLEM, A MINOR PROBLEM, OR NOT A PROBLEM AT ALL IN PRINCE GEORGE’S COUNTY?

	PROBLEM			Not a problem	Don't know/not sure	Refused
	NET	Major	Minor			
a. access to health care	80.2	50.0	30.2	15.1	4.6	0.2
b. quality of health care	79.7	47.3	32.4	16.2	4.1	0.1
c. the cost of health care	93.9	77.7	16.2	3.2	2.9	0.1
d. the cost of health insurance	92.2	77.6	14.6	4.3	3.3	0.2

HEALTH STATUS

S1A. IN GENERAL, WOULD YOU SAY YOUR HEALTH IS EXCELLENT, VERY GOOD, GOOD, FAIR OR POOR?

Excellent	20.7
Very Good	28.3
Good	35.9
Fair	12.8
Poor	2.3
Don't know/not sure	0.1
Refused	—

S2A. HAVE YOU EVER BEEN TOLD BY YOUR DOCTOR OR A HEALTHCARE PROFESSIONAL THAT YOU HAVE A MEDICAL CONDITION OR CHRONIC DISEASE?

(If needed: by healthcare professional, I mean a nurse practitioner, physician’s assistant, or some other licensed professional.)

Yes	37.1
No	62.9
Don't know/not sure	—
Refused	—

S3A. (IF FEMALE INSERT: OTHER THAN DURING PREGNANCY) HAVE YOU EVER BEEN TOLD BY A DOCTOR OR OTHER HEALTH CARE PROFESSIONAL THAT YOU HAVE PRE-DIABETES OR BORDERLINE DIABETES?

Yes	16.7
No	83.2
Don't know/not sure	0.1
Refused	—

S4A. (IF FEMALE INSERT: OTHER THAN DURING PREGNANCY) HAVE YOU EVER BEEN TOLD BY A DOCTOR OR OTHER HEALTH CARE PROFESSIONAL THAT YOU HAVE PRE-HYPERTENSION OR BORDERLINE HIGH BLOOD PRESSURE?

Yes	33.2
No	66.6
Don't know/not sure	0.1
Refused	0.1

(Asked of total respondents who have ever been told by their doctor or a healthcare professional that they have a medical condition or chronic disease; n=423)

S5. YOU MENTIONED THAT YOU HAD BEEN DIAGNOSED WITH A MEDICAL CONDITION OR CHRONIC DISEASE.

(PN: IF S3a=YES INSERT: Other than pre-diabetes or borderline diabetes ...)
(PN: IF S4a=YES INSERT: Other than pre-hypertension or borderline high blood pressure...)
(PN: IF S3a AND S4a = YES INSERT: Other than pre-diabetes or borderline diabetes OR pre-hypertension or borderline high blood pressure...) Please tell me which conditions you have been diagnosed with.

Cancer	2.3
Heart disease	2.6
Diabetes	3.7
Asthma	3.3
High blood pressure	5.5
High cholesterol	2.6
Sickle cell anemia	0.2
Stroke	0.5
HIV/AIDS	0.4
Alcoholism	—
Drug addiction	—
(COPD) chronic obstructive pulmonary disease	0.4
Emphysema—	—
Chronic bronchitis	1.0
Chronic arthritis	2.0
Gout	—
Lupus	0.3
Fibromyalgia	0.2
Mental illness (depression, etc)	1.4
Obesity	0.5
Thyroid problems/Hypothyroidism	1.7
Other	6.0

SELECTED RISK FACTORS

R1. DURING THE PAST 30 DAYS, ON HOW MANY DAYS DID YOU SMOKE CIGARETTES?

None	83.0
1-29 days	6.0
30 days or more	11.1
Don't know	*
Refused	—

R2. ABOUT HOW MUCH DO YOU WEIGH WITHOUT SHOES?

Less than 70 pounds	—
70-100 pounds	1
101-150 pounds	24
151-200 pounds	49
201-250 pounds	19
251 pounds-599 pounds	6
More than 600 pounds	—
Don't know/not sure	1
Refused	1

R3. ABOUT HOW TALL ARE YOU WITHOUT SHOES?

Less than 4ft	*
4ft 6 inches-4ft 11 inches	2
5ft 0 inches-5ft 6 inches	51
5ft 7 inches-5ft 11 inches	33
6ft 0 inches-6ft 6 inches	13
6ft 7 inches-6ft 10 inches	*
More than 8ft	—
Don't know/not sure	*
Refused	*

R2/R3 BMI CONVERSION	
Underweight/Normal = <25	28.7
Overweight = 25-29.9	34.0
Obesity = BMI of 30 or greater	35.0
Don't know/refused	2.3

HEALTHCARE UTILIZATION

U1. WHAT KIND OF PLACE DO YOU USUALLY GO TO WHEN YOU ARE SICK OR YOU NEED ADVICE ABOUT YOUR HEALTH? IS IT A DOCTOR'S OFFICE, HOSPITAL EMERGENCY ROOM, HOSPITAL OUTPATIENT DEPARTMENT, URGENT CARE FACILITY, A CLINIC OR HEALTH CENTER, OR SOME OTHER PLACE?

Doctor's Office	69.7
Hospital Emergency Room	8.0
Hospital Outpatient Department	3.7
Urgent Care Facility	3.6
Clinic or Health Center	11.4
Some other place	0.9
I don't have a place where I usually go	2.2
Don't Know/hot sure	0.4
Refused	0.1

U2. HOW WOULD YOU RATE THE QUALITY OF HEALTH CARE YOU RECEIVE AT THE PLACE YOU USUALLY GO WHEN YOU ARE SICK OR NEED ADVICE ABOUT YOUR HEALTH?

NET	
Excellent	31.9
Very Good	34.3
Good	25.4
Fair	7.4
Poor	0.9
Don't know	0.1
Refused	—

U3. DO YOU HAVE ONE PERSON YOU THINK OF AS YOUR PERSONAL DOCTOR OR HEALTH CARE PROVIDER?

YES	
NET	75.4
One person	67.9
More than one person	7.5
No, not anyone	24.6
Don't know/not sure	—
Refused	—

(Asked of total respondents who think of one person as their personal doctor or health care provider; n=757)

U3_1. WHAT IS THAT PROVIDER'S SPECIALTY?

Family Practice/General Practice	58
Internist (Internal Medicine)	21
Cardiologist	3
Obstetrician/Gynecologist	5
Surgeon/General Surgeon	*
Pediatrics	1
Orthopedics	—
Nurse practitioner	—
Physician's assistant	—
Endocrinologist	1
Other	3
Don't know/not sure	8
Refused	—

(Asked of total respondents who think of more than one person as their personal doctor or health care provider; n=79)

U3_2. OF ALL THE PEOPLE YOU CONSIDER TO BE YOUR PERSONAL DOCTORS OR PROVIDERS, CHOOSE THE MOST IMPORTANT ONE TO YOU. WHAT IS THAT PROVIDER'S SPECIALTY?

Family Practice/General Practice	56
Internist (Internal Medicine)	6

Cardiologist	2	Greenbelt	7.0
Obstetrician/Gynecologist	6	Hyattsville	7.3
Surgeon/General Surgeon	—	Landover	1.3
Pediatrics	1	Lanham	4.2
Orthopedics	—	Largo	4.5
Nurse practitioner	—	Laurel	6.3
Physician's assistant	—	Mount Rainier	—
Endocrinologist	—	Mitchellville	0.5
Other	16	Oxon Hill	1.1
Don't know/not sure	12	Riverdale	2.1
Refused	1	Southern MD Facility	—

(Asked of total respondents who think of someone as their personal doctor or health care provider; n=836)

U3_3. IN WHAT CITY OR TOWN IS THEIR OFFICE LOCATED?

CITIES IN PRINCE GEORGE'S COUNTY (NET)	66	Suitland	—
Accokeek	—	Temple Hills	1.1
Adelphi	—	Upper Marlboro	2.4
Andrews Air Force Base	0.8	Other Prince George's County Cities	3.4
Aquasco	—	OTHER MD CITIES (NET)	15.9
Beltsville	—	Annapolis	0.7
Bladensburg	1.3	Baltimore	—
Bowie	9.0	Bethesda	1.7
Brandywine	—	Columbia	0.6
Brentwood	0.5	Dundalk	—
Camp Springs	1.7	Ellicott City	—
Capitol Heights	—	Frederick	—
Cheltenham	—	Gaithersburg	—
Cheverly	—	Germantown	—
Clinton	5.9	Silver Spring	4.9
College Park	1.1	Wheaton	—
District Heights	1.9	Other Anne Arundel County	1.1
Fort Washington	2.6	Other Montgomery County	3.6
Glenn Dale	—	Other Maryland	3.3
		WASHINGTON D.C.	11.1
		VA CITIES	1.8
		Alexandria	0.7

Arlington	0.5
Chesapeake	—
Hampton	—
Newport News	—
Norfolk	—
Portsmouth	—
Richmond	—
Roanoke	—
Virginia Beach	—
Other Virginia	0.6
Other	—
Don't know	2.3
Refused	*

(Asked of total respondents who said their personal doctor or provider is not located in one of the cities or towns already specified; n = 1)

U3_3A. AND WHAT STATE IS THAT IN?

Maryland	100
Virginia	—
Washington DC	—
Other	—
Don't know/not sure	—
Refused	—

(Asked of total respondents whose healthcare provider is not located in Prince George's County; n = 182)

U3_4. YOU SAID THAT (IF U3=1 READ: YOUR PROVIDER) (IF U3=2 READ: THE PROVIDER WHO IS MOST IMPORTANT TO YOU) IS NOT LOCATED IN PRINCE GEORGE'S COUNTY. WHY DO YOU GO OUTSIDE OF PRINCE GEORGE'S COUNTY TO SEEK CARE?

My provider is located within Prince George's County	5.2
Can't get an appointment to see a Prince George's County physician with this specialty	7.1
My insurance requires that I go see a physician located outside of Prince George's County	7.5

The physician I go to was recommended by my primary care physician	1
The physician I go to was recommended by family or friends	11.3
I am not comfortable with the quality of the Prince George's County physicians	3.7
I commute outside of Prince George's County to work and my physician's office location is more convenient for me	9.0
I prefer to use my own provider	36.5
I am military/a veteran/go to the military/veterans hospital	5.1
Better quality of care	5.2
Other	10.2
Don't know/ not sure	—
Refused	2

(Asked of total respondents who have some usual place to go when they are sick or need advice about their health; n= 988)

U3_5. HOW DO YOU USUALLY GET TO (THIS DOCTOR'S OFFICE/THE PLACE THAT YOU USUALLY GO WHEN YOU ARE SICK OR NEED ADVICE ABOUT YOUR HEALTH)?

Drive yourself	75
Get a ride from someone else in a personal vehicle	11
Walk	1
Take Metro Bus Or Train	10
Use "Call A Bus Service" Or "Call A Cab Service"	1
Use a standard Taxi service	1
Use Metroaccess	1
Other	*
Don't Know /Not sure	*
Refused	—

U4. SOMETIMES PEOPLE HAVE DIFFICULTY GETTING HEALTH CARE WHEN THEY NEED IT. BY HEALTH CARE, I MEAN MEDICAL CARE AS WELL AS OTHER KINDS OF CARE LIKE DENTAL CARE AND MENTAL HEALTH SERVICES. DURING THE PAST 12 MONTHS, WAS THERE ANY TIME WHEN YOU NEEDED HEALTH CARE, BUT IT WAS DELAYED OR NOT RECEIVED?

Yes	16.9
No	83.1
Don't know/not sure	—
Refused	—

(Asked of total respondents who have delayed or not received healthcare when they needed it; n= 147)

U4_1. WHAT TYPE OF CARE WAS DELAYED OR NOT RECEIVED? WAS IT MEDICAL CARE, DENTAL CARE, MENTAL HEALTH SERVICES, OR SOMETHING ELSE?

Medical Care	65
Dental Care	29
Mental health services	4
Something else	3
Don't know/not sure	—
Refused	—

(Asked of total respondents who have delayed or not received healthcare when they needed it; n= 147)

U4_2. WHY WAS THAT CARE DELAYED OR NOT RECEIVED?

Didn't think the problem was serious	1
Couldn't get the time off work	—
No insurance at the time	34
Insurance company denied coverage for service	8
Couldn't afford the cost	24
Couldn't get an appointment	20
Already owed money for medical bills and didn't want to owe any more	—

Lack of child care	—
Lack of transportation	3
Long Waiting Periods	7
Unaware of what Services are available	—
I couldn't find a provider	3
My own choice (various mentions)	2
Other	11
Don't know/not sure	—
Refused	—

U5. IN PLANNING A NEW HEALTH CARE SYSTEM FOR THE COUNTY, DECISIONS HAVE TO BE MADE ABOUT WHAT SERVICES ARE VITAL TO THE COMMUNITY. BASED ON YOUR EXPERIENCES AND THE EXPERIENCES OF YOUR FAMILY, PLEASE TELL ME IF THE AVAILABILITY OF (INSERT SERVICE) IS VITAL, IMPORTANT BUT NOT VITAL, OR NOT AT ALL IMPORTANT TO HAVE IN PRINCE GEORGE'S COUNTY?

	NET	Vital	Important but not vital	Not at all important	Don't know/not sure	Refused
a. Mental health treatment	96.8	62.5	34.3	2.1	1.1	—
b. Urgent care	98.2	77.1	21.1	—	1.3	—
c. Family planning services	92.3	54.6	37.7	6.0	1.8	—
e. Alcohol and drug abuse treatment	95.6	67.9	27.7	2.8	1.6	—
f. Nutrition education or counseling	96.5	58.9	37.6	2.7	0.9	—
g. Stress management programs	92.8	47.6	45.2	5.8	1.4	—
h. Physical activity programs	95.7	57.7	38.0	3.9	—	—
i. Smoking cessation programs	88.2	45.6	42.6	9.1	2.5	—

U6. WHAT ARE YOUR TOP THREE PRIORITIES WHEN DECIDING ON THE LOCATION WHERE YOU WILL GET HEALTH CARE SERVICES?

ACCESSIBILITY TO CARE (NET)	43	Other cost/coverage mentions	*	Convenience/easy to get there/accessibility (general/ unspecified close, near highways, etc.)	2
Hours/appointments (subnet)	22	QUALITY OF CARE/REPUTATION (NET)	61	The area/neighborhood (safety of the area, etc.)	2
Flexibility of hours	9	Reputation/recommendation (subnet)	9	Close to other medical services/facilities (labs, hospitals, etc.)	*
How quickly I can get an appointment/how quickly I can get treated	13	Reputation of doctor/facility (history, trustworthiness, etc.)	4	Location (general)	2
Accessible to doctors/facilities/services (subnet)	20	Recommendations/referrals (family/friends/ other doctors reviews/etc.)	5	Accessible to transportation	12
Having access to specialist care	6	Whether I will receive a higher quality of care	36	Parking (easy/free)	1
Having access to my personal doctor	9	Professionalism/good customer service/quality of facilities	5	Other location-related mentions	1
Access to/affiliation with other multiple doctors	*	Competent/quality doctors/medical staff (education/ experience/qualifications)	8	FACILITY-RELATED (NET)	6
Hospitals affiliations	1	Caring doctors/medical staff	2	Cleanliness	3
Types of treatment/services available at the facility	3	Other quality of care/reputation mentions	1	The setting/facility (appearance, comfort, etc.)—general	1
Other accessible to doctors/facilities/services mentions	1	LOCATION-RELATED (NET)	79	Other facility-related mentions	*
Having access to my medical records	1	Whether or not the facility or doctor is close to my home	51	Language needs	1
Other accessibility to care mentions	*	Whether or not the facility or doctor is close to my place of work	6	Depends on factors at the time (medical condition/ time of day, etc.)	1
COST/COVERAGE (NET)	24	Closeness/the distance/proximity (general)	2	Some other reason	1
If they accept my insurance	10			Don't know/Not sure	6
Cost	14			Refused	*

HOSPITAL SERVICES

Now I have a set of questions about hospitals in the region available to Prince George's County residents. These can include hospitals in Prince George's County or in another county or Washington D.C. or elsewhere.

H1. WHEN YOU THINK OF HOSPITALS SERVING PRINCE GEORGE'S COUNTY RESIDENTS, WHICH HOSPITAL COMES TO MIND FIRST? REMEMBER YOU MIGHT CHOOSE A HOSPITAL LOCATED OUTSIDE OF THE COUNTY.

Anne Arundel Medical Center (Annapolis)	3.5
Bowie Health Campus	*
Children's National Medical Center	0.7
Civista Medical Center	—
Doctors Community Hospital	16.4
Fort Washington Medical Center	1.8
George Washington University Hospital	1.7
Georgetown University Hospital	0.9
Holy Cross Hospital	6.9
Howard County General Hospital	*
Howard University Hospital	*
Johns Hopkins Hospital (Baltimore)	0.7
Laurel Regional Hospital	4.6
Montgomery General Hospital	1.0
National Rehabilitation Hospital	*
Prince George's Hospital Center	20.6
Providence Hospital	1.1
Shady Grove Hospital	*
Sibley Memorial Hospital	*
Southern Maryland Hospital	12.1
Suburban Hospital	0.5
University of Maryland Medical Center (Baltimore)	0.5
Washington Adventist Hospital	5.4

Washington Hospital Center (Washington, DC)	12.5
Adventist Hospital (unspecified)	*
Bethesda Medical Center	*
Virginia Hospital	*
Greater Southeast Hospital	*
Kaiser	0.7
Malcolm Grove Medical Center (Andrew Air Force base)	0.8
United Medical Center	*
Walter Reed Army Medical Center	*
Other military/veterans hospitals	—
Other	1.0
Don't know/Not sure	3.9
Refused	—

(Asked of total respondents who are aware of at least one hospital that serves Prince George's County residents; n = 966)

H2. WHAT OTHER HOSPITALS ARE YOU AWARE OF THAT SERVE PRINCE GEORGE'S COUNTY RESIDENTS? REMEMBER YOU MIGHT CHOOSE HOSPITALS LOCATED OUTSIDE OF THE COUNTY.

Anne Arundel Medical Center (Annapolis)	4
Bowie Health Campus	3
Children's National Medical Center	8
Civista Medical Center	1
Doctors Community Hospital	21
Fort Washington Medical Center	5
George Washington University Hospital	3
Georgetown University Hospital	5
Holy Cross Hospital	16
Howard County General Hospital	1
Howard University Hospital	1
Johns Hopkins Hospital (Baltimore)	3
Laurel Regional Hospital	10
Montgomery General Hospital	*

National Rehabilitation Hospital	—
Prince George's Hospital Center	33
Providence Hospital	7
Shady Grove Hospital	2
Sibley Memorial Hospital	2
Southern Maryland Hospital	17
Suburban Hospital	2
University of Maryland Medical Center (Baltimore)	*
Washington Adventist Hospital	7
Washington Hospital Center (Washington, DC)	19
Adventist Hospital (unspecified)	*
Bethesda Medical Center	*
Virginia Hospital	2
Greater Southeast Hospital	1
Kaiser	1
Malcolm Grove Medical Center (Andrew Air Force base)	1
United Medical Center	1
Walter Reed Army Medical Center	1
Other military/veterans hospitals	*
Other	3
No others	6
Don't know/Not sure	4
Refused	—

H3. WHICH HOSPITAL IS LOCATED CLOSEST TO YOU?

Anne Arundel Medical Center (Annapolis)	1.7
Bowie Health Campus	1.9
Children's National Medical Center	0.7
Civista Medical Center	*
Doctors Community Hospital	17.4
Fort Washington Medical Center	3.6
George Washington University Hospital	*

Georgetown University Hospital	—	H4. IN YOUR OPINION, WOULD YOU SAY THAT THE SERVICES AT (IF CODE 01-97 IN H3 INSERT NAME OF HOSPITAL FROM H3) ARE ...?	Southern Maryland Hospital	6.8		
Holy Cross Hospital	2.9		Suburban Hospital	0.6		
Howard County General Hospital	*		University of Maryland Medical Center (Baltimore)	*		
Howard University Hospital	*		Washington Adventist Hospital	4.6		
Johns Hopkins Hospital (Baltimore)	—		Washington Hospital Center (Washington, DC)	15.3		
Laurel Regional Hospital	9.8		Adventist Hospital (unspecified)	0.6		
Montgomery General Hospital	*		Bethesda Medical Center	0.7		
National Rehabilitation Hospital	—		Virginia Hospital	*		
Prince George's Hospital Center	22.9		Greater Southeast Hospital	—		
Providence Hospital	2.8		Kaiser	0.9		
Shady Grove Hospital	*		Malcolm Grove Medical Center (Andrew Air Force base)	1.7		
Sibley Memorial Hospital	—		United Medical Center	—		
Southern Maryland Hospital	18.4		Walter Reed Army Medical Center	*		
Suburban Hospital	*		Other military/veterans hospitals	0.6		
University of Maryland Medical Center (Baltimore)	*	Other	2.1			
Washington Adventist Hospital	4.9	No preference	0.9			
Washington Hospital Center (Washington, DC)	2.0	Don't know/Not sure	4.1			
Adventist Hospital (unspecified)	*	Refused	*			
Bethesda Medical Center	—	H5. TO WHICH HOSPITAL WOULD YOU CHOOSE TO BE ADMITTED IF YOU NEEDED HOSPITALIZATION FOR ANYTHING OTHER THAN AN EMERGENCY?	H6. TO WHICH HOSPITAL WOULD YOU CHOOSE TO BE ADMITTED IF YOU NEEDED HOSPITALIZATION FOR A HEART ATTACK?			
Virginia Hospital	—		Anne Arundel Medical Center (Annapolis)	5.8	Anne Arundel Medical Center (Annapolis)	2.7
Greater Southeast Hospital	1.0		Bowie Health Campus	1.0	Bowie Health Campus	*
Kaiser	0.7		Children's National Medical Center	1.3	Children's National Medical Center	0.8
Malcolm Grove Medical Center (Andrew Air Force base)	0.8		Civista Medical Center	*	Civista Medical Center	—
United Medical Center	1.0		Doctors Community Hospital	13.5	Doctors Community Hospital	7.1
Walter Reed Army Medical Center	—		Fort Washington Medical Center	1.9	Fort Washington Medical Center	0.6
Other military/veterans hospitals	*		George Washington University Hospital	4.1	George Washington University Hospital	3.5
Other	*		Georgetown University Hospital	1.9	Georgetown University Hospital	1.0
Don't know/Not sure	5.4		Holy Cross Hospital	13.3	Holy Cross Hospital	6.4
Refused	—		Howard County General Hospital	0.6	Howard County General Hospital	*
			Howard University Hospital	0.6	Howard University Hospital	0.7
			Johns Hopkins Hospital (Baltimore)	2.7		
			Laurel Regional Hospital	2.2		
			Montgomery General Hospital	0.7		
			National Rehabilitation Hospital	*		
			Prince George's Hospital Center	7.3		
		Providence Hospital	1.8			
		Shady Grove Hospital	0.5			
		Sibley Memorial Hospital	*			

(Asked of total respondents who mentioned a specific hospital; n= 951)

Johns Hopkins Hospital (Baltimore)	5.4	Civista Medical Center	0.8	Don't know/Not sure	7.7
Laurel Regional Hospital	1.1	Doctors Community Hospital	10.4	Refused	—
Montgomery General Hospital	*	Fort Washington Medical Center	0.6	H8. WHICH HOSPITAL DO YOU MOST ASSOCIATE WITH HAVING THE BEST MATERNITY CARE FOR THE DELIVERY OF BABIES?	
National Rehabilitation Hospital	*	George Washington University Hospital	4.7	Anne Arundel Medical Center (Annapolis)	4.6
Prince George's Hospital Center	8.1	Georgetown University Hospital	2.9	Bowie Health Campus	—
Providence Hospital	1.0	Holy Cross Hospital	11.0	Children's National Medical Center	3.3
Shady Grove Hospital	0.6	Howard County General Hospital	0.7	Civista Medical Center	*
Sibley Memorial Hospital	*	Howard University Hospital	0.8	Doctors Community Hospital	1.3
Southern Maryland Hospital	5.2	Johns Hopkins Hospital (Baltimore)	3.7	Fort Washington Medical Center	*
Suburban Hospital	1.0	Laurel Regional Hospital	1.1	George Washington University Hospital	2.3
University of Maryland Medical Center (Baltimore)	0.5	Montgomery General Hospital	0.6	Georgetown University Hospital	0.7
Washington Adventist Hospital	8.1	National Rehabilitation Hospital	*	Holy Cross Hospital	17.9
Washington Hospital Center (Washington, DC)	30.8	Prince George's Hospital Center	8.2	Howard County General Hospital	0.8
Adventist Hospital (unspecified)	—	Providence Hospital	1.6	Howard University Hospital	*
Bethesda Medical Center	0.7	Shady Grove Hospital	1.0	Johns Hopkins Hospital (Baltimore)	1.1
Virginia Hospital	*	Sibley Memorial Hospital	0.7	Laurel Regional Hospital	1.2
Greater Southeast Hospital	*	Southern Maryland Hospital	6.7	Montgomery General Hospital	*
Kaiser	*	Suburban Hospital	1.2	National Rehabilitation Hospital	*
Malcolm Grove Medical Center (Andrew Air Force base)	1.2	University of Maryland Medical Center (Baltimore)	*	Prince George's Hospital Center	8.4
United Medical Center	—	Washington Adventist Hospital	3.9	Providence Hospital	2.9
Walter Reed Army Medical Center	*	Washington Hospital Center (Washington, DC)	18.8	Shady Grove Hospital	1.1
Other military/veterans hospitals	*	Adventist Hospital (unspecified)	—	Sibley Memorial Hospital	0.7
Other	1.3	Bethesda Medical Center	1.1	Southern Maryland Hospital	4.4
No preference	0.9	Virginia Hospital	—	Suburban Hospital	—
Don't know/Not sure	7.4	Greater Southeast Hospital	—	University of Maryland Medical Center (Baltimore)	*
Refused	—	Kaiser	0.6	Washington Adventist Hospital	1.5
H7. TO WHICH HOSPITAL WOULD YOU CHOOSE TO BE ADMITTED IF YOU NEEDED HOSPITALIZATION FOR GENERAL SURGERY?		Malcolm Grove Medical Center (Andrew Air Force base)	1.1	Washington Hospital Center (Washington, DC)	11.7
Anne Arundel Medical Center (Annapolis)	4.5	United Medical Center	—	Adventist Hospital (unspecified)	—
Bowie Health Campus	*	Walter Reed Army Medical Center	0.6	Bethesda Medical Center	—
Children's National Medical Center	0.6	Other military/veterans hospitals	0.6	Virginia Hospital	—
		Other	1.1	Greater Southeast Hospital	—
		No preference	1.0		

Never	7.1
Don't know/not sure	1.6
Refused	—

(Asked of total respondents who stayed overnight as a patient in a hospital; n = 932)

H12. THINKING OF THE LAST HOSPITAL STAY BY YOU OR SOMEONE IN YOUR HOUSEHOLD, IN WHICH HOSPITAL WAS THAT LAST STAY?

Anne Arundel Medical Center (Annapolis)	3.1
Bowie Health Campus	*
Children's National Medical Center	3.7
Civista Medical Center	*
Doctors Community Hospital	11.8
Fort Washington Medical Center	1.5
George Washington University Hospital	1.0
Georgetown University Hospital	1.4
Holy Cross Hospital	10.4
Howard County General Hospital	*
Howard University Hospital	1.2
Johns Hopkins Hospital (Baltimore)	2.1
Laurel Regional Hospital	4.4
Montgomery General Hospital	*
National Rehabilitation Hospital	*
Prince George's Hospital Center	8.2
Providence Hospital	1.9
Shady Grove Hospital	1.8
Sibley Memorial Hospital	0.6
Southern Maryland Hospital	8.3
Suburban Hospital	0.6
University of Maryland Medical Center (Baltimore)	*
Washington Adventist Hospital	7.2
Washington Hospital Center (Washington, DC)	11.2
Adventist Hospital (unspecified)	*

Bethesda Medical Center	0.7
Virginia Hospital	1.1
Greater Southeast Hospital	0.9
Kaiser	*
Malcolm Grove Medical Center (Andrew Air Force base)	0.7
United Medical Center	*
Walter Reed Army Medical Center	1.1
Other military/veterans hospitals	*
Columbia Hospital for Women	*
Other	5.9
Don't know/Not sure	6.8
Refused	*

(Asked of total respondents who stayed overnight as a patient in a hospital; n = 932)

H13. HOW PLEASED WERE YOU WITH YOUR HOSPITAL EXPERIENCE? WERE YOU ...?

PLEASED	NET	86.1
	Very	57.5
	Somewhat	28.6
NOT PLEASED	NET	10.8
	Not too	5.4
	Not at all	5.4
Don't know/not sure		3.0
Refused		*

(Asked of total respondents who stayed overnight in a hospital that is not in Prince George's County; n = 399)

H14. WHY DID YOU NOT USE A HOSPITAL LOCATED WITHIN PRINCE GEORGE'S COUNTY?

Referred to hospital by primary or specialty care physician	31
Do not have positive perceptions of hospitals located within Prince George's County	10
Had a medical condition that required utilizing a hospital outside of Prince George's County	7

Have insurance that dictated where I could go to receive hospital care	13
Work outside of Prince George's County	*
The hospital had a better reputation than those within Prince George's County	12
All of my records are already at that hospital I went to	2
Closer/closest to me/household member at the time (near previous home, was an emergency, etc.)	11
Familiarity (been there before, self/family member worked there, etc.)	6
Some other reason	8
Don't know/Not sure	4
Refused	2

H15. THINKING SPECIFICALLY OF PRINCE GEORGE'S HOSPITAL CENTER IN CHEVERLY, WHETHER YOU HAVE EVER BEEN A PATIENT THERE OR NOT, WHAT IS YOUR OVERALL OPINION OF THE HOSPITAL?

Would you say overall you have a favorable or unfavorable opinion of Prince George's Hospital Center in Cheverly?

Favorable	47.2
Unfavorable	34.9
Don't know/not sure	17.5
Refused	*

(Asked of total respondents who had an unfavorable opinion of Prince George's Hospital Center in Cheverly; n = 377)

H16. WHICH OF THE FOLLOWING WOULD CHANGE YOUR OPINION OF PRINCE GEORGE'S HOSPITAL IN CHEVERLY?

They would need to improve or modernize the current facility or build a new facility	17.1
They would need to add new quality physicians to the medical staff	19.1
They would need to add more quality staff other than physicians, such as nursing staff	31.0

All of these are equally important	20.7
New quality physicians/more quality staff other than physicians, such as nursing staff	1.2
Other	4.2
Would not use Prince George's Hospital Center despite any improvements made	0.9
I already use Prince George's Hospital Center	—
Don't know/not sure	5.9
Refused	—

H17. IF THERE WAS A NEW STATE OF THE ART HOSPITAL BUILT IN PRINCE GEORGE'S COUNTY, HOW LIKELY WOULD YOU BE TO USE IT? WOULD YOU BE ...?

LIKELY	NET	86.8
	Very	55.1
	Somewhat	31.7
NOT LIKELY	NET	9.7
	Not too	6.0
	Not at all	3.7
Don't know/not sure		3.5
Refused		*

H19. THINKING SPECIFICALLY OF LAUREL REGIONAL HOSPITAL, WHETHER YOU HAVE EVER BEEN A PATIENT THERE OR NOT, WHAT IS YOUR OVERALL OPINION OF THE HOSPITAL?

Would you say overall you have a favorable or unfavorable opinion of Laurel Regional Hospital?

Favorable	50.1
Unfavorable	16.5
Never heard of Laurel Regional Hospital	12.6
Don't know/not sure	20.6
Refused	*

(Asked of total respondents who had an unfavorable opinion of Laurel Regional Hospital; n = 153)

H18. IF THERE WAS A NEW STATE-OF-THE-ART HOSPITAL BUILT IN PRINCE GEORGE'S COUNTY, PLEASE TELL ME IF IT BE WOULD BE VERY IMPORTANT, SOMEWHAT IMPORTANT, NOT TOO IMPORTANT OR NOT AT ALL IMPORTANT TO YOU (INSERT ITEM) IN MAKING A DECISION WHETHER TO USE IT OR NOT.

	IMPORTANT			NOT IMPORTANT			Don't know/ not sure	Refused
	NET	Very	Some- what	NET	Not too	Not at all		
a. if the hospital was close to your home	88.1	66.7	21.4	11.5	5.9	5.6	*	—
b. if the hospital was close to your place of work (respondents that answered "do not work/retired" = 16.4)	56.6	37.5	19.1	26.2	14.4	11.8	0.8	—
c. if you could be sure that you would receive high quality care	96.8	90.2	6.6	2.4	1.0	1.4	0.6	*
d. if specialist care was available there	95.3	77.9	17.4	4.1	2.5	1.6	0.5	—
e. if your doctor had admitting privileges at the new hospital	91.2	73.3	17.9	7.8	4.7	3.1	1.0	—
f. if your insurance company accepted that hospital for your medical care	94.2	84.9	9.3	4.9	2.8	2.1	0.7	*
g. if the hospital received positive ratings from local news media	81.1	57.6	23.5	17.6	9.9	7.7	1.1	*
h. if the hospital was recommended to you by friends and family	91	64.8	26.2	8.4	4.9	3.5	0.6	—

H19B. WHICH OF THE FOLLOWING WOULD CHANGE YOUR OPINION OF LAUREL REGIONAL HOSPITAL?

They would need to improve or modernize the current facility or build a new facility	8.5
They would need to add new quality physicians to the medical staff	23.3
They would need to add more quality staff other than physicians, such as nursing staff	31.8
All of these are equally important	15.2
New quality physicians/more quality staff other than physicians, such as nursing staff	*
Other	0.8

Would not use Laurel Regional Hospital despite any improvements made 1.3

I already use Laurel Regional Hospital	—
Don't know/not sure	16.5
Refused	2.4

HEALTH INSURANCE

Now, I have a few questions about health insurance.

11. DO YOU CURRENTLY HAVE ANY KIND OF HEALTH CARE COVERAGE, INCLUDING HEALTH INSURANCE, PREPAID PLANS SUCH AS HMOS, OR GOVERNMENT PLANS SUCH AS MEDICARE OR INDIAN HEALTH SERVICES?

Yes	83.8
No	16.2
Don't know/not sure	—
Refused	*

(Asked of total respondents who said they currently do not have any kind of health care coverage; n = 93)

12. JUST TO CONFIRM, YOU DO NOT HAVE ANY TYPE OF HEALTH INSURANCE, IS THAT CORRECT?

Yes	96
No	4
Don't know/not sure	—
Refused	—

(Asked of total respondents who have confirmed they don't currently have any type of health insurance; n = 89)

13. PLEASE TELL ME THE MAIN REASON WHY YOU DON'T HAVE HEALTH INSURANCE RIGHT NOW?

Don't need insurance because I am healthy	2
Don't know how to get insurance	3
Cannot afford insurance	43
Tried to apply for Medicaid/Healthy Families but could not get it	6
Employer or spouse's employer doesn't offer insurance	7
Employer or spouse's employer offers insurance but I can't afford it	1
Unemployed	18

Some other reason	19
Don't Know/not sure	*
Refused	—

(Asked of total respondents who currently have health insurance coverage; n = 906)

14. WHAT HEALTH INSURANCE PROVIDERS DO YOU HAVE?

Aetna	12
Amerigroup	3
Care First (Blue Cross) (Blue Cross/Blue Shield)	33
Cigna	5
Coventry	*
Kaiser	12
MAMSI (United)	*
Maryland Physicians Care	1
Medicare	15
Medicaid	4
Priority Partners	1
United Healthcare	10
TRICARE/CHAMPUS	5
Veterans Administration	1
Alliance/OneNet	1

GEHA-Government Employees Health Association	1
MDIPA	1
Other	6
Don't Know/Not sure	4
Refused	3

We are almost at the end of the interview ...

15. I WOULD LIKE TO CONFIRM YOUR EMPLOYMENT STATUS? ARE YOU CURRENTLY ...?

Employed full time	49.0
Employed part time	7.4
Self employed in the home	2.1
Self employed outside of the home	4.0
A homemaker or stay at home parent	2.5
Retired	15.7
A student	5.4
Unemployed	9.1
Laid off	1.6
Disabled	3.2
Don't know/Not sure	*
Refused	—

CDC/BRFSS MODULE: REACTIONS TO RACE

The next set of questions ask about race and were developed by the United States Centers for Disease Control and Prevention. Your response will help us better understand the relationship between race and health.

R1. HOW DO OTHER PEOPLE USUALLY CLASSIFY YOU IN THIS COUNTRY? WOULD YOU SAY: WHITE, BLACK OR AFRICAN AMERICAN, HISPANIC OR LATINO, ASIAN, NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER, AMERICAN INDIAN OR ALASKA NATIVE, OR SOME OTHER GROUP?

White	18.8
Black or African American	65.0
Hispanic or Latino	8.9
Asian	2.7
Native Hawaiian or Other Pacific Islander	—
American Indian or Alaska Native	0.7

Some other group	2.5
Don't know / Not sure	1.1
Refused	*

R2. HOW OFTEN DO YOU THINK ABOUT YOUR RACE? WOULD YOU SAY NEVER, ONCE A YEAR, ONCE A MONTH, ONCE A WEEK, ONCE A DAY, ONCE AN HOUR, OR CONSTANTLY?

Never	35.9
Ever (NET)	59
Once a year	10.5
Once a month	10.1
Once a week	6.7
Once a day	12.7
Once an hour	0.7
Constantly	18.4
Don't know/Not sure	4.4
Refused	0.6

(Asked of total respondents who are employed; n = 596)

R3. WITHIN THE PAST 12 MONTHS AT WORK, DO YOU FEEL YOU WERE TREATED WORSE THAN, THE SAME AS, OR BETTER THAN PEOPLE OF OTHER RACES?

Worse than other races	16.3
The same as other races	76.1
Better than other races	3.6
Worse than some races, better than others	*
Only encountered people of same race	*
Don't know/not sure	2.1
Refused	1.6

R4. WITHIN THE PAST 12 MONTHS, WHEN SEEKING HEALTH CARE, DO YOU FEEL YOUR EXPERIENCES WERE WORSE THAN, THE SAME AS, OR BETTER THAN FOR PEOPLE OF OTHER RACES?

Worse than other races	7.5
The same as other races	81.1
Better than other races	6.1
Worse than some races, better than others	*
Only encountered people of same race	1.1
Don't know/not sure	3.3
Refused	*

R5. WITHIN THE PAST 30 DAYS, HAVE YOU EXPERIENCED ANY PHYSICAL SYMPTOMS, FOR EXAMPLE, A HEADACHE, AN UPSET STOMACH, TENSING OF YOUR MUSCLES, OR A POUNDING HEART, AS A RESULT OF HOW YOU WERE TREATED BASED ON YOUR RACE?

Yes	7.5
No	91.5
Don't know/not sure	0.8
Refused	*

R6. WITHIN THE PAST 30 DAYS, HAVE YOU FELT EMOTIONALLY UPSET, FOR EXAMPLE ANGRY, SAD, OR FRUSTRATED, AS A RESULT OF HOW YOU WERE TREATED BASED ON YOUR RACE?

Yes	13.8
No	85.3
Don't know/not sure	0.7
Refused	*

HEALTH COMMUNICATION

C1. HOW OFTEN DO YOU HAVE SOMEONE HELP YOU READ MEDICAL MATERIALS? WOULD YOU SAY ... (READ LIST)?

EVER (NET)	43.6
Always	3.9
Very Often	4.3
Sometimes	17.0
Rarely	18.4
Never	56.2
Never read medical materials	*
Don't know/Not sure	*
Refused	—

C2. HOW CONFIDENT ARE YOU FILLING OUT MEDICAL FORMS BY YOURSELF? ARE YOU (READ LIST)?

Confident (NET)	96.9
Extremely confident	45.2
Very confident	31.6
Moderately confident	14.2
Slightly confident	5.9
Not at all confident	2.3
Never filled out medical forms	0.7
Don't know/Not sure	*
Refused	—

C3. HOW OFTEN DO YOU HAVE PROBLEMS LEARNING ABOUT YOUR MEDICAL CONDITION BECAUSE OF DIFFICULTY UNDERSTANDING THE WRITTEN INFORMATION? WOULD YOU SAY ... (READ LIST)?

EVER (NET)	48.3
Always	1.6
Very Often	3.0

C4. PLEASE TELL ME IF THE FOLLOWING HAS BEEN A MAJOR PROBLEM FOR YOU, A MINOR PROBLEM FOR YOU, OR NOT A PROBLEM AT ALL DURING THE LAST 12 MONTHS? HAS (INSERT) BEEN A MAJOR PROBLEM, A MINOR PROBLEM OR NOT A PROBLEM AT ALL FOR YOU IN THE LAST 12 MONTHS?

	PROBLEM			Not a Problem	Don't have this type of physician or health care provider	Don't know/not sure	Refused
	NET	Major	Minor				
a. being treated by a doctor or other health care provider who is from another country (other than the US)	13.6	2.9	10.7	84.8	1.4	*	*
b. being treated by a doctor or other health care provider who is not of your same race or ethnic group	8.2	2.6	5.6	91.0	0.7	*	—
c. being treated by a doctor or other health care provider who is not the same gender as you	8.5	1.3	7.2	90.2	0.9	*	—
d. Communicating with doctors or other health care providers because of language differences	21.6	3.5	18.1	77.7	*	*	*

Sometimes	18.4
Rarely	25.3
Never	51.2
Don't have a medical condition	*
Don't know/Not sure	*
Refused	*

C5. DO YOU REGULARLY SPEAK A LANGUAGE OTHER THAN ENGLISH WHEN YOU ARE HOME OR WITH FAMILY AND FRIENDS?

Yes	20.4
No	79.6
Don't know/not sure	—
Refused	—

(Asked of total respondents who speak a language other than English; n = 143)

C6. DO YOU HAVE ACCESS TO PHYSICIANS OR OTHER HEALTH PROFESSIONALS WHO SPEAK THAT LANGUAGE?

Yes	51.5
No	48.5
Don't know/not sure	*
Refused	—

(Asked of total respondents who don't have access to physicians or other health professionals who speak their language; n = 67)

C7. DOES YOUR HEALTH PROVIDER HAVE AN INTERPRETER AVAILABLE OR ACCESS TO AN INTERPRETER SERVICE?

Yes	20.9
No	43.6
Doesn't need an interpreter	16.2
Don't know/not sure	19.3
Refused	—

Refused

DEMOGRAPHICS

D1. WHAT IS THE HIGHEST LEVEL OF EDUCATION YOU HAVE COMPLETED?

No formal education	—
Grade school (1 to 8 years)	1.3
Some high school (9 to 11 years)	8.2
High school graduate or GED (received a high school equivalency diploma)	28.9
Some college/technical or vocational school/training after high school	23.4
Associate's degree (2 years of college)	8.5
Bachelor's Degree (4 years of college)	15.1
Postgraduate degree/study (Masters degree/PhD/MBA)	14.5
Don't know/Not sure	*
Refused	—

D2. WHAT IS YOUR CURRENT RELATIONSHIP STATUS?

Single	36.8
Living together with partner (Common Law)	3.2
Engaged	2.7
Married	40.3
Separated	4.0
Divorced	6.6
Widowed	6.1
Don't Know/Not sure	*
Refused	*

D3. HAVE YOU EVER SERVED IN THE MILITARY?

Yes	13.3
No	86.7
Don't know/not sure	—
Refused	—

D4. IS YOUR HOME OWNED OR RENTED?

Owned	64.2
Rented	34.4
Other arrangements	0.8
Don't know/not sure	*
Refused	*

D5. WERE YOU BORN IN THE UNITED STATES?

Born in the U.S.	77.4
Born in another country	22.6
Don't know/not sure	—
Refused	—

(Asked of total respondents who were not born in the United States; n = 169)

D6. HOW MANY YEARS HAVE YOU LIVED IN THE UNITED STATES?

YEARS (NET)	100
Less than 1 year	1
1-10 years	31
11-20 years	31
21-30 years	24
31-40 years	6
41-50 years	4
51+ years	3
Don't know/Not sure	—
Refused	*

D7. WHICH OF THE FOLLOWING CATEGORIES BEST DESCRIBES YOUR TOTAL ANNUAL HOUSEHOLD INCOME BEFORE TAXES, FROM ALL SOURCES IN 2011?

Less than \$40,000 (NET)	33.6
Under \$20,000	15.2
\$20,000 to under \$40,000	18.4
\$40,000 to under \$100,000 (NET)	42.6
\$40,000 to under \$50,000	8.6
\$50,000 to under \$65,000	14.0
\$65,000 to under \$100,000	20.0
\$100,000 or more (NET)	23.9
\$100,000 to under \$150,000	14.9
\$150,000 to under \$200,000	5.7
\$200,000 to under \$250,000	1.9
\$250,000 or more	1.4

D8. WHICH NEWSPAPER DO YOU READ MOST FREQUENTLY?

PRINCE GEORGE'S COUNTY NEWSPAPERS (NET)	2
Prince George's "The Sentinel"	--
The Prince George's Post	*
Prince George's County News	*
Prince George Journal	*
Bowie Blade News	*
Laurel Leader	*
The Gazette	2
WASHINGTON D.C. NEWSPAPERS (NET)	70
Washington Post	66
The Washington Times	2
The Express	2
NATIONAL NEWSPAPERS (NET)	2
NY Times	1
USA Today	1
Other	5

I don't read any newspapers	19
Don't know/not sure	*
Refused	*

D9. WHICH RADIO STATION DO YOU LISTEN TO MOST FREQUENTLY?

AM RADIO STATIONS (NET)	4
WPGC (1580 AM)	1
ESPN radio (980 AM)	2
WMAL (630 AM)	1
FM RADIO STATIONS (NET)	51
WJMD (94.7 FM)	1
WPGC (96.7 FM)	*
WPGC (95.5 FM)	6
WWDC (101.1 FM)	2
WPOC (93.1 FM)	*
WAMU (88.5 FM)	2
WHUR (96.3 FM)	9
WAVA (105.1 FM)	1
WRBS (95.1 FM)	*
Praise DC (104.1 FM)	9
WPOT (97.5 FM)	1
HOT (99.5 FM)	6
MAGIC (102.3 FM)	8
WASH (97.1 FM)	1
WKYS (93.9 FM)	4
WTOP (103.5 FM)	7
Satellite Radio	2
Other	20
I don't listen to the radio	12
WPGC (don't know if AM/FM/#'s)	1
Don't know/not sure	4
Refused	*

D10. THINK OF A LADDER WITH 10 STEPS AS REPRESENTING WHERE PEOPLE STAND IN THE UNITED STATES. ON THE TOP OR 10TH STEP OF THE LADDER ARE PEOPLE WHO ARE THE BEST OFF—THOSE WHO HAVE THE MOST MONEY, THE MOST EDUCATION AND THE MOST RESPECTED JOBS. ON THE BOTTOM OR FIRST STEP OF THE LADDER ARE THE PEOPLE WHO ARE THE WORST OFF—WHO HAVE THE LEAST MONEY, LEAST EDUCATION, AND THE LEAST RESPECTED JOBS OR NO JOB. WHAT STEP WOULD YOU PLACE YOURSELF ON THE LADDER? REMEMBER, THE HIGHER YOU ARE ON THE LADDER, THE CLOSER YOU ARE TO THE PEOPLE WHO ARE BEST OFF; THE LOWER YOU ARE, THE CLOSER YOU ARE TO THE PEOPLE WHO ARE THE WORST OFF.

01 (Worst off)	1.8
02	2.3
03	5.8
04	9.7
05	28.7
06	17
07	16.7
08	12.3
09	1.4
10 (Best off)	4.5

APPENDIX B HEALTH STATUS, DEMOGRAPHICALLY

	SA1 (Self reported health)					S2A Diagnosed condition		S3A Pre-diabetes		S4A Pre-hypertension	
	Excellent	Very good	good	fair	poor	Yes	No	Yes	No	Yes	No
Education	(p=.288)					(p=.315)		(p=.367)		(p=.529)	
High school or below	18%	23%	41%	15%	3%	33%	67%	19%	81%	33%	67%
Some college or associate degree	22%	31%	31%	14%	2%	39%	61%	13%	87%	35%	65%
Bachelor's degree	22%	33%	31%	10%	3%	37%	63%	17%	83%	27%	73%
Graduate school	24%	31%	38%	7%	1%	44%	56%	18%	82%	37%	63%
Age	(p<.001)					(p<.001)		(p<.001)		(p<.001)	
18 to 64 years old	23%	29%	34%	12%	2%	35%	65%	14%	86%	29%	71%
65 and older	6%	23%	49%	18%	4%	58%	42%	27%	63%	65%	35%
Gender	(p=.135)					(p=.067)		(p=.033)		(p=.685)	
Male	22%	29%	39%	9%	2%	33%	67%	13%	87%	32%	68%
Female	20%	28%	33%	16%	2%	41%	59%	20%	80%	34%	66%
Insurance	(p<.001)					(p=.021)		(p=.015)		(p<.001)	
Yes	21%	30%	37%	10%	3%	40%	60%	19%	81%	37%	63%
No	21%	16%	32%	30%	0%	24%	76%	6%	94%	13%	87%
Income	(p<.001)					(p=.412)		(p=.932)		(p=.485)	
Less than \$50,000	17%	19%	38%	21%	4%	34%	66%	16%	84%	31%	69%
\$50,000 - \$99,999	22%	33%	35%	10%	1%	41%	59%	17%	83%	37%	63%
\$100,000 or more	24%	38%	34%	4%	1%	36%	64%	16%	84%	34%	66%
Race	(p=.213)					(p=.004)		(p=.647)		(p=.885)	
White NH	14%	34%	33%	16%	3%	55%	45%	19%	81%	37%	63%
Black NH	21%	30%	36%	11%	2%	36%	64%	17%	83%	36%	64%

R1 tobacco use last 30 days			BMI			S5						
No	1-29 days	30 days	Underweight/ Normal	Overweight	Obesity	Cancer	Heart disease	Diabetes	Asthma	High blood pressure	High cholesterol	Other
(p=.006)			(p<.001)			(p=.010)	(p=.324)	(p=.497)	(p=.239)	(p=.150)	(p=.712)	(p=.982)
76%	7%	17%	31%	30%	39%	1%	2%	4%	5%	4%	2%	6%
85%	6%	10%	30%	27%	43%	2%	4%	3%	2%	6%	2%	7%
89%	8%	3%	27%	45%	28%	3%	2%	6%	2%	10%	4%	6%
91%	2%	7%	26%	54%	20%	5%	1%	2%	4%	4%	4%	6%
(p=.680)			(p=.261)			(p<.001)	(p=.024)	(p<.001)	(p=.023)	(p=.036)	(p=.373)	(p=.057)
82%	6%	12%	30%	34%	36%	2%	2%	3%	4%	5%	3%	5%
86%	5%	9%	23%	41%	27%	8%	6%	13%	1%	10%	4%	11%
(p=.285)			(p=.002)			(p=.520)	(p=.891)	(p=.302)	(p=.985)	(p=.768)	(p=.025)	(p=.287)
80%	7%	12%	30%	42%	28%	2%	3%	3%	3%	5%	1%	5%
85%	5%	10%	29%	29%	42%	3%	2%	4%	3%	6%	4%	7%
(p=.833)			(p=.037)			(p=.050)	(p=.166)	(p=.211)	(p=.029)	(p=.113)	(p=.368)	(p=.863)
83%	6%	11%	26%	36%	37%	3%	2%	4%	3%	6%	2%	6%
82%	5%	13%	43%	28%	29%	1%	5%	1%	1%	2%	4%	5%
(p=.023)			(p=.005)			(p=.915)	(p=.737)	(p=.943)	(p=.379)	(p=.924)	(p=.026)	(p=.478)
78%	9%	13%	34%	28%	38%	2%	3%	4%	2%	6%	1%	5%
82%	4%	14%	20%	38%	42%	2%	2%	3%	5%	5%	5%	8%
91%	3%	6%	27%	44%	29%	2%	2%	4%	3%	6%	2%	5%
(p=.059)			(p=.315)			(p=.007)	(p=.270)	(p=.762)	(p=.988)	(p=.860)	(p=.644)	(p=.007)
76%	6%	19%	32%	35%	33%	5%	5%	5%	4%	6%	3%	13%
85%	5%	10%	26%	34%	40%	2%	3%	4%	4%	6%	3%	5%

TECHNICAL REPORT 2

Interviews with Key Stakeholders

Lead Researcher and Interviewer: Linda Aldoory, Ph.D.

Interviewers: Brad Boekeloo, Ph.D.; Alice Horowitz, Ph.D.; Dushanka Kleinman, DDS, MScD;
Sandra Crouse Quinn, Ph.D.; Stephen Thomas, Ph.D.

RATIONALE AND PURPOSE

According to a 2009 RAND report (Lurie, Harris, Shih, Ruder, Price, Martin, Acosta, & Blanchard, 2009), improving the health status of Prince George's County residents will require an improved health care system among other strategies. These strategies included strengthening the public health initiatives in the County and addressing non-medical determinants of health. Furthermore, RAND reported no ambulatory care safety net and significant out-of-County use of inpatient and emergency care by Prince George's residents (Lurie et al., 2009). In another report, data indicated that Prince George's County had higher hospitalization and mortality rates than Frederick or Montgomery counties, and African Americans with diabetes in the County have a higher rate of hospitalization than whites and a much higher mortality rate than the rates from surrounding counties (Partnering Toward a Healthier Future, 2007).

For much of the affluent populations in the County, there is a high proportion of residents that work and receive medical care outside the County (Lurie et al., 2009). The RAND report indicated that out-of-County use is perhaps driven by resident preferences, convenience and provider referral patterns. The authors argued that out-of-County health care use has policy implications:

If, for instance, County residents perceive the quality of out-of-County hospitals to be better, then anticipated economic growth in Prince George's may perpetuate existing demand patterns. If, on the other hand, residents prefer to use care inside the County but are unable because of out-of-County commuting, then strategies aimed at building a stronger physician referral network, increasing the number of primary care physicians in the County, and increasing the availability of care

on weekends and before and after hours may keep more patients in the County.

Key stakeholder interviews were conducted to address these and other issues. While data on diseases and conditions, hospital use and provider capacity contribute essential information for the design of a new health care system, stakeholders provide critical insights in to the success of a system. Results of studies strongly recommend the involvement of stakeholders in formative research for program planning (Morcke, Wichmann-Hansen, Nielsen, & Eika, 2006). Scholars in communication have asserted that stakeholder interviews are advantageous because they provide detailed information about individuals' perceptions (Darnall & Jolley, 2004). Interviews are two-way and thus, also allow for interviewers to clarify and restate questions to avoid miscommunication that might occur

from survey data (Darnall & Jolley, 2004). Both formal and informal leaders can offer community perspectives on appropriate and effective public health and medical interventions.

Therefore, individual interviews with 40 key stakeholders were conducted for three main purposes. First, we wanted to gather and synthesize the opinions and perceptions of individuals who can inform the process of developing an effective and financially viable health care delivery system in Prince George's County. Second, the interviewees might help to detect and pinpoint the potential constraints and solutions to developing and operating a viable delivery system in the County. Finally, the interviews can help capture the diverse perspectives of key influencers who can contribute to and who are affected by the health care system in Prince George's County.

Similar studies of stakeholders were previously conducted for purposes of

understanding health care in Prince George’s County. For example, focus groups of community leaders and service providers assessed perceived health risk factors among children and adolescents (Child & Adolescent Health Assessment, 2002). The qualitative data from the assessment and two surveys of parents and adolescents described health care experiences in the County. Findings from these surveys and focus groups provided implications for health care and policy that were significant. For example, 41 percent of parents experienced difficulties accessing health care for their adolescent in the past year. Among the most prevalent barriers that either prevented or delayed treatment were: inconvenient office hours, appointment availability and cost (of doctor care and prescriptions). Problems with access

were particularly prevalent among families living below the 200 percent poverty threshold. The community leaders in the study cited health care access concerns for the Hispanic and Asian communities, including problems relative to culture, language and documentation. In addition to access to health care services, obesity and diet were among parents’ top concerns (Child & Adolescent Health Assessment, 2002).

A 2007 study included interviews with community leaders and compared Prince George’s County with Frederick and Montgomery Counties across a range of health issues (Partnering Toward a Healthier Future, 2007). The study report cited lack of culturally competent providers, diminished access to care and reduced rates of health insurance as chief contributors

to poor health status among African Americans in the region. According to the report, “Health illiteracy and lingering discrimination in the health care system also contribute to the health challenges faced by African Americans” (p. 29). African Americans had the highest prevalence of diabetes, hypertension and HIV in the region. In Prince George’s County specifically, African Americans with diabetes had a higher rate of hospitalization than whites and higher mortality rates.

These studies show the value of stakeholder interviews and the implications of findings on decisions regarding a new health care system that will be developed for the County. We describe the methodology used to identify the stakeholders, conduct the interviews, analyze the data and summarize the findings.

METHOD

IDENTIFICATION OF KEY STAKEHOLDERS

We developed a framework of stakeholder categories that would provide a diverse and comprehensive perspective (Table 1). These categories were selected to include sectors and groups

of individuals who have influence in decision making or who contribute to decision making, would have experience in the region and state, have worked with or been part of health and/or health care programs, and who have positions that permit them to view a diversity of policies and initia-

tives. We developed an initial list of names and through an iterative process with the advisory committee a final list of 40 was created. The final list included state and local government representatives, health providers and health care administrators, and community leaders.

TABLE 1 STAKEHOLDER GROUPS FROM WHICH PARTICIPANTS WERE RECRUITED

COMMUNITY STAKEHOLDERS IN PRINCE GEORGE’S COUNTY

Public Sector/Government: state, County

Elected Officials: state, County, municipalities

Health Professionals: primary care physicians, professional societies, unions

Health care Services and Administration: health care services, professional associations

Media: local, broadcast, *The Washington Post*

Business and Education Partners: local businesses, school district, community college, universities

Community-based Organizations: community organizations, interest groups

Residents and Health Consumers: random household survey

PROCEDURES

IRB REVIEW

The research methodology was submitted to the University of Maryland's Institutional Review Board and approved. Participants who agreed to be interviewed read and signed a consent form that also requested their approval for being audio-tape recorded.

IDENTIFICATION AND SCHEDULING OF STAKEHOLDERS

To support an efficient process, stakeholders to be interviewed were first aligned with study team members who had familiarity with the individual. In addition, advisory committee members offered support for encouraging participation of other stakeholders. Initial contacts with stakeholders were made by phone or through email with a formal follow-up by phone. Interviews were scheduled on dates and times convenient for the stakeholders and within a two-month time frame to keep to the project's time limit. Interviews were conducted between February 1, 2012 and March 21, 2012.

INTERVIEW PROTOCOL

Each interview was guided by a set of open-ended questions that were pilot tested and that varied somewhat according to the profession of the participant: whether the stakeholder's position was government, health or community based. For example, for participants in health care, specific questions were added about recruitment of primary care physicians to work in the County. The interview guides are in Appendices A, B and C.

Specifically, interview questions addressed the five main study questions and augmented with specific prompts:

Question 1: What are the key health outcomes in the County most amenable to improvement by a new health care system?

- What stakeholders believe are the key health issues facing County residents
- Specific health indicators they believe to be priority for developing new health care system
- Stakeholder perceptions of the health needs of under-insured and uninsured populations

Question 2: What elements of a health care system (hospital and community) can effect these outcomes and by how much (model)?

- Health care services that might have greatest potential for improving the health status of Prince George's County

Question 3: What is the geographic distribution of health care resources and where are the areas of greatest need for primary care?

- What stakeholders believe to be the changing demographics in the County and their effect on health status indicators

Question 4: What are the key issues to maximize uptake and achieve the potential of health care system for public health?

- Stakeholder explanations for why County residents travel to other, regional health care services
- Stakeholder recommendations for how the new County system can attract residents back to County for local health care services

- Stakeholder opinions about the supply and quality of the existing primary and specialty-care physicians and other health care providers serving the County, identification of the physician/health care provider needs gap and suggestions for closing it

- Recommendations for recruitment and retention of physicians and nursing staff

- Stakeholder input on what would "differentiate" and "rank" the new County health care system over other, regional health care services available to residents. Opinions about services that could uniquely position the new health care system as a leader, for example in health literacy or in preventive care through quality primary care

Question 5: What resources can be mobilized in the public health sector to complement the impact of the health care system?

- Stakeholder recommendations on how to build a broad base of community support

INTERVIEW PROCESS

Interviews were conducted by six interviewers, experts in public health research and trained in interviewing techniques. They were oriented ahead of time to the sets of questions that were developed for participants and were trained on equipment to use for audio recording the interviews. Each interview was initiated with a brief overview of the purpose of the study and a review of the consent form. Interviewees agreed to participate according to the conditions of the study by either signing the consent form in person or agreeing by phone to participate. The consent form asked and documented

whether or not the interviewee agreed to audio recording.

Twenty-one interviews were conducted in person (n=21) and the rest by phone (n=19). The interviews averaged 45 minutes and ranged from 25 minutes to 1 hour. Twenty-four interviewees agreed to be audio recorded. If no approval was given for audio recording, interviewers took detailed notes. In a few cases an additional person accompanied the interviewer to help with taking notes.

DATA ANALYSIS

Twenty-four audiotapes were transcribed verbatim and together with the typed notes provided the basis for analyses. Initial themes that emerged were identified. We also analyzed responses by question, by stakeholder category and by familiarity of the stakeholder with the health and health care in the County. The investigators reviewed the documentation of the interviews and developed an initial framework of themes. After all interviews were conducted, the interviewers met to provide additional feedback and

suggest refined themes they noticed in the interviews they conducted. Themes were organized into a list. Then each of the transcripts and sets of notes were reviewed to determine the variation in the support, refutation and extension of the list of themes. The transcripts were used to collect quotes that supported each of the themes. Any alternative explanations and unique perspectives were added to the analysis. After general themes were summarized, the five main study questions were used as a framework and data were synthesized to respond to each.

FINDINGS

PARTICIPANT PROFILES

The stakeholders that participated in the interviews represented a wide range of professional and community perspectives on the current and future health care system in Prince George's County. Table 2 presents the number of participants by category of stakeholders.

There was no consistent pattern of responses that correlated with stakeholder category or type of profession. Health care providers overall were most familiar with the County's current state of health care and the status of primary care providers. However, there were state-level policy leaders who were just as familiar with the health care status of residents and the constraints on local physicians. Not surprisingly, the participants who expressed the least knowledge of local health issues and health expertise were those who worked and lived outside County borders.

STAKEHOLDER EXPERIENCES AND RESPONSE CONTEXT

A little over half of the stakeholders worked in the County, and at least one-quarter lived and worked in Prince George's County. All those interviewed

who worked but did not live in the County did not utilize health care services in the County. Some of the participants who did live in the County did not always use health care services within the County. One participant admitted, "I always go to a District hospital, because I have health care [insurance and] because it's better..." A local leader said, "[I am] living here [but] my primary physicians are in the District of Columbia. And the reason I selected those is because they're close to where I work. So I am not overly familiar with [provider status for County]." Another person who worked in the County said, "I personally leave the County to get health care because that's where my insurance said the specialist was." One stakeholder encourages pediatric patients to go to Children's Hospital "... And that concerns me."

TABLE 2 STAKEHOLDER GROUPS CAPTURED THROUGH INDIVIDUAL INTERVIEWS

Group	Number of Participants
State level policy leaders and administrators	7
Local policy leaders	7
Health practitioners	8
Academic administration	4
Health and hospital administration	6
Community level (from two counties)	8

TOPIC 1: CURRENT STATUS OF COUNTY HEALTH CARE AND HEALTH CARE SYSTEM

The responses and discussions centered on two main topics, the current health care system in Prince George's County and a future health care system in the County. Findings are organized below first according to the current status.

The findings that address the current status of health care in the County coalesced around seven main themes. Five themes reflected interviewer question topics: prevalent health risks, recommendations for local services, lessons learned from County and other services, reasons for leaving County for health care, and perceptions of Dimensions Healthcare System. Two additional themes emerged in open discussion with participants: a negative perception of health care services and undue burdens on County physicians. Each of the themes are described and supported below with illustrative quotes from the interviews.

PREVALENT HEALTH RISKS

Overall, infant mortality and chronic diseases topped all the participant lists of prevalent health risks for the County. The specific chronic diseases mentioned were diabetes and heart disease, and related risks included obesity and hypertension. One stakeholder explained, "[Obesity] is connected to most of those diseases that we are faced with dealing with as a community at large." Other health concerns mentioned (by one or two participants) were HIV/AIDS, and kidney disease and mental health.

While not an illness or disease, access to primary care and preventive services ranked as a priority concern for all stakeholders interviewed as a health risk. This included lack of primary care, access to hospitals and access

to specialty care. As one stakeholder commented, "There's just not enough primary care. ... There's never enough specialty care." Another participant said, "One of the greatest challenges in the County is the lack of primary care resources." As someone explained, "for a new patient to try and schedule services ... the waiting list is unconscionably long. ... But the need for people to have a place to go is overwhelming in this County."

INSURED VERSUS UNDERINSURED.

Responses were inconsistent as to whether health risks differed by insurance status. Most participants believed the health risks were more prevalent in the underinsured and uninsured County populations, and a few believed the prevalent health risks cut across all populations in the County regardless of ability to pay. One participant who reported a difference commented that "people who have insurance in our County fare pretty well." Another explained, "People who are insured are more likely to get health care when they feel they need it. Those who are uninsured will attempt to hold off as long as possible for both themselves and family members until it's almost an emergency or crisis." One of the stakeholders who did not believe there was a marked difference said, "bad eating habits" cut across all socio-economic status groups in the County and led to obesity County-wide.

STAKEHOLDER RECOMMENDATIONS FOR HEALTH CARE SERVICES IN THE COUNTY/REGION

When asked where they currently recommend acquisition of health care services for others in the County,

participants frequently responded with university-based health care options outside of the County or National Children's Medical Center, if asked about children. As one participant remarked, "I'd love to say Doctor's Hospital, but for the most part I would advise [person with hypertension] to go to the District, George Washington or Washington Hospital Center." Another participant explained that she would refer them to the teaching hospitals in the District of Columbia because they are "more research-oriented and probably had expanded resources." Another stakeholder said, "The hospitals that our patients go to or are sent to are largely Montgomery County hospitals and Children's." A few of the participants referred to National Children's Medical Center as a model to emulate in structuring a new health care system. If not a model then a strong partnership for pediatric care would be desirable. One participant said, "Partnerships with Children's would go a long way with me if I was moving, if I was that family that you just described coming in (to the County). I would probably still, for most of the care, go to Children's if I had a child that needed some specialty help."

LESSONS LEARNED FROM CURRENT HEALTH CARE SYSTEMS

A few of the participants suggested lessons learned from current services offered in the County. For example, one stakeholder viewed the current mobile vans as a program in need of expansion, "You have the vans that can go to different sites and that actually works well." Others referred to the quality of care at the Trauma Care Center at Prince George's Hospital and at the Neonatal Intensive Care Unit at Prince

George's Hospital. One participant was "very impressed with that unit there." Another said, "If you have a trauma, Prince George's Hospital is the place to go. And I think that's what they do very well." Other services of Prince George's Hospital to keep included pediatrics, and "they have a good heart center, but they don't have enough doctors." Wound care at Doctor's Hospital was exceptional to one participant, who said, "A lot of people don't know some of the neat things that they've got going on there."

A couple of participants listed Bowie Health Center and Laurel Health Center as facilities to retain in the new system, because they represent convenient access to health care for residents located near them, reducing emergency room visits by those residents. One person added that Laurel was "known for psychiatric services." Also, a participant believed Anne Arundel County offered best practices in terms of emergency services, "The technology is streamlined; the wait isn't as long as in some of our hospitals."

A few of the stakeholders instead offered general "lessons learned" from their professional experiences. One participant said that residents will retain original physicians from other locations when they move to the County. "People do not want to leave the health care provider that they are comfortable with. They just don't." Also, residents use services close to them, so if the services closest to them are in Takoma Park or D.C. they will use them. Another lesson was to measure perceptions continuously and create a feedback loop for consumers, insurance companies and others to tell their side of the story so that management can stay aware of changes in perceived reputation.

Other lessons pertained to organizational structure and function. For example, "Coordination is needed if we're going to overcome." One

participant offered a financial lesson, "Not to let immediate economics drive long-term economics. ...What we spend now will save millions of dollars later on." Someone referred to a paradigm guiding the structure of a new health care system:

I guess the biggest thing for best practice is changing it from what's best for us as an organization and an entity and a structure and flipping that paradigm to what's best for the resident or the client or the customer. How are we going to provide what we need for "Rosa"? We know what she needs, but we've not made it convenient for her.

PERCEPTION OF COUNTY'S CURRENT HEALTH CARE QUALITY

All the stakeholders said that the negative reputation of the County's health care quality was a primary reason for residents choosing outside the County for their health care services. For about half the participants, the poor *reputation* of health care in Prince George's County trumped the *actual* quality of health care, which for these participants was quite good. One participant said:

I live close to Southern Maryland Hospital and ... as much as it's developing and it's getting better, it's still overcoming some people's negative connotations about if you go there with a heart problem you're going to die. And I haven't found that to be true, although it's one of those things that's always in the back of your mind.

Another stakeholder who lives in the County described the pervasiveness of the perception, "I hear it at church; I hear at work. You hear it all

over, your neighbors, everywhere, what the perceptions are about what the hospitals are."

Stakeholders said that the positive qualities of the current health care system go unrecognized. They believe there are good physicians in the County, but not enough of them. A participant said, "All of the doctors I go to or have to see are located in Prince George's County. I'm very pleased with all of them so I would say that we have good doctors who do services here."

Participants were asked why there might be a conflict between perception and reality. One believed it was because Prince George's Hospital "serves the underserved and those who can't pay." Another participant responded, "We just think that the white people have more resources, better doctors and if you're good you're going to be recruited into a better system. I'm not saying that's the case; I'm saying that I know a lot of people who believe that to be the case." As one stakeholder put it, "Perception becomes reality unless otherwise challenged and the perception is that we don't have a good hospital system and for some parts they're right, but there are other parts of the hospital system that ought to be duplicated."

For other stakeholders, the quality of health care in the County is poor and the reputation reflects the quality. One participant remarked, "Quality, that's what we lack ...The clinical data states that the quality of care of primary care providers in Prince George's County is way below what's in surrounding jurisdictions." Another participant summarized, "We have a pair of hospitals in the County whose reputation is not very good because the care there is not very good." This person felt the County needed strong management over the health care system. The staff in hospitals is unstable because they work within the constant threat of financial demise, which "translates to poor

service.” “The health care system is broken, so I see an obvious opportunity to be able to try to help put something together.” A different stakeholder suggested that one reason for the reputation is a lack of cultural competency, “When I think of Prince George’s I think of ... lack of cultural understanding or lack of cultural competencies. I think of people being shuffled from one place to another ...I don’t think it’s positive.”

The reputation in the County also derives from having so few primary care providers. One local leader quipped, “Oh, it’s horrible. We’d laugh. It’s a running joke in the community that there are only three primary physicians that everybody goes to ... every female knows there’s three places where you can get a mammogram.” Residents deal with long waits for the good providers who are in the area. Sharing a personal story, one stakeholder said, “My dad, as sick as he is, does not want to go to his primary care physician because he doesn’t want to be in the waiting room for three or four hours.” Another stakeholder said that the constraint on providers has also led to a perception of rigid appointment scheduling, so that if patients are a few minutes late to an appointment, they will allegedly not be seen by a provider. This participant responded, “Just having a little more flexibility and thinking about the population that they’re serving and all the incredible barriers that they have to get where they’re going.”

REASONS FOR LEAVING COUNTY FOR HEALTH CARE

While poor reputation and limited access (time) for available primary care providers might be viewed as a main factor for residents who leave the County for their health care, the stakeholders listed other priority reasons as well. For example, some participants assert that residents

work outside the County and select a provider close to where they work. Participants also said that proximity to health care over a close geographic border offers greater access than a health care service in the County. Therefore, primary care physicians inside the County refer patients to outside the County for specialty care or for surgery. “If your physician only will admit there, that’s where you’re going.”

Participants also mentioned that insurance companies also play a role in sending residents out of County for health care if they have restrictions on where to go. However, a couple of participants also argued that, “people do self-select.” What is available in D.C. is perceived as better because of the options for university hospitals, “People put value on that.”

Many residents in the County originated from the District of Columbia or other local jurisdictions and continue to travel to those locations for their original health care provider. As one stakeholder commented, “A lot of Prince Georgians were once Washingtonians, and so it’s kind of their inclination towards their own set. I think that most of the African Americans primary physicians are practicing in Washington, D.C., so you still have that, a lot of folks still go to physicians that look like them.”

A couple of participants wished to emphasize cultural distinctions and the migration of Latino populations into the County. “There is a tension between African Americans and Hispanics. And it plays out in health care. And I think that in some way has to get into the debate.”

One participant explained that residents travel outside of the County to seek health care because of a status perception. “The people in Prince George’s County are not overly proud to be calling themselves Prince George’s County—or to say that they’re from Prince George’s with the way

that the County is viewed in the surrounding areas.”

PERCEPTIONS OF DIMENSIONS HEALTHCARE SYSTEM

Responses were mixed to the question about Dimensions Healthcare System: Most participants did not respond. Some stakeholders asked to be informed about what aspects of health care in the County fall within the purview of the Dimensions System. Several stakeholders spoke positively of the Bowie facility and remarked that more such facilities are needed in the County. A couple of stakeholders who worked with Dimensions management had positive perceptions and stated that lack of public relations has been a barrier to informing the region of the services provided. One stakeholder who had personal experiences with Prince George’s Hospital held negative perceptions of the system based on the experience, “It was awful ... the receptionist person was ridiculous. ... In leaving the hospital, they only let you out one door because of security reasons. ... There was no privacy. ...These were just things that I have not seen at other facilities.” Another participant who lived in the County said, “I think they have been politicized beyond politicizing for years. They have been the sole bidder, the sole recipient of everything in Prince George’s County so we have not gotten better. So I would like to see some competition.”

The mixed perceptions were illustrated by one who said, “Politics played too much of a role in it and I think the lack of services that it’s able to provide based on the care that it gives and the money it has to deal with, has had negative impacts on the whole hospital and the ancillary services it provides.” Comments from stakeholders who have visited, but who do not

work at Dimensions, as well as those who work there, mentioned the state of the physical facility of Prince George's Hospital and the need to "modernize" it. Another comment reflected on the perceived low proportion of medical residents who graduated from U.S. accredited medical schools.

PERCEIVED BURDENS ON COUNTY PHYSICIANS

A couple of the participants commented on what they perceived as

administrative and insurance burdens placed on physicians. There are constraints in practicing medicine in the County. First, one stakeholder said that compared to neighboring jurisdictions, Prince George's County procurement process is so cumbersome that it deters physicians from wanting to practice full time in the County. As the participant concluded, "If the local contracting problem is still a problem, then we're still not going to have any doctors." Second, insurance companies guide reimbursement rates but, as one stakeholder argued, locations as well,

and "If they're not going to reimburse for services provided by Prince George's Hospital System or the paying mechanism isn't there in the relationship to the payers and the non-payers, raising the rates to help the cash flow only puts the insurance companies in a position to refer you to other hospitals where they are a one-fourth or a one-half percent cheaper." The argument is that physicians do not wish to work in the County because they believe they might not get paid or paid at a rate that meets a national standard.

TOPIC 2: RECOMMENDATIONS FOR THE DESIGN OF A NEW HEALTH CARE SYSTEM

There were numerous and varied responses from interviewees that pertained to recommendations for a new health care system for Prince George's County. Interestingly, there were similar patterns in responses across stakeholders, where most or several of the participants offered the same recommendations. The consistent themes across interviews were: need for strong marketing campaign, academic/university framework, acute care centers, centers of excellence, culturally appropriate health education and prevention, integrated electronic health record system, community partnerships, multicultural health care, aesthetics, patient-centered medical home model, more federally qualified health centers, status, location preference and recruiting primary care providers.

ACADEMIC/UNIVERSITY FRAMEWORK

The reputation of the County's health care system would greatly improve if it were associated with a teaching hospital and related university research. All

participants referred to this desire for an academically based regional health care system that included a teaching hospital. This factor also was mentioned when respondents remarked about their own health care seeking behaviors or what they look for when they recommend health care facilities to others. One stakeholder said that County residents get their care in neighboring jurisdictions because they have this option, "You don't have the big name like a Hopkins. You don't have a G.W. You don't have a Georgetown." Another stakeholder argued that a regional teaching hospital in the County would help build the infrastructure to support ambulatory primary care centers, "I think it's going to be difficult to build the infrastructure if we move without it." In addition some stakeholders mentioned the value of providing team-based care and inter-professional training that could benefit a new university health care system.

A couple of stakeholders explained that the physicians in the County are not connected to a research-based infrastructure and therefore become "stagnant" in their knowledge. "I

participated in a clinical trial at NIH and I felt like I never wanted to go back to my physician once they kicked me out of the study, because of the level of care that I received. There was just no comparison." The other participant shared experiences with physicians in the County not being up to date on the latest available medications, "We've experienced that with several physicians in the community."

STRONG MARKETING CAMPAIGN

There was consistent support for a new system of health care for the County. All participants recommended a bold marketing campaign to dispel current beliefs about health care in the County and to brand a new image for the health care system based on its new academic framework. One stakeholder commented about image restoration, "They need to polish their own apple." Another used Mercy Hospital in Baltimore City as a model for an aggressive campaign that recruited well-known physicians, "Heavy, heavy

marketing on TV and magazines and high-end kind of magazines [for] that the insured population who is reading, lots of radio advertising, with the doctors' pictures in the paper, in the magazines, on the TV."

The marketing campaign would focus on certain elements of the new system. The stakeholders suggested a message referring to the County having "the best minds in the business" and a "state of the art facility." One participant remarked, "Some people don't know what board certified means, but if it sounds good, it's great." A couple of participants suggested linking the marketing of a new brand for the health care system with the prevention health programs sponsored by the new system. Then, according to one interviewee, "There are people who will say, 'That's our [health care system]. And that's where you want to get them to, 'That's our [health care system].'"

The campaign would promote the multicultural aspect of the health care system and the communication found in the new setting. Have translators, because, as one participant said, "We have such a diverse population I think residents coming here would want to know, okay, I can go somewhere where Spanish is spoken or this language is spoken and that the services are quality."

EFFECTIVE AND FREQUENT COMMUNICATION WITH RESIDENTS

Some of the participants emphasized the need for better messages to be sent in a variety of ways to the residents about health care in the County. How the County and the health care system communicates to residents, patients and potential health care consumers will likely impact the success of a health care system in Prince George's County. One stakeholder related the power of word-of-mouth in the County and its influence on perceptions of where to go for health

care. Also, there is a need to promote having translators and the multicultural aspect of the care setting.

ACUTE CARE CENTERS

Many participants emphasized the need for acute care centers or "urgent care" centers to be located throughout the County. Acute care centers are "at the front line that people could go to for their care instead of their emergency room visit." Participants suggested that these centers would offer services on the weekend, flexible appointments and "dental for children and adults."

A participant said that these centers are "not your emergency room. It's your place where if I can go in my neighborhood to get my shots." One participant argued that even those with insurance use the emergency room for acute care due to lack of access to other qualified services. "If there are doctors, and if there are extended hours, and if there are urgent care sites," argued one participant, emergency room rates would drop.

CENTERS OF EXCELLENCE

Most of the participants suggested the development of specialty care centers around the County, although there was no agreement to what specialties to focus on, "something that you could say we're the best at." The Centers of Excellence would not only be accessible to residents, but would also attract the best practitioners to the County to live and work. Areas of specialty that were mentioned included: cancer, heart disease, diabetes and "I think OB/GYN and pediatric services are primary." A participant commented on where to recruit for the centers' providers, "You choose certain specialties and say it's chosen to be a cancer center or a heart center or a diabetes center, then you

got to go and recruit those well-known docs and bring them from D.C. ... You have to bring some of those D.C. docs or Montgomery County docs over, for like one or two days a week or one day a week so that their practice is split, and then gradually you'll bring more."

Several stakeholders mentioned the opportunity to "think regionally" as part of the design of the new health care system. This would include doing an assessment that includes the metropolitan area surrounding the District of Columbia and considering emergency preparedness plans and other surge needs.

CULTURALLY APPROPRIATE HEALTH EDUCATION AND PREVENTION

Almost all of the participants listed preventive services and health education as a strong component they wished to see in the County's health care system. Some of the stakeholders emphasized the need for culturally sensitive prevention messages, particularly as the County sees an increase in its number of Spanish-language residents. One stakeholder explained, "Definitely culture has a lot to do with people's decisions about health care, want to generally, maybe, speak with someone who can relate and understand that particular culture. It doesn't mean that they have to have someone in their same, say, ethnic group, but at least someone that I call culturally competent that understands and can talk that language." A few wanted to see health education classes and workshops offered through the new hospital. Prenatal care was also mentioned as a preventative service to include. One stakeholder asserted, "I think that we need to do better at marketing preventive services and having classes at different hospitals throughout the County and have that

advertised so that people know that they can go and get information about how to remain healthy.”

INTEGRATED ELECTRONIC HEALTH RECORD SYSTEM

A few of the stakeholders discussed the role of technology in the new health care system and how important it could be to both the reputation and the efficiency of a new health care system if it incorporated an electronic health record (EHR) system that linked all the regional health services. An integrated EHR system reduces multiplication of services for individual patients and cost of care. It also increases efficiency in treatment by reducing time to search for and find patient information from other sources. One participant said, “I think using technology is fantastic, that we have that technology to provide high-quality care, that there’s an electronic record that can go from the hospital to my physician, to wherever so that I don’t have to carry these things along each time.”

COMMUNITY PARTNERSHIPS

The health care system would benefit from not just continuing some of the partnerships currently forged in the County, but also by developing new, varied and extensive partnerships across County and with various levels of leadership. As one stakeholder put it, “There’s not been a lot of collaboration with regards to how we attack problems in the community, not a lot of talking to each other.” Developing coalitions, like the County’s new Health Care Coalition, offers opportunities to communicate across organizational borders and view health care from various “lenses.” Partnerships were viewed as an approach for tackling wellness and prevention goals as well:

the County government, schools and wellness programs working together to prevent obesity and tobacco use, for example. Other recommendations for collaboration include co-sponsoring events with community-based organizations, employers in the County and religious organizations. Have a name and services in “different environments” of the County, as one stakeholder put it. “What I’m finding also with the agencies in the community and then community-based organizations, they really don’t talk to each other and pull together to do an event or this is what I do well, I’ve got this. You do this well; can you do that? And then bring it to a place where it’s around that.” The County government, the new health care system, and community-based clinics and organizations work together to support legislation or development community resources. Another participant named Children’s National Medical Center, Community Clinics Inc. and the University of Maryland Medical System as strategic partnerships to foster.

MULTICULTURAL HEALTH CARE AND COMMUNICATION

A few of the participants added the importance of multicultural sensitivity in health care communication across the County and within each health care setting. According to a stakeholder, “There seems to be a very high Spanish-speaking population and also a very high population of individuals from African countries, and it seems like there isn’t a lot of availability for them to get care in a language that they understand.”

A few stakeholders recommended implementing a multicultural patient navigator/outreach program to assist consumers with managing their care. “It’s kind of like having a patient navigator, helping them make their appointments, helping them arrange

for transportation, helping them to understand how to be a health care consumer because a lot of people are coming from countries that they don’t know. They don’t have preventive health where they’re coming from and ... and they have so many competing life priorities that it’s not their top priority so they don’t necessarily know what’s expected of them.”

AESTHETICS

Some participants spoke about the physical location, cleanliness and other visual aspects of a hospital and doctors’ offices that influence how consumers feel about their health care. One stakeholder commented, “What does the place look like when you go there, whether it’s the doctor’s office or the hospital? ... I think if you wanted people preferring to use the hospital, the hospital has to be in a place that looks like a nice place to go to and looks nice when you get there.”

PATIENT-CENTERED MEDICAL HOMES AND ACCOUNTABLE CARE ORGANIZATIONS

A few participants espoused the medical home model as a possible framework for primary care in the County. The medical home model would integrate behavioral health care and dental services with primary care allowing for a comprehensive care management plan for each patient as needed. Community health workers would be involved in the system, helping with outreach to consumers in need of health care and with education for preventative goals. The medical home model also allows for the development of an integrated electronic patient record system that links patient data across services. As one stakeholder explained the model,

“If a patient of ours goes to [one clinic] and then the next day goes to [another health care facility] it’s all there.” The medical home model would decrease the number of emergency room visits. Several mentioned the opportunity afforded by the accountable care organizations in supporting population health. In addition, the importance of having clear and appropriate benchmarks and routine monitoring of the care delivered was highlighted.

MORE FEDERALLY QUALIFIED HEALTH CENTERS (FQHCs)

Instead of acute care centers, some participants believed that the County should invest in applying for and developing more FQHCs. One of these stakeholders, who is not employed by an FQHC, said “The expansion of the FQHC has been a benefit to the County.” These clinics are mandated to provide specialty care, care management and outreach. They have to provide a full range of primary care services for all ages and for all people regardless of ability to pay. In addition, Medicaid reimburses FQHCs at over double the rate for private practitioners. The board of advisors for each FQHC is required to comprise 51 percent of health consumers, so patients dominate the voice of decision making and have a role in maintaining quality. Furthermore, FQHCs are required to provide culturally sensitive services, so they are adept at reaching out to patients in the different communities that make up the County.

ACHIEVING “HIGH STATURE”

Stakeholders believed that what is perceived as high stature resonates with County residents. A new health care system would achieve perceived

stature through: an academic link to the University of Maryland, the centers of excellence moniker for ambulatory centers, and perceived “top-notch quality” through “well-renowned surgeons and private care.” As one participant described the beliefs of affluent County residents, “I’m affluent. I can afford to pay for anything I want.” Another stakeholder argued that the affluent, educated communities in the County would follow “state-of-the-art evidence” provided by a university-based hospital in the County because they seek out the “best” in health care specialists.

LOCATION PREFERENCE

Limited specific suggestions were provided when stakeholders were asked about location of facilities. One mentioned that as long as there were ways to travel by public transportation and the quality of the care was high, the location did not matter. Many participants did not believe they were qualified to answer this question, as one said, “I’m not the expert. I don’t have the expertise to decide where it should be.” However, one participant offered specific recommendations, “I would do something in Landover where Landover Mall used to be. I would come down and I would be in the Capitol Heights/Suitland community, close to the Census Bureau. It will come out closer to Bowie State University, right off of 295 on the southern end; it might be towards where Southern Hospital is, in the more rural setting, at the Maryland Hospital, and then of course, in the far Washington area, I’d be over by Silver Spring. I think that touches the whole of the County.” Another stakeholder said, “[The regional center] needs to move from where it is in Cheverly to some place that’s centralized to Prince George’s County off major road accesses both public

and private.”

In other cases, some general comments were shared about the location of an anchor care facility, such as having it accessible from a major highway or transportation such as the Metro, and having the space to expand the buildings if necessary in the future. A couple of participants recommended the regional center be relocated to a more southern location than where Prince George’s Hospital is currently, “Not close to the Charles County line but definitely a little bit southern than where we are.” Similarly, one participant suggested that if an acute care center or center of excellence is located near D.C. inside the beltway, residents from D.C. will go to it because it would offer accessible and better health care for the D.C. residents as well.

RECRUITING PRIMARY CARE PROVIDERS

Most of the stakeholders held professional positions unrelated to primary care, so the topic of physician recruitment was perceived as outside their purview. When primary care physicians were discussed in detail, it was suggested that group practices be made available to easily join so that new physicians do not have to handle the administrative burden. As one stakeholder put it, “Young people are looking for a decent salary, a decent lifestyle and help with learning things.” One stakeholder alleged that the local medical society did not engage its membership in being committed and active for the County and this might be indicative of the type of challenging factors that might constrain the recruitment of quality physicians. According to this participant, “There is not that infrastructure or environment here in our County to get them to come out to work together, to talk together.”

Stakeholders who were not

physicians had few recommendations for recruiting physicians to the County. Most of the participants responded by asserting only that, “We need to provide incentives for our primary

care providers.” A few suggested loan forgiveness plans. Others referred to the reputation of what will be the centers of excellence, and a connection with a teaching hospital and university

as incentives to bring new physicians to the area. One stakeholder suggested developing an integrated strategic plan for aggressively recruiting physicians from other nearby jurisdictions.

RESPONSES TO FIVE MAIN QUESTIONS

Participant responses were analyzed also to answer the five main questions that framed the project. Below is a summary of how data responded to each question.

1. KEY HEALTH OUTCOMES IN THE COUNTY MOST AMENABLE TO IMPROVEMENT BY A NEW HEALTH CARE SYSTEM?

The key health outcomes to address through a new health care system are chronic disease, specifically diabetes and heart disease, and infant mortality. Related risks, such as obesity, hypertension and poor prenatal care should be addressed not only through health services, but also through a comprehensive and strategic preventive health education program implemented throughout the new system.

2. HEALTH CARE SYSTEM ELEMENTS THAT CAN AFFECT OUTCOMES?

Chronic disease and infant mortality can be reduced once access to primary care and specialty care increases. Access is a key factor in improving health outcomes in the County, according to the stakeholders. Access to primary care will be significantly improved through a set of elements in the new health care system. These elements include the following:

- Ambulatory care centers that address acute care needs in communities. Also referred to as urgent care centers, these facilities will have hours of operation in

evenings and weekends, flexible appointments and locations near public transportation. The utilization of urgent care centers will reduce emergency room visits, which will impact key health outcomes in the County.

- Additional Federally Qualified Health Centers (FQHCs). Mandates for FQHCs offer opportunities to increase access to health care, improve culturally appropriate health communication and implement case management. Primary care services are reimbursed at over twice the standard rate, and health consumers fully participate in board decisions.
- Development of a patient-centered medical home model. The County is already preparing to implement medical homes, and stakeholders believe this initiative should be expanded and strengthened.
- Additional mobile health vans

Access to specialty care will improve health outcomes and can be addressed through the development of centers of excellence. Stakeholders suggest building a national leadership reputation through the creation of specialized care services located within the regional center or around the County. National experts would be recruited to operate the services and the County would be promoted as the leader in those

specific care areas. Importance should be placed on clear and appropriate benchmarks and routing monitoring of the care delivered. An assessment should include the metropolitan area surrounding the District of Columbia and should consider emergency preparedness plans and other surge needs.

The key health outcomes can also be affected by retaining or modeling certain specialized elements of the current health care provided in the County. These elements include:

- The Critical Care unit of Prince George’s Hospital
- Maternal and Child Health unit and neonatal intensive care unit of Prince George’s Hospital
- Cardiac Rehabilitation unit of Prince George’s Hospital
- Center for Wound Healing at Doctor’s Hospital
- Bowie Health Center
- Laurel Regional Hospital’s Behavioral Health unit

The new health care system will better address health outcomes in coordination with government, community-based organizations and citizen groups.

3. GEOGRAPHIC DISTRIBUTION OF HEALTH CARE RESOURCES AND AREAS OF GREATEST NEED FOR PRIMARY CARE?

Some of the stakeholder suggestions for geographic distribution address access to Metro, and differences between quality of care inside the Beltway and outside the Beltway. Specific recommendations included the following, "I would do something in Landover where Landover Mall used to be. I would be in the Capitol Heights/Suitland community, close to the Census Bureau. It will come out closer to Bowie State University, right off of 295 on the southern end; it might be towards where Southern Hospital is, in the more rural setting, at the Maryland Hospital, and then of course, in the far Washington area..." Others suggested moving the regional center to a centralized location accessible from a major highway or transportation such as the metro, and having the space to expand the buildings if necessary in the future. A couple of stakeholders recommended the regional center be relocated to a more southern location.

4. KEY ISSUES TO MAXIMIZE UPTAKE AND ACHIEVE THE POTENTIAL OF A HEALTH CARE SYSTEM?

Reputation and perceived excellence are key issues to be addressed in order for the new health care system to reach its potential. All the stakeholders cited perceived poor quality of services as the main reason that 1) leads residents out of the County for health care and 2) influences physicians to refer out of the County for specialized services. While several stakeholders believed that the poor reputation is in perception only, all acknowledged that perception is reality when it comes to health care decisions. Since many of the stakeholders believed that the "true" story of Prince George's County health care has gone untold, a bold and broad marketing campaign is recommended

to maximize uptake of the new services. The campaign's goals would include: creating a positive "brand" for the County's health care system; increasing perceived stature of the quality of care that will be available and increasing use of the new health care services. Resident perspectives would be incorporated in the designing of strategy and messages for the campaign. All local media and mobile channels will disseminate campaign messages, in addition to strategic use of opinion leaders in communities to share messages by word of mouth. The campaign would promote differing messages to be sensitive to cultural and language differences in the County.

An evidence-based university framework for the new system will significantly improve the reputation of health care in the County. Stakeholders believe that a teaching hospital will increase the stature of the health care services, actually improve quality of care provided by physicians and compete with the university-based health care available in Washington, D.C.

A basic need is that of recruitment and retention of qualified primary care and specialty physicians. There are three gaps that need to be addressed: the quantity, the quality and the type of physician working in the County. One suggestion was to propose part-time appointments for well-known providers from surrounding jurisdictions. Another suggestion was to incentivize medical school graduates with a loan repayment program.

How the County and the health care system communicates to residents, patients and potential health care consumers will likely impact the success of a health care system in Prince George's County. The new health care system will be able to reduce key health risks by developing a comprehensive and culturally appropriate prevention and health education program. The program would include trained,

multicultural health promoters in the community. Another suggestion was to place electronic kiosks in waiting rooms so that patients can find preventive health information while waiting. Furthermore, within the clinical setting, resources should support a large and mobile translator/interpreter program. One stakeholder related the power of word of mouth in the County and its influence on perceptions of where to go for health care. These communication and translation efforts would harness the power of the word of mouth in the County. Finally, a mass media campaign would reinforce the new brand images. At its initial development, consider structuring the new health care system so as to incorporate prevention education at every phase of care and community outreach.

Another key issue is related to the health insurance options and reimbursement rates that guide physician referrals as well as physician recruitment and retention efforts. The new health care system must find ways to address the financial motives that are driving residents out of the County for care.

One mark of distinction compared to neighboring health services would be the implementation of a coordinated, linked electronic health record system. The paperless system would incorporate clinical, administrative and billing services all on a single platform. All ambulatory centers as well as the regional hospital would be linked so that a patient seen by one physician in one facility would have his/her information shared with any referred provider electronically.

5. RESOURCES IN THE PUBLIC HEALTH SECTOR TO COMPLEMENT THE IMPACT OF THE HEALTH CARE SYSTEM?

The health care system would benefit from not just continuing the partnerships currently forged in the County, but also from developing new, varied

and extensive collaborations with public health initiatives. Developing coalitions, like the County's Health Care Coalition, offers opportunities to communicate across organizational borders and view health care from

various "lenses." Partnerships were viewed as an approach for tackling wellness and prevention goals as well: the County government, schools and wellness programs working together to prevent obesity and tobacco use.

Other recommendations for collaboration included co-sponsoring events with community-based organizations, employers in the County and religious organizations.

DISCUSSION

The stakeholder interviews supported the results of previous reports about health and health care in Prince George's County. For example, similar to the RAND findings, stakeholders lamented the lack of an ambulatory care safety net and the significant out-of-County use of health care services (Lurie et al., 2009). Also, as in the RAND report, several stakeholders worked and received medical care outside the County, and they discussed the impact of residents traveling out of the County for their health care.

The RAND report indicated that out-of-County use is perhaps driven by resident preferences, convenience and provider referral patterns (Lurie et al., 2009). Here, stakeholders viewed all three of these factors as influencing out-of-County health care use. It was a combination of factors, both structural and individual, that will need to be addressed in the development of a new health care system. Since one main finding here was that residents might prefer to use care inside the County if they did not work outside the County or get referred to outside the County by their physicians, then, as RAND suggested, "strategies aimed at building a stronger physician referral network, increasing the number of primary care physicians in the County, and increasing the availability of care on weekends and before- and after- hours may keep more patients in the County."

In previous research, the most prevalent barriers that either prevented

or delayed treatment for parents were: inconvenient office hours, appointment availability and cost (of doctor care and prescriptions) (Child & Adolescent Health Assessment, 2002; Partnering Toward a Healthier Future, 2007). Community leaders in the previous study cited problems relative to culture, language and documentation (Child & Adolescent Health Assessment, 2002). Similar concerns were cited by stakeholders in the current study as well. Access emerged here as the priority health care concern today, and the ways to address it included acute care centers that offered appointment availability and convenient access. Also, stakeholders discussed a multicultural perspective for the development of communication in the clinical settings and in the community.

The stakeholder study not only supported previous research on the County, but also offered a unique perspective of the County's health care, because it derives from community-based leaders, those on the front lines of health services, but who also have a "bird's eye" view of patient experiences. The combination insider/outsider roles of these stakeholders contributed significantly to our understanding of the current health care services and the desire for certain elements for a new health care system. The 40 stakeholders interviewed reflected a wide swath of professions that represent today's Prince George's County: health administrator, physician, legislator,

businessman, resident, union leader. And yet all of the participants were optimistic about the plan for the University of Maryland Medical System (UMMS) to redevelop a County-wide health care system and committed to doing what they can to assist the effort.

LIMITATIONS The stakeholder study reflects perceptions and insights from a limited number of individuals. We had identified additional stakeholders, however, some individuals who were invited to participate did not respond to our requests or did not wish to be part of the study. These voices, while only five, left a gap in the overall picture of what County stakeholders perceived for the future of health care.

SUMMARY

While data on diseases and conditions, hospital utilization and provider capacity contribute essential information for the design of a new health care system, stakeholders provide critical insights in to the success of a system. Individual interviews with 40 key stakeholders were conducted to capture the diverse perspectives of key influencers who can contribute to and who are affected by the health care system in Prince George's County. We wanted to gather and synthesize the opinions and perceptions of individuals who could inform the process of developing an effective and financially viable health care delivery system in Prince George's County. Findings from the interviews addressed both current status of the health care system in the County and future recommendations for a new health care system. Overall, infant mortality and chronic disease topped lists of prevalent health risks for the County. All the stakeholders said that the negative reputation of the County's health care quality was a primary reason for residents choosing outside the County for their health care services. For about half the participants, the poor reputation of health care in Prince George's County trumped the actual quality of health care, which for these participants was quite good. The reputation in the County also derives from having so few primary care providers. Participants also mentioned that insurance companies play a role in sending residents out of County for health care. The recommendations for a future health care system included: using and promoting an academic/university framework with community partnerships, creating acute care centers and centers of excellence, developing culturally appropriate health education and prevention materials and activities; implementing a strong marketing campaign, building an electronic health record system, emphasizing multicultural health care; paying attention to physical aesthetics, furthering a patient-centered medical home model, and recruiting primary care providers. All of the participants were optimistic about the plan for UMMS to redevelop a County-wide health care system and were committed to doing what they can to assist the effort.

REFERENCES

- Child & Adolescent Health Assessment. (2002). Executive Summary by Professional Research Consultants for Maryland Department of Health and Mental Hygiene's Center for Maternal and Child Health.
- Darnall, N., & Jolley, G. J. (2004). Involving the public: When are surveys and stakeholder interviews effective? *Review of Policy Research*, 21(4), 581-593.
- Lurie, N., Harris, K. M., Shih, R. A., Ruder, T., Price, A., Martin, L. G., Acosta, J., & Blanchard, J. C. (2009). *Assessing health and health care in Prince George's County*. Prepared for the Prince George's County Council, by RAND Corporation.
- Morcke, A. M., Wichmann-Hansen, W., Nielsen, D. G., & Eika, B. (2006). Complex perspectives on learning objectives: Stakeholders' beliefs about core objectives based on focus group interviews. *Medical Education*, 40, 675-681.
- Partnering Toward a Healthier Future. (2007). Center on Health Disparities, Adventist Health Care. Retrieved from www.adventisthealthcare.com/pdf/ahc-chd-progressreport-2007.pdf.

APPENDIX A: INTERVIEW GUIDE FOR HEALTH CARE PRACTITIONERS *(text in italics not to be read)*

INTRODUCTORY SCRIPT AT TIME OF INTERVIEW Thank you for spending time with me today. We are gathering information that will help contribute to the design of a new health care system in Prince George's County. We are conducting several interviews as part of a larger project that includes a survey and other types of research, and we want to find out what key stakeholders, such as yourself, think about the health care in the County and about particular characteristics that could go into a new health care system. You are being interviewed because you play an important role in health care and can offer valuable advice about health care services.

CONSENT FORM Before we begin, I have to make sure that you approve of being interviewed and audio recorded, so I would like to go through the consent form with you and ask you to sign it. *(Present and read consent form. If over the phone, ask if participant read it and send it back signed, or confirm your receipt of signed consent form).*

Thanks. So let's get started, I'll begin with a couple of background questions:

1. Do you live or work in Prince George's County? How long have you lived here or worked in the County?
 - 1.1 *(If work)* What is your current work in the County?
 - 1.2 *(If not)* What is your connection to Prince George's County?

The rest of the questions address health and health care in the County.

2. First, I want to ask about health issues that impact the County: When you think of the greatest health risks facing County residents

today, what comes to your mind? Why? *(probes below are used if participant does not share responses that address these Qs)*

- 2.1 Are there other priority health concerns you would add?
- 2.2 If you had to pick three, which three would it be? Which one would you put as most critical, which next, etc.? And for which particular populations?
- 2.3 How would you compare the health risks and needs of the under-insured in the County with the health needs of the insured populations here?
3. How have the health problems in the County changed during your time here?
 - 3.1 What else with regard to health has changed in the County since your time here?
4. Okay, now imagine for a moment a person with [priority health risk mentioned earlier] who develops a health problem related to the risk. If you could advise them where to go for care and treatment, where would you advise them to go? Why?
 - 4.1 What are some specific factors that influenced you when you answered where to go for care?
 - 4.2 In this County, how does location of residence influence where people go for health care?
5. We would like to hear your opinions about what a new health care system might look like for the

County, one that includes a regional center for acute care and also outpatient surgery and a primary care network *(Be prepared to define these types of services)*. If you could offer up your wish list of health care services—ones you think would have the greatest potential for improving the health status of Prince Georgians—what health care services would you list? Why?

6. Consider for a moment the current health care services in the County. What are some good points or strong elements about the current health services that you would wish to keep in a new system?
 - 6.1 What are lessons learned from the current health services in the County that you can share?
7. In your experiences, can you share with us some best practices in health care that you have learned about from other jurisdictions?
8. *[If interviewee previously talked about residents going outside of County for care, then begin this Q with "As you mentioned earlier"]*, County residents have been traveling outside the County to other, regional health care services to get their health care. According to a RAND Report in 2009, about 25,000 residents receive care outside the County. Why do you think this is the case?
 - 8.1 Do you believe cultural differences between residents and health care providers impact choices in health care? How so or why not?

- | | | |
|--|---|---|
| <p>8.2 How do you think insurance affects residents' decisions to get their health care outside the County?</p> | <p>primary care providers, the presence of a highly regarded provider, access to new or specialty services?</p> | <p>specifically attractive to excellent physicians. And imagine that you know of a colleague who is interested in moving to the County. What might you say to this colleague about the County's new health care services to convince her to move her practice here?</p> |
| <p>8.3 What do you think might motivate certain residents who currently utilize Washington D.C. and other area health care to stay in the County for their health care?</p> | <p>10. One critical characteristic of is access to good primary care. If you could define what good primary care would mean to you, what would you say you look for in a good primary care physician?</p> | <p>13. Those are all the questions I planned for today. Do you have any information, materials, or reports that I could have that addresses any of the issues we talked about today?</p> |
| <p>8.4 (<i>only for non-hospitals</i>) What is your impression of Dimensions Healthcare System?</p> | <p>11. And what do you think are some challenges providers face in this County?</p> | <p>14. And is there anything I should have asked but didn't?</p> |
| <p>9. In thinking about a new health care system, are there particularly unique services or an attractive characteristic that would be appealing to residents AND important to quality of health care?</p> | <p>11.1 In deciding to affiliate with a health care center or hospital, what do physicians consider?</p> <p>11.2 How can the County's new health care system help to overcome these challenges?</p> | <p>15. Would it be okay to contact you if I have any follow-up questions or need clarification about something we talked about today?</p> |
| <p>9.1 What factors do you think would most influence a change in current health care usage for people? Is it the advice of</p> | <p>12. Think about what might be some important characteristics in a new health care system that would be</p> | <p>Thank you for your time and help with this project, it is greatly appreciated!</p> |

APPENDIX B: **INTERVIEW GUIDE FOR GOVERNMENT** (*text in italics not to be read*)

INTRODUCTORY TEXT Thank you for spending time with me today. We are gathering information that will help contribute to the design of a new health care system in Prince George's County. We are conducting several interviews as part of a larger project that includes a survey and other types of research, and we want to find out what key stakeholders, such as yourself, think about the health care in the County and about particular characteristics that could go into a new health care system. You are being interviewed because of your important role in the County and you can offer valuable advice about health care services.

CONSENT FORM Before we begin, I have to make sure that you approve of being interviewed and audio recorded, so I would like to go through the consent form with you and ask you to sign it. (*Present and read consent form. If over the phone, ask if read it and sent it back signed or confirm your receipt of signed consent form.*)

Thanks. So let's get started, I'll begin with a couple of background questions:

1. Do you live or work in Prince George's County? How long have you lived here or worked in the County?

- 1.1 (*If work*) What is your current work in the County?

- 1.2 (*If not*) What is your connection to Prince George's County?

The rest of the questions address health and health care in the County.

2. First I want to ask about health issues that impact the County: When you think of the greatest health risks facing County residents today, what comes to your mind? Why? (*Probes below are used if participant does not share responses that address these Qs.*)

- 2.1 Are there other priority health concerns you would add?
- 2.2 If you had to pick three, which three would it be? Which one would you put as most critical, which next, etc.? And for which particular populations?
- 2.3 How would you compare the health risks and needs of the under-insured in the County with the health needs of the insured populations here?
3. How have the health problems in the County changed during your time here?
- 3.1 What else with regard to health has changed in the County since your time here?
4. We would like to hear your opinions about what a new health care system might look like for the County, one that includes a regional center for acute care and also outpatient surgery and a primary care network (*Be prepared to define these types of services*). If you could offer up your wish list of health care services—ones you think would have the greatest potential for improving the health status of Prince Georgians—what health care services would you list? Why?
- 4.1 Where might you locate the services? Why?
- 4.2 What particular populations in the County do you think would use the different services? Why?
5. Consider for a moment the current health care services in the County. What are some good points or strong elements about the current health services that you would wish to keep in a new system?
- 5.1 What are lessons learned from the current health services in the County that you can share?
6. In your experiences, can you share with us some best practices in health care that you have learned about from other jurisdictions?
7. [*If interviewee previously talked about residents going outside of County for care, then begin this Q with "As you mentioned earlier"*], County residents have been traveling outside the County to other, regional health care services to get their health care. According to a RAND Report in 2009, about 25,000 residents receive care outside the County. Why do you think this is the case?
- 7.1 What do you think it would take to convince Prince George's County residents who currently utilize Washington D.C. and other area hospitals, to utilize a hospital located within Prince George's County?
- 7.2 What factors do you think would most influence a change in current health care usage for people? Is it the advice of primary care providers, the presence of a highly regarded provider, access to new or specialty services?
- 7.3 How do you think insurance affects residents' decisions to get their health care outside the County?
- 7.4 What is your impression of Dimensions Healthcare System?
8. Okay, now take a moment to imagine a particular family who recently moved to one of the County's more affluent neighborhoods from Washington, D.C., and consider what might be their particular needs and preferences for health care. Please describe what you think they would be looking for in quality health care?
- 8.1 What do you think might be some factors that would motivate this family to stay in the County for their health care?
9. With regard to keeping residents in the County for health care, how could the new health care system distinguish itself from the other local options for health care?
- 9.1 Are there particularly unique services or an attractive characteristic that would be appealing to residents AND important to quality of health care?
10. If there was a state-of-the-art specialty care hospital center in Prince George's County, would you or members of your family use it as your first choice for health care?
11. One critical characteristic of health care quality is access to good primary care. What is your opinion about the quality of primary care serving the County?
12. What do you think are some challenges residents face with regard to primary care providers?
- 12.1 How can the County's new health care system help to overcome these challenges?
13. Do you have any suggestions for how the County might retain and recruit excellent physicians and nursing staff for a new health care system?

14. To develop and operate a quality health care system, the County will obviously need a great deal of community support. What organizations or community groups do you feel should be involved in order to help support a successful health care system?
- 14.1 How should planners build community support from these groups?
- 14.2 What other resources can be utilized to help with a new health care system?
15. Those are all the questions I planned for today. Do you have any information, materials, or resources that I could have that addresses any of the issues we talked about today?
16. And is there anything I should have asked but didn't?
17. Would it be okay to contact you if I have any follow-up questions or need clarification about something we talked about today?
- Thank you for your time and help with this project, it is greatly appreciated!

APPENDIX C: **INTERVIEW GUIDE FOR COMMUNITY-BASED LEADERS** *(text in italics not to be read)*

INTRODUCTORY TEXT Thank you for spending time with me today. We are gathering information that will help contribute to the design of a new health care system in Prince George's County. We are conducting several interviews as part of a larger project that includes a survey and other types of research, and we want to find out what key stakeholders, such as yourself, think about the health care in the County and about particular characteristics that could go into a new health care system. You are being interviewed because of your important role in the County and you can offer valuable advice about health care services.

CONSENT FORM Before we begin, I have to make sure that you approve of being interviewed and audio recorded, so I would like to go through the consent form with you and ask you to sign it. *(Present and read consent form. If over the phone, ask if participant read it and sent it back signed, or confirm your receipt of signed consent form).*

Thanks. So let's get started, I'll begin with a couple of background questions:

1. Do you live or work in Prince George's County? How long have you lived here or worked in the County?
- 1.1 *(If work)* What is your current work in the County?
- 1.2 *(If not)* What is your connection to Prince George's County?
- The rest of the questions address health and health care in the County.
2. First I want to ask about health issues that impact the County: When you think of the greatest health risks facing County residents today, what comes to your mind? Why? *(Probes below are used if participant does not share responses that address these Qs).*
- 2.1 Are there other priority health concerns you would add?
- 2.2 If you had to pick three, which three would it be? Which one would you put as most critical, which next, etc.? And for which particular populations?
- 2.3 How would you compare the health risks and needs of the under-insured in the County with the health needs of the insured populations here?
3. How have the health problems in the County changed during your time here?
- 3.1 What else with regard to health has changed in the County since your time here?
4. Okay, now imagine for a moment a person with [priority health risk mentioned earlier] who develops a health problem related to the risk. If you could advise them where to go for care and treatment, where would you advise them to go? Why?
- 4.1 In this County, how does location of residence influence where people go for health care?
5. We would like to hear your opinions about what a new health care system might look like for the County, one that includes a regional center for acute care and also outpatient surgery and a primary

- care network (*Be prepared to define these types of services*). If you could offer up your wish list of health care services—ones you think would have the greatest potential for improving the health status of Prince Georgians—what health care services would you list? Why?
- 5.1 Where might you locate the services? Why?
- 5.2 What particular populations in the County do you think would the different services? Why?
6. Consider for a moment the current health care services in the County. What are some good points or strong elements about the current health services that you would wish to keep in a new system?
- 6.1 What are lessons learned from the current health services in the County that you can share?
7. *[If interviewee previously talked about residents going outside of County for care, then begin this Q with "As you mentioned earlier"]*, County residents have been traveling outside the County to other, regional health care services to get their health care. According to a RAND Report in 2009, about 25,000 residents receive care outside the County. Why do you think this is the case?
- 7.1 What do you think it would take to convince Prince George's County residents who currently utilize Washington D.C. and other area hospitals, to utilize a hospital located within Prince George's County?
- 7.2 What factors do you think would most influence a change in current health care usage for people? Is it the advice of primary care providers, the presence of a highly regarded provider, access to new or specialty services?
- 7.3 How do you think insurance affects residents' decisions to get their health care outside the County?
- 7.4 What is your impression of Dimensions Healthcare System?
8. Okay, now take a moment to imagine a particular family who recently moved to one of the County's more affluent neighborhoods from Washington, D.C., and consider what might be their needs and preferences for health care. Describe what you think they would look for in quality health care?
- 8.1 What do you think might be some factors that would motivate this family to stay in the County for their health care?
9. In keeping residents in the County for health care, how could the new health care system distinguish itself from the other local options for health care?
- 9.1 Are there particularly unique services or an attractive characteristic that would be appealing to residents AND important to quality of health care?
10. One critical characteristic of health care quality is access to good doctors. What is your opinion about access to physicians in the County?
- 10.1 How would you describe the quality of general physicians who serve the County?
11. What do you think are some challenges residents face with regard to good doctors?
- 11.1 How can the County's new health care system help to overcome these challenges?
12. To develop and operate a quality health care system, the County will obviously need a great deal of community support. What organizations or community groups do you feel should be involved in order to help support a successful health care system?
- 12.1 How should community support be developed with these groups?
- 12.2 What other resources can be utilized to help with a new health care system?
13. If there was a state-of-the-art specialty care hospital center in Prince George's County, would you or members of your family use it as your first choice for health care?
14. Those are all the questions I have for today. Do you have any information, materials, or resources that I could have that addresses any of the issues we talked about today?
15. And is there anything I should have asked but didn't?
16. Would it be okay to contact you if I have any follow-up questions or need clarification about something we talked about today?
- Thank you for your time and help with this project, it is greatly appreciated!

TECHNICAL REPORT 3

Physician Counts and Categorization and Characteristics of Physicians in the State of Maryland and Prince George's County

Mei-Ling Ting Lee, Ph.D., Raul Cruz-Cano, Ph.D.

INTRODUCTION

In this technical report, we document our approach to quantifying physician supply for the state of Maryland and for Prince George’s County. We also provide updated results on physician supply and selected practice characteristics.

The quantitative analysis was customized to make use of appropriate measures for each specialty group and cluster category, using the most current relicensure data provided by the Department of Health and Mental Hygiene (DHMH) Maryland Board of Physicians. Assessing the adequacy of the physician workforce involves considering the supply of primary care physicians and other specialists. The latter specialty groups are categorized into medical specialties, surgical specialties and hospital specialties to

facilitate comparisons with the 2009 RAND report findings (2009 RAND ref). The procedures used to derive physician counts and to classify each specialty and category are described in our methods.

For the Public Health Impact Study of Prince George’s County, we were interested in assessing physician workforce capacity, defined as actively providing quality clinical care to Maryland residents. Simply stated, our approach focused on identifying physicians who are board-certified, who provide patient

care at least 20 hours a week and who have at least one practice in the state/County. We also wanted to compare the County data with that of surrounding jurisdictions and the state. While we documented all physicians, we were particularly interested in primary care specialties, those specialties that serve as the initial point of contact and who serve to coordinate care. The resulting counts were used to inform the geographic mapping, the econometric model and the comparisons with previous studies.

METHODS

A TWO-STEP APPROACH TO JUSTIFY PHYSICIAN COUNT

A critical component in assessing physician capacity is the ability to accurately and systematically quantify the number of providers. We benefited from the process delineated in the Maryland Health Care Commission (MHCC) report that applied the Health Resources and Services Administration Method to the Maryland data (MHCC Hogan Report, 2011) and assessed the differences between Maryland Physician Workforce Study report (Boucher & Associates Med Chi, 2008) and the Area Resource File. We applied the majority of the steps used in the MHCC Hogan Report in order to facilitate

future comparisons (Appendix A Table 1 delineates the similarities and differences in our respective approaches).

Listed below is a description of our general two-step approach and additional steps taken for the Prince George’s County counts. This is illustrated in the flow chart for physician count management (Figure 1) and with resulting respective counts for Maryland and for Prince George’s County (Table 1).

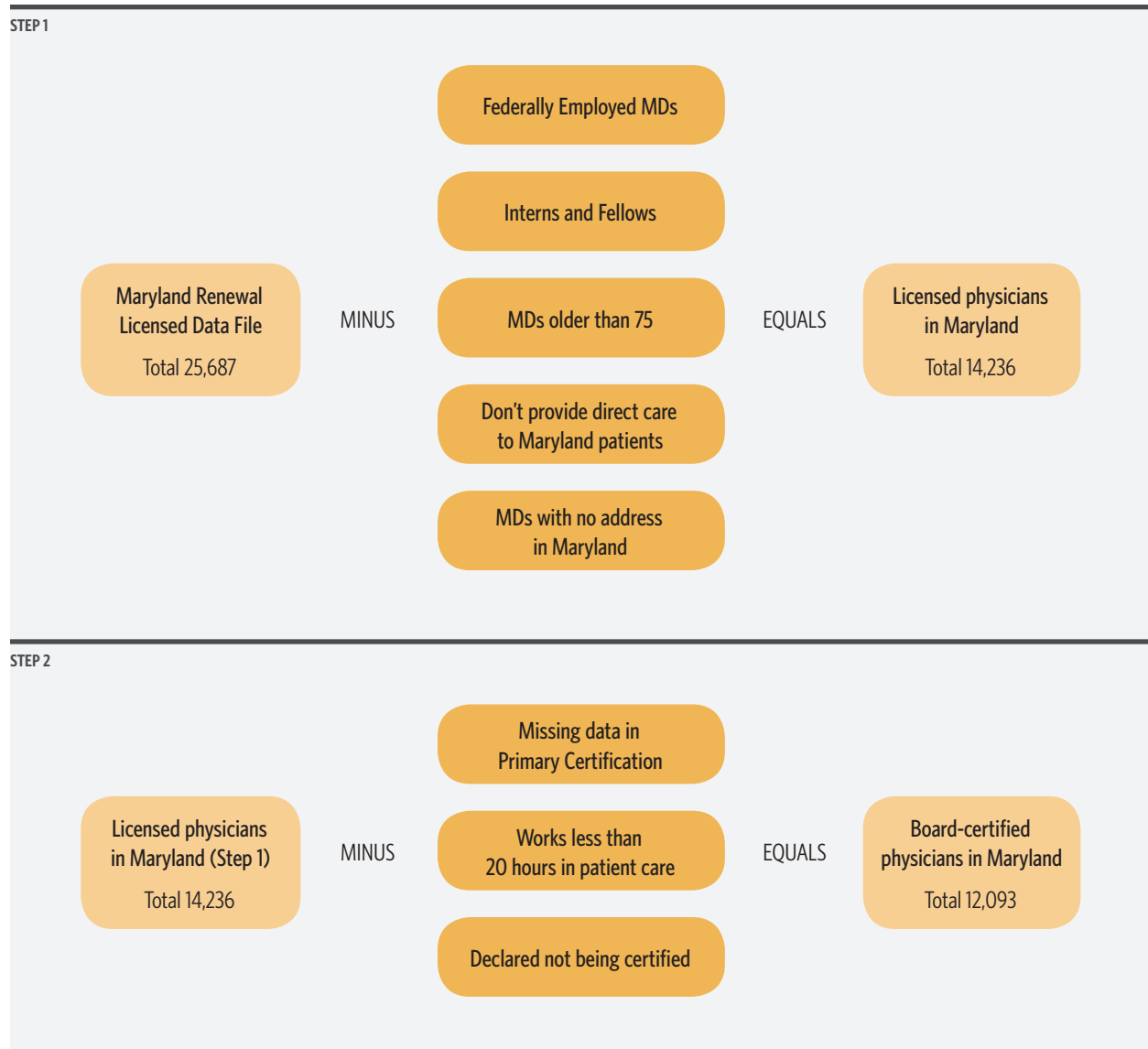
STEP 1 We excluded physicians working for the federal government, physicians with primary practice as federal military and physicians with primary practice as federal civilian. However, we retained physicians working for Veterans Affairs, since the

patients they care for are civilian veterans who are now part of the general population. We also excluded interns and fellows as well as physicians aged 75 or older. Only active physicians who stated they provide direct medical care to Maryland patients were retained.

STEP 2 We deleted physicians with data missing in their primary certification. We looked at the possibility of substituting the secondary certification, which included 23 physicians, but decided they were not sufficient to include (Appendix B).

We retained physicians who worked 20 hours or more in patient care or in their primary or secondary locations. We also deleted physicians who declared they were not certified.

FIGURE 1 APPROACH TO PHYSICIAN COUNT MANAGEMENT



From the resulting 12,093 physicians in Maryland, the selection of the 922 board-certified active licensed physicians in Prince George’s County was performed based on the ZIP codes declared by the physicians, not on the jurisdiction. There were 48 physicians who did not declare a ZIP code in Prince George’s County, but who had the County as their jurisdiction. Because our analyses were based on ZIP codes, these were not considered in

this analysis (see Appendix C for listing of their specialties). For the comparison counties, the selection of physicians was based on the declared jurisdiction only. In Table 1 we also calculated primary care physicians with and without pediatricians in order to provide counts used for the econometric model and for a separate assessment of capacity for children and youth and adults.

APPROACH USED IN CLASSIFYING PHYSICIANS INTO SPECIALTIES AND FOUR CATEGORIES

The approach we used to categorize the 241 certifications available to physicians in the 2009–2010 Maryland Board of Physicians’ Renewal License database is described below.

1. We used the American Board of Medical Specialties’ list of Recognized Medical Specialties and Subspecialties as a primary reference (www.abms.org/who_we_help/physicians/specialties.aspx). These are recognized specialties and subspecialties listed according to examining boards.
2. The procedure used to select the board-certified physicians who declare they are in direct patient care in the state of Maryland from the 25,687 physicians in the 2009–2010 renewal license dataset is described in previous section.
3. We placed physicians into four specialty categories: primary care specialties, medical specialties, surgical specialties and hospital specialties, for purposes of comparisons with the 2009 RAND report (specifically Table 6.1; RAND 2009 Report). We describe our approach for each of the four categories.

In the RAND 2009 report, physicians trained in family and general medicine, internal medicine, pediatrics, and obstetrics and gynecology are considered as primary physicians. We contacted RAND but were not able to identify the specific codes they used for their general categorization.

TABLE 1 GUIDE TO PHYSICIAN COUNT MANAGEMENT

Adj.		State	County
	Maryland Renewal License Data	25,687	1,375
1	Deleting the physicians who work for the federal government	23,217	1,334
2	Deleting the physicians whose primary practice setting is federal military	23,133	1,329
3	Deleting the physicians whose primary practice setting is federal civilian	23,065	1,327
4	Excluding interns and fellows	22,276	1,326
5	Deleting physicians aged 75 or older	21,442	1,289
6	Keeping only active physicians who provide direct medical care to Maryland patients	17,209	1,175
7	Keeping only physicians who declare that their primary or secondary practice or the non-public address is in the state of Maryland	14,236	1,174
8	Filling Prince George’s County ZIP code**		
9	Selecting only physicians in Prince George’s County Census ZIP codes***		1,126
	These 14,236 physicians are the licensed physicians	14,236	1,126
10	Deleting physicians who have missing data in their primary certification	14,227	1,125
11	Keeping only physicians who work 20 hours or more in patient care or in their primary and secondary locations	13,699	1,108
12	Excluding non-certified physicians	12,093	922
	These 12,093 physicians are the board-certified physicians	12,093	922
13	Selecting primary care physicians according to HRSA	4,870	465
	These 4,870 physicians are the primary care physicians	4,870	465
14	Selecting primary care physicians without pediatrics	3,860	384
	These 3,860 physicians are the primary care physicians (no pediatrics)	3,860	384

*Criteria to select physicians in Prince George’s County is if they declare it to be the jurisdiction of their primary practice.

**The adjustments to ZIP codes in Prince George’s County are: Drop the + 4 code from the ZIP codes and change Prince George’s post office ZIP codes into Census ZIP codes. If the jurisdiction of their primary practice is Prince George’s County but the ZIP code of the Primary Practice is not, then the ZIP code of the secondary practice and the ZIP code of the non-public address were used. If none of these three ZIP codes are in Prince George’s County, then these physicians were dropped from the survey. There are 43 board-certified physicians in this category. For the rest of the jurisdiction the selection was performed exclusively on the declared jurisdiction of their primary practice.

***Prince George’s Census ZIP codes are: 20601, 20607, 20608, 20613, 20623, 20705, 20706, 20707, 20708, 20710, 20712, 20715, 20716, 20720, 20721, 20722, 20735, 20737, 20740, 20742, 20743, 20744, 20745, 20746, 20747, 20748, 20762, 20769, 20770, 20772, 20774, 20781, 20782, 20783, 20784 and 20785.

TABLE 2 PHYSICIAN COUNTS PER 100,000 RESIDENTS, BY JURISDICTION* AND SELECTED SPECIALTIES**

	Prince George's	Montgomery	Howard	Baltimore	Anne Arundel	State
Primary Care Total	53.9	94.9	75.2	101.2	66.6	84.4
1 Family medicine	10.7	13.4	13.6	12.3	14.7	14.7
2 General practice	0.6	0.4	0.3	0.1	—	0.4
3 Internal medicine	26.1	42.8	27.9	57.1	29.0	40.0
4 Pediatrics	9.4	22.8	18.8	17.4	14.1	17.5
5 OB/GYN general	7.2	15.4	14.6	14.3	8.7	11.7
Medical Specialties Total	20.0	56.9	48.4	52.9	32.7	47.4
1 Allergy and immunology	0.7	1.6	2.4	1.4	0.9	1.3
2 Cardiovascular disease	2.3	6.0	4.9	5.0	3.7	5.7
3 Dermatology	0.8	6.5	2.8	4.6	3.9	3.4
4 Diabetes and endocrinology	0.9	1.1	2.1	1.6	0.9	1.3
5 Gastroenterology	2.3	4.5	3.5	4.2	4.1	3.8
6 Internal medicine subspecialties	5.8	8.8	6.6	8.0	8.0	8.9
7 Neurology	1.6	4.2	5.6	2.2	2.8	4.0
8 Pediatrics subspecialties	0.9	3.0	—	1.5	0.7	2.1
9 Psychiatry	3.5	18.1	19.2	20.4	4.1	13.1
10 Pulmonary medicine	0.7	1.5	0.7	2.4	2.2	2.0
11 Other primary care special	0.1	0.4	0.3	0.4	0.2	0.6
12 Other medical specialties	0.3	1.0	0.3	1.4	1.1	1.3
Hospital-Based Total	16.2	47.0	20.2	45.3	29.8	43.2
1 Anesthesiology	4.3	17.6	7.7	13.0	10.8	14.7
2 Emergency medicine	3.8	9.7	3.5	8.2	6.7	8.8
3 Pathology	1.3	4.2	0.3	4.2	1.9	4.0
4 Physical medicine and rehabilitation	1.3	2.7	1.7	2.7	2.4	2.6
5 Diagnostic radiology	2.4	9.0	4.2	12.7	5.8	8.5
6 Radiology other	2.7	2.6	2.4	4.2	1.1	4.0
7 Other hospital based specialties	0.5	1.3	0.3	0.2	1.1	0.7
Surgical Specialties Total	16.7	36.5	19.2	42.7	27.5	34.4
1 General surgery	3.8	6.0	3.5	9.3	4.8	8.2
2 Colon & rectal surgery	—	0.4	0.3	0.9	0.6	0.3
3 Neurosurgery	0.6	0.7	0.7	1.9	1.1	1.5
4 OB/GYN surgical	0.2	0.8	0.3	0.6	0.2	0.4
5 Ophthalmology	4.2	9.5	2.8	9.1	5.0	6.7
6 Orthopedic surgery	3.6	8.2	3.8	10.2	6.7	7.2
7 Otolaryngology	1.2	3.7	1.0	3.2	3.2	3.1
8 Plastic surgery	0.5	4.1	3.1	3.0	1.9	2.7
9 Thoracic surgery	0.7	0.7	—	0.9	0.6	0.9
10 Urology	1.9	2.1	3.5	3.5	3.3	3.2
11 Other	0.1	0.3	—	0.2	0.2	0.4

*The physicians counted in these rates are considered to be board-certified active physicians in Maryland selected from the 2009-2010 Maryland Board of Physician's Renewal License File and assigned to a jurisdiction using the procedure described in Table 1.

**The procedures used to classify each certification into a subcategory are described in Section 2.2 on "Approach Used in Classifying Physicians into Four Specialty Categories."

PRIMARY CARE SPECIALTIES

In this technical report, primary care physicians were identified by codes for the primary certification provided to us by the DHMH Office of Primary Care as specified by the Health Resources and Services Administration (HRSA). These codes include:

- 010-Family practice—general
- 012-General practice
- 015-Gynecology
- 019-Internal medicine—general
- 030-Obstetrics and gynecology—general
- 038-Pediatrics—general

We then placed other related subspecialties for the primary care specialties under medical specialties or surgical specialties as noted. The specific listing of specialties and related codes per category of specialties are provided in Appendix D.

SELECTED FINDINGS

PHYSICIAN COUNTS, COMPARISONS WITH PREVIOUS STUDIES AND TRENDS

Table 2 provides the physician counts for 100,000 residents for the state, Prince George's County and for surrounding jurisdictions. For all four major categories of physician specialty certifications (primary care, medical specialties, hospital-based specialties and surgical specialties), Montgomery County and Baltimore County ranked as the first and second highest in physician counts, respectively. Physician counts in Prince George's County, however, are significantly lower than Montgomery County, Baltimore County, Howard County and Anne Arundel

TABLE 3 COMPARISON OF PHYSICIAN COUNTS

Specialty	2005 ARF ¹	Maryland Physician Workforce Study ²	County Public Health Impact Study*
	Counts	Counts	FTEs
Primary Care			
Family med+	140	123	96
General internal medicine	311	217	181
Pediatrics	142	130	102
Medical Specialties			
Allergy and immunology	11	6	4.8
Cardiovascular disease	49	90	76.8
Dermatology	26	11	7.6
Gastroenterology	24	39	31.6
Pulmonary disease	13	15	14.5
Psychiatry	53	53	42.5
Neurology	18	19	15.8
Surgical Specialties			
General	72	48	34.9
Neurological	9	11	9
Ophthalmology	27	45	31.9
Orthopedic	55	66	53.3
Otolaryngology	13	16	12.4
Plastic	9	6	5.7
Thoracic	6	10	9.1
Urology	24	30	21.6
Hospital-based			
050-Diagnostic radiology**	20	49	39.8
Emergency medicine	59	78	66.9
Anesthesiology	44	44	39.5
035-Pathology, anatomical/clinical**	22	17	11.8
120-Radiation oncology**	8	7	6.0
042-Physical medicine/rehabilitation**	13	5	4.8

*These physicians are considered to be part of the 922 board-certified active physicians in Prince George's County selected from the 2009-2010 Maryland Board of Physicians Renewal License File using the procedure described in Table 1 "Guide to Physician Count Management."

**Indicates that a specific Primary Certification has been used for the counts, not a subcategory from the "Guide to Categorizing Physician specialties."

¹Area Resource File 2005 www.arfsys.com/ derived from the American Medical Association Master File www.ama-assn.org/ama/pub/category/2673.html.

²Maryland Physician Workforce Study. (2008, April). Boucher and Associates. Sponsored by Maryland State Medical Society and the Maryland Hospital Association.

County. Overall, physician counts in Prince George's County are below the state average.

COMPARING RESULTS

Table 3 is adapted from Table A 4.1 from the 2009 RAND report and includes the same data plus the counts from the Public Health Impact Study. The purpose of this table is to compare the counts among different approaches used to derive the counts. The Area Resource File data come from the American Medical Association's Physician master file, a file that includes current and historical data, such as inactive physicians. The Maryland Physician Workforce Study was conducted by Boucher and Associates in 2008 for the Maryland State Medical Society and Maryland Hospital Association using the Maryland relicensure data. Subsequently MHCC commissioned a study of the Maryland Physician Workforce Study that applied the HRSA method and resulted in the "Hogan" report that we used to derive our counts. For the Prince George's County Public Health Impact Study, these physicians are considered to be part of the 922 physicians board-certified active physicians in Prince George's County selected from the 2009-2010 Maryland Board of Physician's Renewal License File using the procedure described.

TREND COMPARISON

Table 4 provides comparisons of rates for 100,000 residents of Prince George's County for the different specialties previously described for the combination of years 2006-2007 and 2009-2010. These counts are based on raw renewal license datasets. Given that many of the variables used to select the licensed physicians

TABLE 4 PHYSICIAN COUNTS PER 100,000 RESIDENTS IN PRINCE GEORGE'S COUNTY, BY YEAR* AND SELECTED SPECIALTIES**

	2006-2007	2009-2010
Primary Care Total	67.7	65.0
1 Family medicine	14.5	13.8
2 General practice	0.2	0.7
3 Internal medicine	30.4	29.9
4 Pediatrics	14.7	12.0
5 OB/GYN general	7.8	8.6
Medical Specialties Total	26.9	24.9
1 Allergy and immunology	1.0	0.8
2 Cardiovascular disease	3.3	2.7
3 Dermatology	1.8	1.6
4 Diabetes and endocrinology	1.4	1.0
5 Gastroenterology	2.8	2.5
6 Internal medicine subspecialties	6.5	6.6
7 Neurology	1.3	2.0
8 Pediatrics subspecialties	0.6	1.2
9 Psychiatry	4.8	4.7
10 Pulmonary medicine	1.4	1.0
11 Other primary care special	1.0	0.2
12 Other medical specialties	1.0	0.5
Hospital Based Total	23.6	21.4
1 Anesthesiology	5.4	6.1
2 Emergency medicine	6.8	5.6
3 Pathology	1.7	1.7
4 Physical medicine and rehabilitation	1.3	1.5
5 Diagnostic radiology	3.7	2.8
6 Radiology other	3.5	3.0
7 Other hospital based specialties	1.2	0.7
Surgical Specialties Total	24.5	20.8
1 General surgery	6.2	4.4
2 Colon & rectal surgery	—	—
3 Neurosurgery	0.8	0.7
4 OB/GYN surgical	0.2	0.2
5 Ophthalmology	5.9	5.4
6 Orthopedic surgery	5.6	4.9
7 Otolaryngology	1.4	1.6
8 Plastic surgery	0.5	0.5
9 Thoracic surgery	0.8	0.7
10 Urology	2.9	2.3
11 Other	0.1	0.1

*These counts are based on the raw renewal license datasets. Given that many of the variables used to select the licensed physicians and board-certified physicians in "Guide to Physician Count Management" were not collected in 2006 or 2007 it is not possible to perform the same set of adjustments.

**The procedures used to classify each certification into a subcategory are described in section 2.2.

and board-certified physicians in Table 1 were not collected in 2006 or 2007, it is not possible to perform the same set of adjustments and thus the counts per 100,000 are not identical to those in Table 3. The renewal license datasets are grouped in sets of two years because the physicians are required to renew their licenses every two years. Using this alternate approach in all the four major categories, the count of physicians per 100,000 Prince George’s County residents in the 2009–2010 cycle falls below that of the 2006–2007 cycle.

PEDIATRICIANS, ADULT PRIMARY CARE AND MEDICAL SPECIALISTS

For purposes of future planning we also provide physician counts by ZIP code for pediatricians, adult primary care and medical specialists in Appendix F. We used these counts to ascertain the primary care physician rate per 1,000 population for specific age ranges. Table 5 provides the rates for pediatrician rates for the population that is 17 years or younger, adult primary care physician rates for the population that is 18 years old and older, and the rate for the medical specialist category.

PRACTICE CHARACTERISTICS OF BOARD-CERTIFIED PHYSICIANS

We analyzed the relicensure survey responses for board-certified physicians in order to get a better understanding of their capacity. We looked at both all board-certified physicians and board-certified primary care physicians for both the state of Maryland and for Prince George’s County. No statistical tests were applied. Appendix G includes preliminary tables for select items from the 2010 relicensure survey.

The following narrative predominately highlights findings for physicians in Prince George’s County there are some major differences with overall physicians in Maryland.

INVOLVEMENT IN PATIENT CARE, RESEARCH, TEACHING AND ADMINISTRATION

The survey asks physicians to identify their involvement in one of four types of activities: patient care, research, teaching and administration. About a third of board-certified physicians are involved in patient care only (Maryland 32 percent; County 38 percent). For primary care physicians this is about the same for the state as a whole (37

percent), but higher for primary care physicians in Prince George’s County (42 percent). Involvement in teaching was reported by 36 percent of board-certified Maryland physicians and 30 percent of Maryland primary care physicians. The percent of all County physicians and primary care physicians involved in teaching was lower (23 percent and 21 percent, respectively). Twice as many Maryland physicians report they are involved in research activities (20 percent) as compared with those in the County (10 percent). This difference remains when looking at the primary care physicians, although the percent is lower for both Maryland primary care physicians (10 percent)

TABLE 5 PRINCE GEORGE’S COUNTY PHYSICIAN RATES PER 1,000 BY PRIMARY CARE AND OTHER SPECIALTIES

	Supply of Pediatricians for 17 years old or younger	Supply of Adult Primary Care Physicians for 18 years old or older	Supply of Medical Specialists
2010 Census Data*	205,999	657,421	863,420
Rate per 1,000	0.39	0.58	0.20

*Data from the report QT-PI-Geography-Prince George’s County, Maryland: Age Groups and Sex: 2010 (factfinder2.census.gov.)

TABLE 6 SELECTED PRACTICE CHARACTERISTICS FOR PRINCE GEORGE’S COUNTY BOARD CERTIFIED TOTAL AND PRIMARY CARE PHYSICIANS BY PERCENT AND NUMBER, 2010

	Prince George’s County Physicians (ALL) (n=922)	Prince George’s County Primary Care Physicians (n=465)
Practice only in Maryland	84% (722)	89% (414)
Practice in and outside of Maryland	16% (145)	11% (50)
Primary practice private for profit	67% (621)	66% (306)
Primary practice private non-profit	20% (185)	21% (96)
Primary practice in solo practice	29% (266)	33% (152)
Primary practice in single specialty group	36% (335)	27% (127)

and County primary care physicians (6 percent). A small percent of physicians were involved in all four activities, with Maryland physicians more likely than County physicians to be involved in all four: all Maryland board-certified physicians (15 percent), Maryland primary care physicians (9 percent), Prince George's County physicians (6 percent) and primary care physicians (4 percent).

Practice locations and primary practice characteristics Table 6 provides a summary of the Prince George's County physician practice characteristics. The majority of both Maryland (89 percent) and County primary care physicians practice only in Maryland. Eleven percent of County primary care physicians practice both in and outside of Maryland whereas 16 percent of all County physicians practice in both locations. The average number of practices reported by physicians in the County is 1.4 and ranges from 1 to 6. For County primary care physicians, the average is 1.3 with 1 to 5 practices as the range. The primary practice of the majority of these physicians is private for-profit and is either a solo or a single specialty group practice. About one-fifth of the physicians, either all or primary care, practice in private non-profit offices. Physicians in the County are less likely to practice as hospital staff as their primary practice (6 percent) than physicians in the state (15 percent), and

are more likely to practice in a HMO group as staff (County 10 percent, state 3 percent) than the physicians in the state.

INFORMATION TECHNOLOGY USE IN PRIMARY PRACTICE

The pattern of information technology (IT) being used by physicians, whether in the County or the state is similar. The majority of physicians are using IT to find general information such as information about treatment alternatives and guidelines and information on potential patient drug interactions (70–85 percent). A smaller proportion of physicians are using IT to communicate with patients. For County primary care physicians, 42 percent send reminders of preventive medicine to patients and 33 percent communicate clinical issues with patients. Also 52 percent of County primary care physicians use IT to exchange clinical data and images with hospitals and laboratories and 41 percent use IT to share this information with other physicians. With regard to using IT to send prescriptions to pharmacists, 43 percent of County primary care physicians use IT for this purpose and more than two-thirds send more than 75 percent of their prescriptions in this manner.

USE OF ELECTRONIC MEDICAL RECORDS

About a quarter of all physicians in the state (26 percent) and the County

(25 percent) are using all-electronic medical records. Slightly more of the primary care physicians are using only electronic medical records (state 30 percent, County 31 percent). Another portion of primary care physicians are using part-paper and part-electronic records (state 29 percent, County 22 percent). A higher proportion of County physicians are not using any electronic records (48 percent) than those in the state as a whole (37 percent). The predominant reasons provided for those not using electronic medical records by all physicians was capital cost outlays (state 44 percent, County 52 percent) and the fact that it wasn't their decision (state 30 percent, County 26 percent).

PARTICIPATION IN INSURANCE PROGRAMS

More than 90 percent of all physicians participate in private insurance networks, while about three-quarters participate in the Maryland Medical Assistance Program. Of those participating in the Medical Assistance Program, most are accepting new patients (state 87 percent, County 88 percent). About two-thirds participate in both the Medical Assistance Program and Medicare. Also of those participating in Medicare, most are accepting new patients (state 94 percent, County 95 percent).

HOSPITAL PARTICIPATION

Table 7 presents the hospital admitting and other related activities for County physicians. A quarter of all County physicians have hospital admitting privileges only outside the County. This is about 60 percent higher than for all state physicians (15 percent). Also state physicians (15 percent) are more than twice as likely to have their primary practice as staff in a hospital than County physicians (6 percent).

TABLE 7 HOSPITAL CHARACTERISTICS FOR ALL PRINCE GEORGE'S COUNTY AND ALL STATE BOARD-CERTIFIED PHYSICIANS BY PERCENT AND NUMBER, 2009-2010

	All Physicians in Prince George's County (n=922)	All Physicians in State (n=12,093)
Proportion with hospital privileges only in Maryland	73% (671)	74% (8,961)
Proportion with hospital privileges only outside Maryland	25% (234)	15% (1,869)
Have primary practice as staff in hospital	6% (51)	15% (1,819)

SUMMARY

This paper provides a detailed overview of the approach used to determine the counts and categorization of board-certified licensed physicians in Maryland and in Prince George's County. These data were used for additional analyses presented in other technical reports, specifically for the geographic mapping of physicians, documentation of the ratio of physicians per population by category and jurisdiction, and for application in the econometric model that assessed the association of factors with hospital events. Further discussion with others who are involved in deriving physician counts for purposes of planning healthcare systems would be beneficial.

This paper also provides several select findings:

- The ratio of physicians per 100,000 population in Prince George's County for each of the four categories of physicians (primary care, medical, hospital and surgical specialties) continues to be below that of the surrounding jurisdictions and the state as a whole. For example, the ratio of primary care physicians per 100,000 for Prince George's County, when compared with Montgomery County, is between half to two-thirds lower.
- There appears to be a decrease in the count of physicians in the County per 100,000 population. When looking at all four major categories of physicians, the count of physicians per 100,000 Prince George's County residents in the 2009-2010 cycle falls below that of the 2006-2007 cycle.
- The County has 81 pediatricians (0.39 per 1,000), 384 adult primary care specialists (0.58 per 1,000) and 173 (0.20 per 1,000) physicians with medical specialties with ZIP codes in Prince George's County.
- Physicians in the County are less likely to practice as hospital staff as their primary practice (6 percent) than physicians in the state (15 percent), and are more likely to practice in a HMO group as staff (County 10 percent, state 3 percent) than the physicians in the state.
- While about one-third of board-certified physicians are involved in patient care only (Maryland 32 percent, County 38 percent), twice as many state physicians report they are involved in research activities (20 percent) as compared with those in the County (10 percent).
- County physicians are more likely to have hospital privileges only outside Maryland (25 percent) compared with the state (15 percent).

In general, the practice profile of County physicians is similar to that of the state of Maryland. A few noteworthy differences include:

These findings are preliminary and descriptive and warrant additional analyses.

REFERENCES

Lurie, N., Harris, K.M., Shih R.A., Ruder, T., Price, A., Martin, L.G., Acosta, J., Blanchard, J.C. (2009). *Assessing Health and Health Care in Prince George's County*. Santa Monica, CA. RAND Corporation.

Hogan, C. (2011). *Maryland Physician Workforce Study: Applying the Health Resources and Services Administration Method to Maryland Data*. Baltimore, MD. MHCC Extramural Report.

Maryland Physician Workforce Study. (2008, April). Boucher and Associates. Sponsored by Maryland State Medical Society and the Maryland Hospital Association.

U.S. Census Bureau's Population Division Annual Estimates of the Population for Counties of Maryland: April 1, 2000 to July 1, 2007 (CO-EST2007-01-24) Release Date: March 20, 2008

DATABASES USED

Maryland Board of Physicians Relicensure Data: 2006-2007; 2009-2010.

2010 U. S. Census, Report QT-P1-Geography-Prince George's County, Maryland. (2010). Retrieved from factfinder2.census.gov.

APPENDIX A

TABLE A1 A COMPARISON OF SELECTION CRITERIA USED FOR PHYSICIAN COUNTS OF THE MARYLAND PHYSICIAN WORKFORCE STUDY (HOGAN) WITH THAT USED BY THE PRINCE GEORGE'S COUNTY PUBLIC HEALTH IMPACT STUDY

Maryland Physician Workforce Study	Public Health Impact Study
Deleted physicians working for the federal government, setting of the primary practice is federal military and setting of the primary practice is federal civilian.	SAME
Deleted physicians whose primary practice setting is Veterans Affairs	MAINTAINED We consider that the patients they serve, the veterans, are not in the military hence we retained them.
Excluded interns and fellows	SAME
Deleted physicians aged 75 or older	SAME
Retained only active physicians	Retained only active physicians who provide direct medical care to Maryland patients
Retained only physicians who declare that their primary practice is in the state of Maryland. Gap filled using the ZIP code of the principal practice or the ZIP code of their public address	Retained only physicians who declare that their primary or secondary practice or the non-public address is in the state of Maryland (in that order)
Used principal concentration to classify physicians in the different categories but not to exclude them from the counts	Deleted physicians who have missing data in their primary certification or are not certified.
Retained only physicians who work 20 hours or more in patient care or in their primary and secondary locations.	SAME
Adjust for missing initial license data (Add 4% to the number of physicians in Maryland)	No adjustment to account for initial license data. We could not add 4 percent adjustment to account for initial license data in the County Health Impact Study, because we could not accurately estimate the distribution of physicians with missing initial license data.

APPENDIX B

LICENSED PHYSICIANS IN THE STATE OF MARYLAND WHO HAVE SECONDARY CERTIFICATION BUT NOT PRIMARY CERTIFICATION*

Secondary Certification	Frequency				
		Family practice general	1	Colon & rectal surgery	1
Acupuncture	1	General preventive medicine	1	General surgery	1
Addiction medicine	1	Internal medicine general	5	Other (unspecified)	3
Allergy	1	Pain medicine	2	Total	23
Allergy & immunology/ clinical & laboratory immunology	2	Pediatrics—general	3		
		Pediatric cardiology	1		

*The criteria to decide which licensed physicians do not have a primary certification is described in the "Approach to Physician Count Management"

APPENDIX C

LICENSED PHYSICIANS WHO DECLARED PRINCE GEORGE’S AS THE JURISDICTION OF THE PRIMARY PRACTICE, BUT WITH ZIP CODE OUTSIDE OF IT*

Specialty	Frequency				
		Emergency medicine or trauma	1	Pediatrics—general	4
Anatomic/clinical pathology	1	Endocrinology, diabetes & metabolism	1	Psychiatry—general	1
Anesthesiology	8	Family practice—general	2	Pulmonary diseases	1
Cardiovascular disease	2	Internal medicine—general	12	Transitional year—internship	5
Child neurology	1	Nephrology—general	1	Total	48
Dermatology—general	1	Ophthalmology—general	2		
Diagnostic radiology	1	Orthopedics—general	2		
Emergency medicine	1	Otolaryngology	1		

*See Step 9 of Table 1

APPENDIX D

MEDICAL SPECIALTIES

For family medicine beyond code O10 used in the primary care category, we placed any family medicine-related subspecialties as part of other primary care subspecialties under the category medical specialties. These are:

- 105-Geriatric medicine (family practice)
- 210-Family medicine, adolescent medicine
- 211-Family medicine, sleep medicine
- 232-Family medicine, hospice and palliative medicine

For **Pediatrics Subspecialties beyond code 038** used in primary care, we placed these under medical specialties as pediatric subspecialties. The pediatric subspecialty codes include:

- 081-Adolescent medicine
- 248-Child abuse pediatrics
- 189-Developmental-behavioral pediatrics

- 235-Hospice and palliative medicine
- 148-Medical toxicology
- 072-Neonatal-perinatal medicine
- 190-Neurodevelopmental disabilities
- 040-Pediatric cardiology
- 107-Pediatric critical care medicine
- 104-Pediatric emergency medicine
- 090-Pediatric endocrinology
- 092-Pediatric gastroenterology
- 098-Pediatric hematology-oncology
- 188-Pediatric infectious diseases
- 114-Pediatric nephrology
- 135-Pediatric pulmonology
- 138-Pediatric rheumatology
- 220-Pediatric transplant hepatology
- 221-Sleep medicine (pediatric)
- 112-Sports medicine (pediatric)

For **internal medicine beyond general internal medicine**, we placed the internal medicine subspecialties under medical specialties. We extracted four subspecialties from internal medicine to stand alone.

These include cardiovascular disease (005); endocrinology, diabetes and metabolism (009); gastroenterology (011); and pulmonary medicine. The internal medicine specialties include:

- 244-Advanced heart failure and transplant
- 005-Cardiovascular disease
- 106-Critical care medicine
- 009-Endocrinology, diabetes and metabolism
- 011-Gastroenterology
- 014-Geriatric medicine
- 016-Hematology
- 233-Hospice and palliative medicine
- 018-Infectious disease
- 084-Medical oncology
- 023-Nephrology
- 048-Pulmonary disease
- 053-Rheumatology
- 165-Sleep medicine
- 111-Sports medicine
- 099-Transplant hepatology

ALLERGY AND IMMUNOLOGY

002-Allergy
 039-Pediatric allergy
 074-Allergy & immunology
 075-Allergy & immunology/
 clinical and laboratory immunology
 077-Immunology

CARDIOVASCULAR DISEASE

005-Cardiovascular disease

DERMATOLOGY

006-Dermatology—general
 080-Pediatric dermatology
 208-Dermatology, dermatopathology
 240-Dermatology, clinical and laboratory

ENDOCRINOLOGY, DIABETES**AND METABOLISM**

007-Diabetes
 009-Endocrinology, diabetes & metabolism

FAMILY MEDICINE**GASTROENTEROLOGY**

011-Gastroenterology—general

INTERNAL MEDICINE SUBSPECIALTIES

(listed above)

NEUROLOGY

024-Neurology—general
 025-Child neurology
 196-Neurophysiology—general

PEDIATRICS SUBSPECIALTIES

(listed above)

PSYCHIATRY

043-Psychiatry—general
 044-Child & adolescent psychiatry
 045-Psychoanalysis
 046-Psychosomatic medicine
 078-Addiction medicine
 087-Geriatric psychiatry
 134-Addiction psychiatry
 159-Psychiatry neurology
 197-Forensic psychiatry
 224-Psychiatry and neurology,
 sleep medicine

225-Psychiatry and neurology,
 vascular neurology
 246-Psychiatry and neurology,
 neurodevelopmental disabilities

PULMONARY DISEASE

048-Pulmonary diseases
 161-Pulmonology
 169-Pulmonary diseases/critical care

OTHER PRIMARY CARE SUBSPECIALTIES

013-General preventive medicine
 014-Geriatric medicine (internal medicine)
 028-Nutrition
 047-Public health & general preventive
 medicine
 105-Geriatric medicine (family practice)
 149-Medical toxicology (preventive medicine)
 210-Family medicine, adolescent medicine
 211-Family medicine, sleep medicine
 232-Family medicine, hospice and palliative
 medicine
 249-Preventive medicine, public health and
 general preventive med

OTHER

001-Aerospace medicine
 021-Legal medicine
 022-Neoplastic diseases
 026-Neuropathology
 027-Nuclear medicine
 031-Occupational medicine
 089-Cardiac electrophysiology
 097-Medical genetics (Phd)
 108-Pain medicine
 113-Underseas medicine
 122-Adult reconstructive orthopedics
 152-Maternal & fetal medicine
 153-Osteopathic manipulative medicine
 156-Corneal/external disease
 164-Accupuncture
 181-Medical genetics
 183-Otology—neurotology
 192-Spinal cord injury medicine
 195-Occupational environmental medicine
 198-Neurodevelopmental disabilities
 200-Research medical
 250-Medicine, spine

SURGICAL SPECIALTIES**GENERAL SURGERY**

056-Abdominal surgery
 057-Cardiovascular surgery
 059-General surgery
 060-Hand surgery—general
 061-Head & neck surgery
 064-Pediatric surgery (surgery)
 067-Traumatic surgery
 068-Urological surgery
 069-Other (unspecified)
 076-Vascular surgery
 086-Urology
 139-Surgical critical Care (Surgery)
 150-Pediatric urology
 229-Surgery, pediatric

COLON AND RECTAL SURGERY

058-Colon & rectal surgery

NEUROLOGIC SURGERY

062-Neurological surgery
 140-Neurological—critical care—surgery
 141-Pediatric surgery (neurology)

OB/GYN

029-Obstetrics
 116-Critical care medicine
 (obstetrics & gynecology)
 216-Obstetrics & gynecology, maternal
 and fetal medicine
 217-Obstetrics & gynecology, reproductive
 218-Obstetrics & gynecology, endocrinology/
 Infertility

OPHTHALMOLOGY

032-Ophthalmology—general
 117-Pediatric ophthalmology

ORTHOPEDICS

063-Orthopedic surgery
 121-Orthopedics general
 123-Pediatric orthopedics
 124-Orthopedics trauma
 142-Hand surgery (orthopedic surgery)
 143-Orthopedic surgery of the spine
 144-Sports medicine (orthopedic surgery)

OTOLARYNGOLOGY

- 033-Otology
- 034-Otolaryngology
- 125-Pediatric otolaryngology
- 171-Surgery head and neck/otolaryngology

PLASTIC SURGERY

- 065-Plastic surgery
- 145-Facial plastic surgery
- 146-Surgery of the hand (plastic surgery)
- 184-Plastic within head and neck surgery
- 194-Plastic within hand and neck surgery

THORACIC SURGERY

- 066-Thoracic surgery
- 204-Surgery cardio—thoracic

UROLOGY

- 024-Neurology—general
- 025-Child neurology

- 186-Pathology—general
- 215-Genetics, molecular genetic pathology

PHYSICAL MEDICINE AND REHABILITATION

- 042-Physical medicine & rehabilitation
- 191-Pain management
(Physical medicine and rehabilitation)
- 193-Pediatrics rehabilitation medicine
- 223-Physical medicine and rehabilitation, neuromuscular medicine
- 236-Physical medicine and rehab, hospice and palliative medicine

DIAGNOSTIC RADIOLOGY

- 050-Diagnostic radiology
- 082-Neuroradiology
- 137-Nuclear radiology
- 226-Radiology, diagnostic radiologic physics
- 227-Radiology, medical nuclear physics

HOSPITAL SPECIALTIES

ANESTHESIOLOGY

- 003-Anesthesiology
- 085-Critical care medicine (anesthesiology)
- 151-Pain management (anesthesiology)
- 230-Anesthesiology, hospice and palliative medicine

EMERGENCY MEDICINE

- 008-Emergency medicine or trauma
- 109-Sports medicine (emergency medicine)
- 147-Medical toxicology (emergency medicine)
- 209-Emergency medicine
- 231-Emergency medicine, hospice and palliative medicine

PATHOLOGY

- 035-Anatomic/clinical pathology
- 036-Clinical pathology
- 037-Forensic pathology
- 103-Medical microbiology
- 126-Anatomic pathology
- 127-Chemical pathology
- 128-Cytopathology
- 129-Dermatopathology
- 130-Hematology (pathology)
- 132-Pediatric pathology

RADIOLOGY OTHER

- 049-Radiology
- 051-Pediatric radiology
- 052-Vascular & interventional radiology
- 120-Radiation oncology
- 199-Therapeutic radiology
- 238-Radiology, hospice and palliative medicine

OTHER HOSPITAL BASED SPECIALTIES

- 041-Clinical pharmacology
- 088-Blood banking transfusion medicine
- 093-Clinical biochemical genetics
- 095-Clinical genetics
- 096-Clinical molecular genetics
- 115-Clinical neurophysiology
- 178-Interventional—cardiology

The specialties mentioned in this document cover all the certifications provided by the physicians in the years 2009–2010.

APPENDIX F

The physicians listed as pediatricians and adult primary care are the 465 physicians deemed as primary care physicians in Adjustment 13 of Table 2. For adult primary care physicians, we used codes specified by HRSA provided by the DHMH Office of Primary Care. The codes are: 010-Family

practice-general, 012-General practice, 015-Gynecology, 019-Internal medicine-general, and 030-Obstetrics and gynecology—general. For Pediatrics only the code 038-Pediatrics was used. The rules followed to classify a physician as a medical specialist are listed in Section 2.2.

The 2010 Census data shown in Table 6 can be found at factfinder2.census.gov from the report QT-P1-Geography-Prince George’s County, Maryland: Age Groups and Sex: 2010.

TABLE F1 PEDIATRICIANS, ADULT PRIMARY CARE AND MEDICAL SPECIALISTS COUNTS BY ZIP CODE IN PRINCE GEORGE’S COUNTY*

Zip Codes in Prince George’s County	Pediatricians**	Adult Primary Care**	Medical Specialties***
20601	0	1	1
20607	0	0	0
20608	0	0	0
20613	1	0	0
20623	0	0	1
20705	0	3	2
20706	4	29	12
20707	8	38	21
20708	9	5	2
20710	0	2	0
20712	0	0	0
20715	1	9	2
20716	3	21	7
20720	0	2	0
20721	2	9	2
20722	1	3	1
20735	3	29	32
20737	3	10	7
20740	1	21	5
20742	1	3	3
20743	0	0	0
20744	1	20	3
20745	0	11	2
20746	0	20	5
20747	0	8	1
20748	10	21	3
20762	0	0	0
20769	2	9	1
20770	6	33	32
20772	5	7	2
20774	7	30	14
20781	1	4	0
20782	5	8	4
20783	0	2	0
20784	0	6	3
20785	7	20	5
Total Number of Physicians	81	384	173

Based on the above results, the following rates were obtained:

	Supply of Pediatricians for 17 years old or younger	Supply of Adult Primary Care Physicians for 18 years old or older	Supply of Medical Specialists
2010 Census Data****	205,999	657,421	863,420
Rate per 1,000	0.39	0.58	0.20

* The ZIP codes included in this table are the same as those used to define Prince George’s County in adjustments 8 and 9 of Table 1.

**The physicians included in the pediatricians and adult primary care are the 465 physicians deemed as primary care physicians in Adjustment 13 of Table 1.

***The rules followed to classify a physician as a medical specialist are listed in step 6 of the “Guide to Categorizing Physician specialties.”

**** Data from the report QT-P1-Geography-Prince George’s County, Maryland: Age Groups and Sex: 2010 (factfinder2.census.gov.)

APPENDIX G

These tables include physician practice characteristics lifted from preliminary assessments of the 2010 Maryland Board of Physicians relicensure survey.

TABLE G1 DESCRIPTION OF TYPES OF PHYSICIAN ACTIVITIES SURVEY ITEM 13

Activity	Board-Certified Physicians in Maryland	Board Certified Physicians in County	Primary Care Physicians in Maryland	Primary Care Physicians in County
Total physicians	12093	922	4870	465
Patient Care				
Patient care only	3895 (32%)	353 (38%)	1791 (37%)	193 (42%)
Patient care & other activities	8198 (68%)	569 (62%)	3079 (63%)	272 (58%)
Research (any)	2365 (20%)	93 (10%)	618 (13%)	28 (6%)
Teaching (any)	4358 (36%)	214 (23%)	1450 (30%)	96 (21%)
Administration (any)	7398 (61%)	520 (56%)	2763 (57%)	253 (54%)
Combinations (any research and teaching)	1965 (16%)	54 (6%)	508 (10%)	17 (4%)
All four activities	1805 (15%)	52 (6%)	461 (9%)	17 (4%)

TABLE G2 PHYSICIANS WHO CURRENTLY ARE NOT ENGAGED IN PATIENT CARE, BUT INTEND TO RESUME PATIENT CARE ACTIVITIES WITHIN TWO YEARS*

	Physicians in Maryland
Total Physicians not currently providing patient care	2,685 out of 25,687 physicians in the raw License Renewal Dataset
Yes, will resume activities	848 (32%)
No, won't resume activities	1,837 (68%)

*There are no Licensed Physicians in Maryland who are not providing patient care. One of the conditions to be selected as Licensed is to be active physicians and provide direct medical care to Maryland Patients.

Note: Of the 1,837 physicians who don't intent to resume patient care activities, 322 of them are 75 years or older. Their average age is 62.36

PHYSICIANS WITH PLANS TO DISCONTINUE PATIENT CARE IN THE NEXT TWO YEARS SURVEY ITEM 15

Activity	Board-Certified Physicians in Maryland	Board-Certified Physicians in County	Primary Care Physicians in Maryland	Primary Care Physicians in County
Total Physicians	12,093	922	4,870	465
Yes	628 (5%)	51 (6%)	241 (5%)	21 (5%)
No	11,462 (95%)	871 (94%)	4,629 (95%)	444 (95%)

TABLE G3 IN-STATE OR OUT-OF-STATE NUMBER OF PRACTICE LOCATIONS IN WHICH ROUTINELY DELIVER PATIENT CARE FOR REIMBURSEMENT* SURVEY ITEM 16

	Board-Certified Physicians in Maryland	Board-Certified Physicians in County	Primary Care Physicians in Maryland	Primary Care Physicians in County
Total Physicians	12,093	922	4,870	465
Practice only in Maryland	10,214 (84%)	772 (84%)	4,318 (89%)	414 (89%)
Range	1 to 20	1 to 6	1 to 20	1 to 5
Average	1.49	1.43	1.32	1.33
Practice only outside Maryland	540 (4%)	4 (0%)	182 (4%)	1 (0%)
Range	1 to 9	1 to 1	1 to 6	1 to 1
Average	1.31	1	1.25	1
Inside and outside of Maryland	1,207 (10%)	145 (16%)	316 (6%)	50 (11%)
Range inside Maryland	1 to 20	1 to 6	1 to 18	1 to 6
Average inside Maryland	1.59	1.55	1.5	1.5
Range outside Maryland	1 to 20	1 to 5	1 to 15	1 to 5
Average outside Maryland	1.54	1.32	1.54	1.28

*Notice that in for the columns for the board-certified physicians in Maryland and for the Primary Care Physicians in Maryland the percentages do not add up to 100 percent. For example, for board-certified physicians in Maryland the percentages are 84 percent (Practice Only in Maryland) + 4 percent (Practice Only outside Maryland) + 10 percent (Practice inside and outside Maryland) =98 percent. The 132 unaccounted physicians either have missing values for this question or declared their number of primary care locations inside and outside of Maryland to be zero. The same can be said for the 54 physicians unaccounted in the Primary Care Physicians in Maryland column.

TABLE G4 PROPORTIONS OF PHYSICIANS WITH HOSPITAL ADMITTING PRIVILEGES SURVEY ITEM 17

	Board-Certified Physicians in Maryland	Board-Certified Physicians in County	Primary Care Physicians in Maryland	Primary Care Physicians in County
Total Physicians	12,093	922	4,870	465
Only in Maryland hospitals	8961 (74%)	671 (73%)	3749 (77%)	335 (72%)
Range for the number of hospitals	1 to 17	1 to 8	1 to 9	1 to 5
Average for the number of hospitals	1.73	1.88	1.58	1.68
Only in hospitals outside of Maryland	1869 (15%)	234 (25%)	649 (13%)	104 (22%)
Range for the number of hospitals	1 to 20	1 to 6	1 to 11	1 to 6
Average for the number of hospitals	1.67	1.51	1.52	1.49
Hospitals inside and outside of Maryland	1090 (9%)	173 (19%)	348 (7%)	72 (15%)
Range for the number inside of Maryland	1 to 17	1 to 8	1 to 8	1 to 5
Average for the number inside of Maryland	1.74	1.84	1.54	1.47
Range for the number outside of Maryland	1 to 20	1 to 6	1 to 11	1 to 6
Average for the number outside of Maryland	1.79	1.58	1.60	1.55

TABLE G5 PRIMARY PRACTICE (PRIVATE OR PUBLIC ORGANIZATION TYPE) SURVEY ITEM 18 (L)

Private/Public Practice	Board Certified Physicians in Maryland	Board Certified Physicians in County	Primary Care Physicians in Maryland	Primary Care Physicians in County
Total Physicians	12,093	922	4,870	465
Private non-profit	3,638 (30%)	185 (20%)	1,356 (28%)	96 (21%)
Private for profit	7,045 (58%)	621 (67%)	2,982 (61%)	306 (66%)
Private other	588 (5%)	72 (8%)	264 (5%)	44 (9%)
Public VA	14 (0%)	0 (0%)	2 (0%)	0 (0%)
Public VA	468 (4%)	20 (2%)	138 (3%)	8 (2%)
Public-local	225 (2%)	22 (2%)	84 (2%)	11 (2%)

TABLE G6 TYPE OF PRIMARY PRACTICE SURVEY ITEM 18

Private or Public Practice	Board Certified Physicians in Maryland	Board Certified Physicians in County	Primary Care Physicians in Maryland	Primary Care Physicians in County
Total Physicians	12,093	922	4,870	465
Solo	2313 (19%)	266 (29%)	1065 (22%)	152 (33%)
Single-specialty group	5229 (43%)	335 (36%)	1836 (38%)	127 (27%)
Multi-specialty group	1766 (15%)	142 (15%)	873 (18%)	82 (18%)
HMO group/staff	375 (3%)	94 (10%)	214 (4%)	63 (14%)
Staff hospital	1819 (15%)	51 (6%)	617 (13%)	23 (5%)
Staff non-acute care facility	86 (1%)	7 (1%)	47 (1%)	7 (1%)
Staff other	211 (2%)	14 (2%)	103 (2%)	6 (1%)
Locum tenens	64 (1%)	4 (0%)	26 (1%)	2 (0%)
Other contractual-associate staff (individual only)	119 (1%)	6 (1%)	48 (1%)	2 (0%)
Volunteer	2 (0%)	1 (0%)	1 (0%)	1 (0%)

TABLE G7 SETTING OF PRIMARY PRACTICE SURVEY ITEM 18 (K)

Setting of Practice	Board-Certified Physicians in Maryland	Board-Certified Physicians in County	Primary Care Physicians in Maryland	Primary Care Physicians in County
Total Physicians	12093	922	4870	465
Freestanding physician office	6407 (53%)	560 (61%)	2956 (61%)	289 (62%)
Health maintenance organization (HMO)	383 (3%)	107 (12%)	219 (4%)	72 (15%)
Federally qualified community health center	145 (1%)	5 (1%)	126 (3%)	5 (1%)
Other community health center	69 (1%)	4 (0%)	50 (1%)	2 (0%)
Community mental health center	69 (1%)	3 (0%)	4 (0%)	1 (0%)
Hospital outpatient dept surgical	127 (1%)	2 (0%)	5 (0%)	0 (0%)
Hospital outpatient dept other	524 (4%)	8 (1%)	193 (4%)	5 (1%)
Freestanding ambulatory surgery center	97 (1%)	5 (1%)	2 (0%)	0 (0%)
Rehabilitation physical	18 (0%)	3 (0%)	6 (0%)	2 (0%)
Rehabilitation drug or alcohol	7 (0%)	0 (0%)	1 (0%)	0 (0%)
Free standing medical facility	242 (2%)	23 (2%)	131 (3%)	8 (2%)
Other clinic	179 (1%)	25 (3%)	108 (2%)	20 (4%)
Acute general hospital	2154 (18%)	94 (10%)	653 (13%)	39 (8%)
Psychiatric hospital	105 (1%)	0 (0%)	7 (0%)	0 (0%)
Rehabilitation hospital	29 (0%)	0 (0%)	8 (0%)	0 (0%)
Chronic hospital	19 (0%)	2 (0%)	7 (0%)	2 (0%)
Pediatric hospital	129 (1%)	2 (0%)	75 (2%)	2 (0%)
Hospital laboratory (non research)	92 (1%)	6 (1%)	1 (0%)	0 (0%)
Hospital radiology/nuclear/MRI	173 (1%)	6 (1%)	1 (0%)	1 (0%)
Other hospital	86 (1%)	4 (0%)	23 (0%)	1 (0%)
Comprehensive care facility	38 (0%)	2 (0%)	25 (1%)	2 (0%)
Extended care facility	18 (0%)	2 (0%)	11 (0%)	0 (0%)
Intermediate care facility	19 (0%)	2 (0%)	16 (0%)	2 (0%)
Residential treatment center	15 (0%)	1 (0%)	7 (0%)	1 (0%)
Penitentiary	16 (0%)	1 (0%)	8 (0%)	0 (0%)
Other non-acute care facility	28 (0%)	3 (0%)	12 (0%)	3 (1%)
Local health department	10 (0%)	2 (0%)	8 (0%)	1 (0%)
State health department	13 (0%)	0 (0%)	5 (0%)	0 (0%)
University or college	140 (1%)	1 (0%)	41 (1%)	0 (0%)
School system (K-12)	6 (0%)	0 (0%)	1 (0%)	0 (0%)
Other research facility-research laboratory	1 (0%)	0 (0%)	1 (0%)	0 (0%)
Worksite	23 (0%)	2 (0%)	6 (0%)	1 (0%)
Insurance company	1 (0%)	0 (0%)	0 (0%)	0 (0%)
Hospital emergency room	461 (4%)	31 (3%)	103 (2%)	5 (1%)
Freestanding lab (non research)	37 (0%)	3 (0%)	0 (0%)	0 (0%)
Freestanding imaging center	79 (1%)	10 (1%)	2 (0%)	0 (0%)
Other licensed field	27 (0%)	1 (0%)	8 (0%)	1 (0%)

TABLE G8 **INFORMATION TECHNOLOGY (PRIMARY PRACTICE/OFFICE LOCATION)** SURVEY ITEM 20

Private/Public		Board-Certified	Board-Certified	Primary Care	Primary Care
		Physicians in Maryland	Physicians in County	Physicians in Maryland	Physicians in County
Total Physicians		12,093	922	4,870	465
Use IT to obtain information about treatment alternatives & guidelines	No	2,143 (18%)	217 (24%)	687 (14%)	100 (22%)
	Yes	9811 (81%)	700 (76%)	4126 (85%)	362 (78%)
Use IT to send prescriptions to pharmacies	No	8,547 (71%)	611 (66%)	2,913 (60%)	263 (57%)
	Yes	3355 (28%)	302 (33%)	1892 (39%)	198 (43%)
Use IT to send reminders of preventive medicine to patients	No	8,272 (68%)	567 (61%)	2,955 (61%)	266 (57%)
	Yes	3,541 (29%)	338 (37%)	1,809 (37%)	193 (42%)
Use IT to access patients notes, medication lists or problems lists	No	3,916 (32%)	404 (44%)	1,749 (36%)	210 (45%)
	Yes	7,983 (66%)	510 (55%)	3,049 (63%)	253 (54%)
Use IT for clinical data and image exchanges with other physicians	No	6,008 (50%)	522 (57%)	2,642 (54%)	270 (58%)
	Yes	5,922 (49%)	393 (43%)	2,165 (44%)	192 (41%)
Use IT for clinical data and image exchanges with hospitals and laboratories	No	4,826 (40%)	444 (48%)	1,849 (38%)	223 (48%)
	Yes	7,105 (59%)	474 (51%)	2,962 (61%)	242 (52%)
Use IT to communicate about clinical issues with patients by email	No	8,673 (72%)	660 (72%)	3,456 (71%)	311 (67%)
	Yes	3,266 (27%)	258 (28%)	1,359 (28%)	153 (33%)
Use IT to obtain information on potential patient drug interactions with other drugs, allergies and/or patient conditions	No	2,795 (23%)	265 (29%)	931 (19%)	113 (24%)
	Yes	9,108 (75%)	649 (70%)	3,863 (79%)	348 (75%)

TABLE G9 **PERCENTAGE OF PRESCRIPTIONS SENT ELECTRONICALLY*** SURVEY ITEM 20B

Percentage of Prescriptions sent electronically	Board-Certified	Board-Certified	Primary Care	Primary Care
	Physicians in Maryland	Physicians in County	Physicians in Maryland	Physicians in County
Total Number of Physicians who use IT to send prescriptions to pharmacies	3355	302	1892	198
Number of physicians who sent electronically more than 0% but less or equal to 25% of their prescriptions	723 (22%)	42 (14%)	308 (16%)	17 (9%)
Number of physicians who sent electronically more than 25% but less or equal to 50% of their prescriptions	552 (16%)	43 (14%)	287 (15%)	28 (14%)
Number of physicians who sent electronically more than 50% but less or equal to 75% of their prescriptions	407 (12%)	24 (8%)	262 (14%)	16 (8%)
Number of physicians who sent electronically more than 75% of their prescriptions	1673 (50%)	193 (64%)	1035 (55%)	137 (69%)

*Only those physicians who use Information Technology to send prescriptions to pharmacies were asked to provide information about what percentage of those prescriptions were sent electronically.

TABLE G10 PERCENTAGE OF MEDICAL RECORDS (NOT INCLUDING BILLING RECORDS) IN THE PRIMARY PRACTICE SURVEY ITEM 21

Electronic Medical Records	Board Certified Physicians in Maryland	Board Certified Physicians in County	Primary Care Physicians in Maryland	Primary Care Physicians in County
Total physicians	12,093	922	4,870	465
Yes, all electronic	3,101 (26%)	235 (25%)	1,441 (30%)	144 (31%)
Yes, part-paper and part-electronic	4,166 (34%)	223 (24%)	1,403 (29%)	100 (22%)
No	4,426 (37%)	446 (48%)	1,924 (40%)	215 (46%)
Don't know	265 (2%)	15 (2%)	53 (1%)	4 (1%)

TABLE G11 MOST SIGNIFICANT REASON FOR NOT USING ELECTRONIC MEDICAL RECORDS* SURVEY ITEM 21A

Electronic Medical Records	Board Certified Physicians in Maryland	Board Certified Physicians in County	Primary Care Physicians in Maryland	Primary Care Physicians in County
Total number of physicians who do not use electronic medical Records	4,426	446	1,924	215
Capital cost outlays	1,968 (44%)	233 (52%)	953 (50%)	125 (58%)
Overburdened staff	112 (3%)	9 (2%)	52 (3%)	7 (3%)
Physician resistance to adaption	170 (4%)	16 (4%)	81 (4%)	9 (4%)
Risk of privacy breaches	191 (4%)	12 (3%)	50 (3%)	8 (4%)
Lack of technology standards	342 (8%)	32 (7%)	124 (6%)	7 (3%)
Intangible benefits	130 (3%)	14 (3%)	45 (2%)	4 (2%)
Retiring soon	70 (2%)	9 (2%)	31 (2%)	6 (3%)
Not my decision	1,313 (30%)	114 (26%)	529 (27%)	47 (22%)

*Only those physicians who do not use electronic medical records were asked to provide a reason for not adopting this information technology tool.

TABLE G12 PARTICIPATION IN INSURANCE PROGRAMS SURVEY ITEM 22

Electronic Medical Records		Board Certified Physicians in Maryland	Board Certified Physicians in County	Primary Care Physicians in Maryland	Primary Care Physicians in County
Total Physicians		12,093	922	4,870	465
Participates in private insurance networks, including PPO, EPO, HMO, etc.	Yes	10,865 (90%)	842 (91%)	4,440 (91%)	426 (92%)
	No	1221 (10%)	80 (9%)	427 (9%)	39 (8%)
Participates in Maryland Medical Assistance Program	Yes	8,973 (74%)	675 (73%)	3,581 (74%)	342 (74%)
	No	3113 (26%)	247 (27%)	1287 (26%)	123 (26%)
Participates in MEDICARE	Yes	10,269 (85%)	779 (84%)	3,814 (78%)	367 (79%)
	No	1817 (15%)	143 (16%)	1053 (22%)	98 (21%)
Participates in Maryland Medical Assistance Program and MEDICARE	Yes	8,196 (68%)	606 (66%)	2,961 (61%)	283 (61%)
	No	3,897 (32%)	316 (34%)	1,909 (39%)	182 (39%)

TABLE G13 PERCENTAGE OF PHYSICIANS ACCEPTING NEW MARYLAND MEDICAL ASSISTANCE PROGRAM PATIENTS* SURVEY ITEM 22B1

Electronic Medical Records		Board Certified Physicians in Maryland	Board Certified Physicians in County	Primary Care Physicians in Maryland	Primary Care Physicians in County
Total number of physicians who participate in the Maryland Medical Assistance Program		8,973	675	3,581	342
Yes, accepting new Maryland Medical Assistance Program patients		7819 (87%)	592 (88%)	2891 (81%)	287 (84%)
Not accepting new Maryland Medical Assistance Program patients		1153 (13%)	83 (12%)	690 (19%)	55 (16%)

*Only those physicians who currently participate in the Maryland Medical Assistance Program were asked to provide information about their willingness to accept new patients who are members of this program.

TABLE G14 PERCENTAGE OF PHYSICIANS ACCEPTING NEW MEDICARE PATIENTS* SURVEY 22C1

Electronic Medical Records		Board Certified Physicians in Maryland	Board Certified Physicians in County	Primary Care Physicians in Maryland	Primary Care Physicians in County
Total number of physicians who participate in MEDICARE		10,269	779	3,814	367
Yes, accepting new MEDICARE patients		9,622 (94%)	739 (95%)	3,369 (88%)	337 (92%)
Not accepting new MEDICARE patients		637 (6%)	40 (5%)	442 (12%)	30 (8%)

*Only those physicians who currently participate in MEDICARE were asked to provide information about their willingness to accept new MEDICARE patients.

TABLE G15 PERCENTAGE OF PHYSICIANS ACCEPTING NEW MARYLAND MEDICAL ASSISTANCE PROGRAM AND MEDICARE PATIENTS* SURVEY ITEMS 22B1 AND 22C1 COMBINED

Electronic Medical Records	Board Certified Physicians in Maryland	Board Certified Physicians in County	Primary Care Physicians in Maryland	Primary Care Physicians in County
Total number of physicians who participate in the Maryland Medical Assistance Program and MEDICARE	8,196	606	2,961	283
Yes	7080 (86%)	526 (87%)	2314 (78%)	231 (82%)
No	1116 (14%)	80 (13%)	647 (22%)	52 (18%)

*Only those physicians currently participating in both Maryland Medical Assistance Program and MEDICARE were asked to provide information about their willingness to accept new patients who are members of these programs. Hence, it is not possible to determine accurately the number of physicians who do not currently participate in these programs but are planning to accept new patients from these programs for the first time.

TABLE G16 PERCENTAGE OF PHYSICIANS WHO USE A SLIDING FEE SCALE BASED ON ABILITY TO PAY

Electronic Medical Records	Board Certified Physicians in Maryland	Board Certified Physicians in County	Primary Care Physicians in Maryland	Primary Care Physicians in County
Total Physicians	12,093	922	4,870	465
Yes	3,652 (30%)	259 (28%)	1,574 (32%)	126 (27%)
No	4,841 (40%)	377 (41%)	1,931 (40%)	193 (42%)
N/A	3,592 (30%)	286 (31%)	1,361 (28%)	146 (31%)

TABLE G17 TYPICAL NUMBER OF HOURS PER WEEK FOR DEDICATED TO CHARITY WORK

Electronic Medical Records	Board Certified Physicians in Maryland	Board Certified Physicians in County	Primary Care Physicians in Maryland	Primary Care Physicians in County
Total Physicians	12,093	922	4,870	465
Zero hours	7,865 (65%)	642 (70%)	3,502 (72%)	333 (72%)
Between one and 10 hours	3,940 (33%)	260 (28%)	1,268 (26%)	124 (27%)
Between 11 and 20 hours	163 (1%)	10 (1%)	53 (1%)	5 (1%)
More than 20 hours	118 (1%)	10 (1%)	45 (1%)	3 (1%)

TABLE G18 PERCENTAGE OF PHYSICIANS WHO CHARGES PATIENTS AN ANNUAL FEE TO PARTICIPATE IN PATIENT PANEL

Electronic Medical Records	Board Certified Physicians in Maryland	Board Certified Physicians in County	Primary Care Physicians in Maryland	Primary Care Physicians in County
Total Physicians	12,093	922	4,870	465
Yes	71 (1%)	3 (0%)	62 (1%)	1 (0%)
No	6,099 (50%)	508 (55%)	3,230 (66%)	326 (70%)
N/A	5,923 (49%)	411 (45%)	1,578 (32%)	138 (30%)

TECHNICAL REPORT 4

Identification of Geographic Areas of Need for Primary Care: An Assessment of the Geographic Distribution of Selected Health care Resources

Min Qi Wang, Ph.D.

INTRODUCTION

This assessment is aimed at identifying the greatest need for primary care in Prince George’s County. This was addressed by defining health care and other parameters of primary care need, documenting the geographic distribution of these parameters and then, based on a synthesis of these findings, identifying areas that reflect differential levels of primary care need. To place the county data in the context of the region and state, the data are presented for four additional jurisdictions: Montgomery, Anne Arundel, Baltimore and Howard counties. These counties either border Prince George’s County and/or have similarities in population characteristics.

Primary care has been defined by the Institute of Medicine as the “provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing sustained partnership with patients, and practicing in the context of family and community” (IOM, 1994). This definition remains viable today with its hallmark focus on the patient, family and community, and with care facilitated and augmented by teams of providers working within integrated delivery systems. Integrated care includes the provision and coordination of services that address health care needs at stages throughout a patient’s life cycle and continuous over time. This care focuses on disease prevention, chronic disease management and episodic care for acute systems. Mental and behavioral health and dental health are included in the scope of services that support functioning of individuals and work is ongoing to integrate these services within a primary care delivery system.

Three primary types of data were assessed to contribute to the

identification of need for primary care at the level of ZIP codes. These include select population characteristics, rates of licensed primary care workforce categories and several measures of health-status based on hospital discharge data. In addition, the geographic location of hospitals and safety net clinics in Prince George’s County are mapped. Additional information on public health resources is referenced in another technical report.

POPULATION CHARACTERISTICS

There are a number of characteristics that can be used to assess need for primary care. Three were used for this assessment: education, income and race/ethnicity. Populations with low education and those with low incomes have higher risk for disease and lower use of preventive health services. Race/ethnicity of populations has been associated with differential risks for disease as well. The latter factor was added for comparison purposes and due to the general literature, although it

is done with the knowledge that Prince George’s County’s population reflects a large and diverse majority African American population and is a county with the wealthiest African American population in the nation.

PRIMARY CARE PROVIDERS

Primary care providers serve as a principal point of contact for patients seeking to maintain optimum health within a health care system. The parameters of state practice acts define the supervisory structure and settings of the care provided, such as care provided through independent practice or supervised care provided within teams of providers.

For purposes of this study we have taken an initial step to look at a more extensive scope of primary health care providers in the state of Maryland. These licensed providers fall within three major categories: medical, dental and mental/behavioral health.

MEDICAL

Primary care physicians These include medical specialists in family practice, internal medicine, pediatrics and obstetrics and gynecology.

Nurse practitioners These providers are advanced practice registered nurses and provide a full range of medical services with a focus on health promotion and disease prevention. In Maryland they work both independently and in collaboration with physicians.

Physician assistants These providers work under the supervision of licensed physicians and provide a range of diagnostic, therapeutic and preventive health care services as delegated by a physician.

DENTAL

Dentists The majority of these providers are general practice practitioners who provide medical, surgical and disease preventive services for oral and dental disorders and diseases. Additional specialists contributing to primary care include pediatric dental specialists, dental public health specialists and others.

Dental Hygienists These providers work under the supervision of licensed dentists and provide a range of disease preventive health services. In Maryland, licensed dental

hygienists can also provide services in public health settings under the general supervision of dentists.

MENTAL AND BEHAVIORAL HEALTH

We include a full range of providers in this category and recognize that their scopes of practice differ, though all focus on improving an individual's mental health or treating mental illness. The most significant differences between these providers are the laws regarding required education and training across the various professions (Cherry, 2007). In Maryland, each of these four provider categories is licensed and can practice independently: psychiatrists (physicians who specialize in psychiatry), psychologists, clinical social workers, and therapists and counselors.

HEALTH STATUS AS CAPTURED BY HOSPITAL DISCHARGE DATA

Hospital inpatient care is often referred to as tertiary care; however, inpatient care that could have been prevented through effective outpatient primary care services (ambulatory care sensitive conditions), or care that is better coordinated between hospital discharge and outpatient care (30-day readmissions), has been used as a measure of primary care need. This study assessment uses three hospital events for Prince George's residents: hospital 30-day readmissions, hospital

diseases for select ambulatory care-sensitive conditions and overall hospital discharges. The latter is an additional measure of health status, not necessarily primary care alone. In addition, two case studies provide data that concurrently look at two health conditions, asthma and myocardial infarction, in the context of health care providers.

GEOGRAPHIC MAPPING






The centerpiece of this assessment is on geographic mapping based on applying the Geographic Information System. A Geographic Information System, also called GIS, is a computer-based system to aid in the collection, maintenance, storage, analysis, output and display of spatial data (Hanchette, 2003). Geospatial mapping of health data can be instrumental in visualizing patterns and generating questions that may not have otherwise occurred to researchers and the public. Historically, GIS has been used in the management of land and natural resources, and in environmental science. More recently, GIS has emerged as a new technology in public health. In particular, it provides analytical tools for health geography and epidemiological research in cases where geographical display is important. As a spatial analytical tool, GIS serves to advance the knowledge base of health geography and informatics.

METHODS

We conducted the analysis on four selected socio-demographic factors among five jurisdictions. All data were collected at the ZIP code level and were obtained from the Census 2010 except

the household income, which was obtained from Census 2000. Figures 1 and 2 show the population size, geographical areas, number of ZIP codes and locations of the five jurisdictions.

FIGURE 1 GEOGRAPHICAL INFORMATION OF FIVE JURISDICTIONS

County	Population	Area (Square Miles)	Number of ZIP Codes	Map
Prince George's	863,420	498	37	
Montgomery	971,777	507	50	
Anne Arundel	537,656	588	42	
Baltimore County	805,029	682	55	
Howard	287,085	254	25	

DATA SOURCES

Three data sources have been obtained for the geographical mapping:

Licensed health care providers in the state of Maryland were obtained from the respective Department of Health and Mental Hygiene Licensing Boards. The provider categories (and respective date of data acquired) included:

- Primary care physicians (2010)
- Physician assistants (2011)

- Nurse practitioners (2011)
- Dentists (2011)
- Dental hygienists (2011)
- Licensed psychologists (2011)
- License social workers (2011)
- Counselors and therapists (2011)

The specific approach to identifying primary care physicians is provided in the report on Physician Counts and Categorization and Characteristics of Physicians in the State of Maryland and Prince George’s County.

We used 2010 Census when available. Otherwise 2000 Census data were used. Specific census data included:

- Population size
- Median household income
- Percent of black/African Americans
- Education

Maryland hospital discharge data included:

- 30-day readmissions
- Hospital discharges for selected ambulatory care-sensitive conditions
- Case study-specific data using hospital discharge data for myocardial infarction and asthma

FIGURE 2 GEOGRAPHICAL MAP OF FIVE SELECTED JURISDICTIONS



MEASURES

An age-adjusted rate is a weighted average of the age-specific (crude) rates, where the weights are the proportions of persons in the corresponding age groups of a standard population. The potential confounding effect of age is reduced when comparing age-adjusted rates computed using the same standard population. These include the 2010 U.S. standard population as well as standard millions for the U.S. population. The age-adjusted rate for an age group comprised of the ages x through y is calculated using the following formula:

$$aarate_{x-y} = \sum_{i=x}^y \left[100,000 \left(\frac{count_i}{pop_i} \right) \left(\frac{stdmil_i}{\sum_{j=x}^y stdmil_j} \right) \right]$$

ADDRESS GEOCODING

Geocoding is interpolating spatial locations (X,Y coordinates) from street addresses or any other spatially referenced data such as ZIP codes, parcel lots and address locations. A reference theme is required to geocode individual addresses, such as a road centerline file with address ranges. The individual address locations have historically been interpolated, or estimated, by examining address ranges along a road segment. These are usually provided in the form of a table or database. The GIS will then place a dot approximately where that address belongs along the segment of centerline.

For example, an address point of 500 will be at the midpoint of a line segment that starts with address 1 and ends with address 1000. Geocoding can also be applied against actual parcel data, typically from municipal tax maps. In this case, the result of the geocoding will be an actually positioned space as opposed to an interpolated point. This approach is being increasingly used to provide more precise location information.

Various algorithms are used to help with address matching when the spellings of addresses differ. Address information that a particular entity or organization has data on, such as the post office, may not entirely match the reference theme. There could be variations in street name spelling,

community name, etc. Consequently, the user generally has the ability to make matching criteria more stringent, or to relax those parameters so that more addresses will be mapped.

MAPPING COORDINATE SYSTEM

Mapping needs a coordinate system for a location and the common is the use of latitude and longitude—the Maryland State Plane Coordinate System is adopted.

According to the 1987 version of the Maryland Coordinate System (see figure below), a point's location is designated by actual distances from two imaginary lines, one running east-west and the other north-south through the point of origin. The 1987 system is metric (although conversion to feet is allowed). The origin of the Maryland Coordinate System has been fixed at a point southwest of the state so that all coordinates lie east and north of the imaginary origin. Distance in the east direction is called an Easting; distance north of the origin is called a Northing. Thus, any point can be identified by two values, or distances, from the origin—an Easting and a Northing. In the mathematical sense of graphs, all Maryland coordinates are in the first quadrant, which means Eastings ("x values") and Northings ("y values") are positive numbers.

GIS MAPPING SOFTWARE

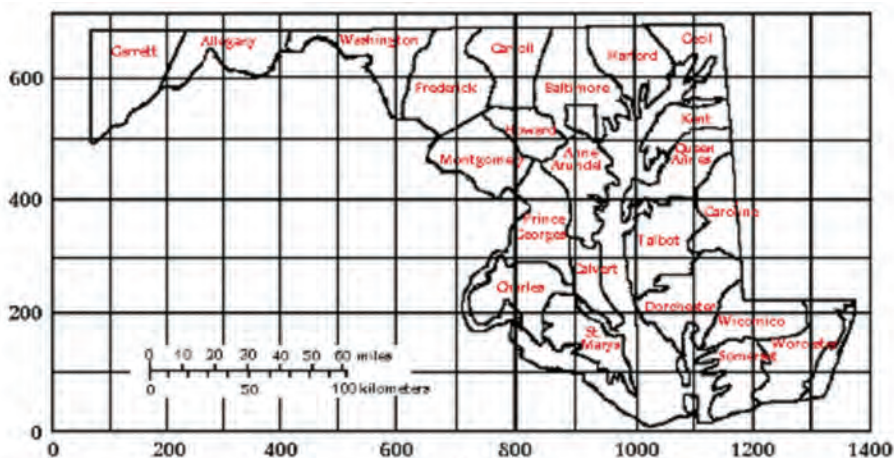
ArcGIS Desktop is the primary product used by GIS professionals to compile, use and manage geographic information. It includes comprehensive professional GIS applications that support a number of GIS tasks, including mapping, data compilation, analysis, geodatabase management and geographic information sharing.

ArcGIS Desktop is the platform that GIS professionals use to manage their GIS workflows and projects and to build data, maps, models and applications. It's the starting point and the foundation for deploying GIS across organizations and onto the Web.

For this study, we adopted the ArcGIS Desktop 10 (ESRI, 2012) for the geographical mapping. ESRI's ArcGIS Desktop 10 with ArcMap platforms has the industry-recognized, out-of-box spatial analysis tools and Application Programming Interfaces (APIs).

MAPPING METHOD

Most of our geographic mapping in this study used a visual overlay method of several spatial datasets (points, lines, or polygons), which creates a new display, visually similar to stacking two maps of the same region.



FINDINGS

THE DEMOGRAPHICS OF SELECTED JURISDICTIONS

Four census variables (population size, percentage of African Americans/blacks, percentage of residents 25 years or over who attended high school but did not receive a diploma (high school/no diploma) and median household income) that can serve as surrogates for need for primary care were selected and compared across the five jurisdictions. In addition to the geographical map, a quintile ranking was used to order and compare the ZIP codes by each of four different variables. A quintile refers to one-fifth of the sample or population. A chart alongside each map displays by jurisdiction a) the number of ZIP codes in the highest or lowest quintile, b) the percent of ZIP codes within the highest or lowest quintile, c) the number of residents associated with those ZIP codes in the highest or lowest quintile and d) the percent of residents associated with those ZIP codes in the highest or lowest quintile. For the patient care workforce, the quintile analysis could serve as a method to identify the areas that are in need of primary care.

POPULATION

First, we compared Prince George's County to other jurisdictions with populations of similar size. The largest county in Maryland is Montgomery, with a population of 971,777. The next four most-populous counties include Prince George's, with a population of 863,420; Baltimore, with a population of 805,029; Anne Arundel,

with a population of 537,656; and Howard, with a population of 287,085. (Note: Baltimore City and Baltimore County are separate entities and Baltimore City is not included in the county's population.) Within these five jurisdictions, Prince George's County ranked third in percentage of population residing within top-quintile ZIP

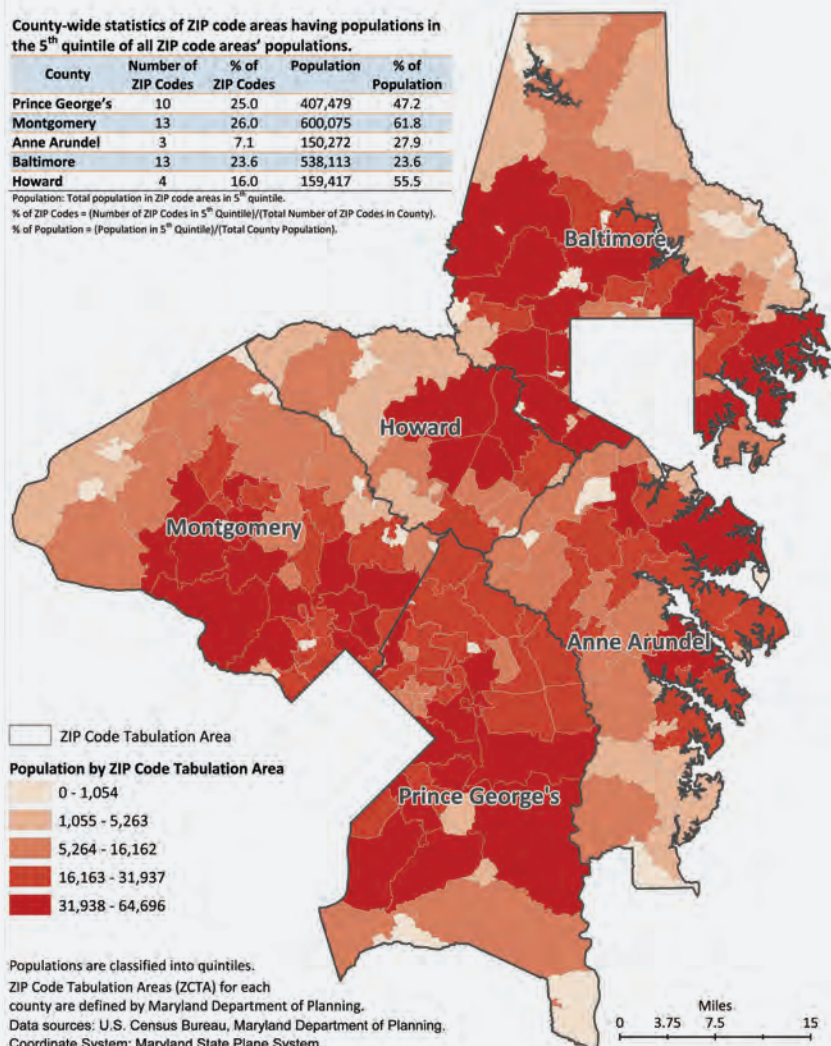
codes (ZIP codes with a population greater than 313, 938). Close to half of Prince George's County residents (47.2 percent) are located in these 10 top-quintile ZIP codes (see Figure 3). The Maryland Census data can be obtained from the Maryland State Data Center website, www.mdp.state.md.us/msdc.

FIGURE 3 GIS ANALYSIS OF POPULATION SIZE BY JURISDICTIONS

County-wide statistics of ZIP code areas having populations in the 5th quintile of all ZIP code areas' populations.

County	Number of ZIP Codes	% of ZIP Codes	Population	% of Population
Prince George's	10	25.0	407,479	47.2
Montgomery	13	26.0	600,075	61.8
Anne Arundel	3	7.1	150,272	27.9
Baltimore	13	23.6	538,113	23.6
Howard	4	16.0	159,417	55.5

Population: Total population in ZIP code areas in 5th quintile.
 % of ZIP Codes = (Number of ZIP Codes in 5th Quintile)/(Total Number of ZIP Codes in County).
 % of Population = (Population in 5th Quintile)/(Total County Population).



AFRICAN AMERICAN/ BLACK POPULATION

The 2010 Census indicated that the largest ethnic group in Prince George’s County is non-Hispanic blacks (63.52 percent). This percentage is greater than the proportion of blacks across the entire state (nearly 30 percent in

the 2010 Census) and the proportion of African American/black across the entire nation (12.2 percent) (Kaiser Family Foundation, 2011). The geographic analysis indicated that among the five most-populous jurisdictions, Prince George’s County has 29 ZIP codes in the top quintile, i.e., ZIP codes having populations with greater than

39.9 percent of African Americans/blacks. These 29 ZIP codes consisted of more than half a million residents. Baltimore County ranked second, with six ZIP codes in the top quintile, consisting of 84,940 residents. No other jurisdictions had more than three ZIP codes in the top quintile (see Figure 4).

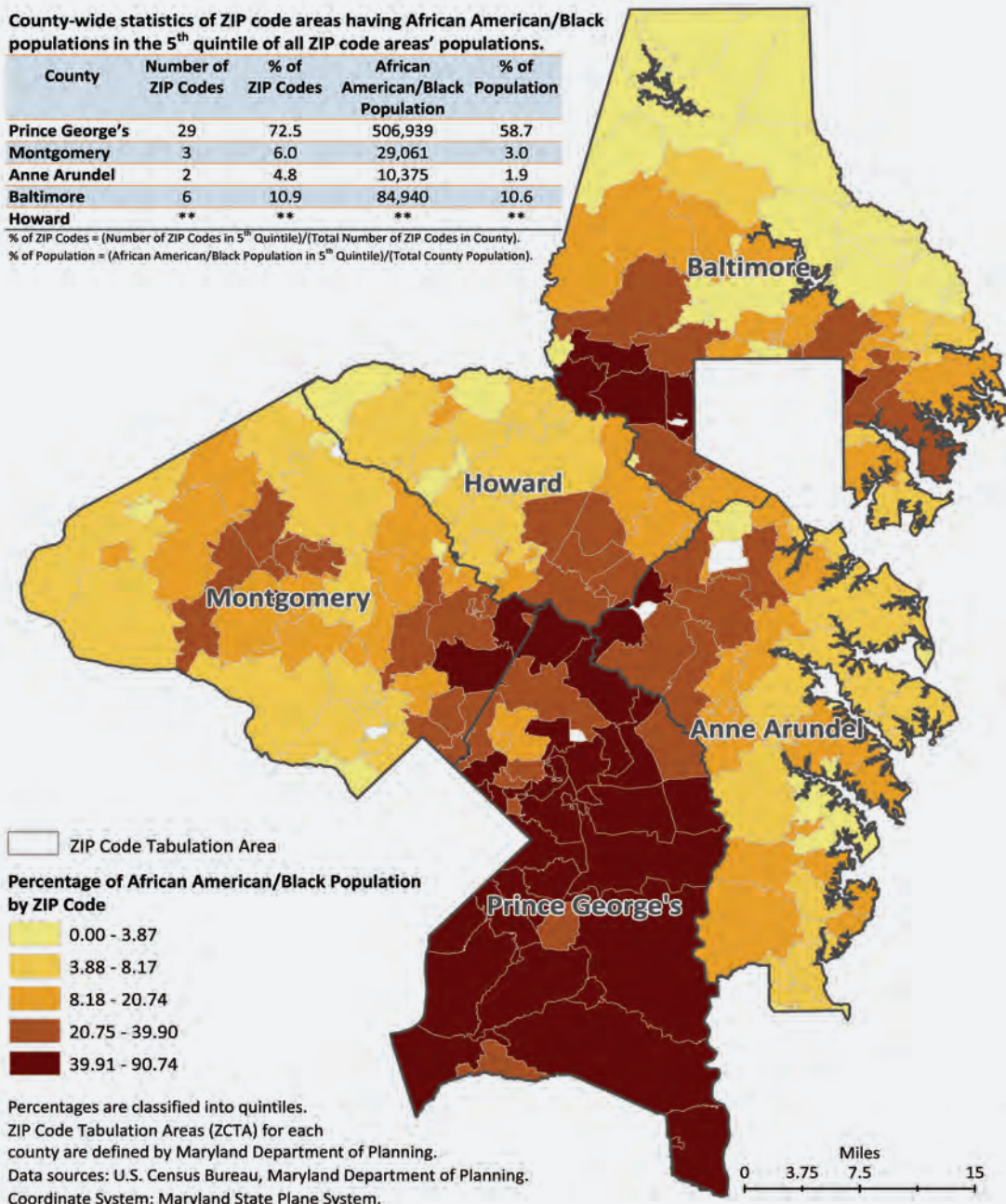
FIGURE 4 GIS ANALYSIS OF AFRICAN AMERICAN/BLACK POPULATION BY JURISDICTIONS

NOTE ** INDICATES THE SUPPRESSED DATA WHEN THE NUMBER OF THE RESIDENTS WAS BELOW SIX

County-wide statistics of ZIP code areas having African American/Black populations in the 5th quintile of all ZIP code areas’ populations.

County	Number of ZIP Codes	% of ZIP Codes	African American/Black Population	% of Population
Prince George’s	29	72.5	506,939	58.7
Montgomery	3	6.0	29,061	3.0
Anne Arundel	2	4.8	10,375	1.9
Baltimore	6	10.9	84,940	10.6
Howard	**	**	**	**

% of ZIP Codes = (Number of ZIP Codes in 5th Quintile)/(Total Number of ZIP Codes in County).
 % of Population = (African American/Black Population in 5th Quintile)/(Total County Population).



MEDIAN HOUSEHOLD INCOME

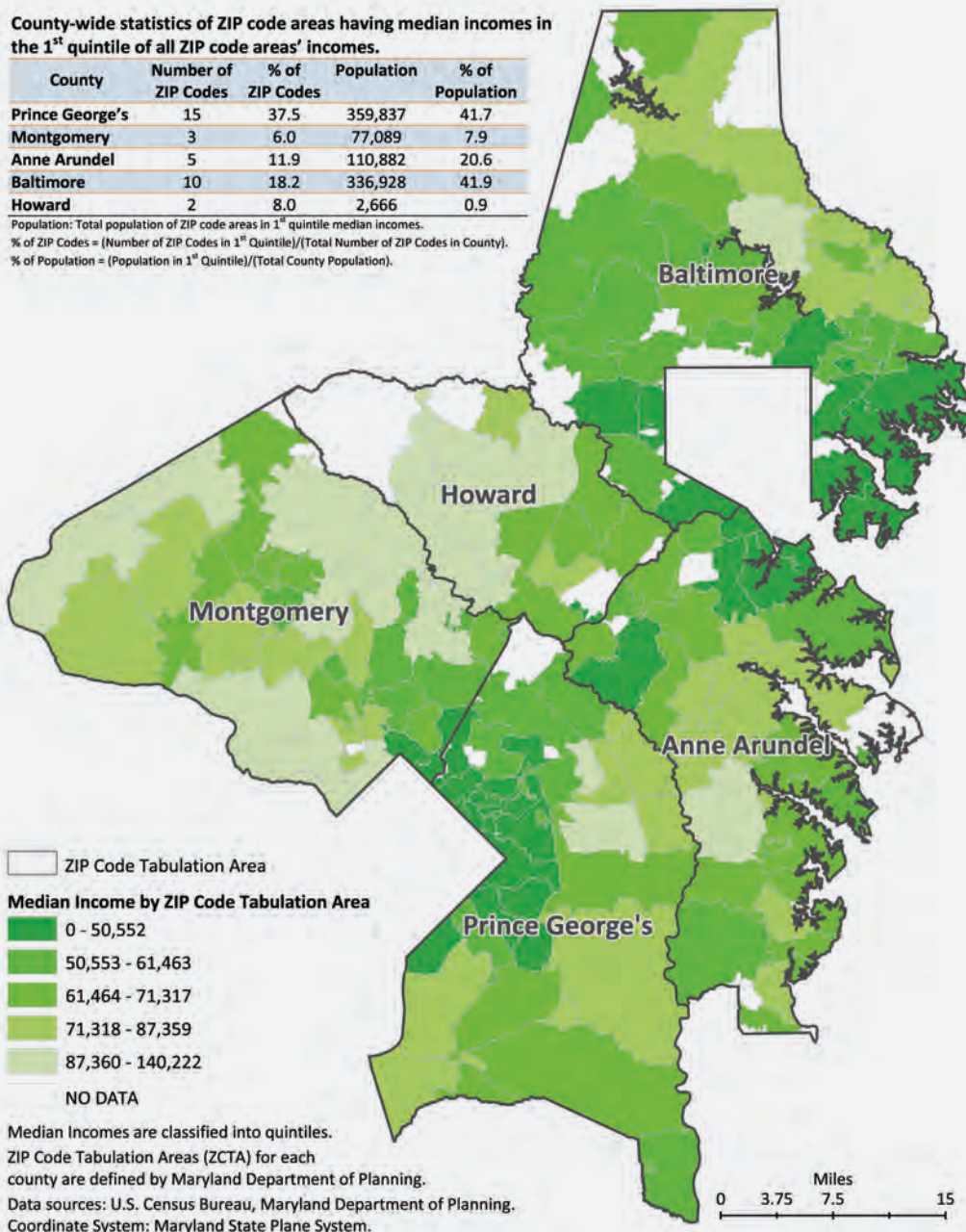
Prince George’s County contains the largest number of ZIP codes (n=15) in the bottom quintile of median household income (\$0–50,552), associating with 359,837 residents. Baltimore County ranked second, with 10 ZIP

codes in the bottom quintile of median household income (\$0–50,552), 369,837 residents were located in these areas. Howard County had only two ZIP codes in the bottom quintile of median household income, with 2,666 residents in these areas (see Figure 5).

Previous documents indicated that although approximately 4.7 percent

of families and 7.4 percent of the population were below the poverty line—including 9.2 percent of those under age 18 and 7.1 percent of those age 65 or over—Prince George’s County is the 70th most affluent county in the United States by median income for families, and the most affluent county in the United States with a

FIGURE 5 GIS ANALYSIS OF MEDIAN HOUSEHOLD INCOME BY JURISDICTIONS



majority of African American residents. Almost 38.8 percent of all households in Prince George's County earned more than \$100,000 in 2008 (United States Census Bureau, 2010).

HIGH SCHOOL ATTENDANCE, BUT NO DIPLOMA AS THE HIGHEST EDUCATIONAL LEVEL

Prince George's County contains the largest number of ZIP codes (n=12) in the top quintile of ZIP codes

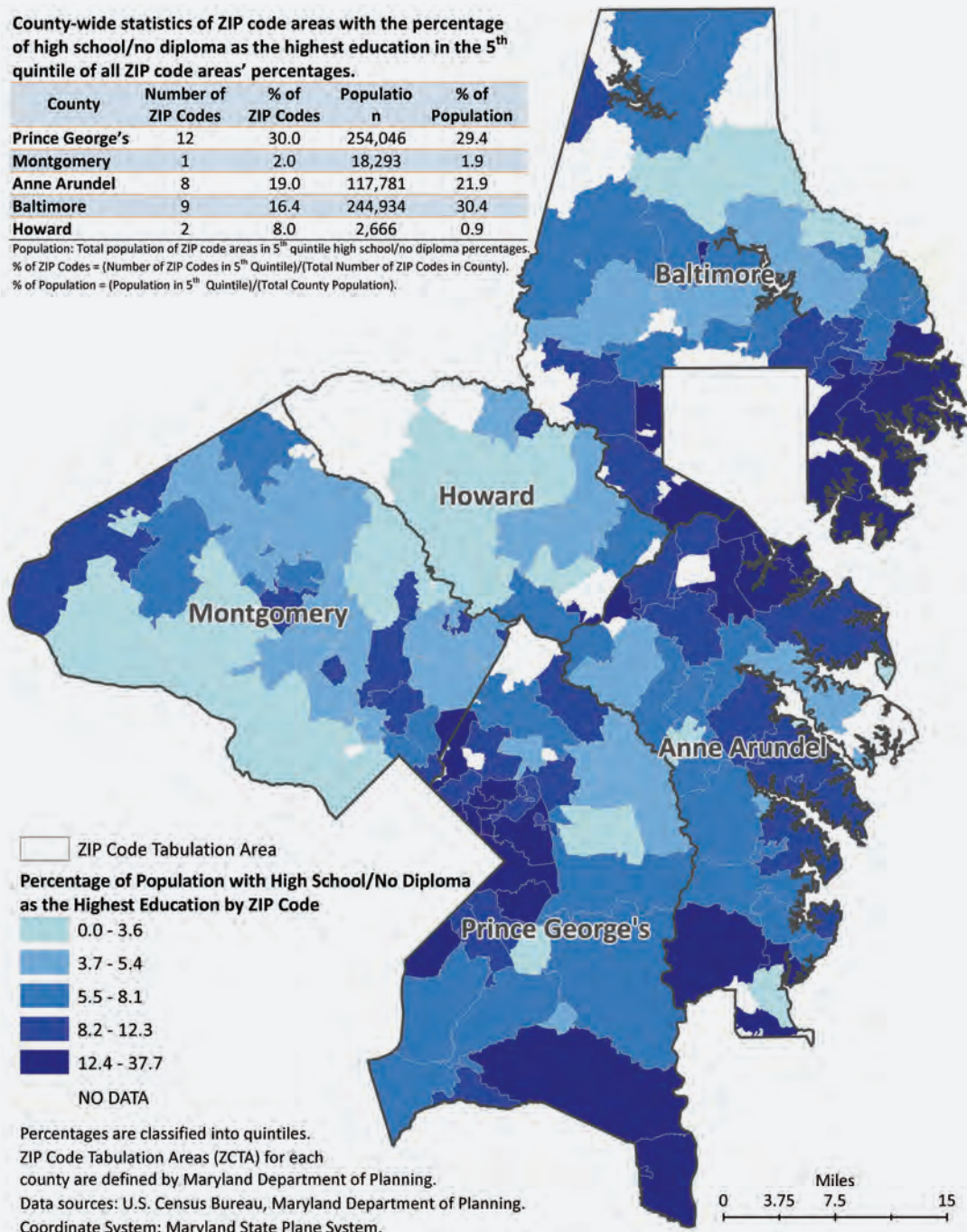
with high school/no diploma as the highest educational level; 254,046 residents (29.4 percent) are located in these areas. Baltimore County ranked second, with 10 ZIP codes in the top quintile, and 244,934 residents (30.4 percent) in these areas. Residents in Montgomery County and

FIGURE 6 GIS ANALYSIS OF HIGH SCHOOL DIPLOMA AS THE HIGHEST EDUCATIONAL LEVEL BY JURISDICTIONS

County-wide statistics of ZIP code areas with the percentage of high school/no diploma as the highest education in the 5th quintile of all ZIP code areas' percentages.

County	Number of ZIP Codes	% of ZIP Codes	Population n	% of Population
Prince George's	12	30.0	254,046	29.4
Montgomery	1	2.0	18,293	1.9
Anne Arundel	8	19.0	117,781	21.9
Baltimore	9	16.4	244,934	30.4
Howard	2	8.0	2,666	0.9

Population: Total population of ZIP code areas in 5th quintile high school/no diploma percentages.
 % of ZIP Codes = (Number of ZIP Codes in 5th Quintile)/(Total Number of ZIP Codes in County).
 % of Population = (Population in 5th Quintile)/(Total County Population).



Howard County had the best educational attainment; these counties had only one ZIP code (1.9 percent of the population, 293 residents) and two ZIP codes (0.9 percent of the population, 2,666 residents) in the top quintile, respectively. The educational level corresponded well with the median household income as reported frequently in the literature. Areas with lower median household income were associated with more residents in top-quintile ZIP codes (see Figure 6).

SUMMARY AND IMPLICATIONS

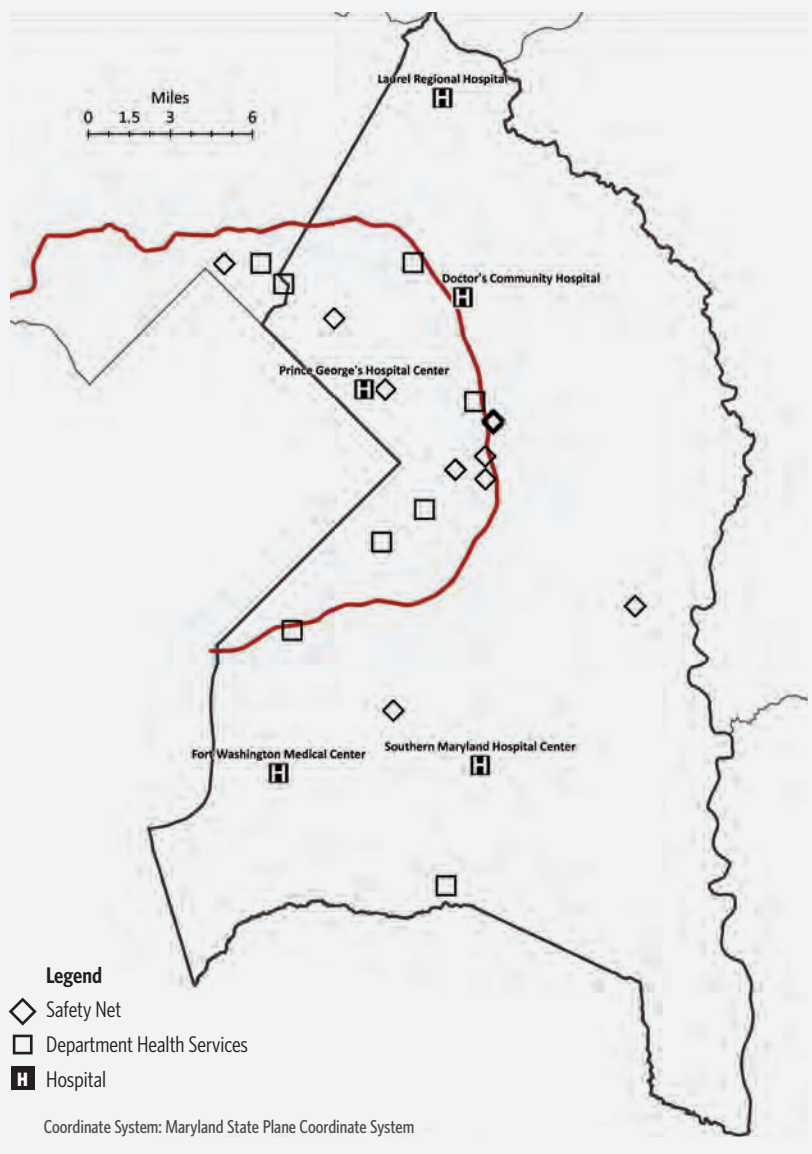
Our analysis indicated that Prince George's County contained the largest number of areas with African American/black populations, lower median household income and high school but no diploma as the highest educational level. By computing the ZIP codes with quintiles of all three socio-demographic measures, it was found that Prince George's County contained the highest number of ZIP codes (seven), followed

by Baltimore County with two ZIP codes and Howard County with one ZIP code. Anne Arundel and Montgomery had no ZIP codes with all three socio-demographic measures in the risk quintiles.

These social and economic disparities appear to negatively impact the access to health care and patient care workforce supply, which will be discussed later. However, in examining the social-demographic characteristics within the Prince George's County, i.e., between inner-Beltway and outer-Beltway areas, one salient point emerged. The county is comparable in terms of the population size and the rates of African American/blacks. However, the median household income and educational level are highly diverse between inner-Beltway residents and the outer-Beltway residents. Residents living in the northern regions of the inner Beltway have the highest poverty rates and lowest educational attainment. Residents living in outer-Beltway areas are substantially more affluent and more highly educated. In fact, the GIS could not detect substantial differences between county residents outside the Beltway and residents in neighboring jurisdictions (Montgomery, Howard and Anne Arundel) in terms of the median household income and educational level.

According to a report released by the U.S. Census Bureau, 20 percent of Prince George's County's eligible population did not have any health insurance as of 2005, the highest rate in Maryland. This translates to more than 150,000 people in Prince George's County who do not have health insurance, which also is the highest number in the state. While roughly 76,000 of the uninsured Prince George's patients listed in the census report make less than \$25,000 a year, the other half make more, but chose not to have health insurance due to the costs involved (Valentine, 2008).

FIGURE 7 GEOGRAPHICAL DISTRIBUTION OF COMMUNITY FACILITIES



The community facilities are described in the Overview of Public Health Resources technical report. This map (Figure 7) displays the Prince George’s County Health Department programs and facilities, the safety net clinics and the hospitals in the County.

TWO CASE STUDIES OF HEALTH STATUS USING HOSPITALIZATION DISCHARGE DATA BY JURISDICTIONS

The health status of a population reflects its demographic and socio-economic composition, as well as the need for and effectiveness of its health care delivery system. We obtained a limited number of hospital discharge data from the Maryland Department of Health and Mental Hygiene (DHMH). Of the available data, we selected two of the most common conditions, myocardial

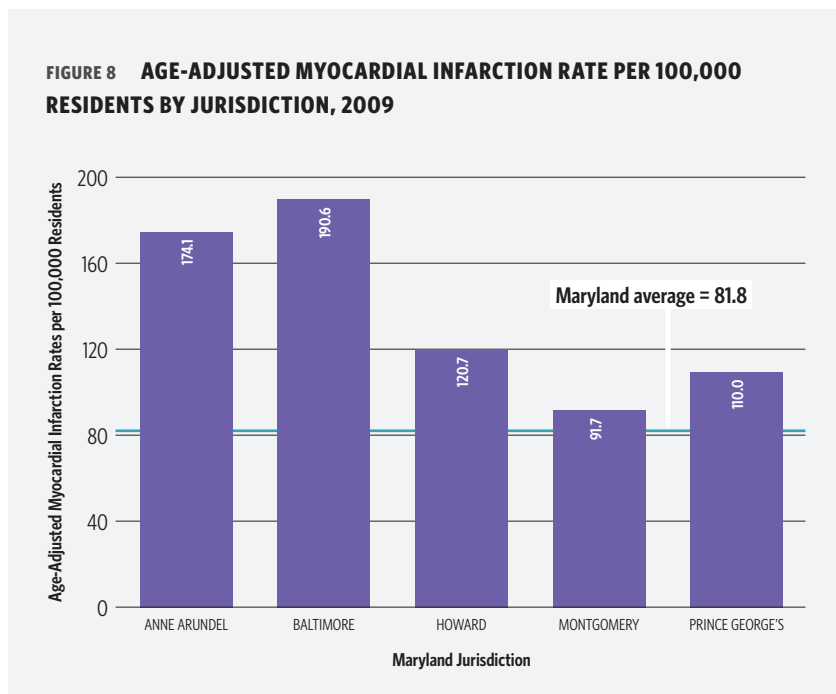
infarction and asthma, to provide a selected picture of the health status of Prince George’s County residents, and to compare their health with the residents in surrounding jurisdictions.

We analyzed the health status by first computing the age-adjusted rates of myocardial infarction and asthma at the ZIP code level, using the U.S. standard population from the 2000 Census. Then we used ArcGIS Desktop to map these rates in order to examine the geospatial clustering of the disease incidence. These clusters are often termed “disease hot spots.” The identification of these hot spots will allow investigators to focus on these areas, identify the risk factors associated with the hot spots and implement effective health care services. This approach could be done for other conditions of interest, including hospital readmissions to help with planning a new health delivery system.

MYOCARDIAL INFARCTION

We compared age-adjusted myocardial infarction hospital discharge rates for Prince George’s County with those in the neighboring Maryland jurisdictions. These rates are presented in quintiles in the geographical map by ZIP codes. In addition, we also computed the number and percent of ZIP codes in the top quintile, and the number and percent of residents in these ZIP codes for each county.

Figure 8 presents the myocardial infarction age-adjusted rates by jurisdiction and the Maryland average rate. Surprisingly, all five jurisdiction rates were higher than the Maryland state average (81.8 per 100,000 residents). The rates for these five jurisdictions ranged from 91.7 to 190.6. The rate for Prince George’s County (110.0) was higher than the rate for Montgomery, but lower than the other three jurisdictions (Anne Arundel, Baltimore and Howard).



A geographical map of the age-adjusted rates per 100,000 residents was developed at the ZIP code level across five jurisdictions. The map (Figure 9) revealed that three ZIP codes in Prince George’s County fell into the fifth quintile (i.e., a rate > 183.1) with 29,531 residents. This number was

substantially lower than that of Anne Arundel County, where 10 ZIP codes fell into the fifth quintile with 244,317 residents (45.4 percent of the county population) and lower than that of Baltimore County, where 12 ZIP codes fell into the fifth quintile with 257,551 (32 percent of the county population).

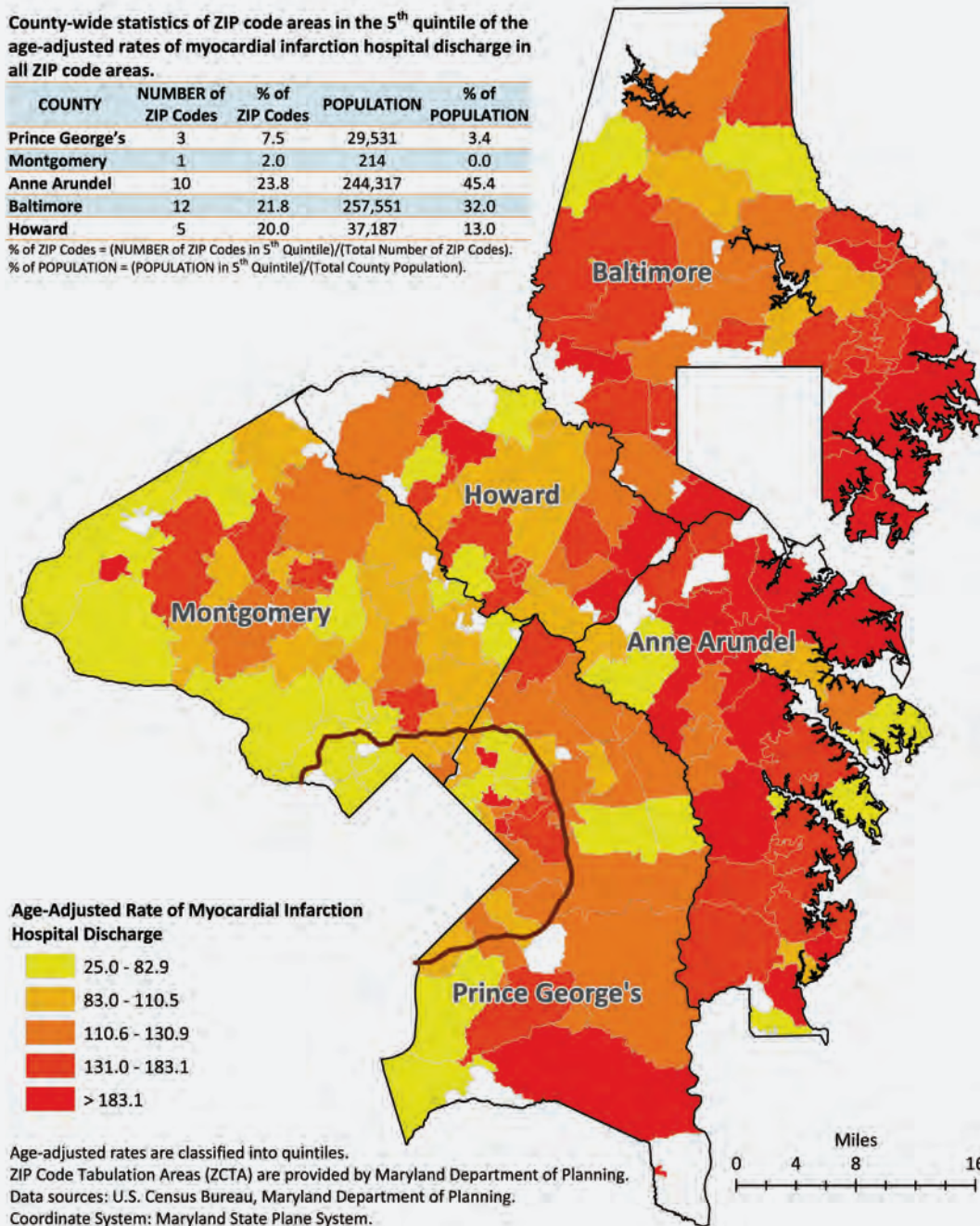
ASTHMA
Figure 10 presents the age-adjusted rates of asthma by jurisdiction and the Maryland average rate. Surprisingly, four of the five jurisdiction rates were higher than the Maryland state average (83.8 per 100,000 residents). The rates for these five jurisdictions

FIGURE 9 GIS ANALYSIS OF MYOCARDIAL INFARCTION HOSPITAL DISCHARGE RATES BY JURISDICTIONS

County-wide statistics of ZIP code areas in the 5th quintile of the age-adjusted rates of myocardial infarction hospital discharge in all ZIP code areas.

COUNTY	NUMBER of ZIP Codes	% of ZIP Codes	POPULATION	% of POPULATION
Prince George’s	3	7.5	29,531	3.4
Montgomery	1	2.0	214	0.0
Anne Arundel	10	23.8	244,317	45.4
Baltimore	12	21.8	257,551	32.0
Howard	5	20.0	37,187	13.0

% of ZIP Codes = (NUMBER of ZIP Codes in 5th Quintile)/(Total Number of ZIP Codes).
% of POPULATION = (POPULATION in 5th Quintile)/(Total County Population).



ranged from 74.0 to 233.1. The rate for Prince George’s County (127.4) was higher than the rate of Montgomery County (90.1) and Howard County (74), but lower than Anne Arundel County (137.2) and Baltimore County (233.1).

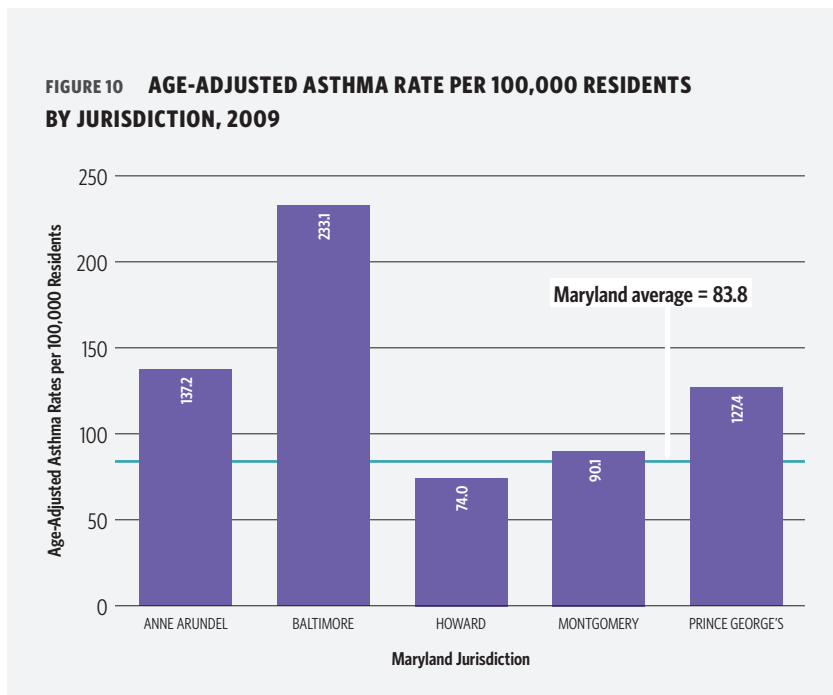
A geographical map of the age-adjusted rates per 100,000 residents was developed at the ZIP code level across five jurisdictions for a more detailed examination of asthma distribution. The map (Figure 11) revealed that five ZIP codes in Prince George’s County fell into the fifth quintile (i.e., a rate > 170.3), with 145,851 residents. This number was substantially lower than that of Anne Arundel where seven ZIP codes fell into the fifth quintile with 207,018 residents (38.5 percent of the county population) and lower than that of Baltimore County where 16 ZIP codes fell into the fifth quintile with 425,190 (52.8 percent of the county population).

HEALTH CARE WORKFORCE SUPPLY ANALYSIS

One of the objectives of this project was to use GIS mapping to assess the health care workforce and identify the shortage area geospatially. The workforce data included five categories: active licensed primary care physicians, nurse practitioners, physician assistants, dental care professionals (dentists and dental hygienists), and licensed behavioral and mental health professionals (psychologists, psychiatrists, clinical social workers, and counselors and therapists).

To gain a better understanding of the patient care workforce, three analyses were conducted:

1. Computing rates of workforce per 100,000 residents by each jurisdiction as well as the Maryland average to allow comparisons between counties and with the state;
2. Computing rates of workforce per 100,000 residents at each ZIP code level across five jurisdictions and computing the quintiles. The ZIP codes associated with the first or first and second quintiles were identified as well as the total number of residents living in these areas. This step allowed the assessment of differential levels of primary care provider need, with the lower quintiles reflecting higher need for primary care.



3. Computing rates of workforce per 100,000 residents at each Public Use Microdata Area (PUMA) within Prince George’s County. PUMAs are the geographic areas defined by the U.S. Census Bureau. There are seven non-overlapping PUMAs within Prince George’s County. Each

PUMA contained approximately 100,000 people at the time of the 2000 Census. The seven PUMA boundaries and ZIP code boundaries are presented in Figure 12. The region of Prince George’s County located inside Interstate 495, the Beltway, is divided into four

PUMAs; the area located outside of the Beltway is divided into three PUMAs. The larger geographic size of PUMAs located outside the Beltway reflects their lower population density.

FIGURE 11 GIS ANALYSIS OF ASTHMA HOSPITAL DISCHARGE RATES BY JURISDICTIONS, 2009

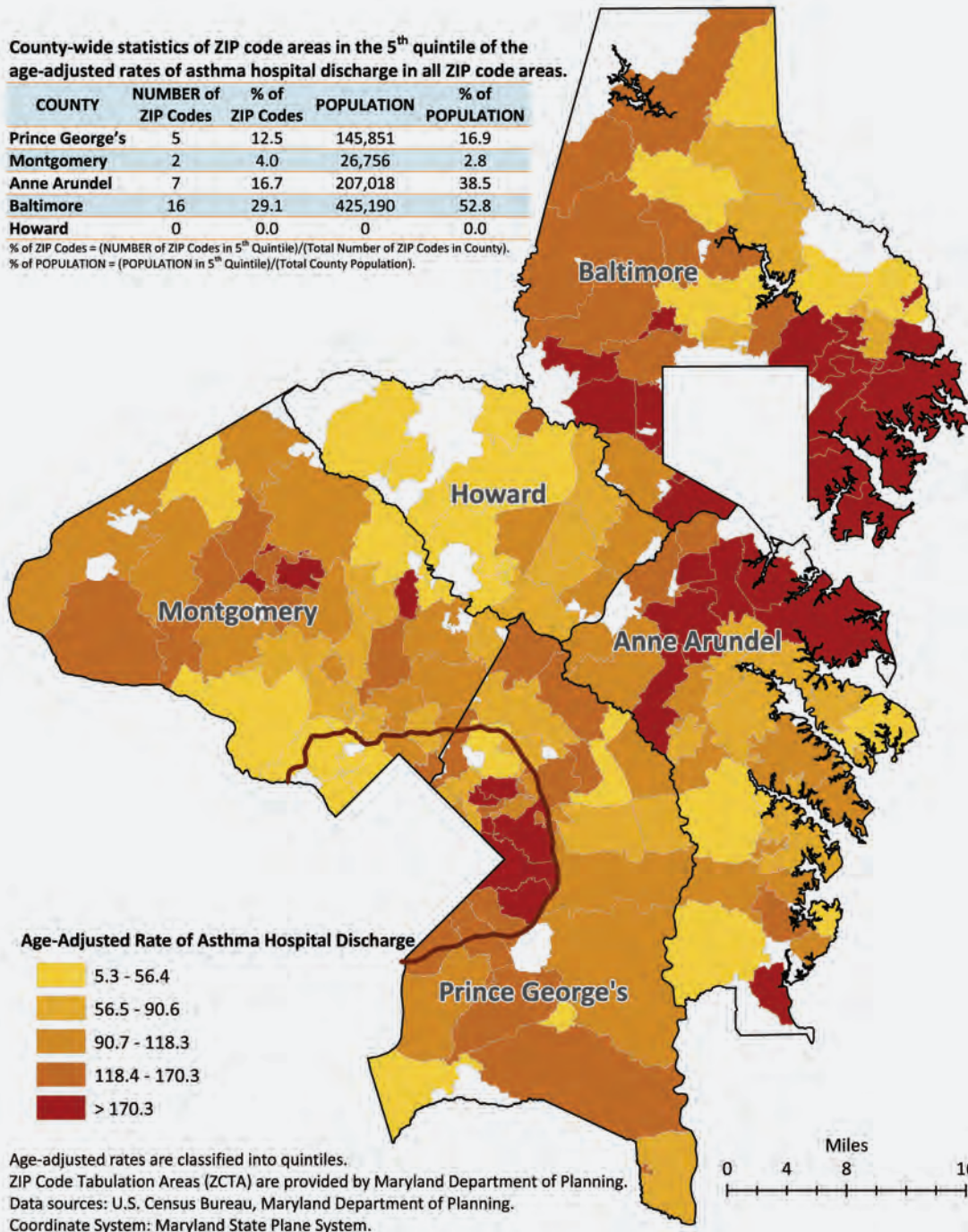


FIGURE 12 GEOGRAPHICAL LOCATIONS OF PUBLIC USE MICRODATA AREAS (PUMA)

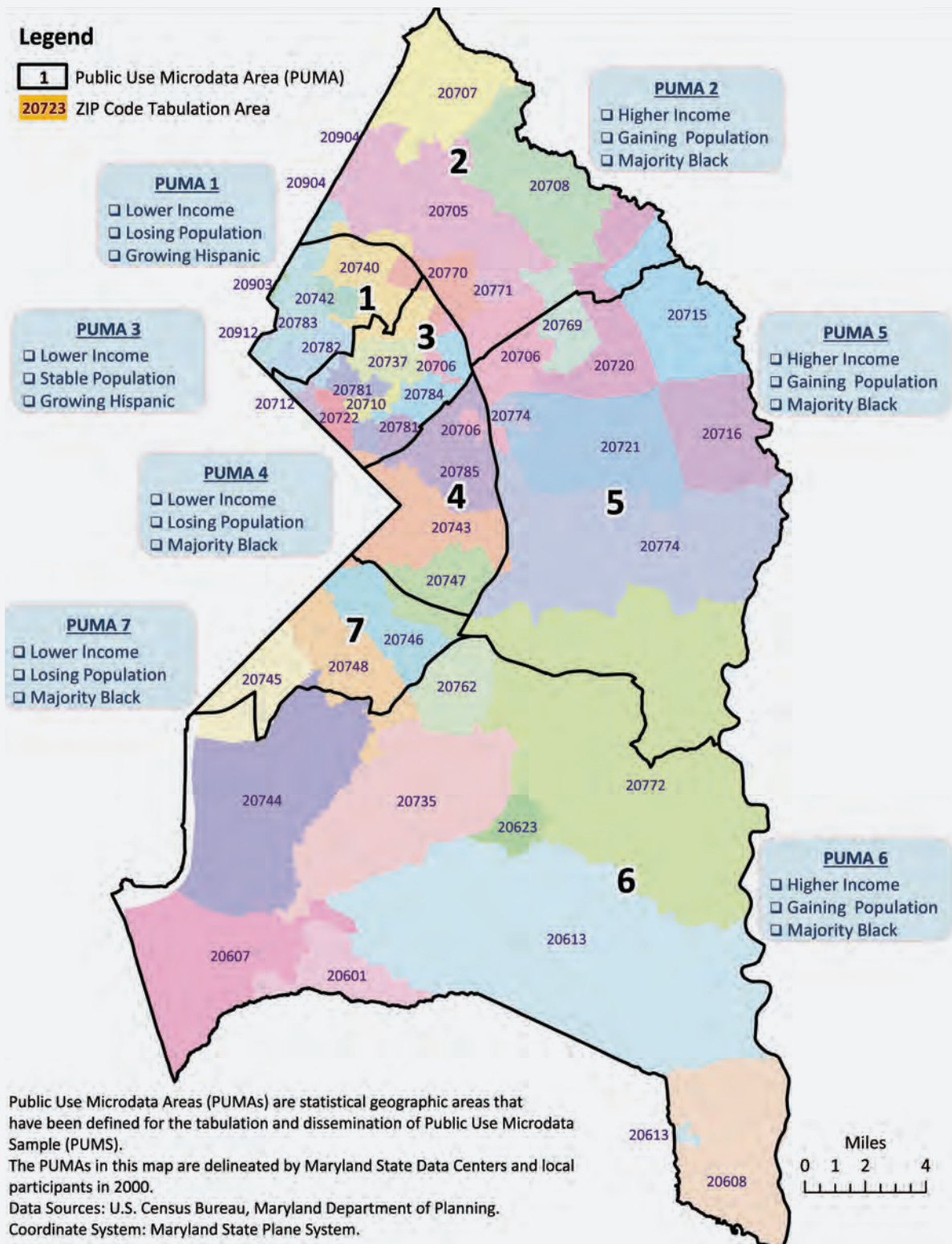
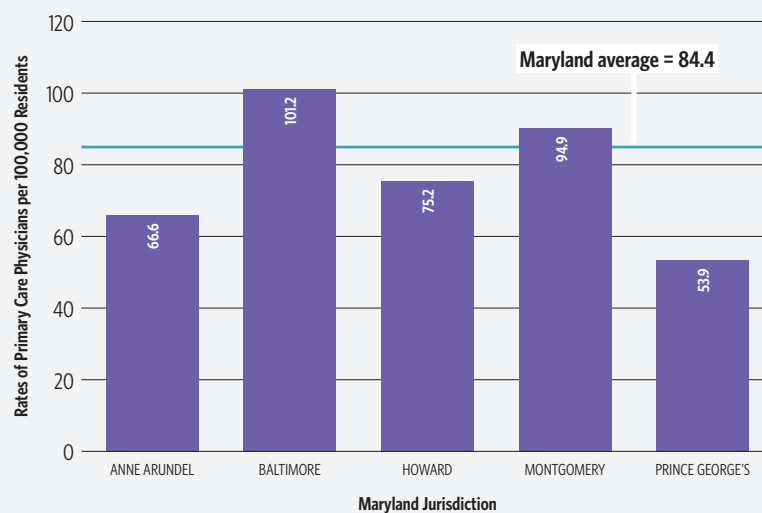


TABLE 1 THE NUMBER OF HEALTH CARE WORKFORCE BY TYPE AND BY COUNTY

Jurisdiction	Primary Care Physicians	Physician Assistant	Nurse Practitioner	Dental Care	Mental Health
Anne Arundel	353	378	347	650	894
Baltimore	909	928	622	1023	2431
Howard	221	203	277	573	1060
Montgomery	919	709	457	1578	2933
Prince George's	465	339	209	618	905

TABLE 2 THE NUMBER AND TYPE OF DENTAL CARE AND MENTAL HEALTH WORKFORCE BY COUNTY

Jurisdiction	Dental Care		Mental Health			
	Dentist	Hygienist	Social Worker	Counselor	Psychologist	Psychiatrist
Anne Arundel	339	311	422	303	148	21
Baltimore	634	389	1109	761	381	180
Howard	355	218	499	226	286	49
Montgomery	1203	375	1423	502	833	175
Prince George's	470	148	396	364	114	31

FIGURE 13 PRIMARY CARE PHYSICIAN RATE PER 100,000 RESIDENTS BY JURISDICTION, 2010

Tables 1 and 2 provide the counts for each workforce category by county and are a reference for the next sections.

PRIMARY CARE PHYSICIANS

In 2010, there were approximately 4,870 active, non-federally employed primary care physicians practicing in Maryland. These included specialists in family practice, internal medicine, pediatrics and obstetrics and gynecology. Of this number, 2,867 practiced in the selected five jurisdictions and 465 in Prince George's County.

The rate of primary care physicians in Prince George's County was the lowest (53.9 per 100,000 residents) among five jurisdictions. This rate was 30 points lower than the average rate for the state of Maryland (84.4 per 100,000 residents). Anne Arundel County had the second-lowest rate among the five counties, 66.6 per 100,000 residents. The highest rate belonged to Baltimore County (101.2 per 100,000 residents), which was more than twice the rate of Prince George's County. Montgomery County had the second highest rate, with 94.9 per 100,000 residents (see Figure 13).

A geographical map of primary care physicians per 100,000 residents was examined for each ZIP code across the five counties for a more detailed examination of primary care physician distribution. The map (Figure 14) revealed that 11 ZIP codes areas in Prince George's County fell into the first and second quintile (i.e., < 9.6 primary care physicians per 100,000 residents) with 138,676 residents. This is contrasted with neighboring Montgomery County, where 16 ZIP codes were in the first and second quintiles, with only 87,775 residents.

To gain a better understanding of how 2,867 primary care physicians were distributed across the five jurisdictions, a density map was created using various advanced spatial analysis methods. The spatial density of the primary care physicians was determined

by the number of physicians normalized by the size of the area. The area was defined as a function of the mean nearest area distance. Geographic areas with a density higher than a selected threshold were then circled and displayed on the map. The selected

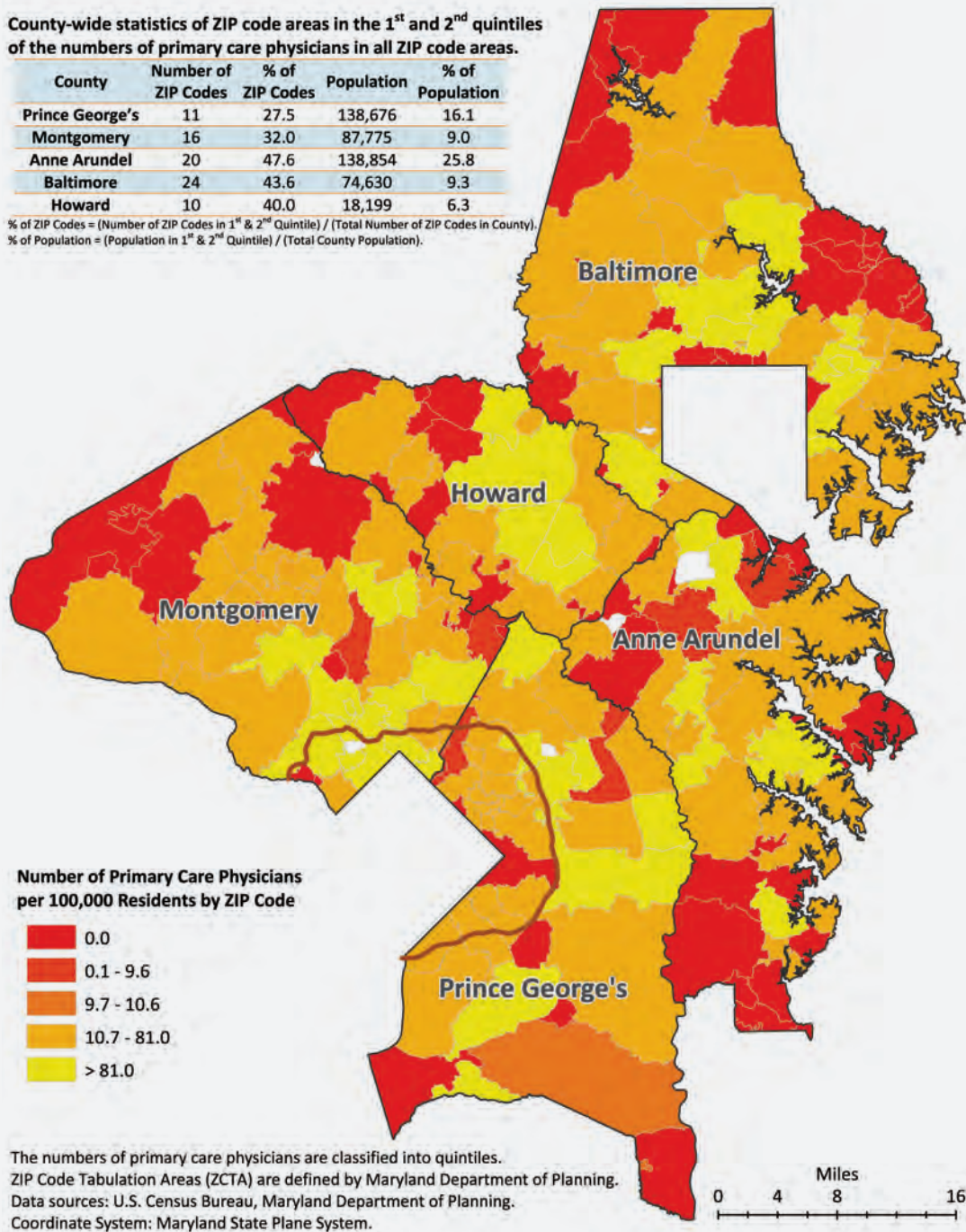
areas represent clusters of primary care physicians. Figure 15 shows that while there were several clusters in each of the jurisdictions, the clusters were smaller for Prince George's County. Identifying these clusters could help investigators examine the underlying

FIGURE 14 GIS ANALYSIS OF PRIMARY CARE PHYSICIAN RATE PER 100,000 RESIDENTS BY JURISDICTION, 2010

County-wide statistics of ZIP code areas in the 1st and 2nd quintiles of the numbers of primary care physicians in all ZIP code areas.

County	Number of ZIP Codes	% of ZIP Codes	Population	% of Population
Prince George's	11	27.5	138,676	16.1
Montgomery	16	32.0	87,775	9.0
Anne Arundel	20	47.6	138,854	25.8
Baltimore	24	43.6	74,630	9.3
Howard	10	40.0	18,199	6.3

% of ZIP Codes = (Number of ZIP Codes in 1st & 2nd Quintile) / (Total Number of ZIP Codes in County).
 % of Population = (Population in 1st & 2nd Quintile) / (Total County Population).



The numbers of primary care physicians are classified into quintiles. ZIP Code Tabulation Areas (ZCTA) are defined by Maryland Department of Planning. Data sources: U.S. Census Bureau, Maryland Department of Planning. Coordinate System: Maryland State Plane System.

factors associated with the clustering.

Figures 16 and 17 present the geographical locations of primary care physicians, overlaid with the age-adjusted myocardial infarction rates and the age-adjusted asthma rates, respectively. These two maps

demonstrate the demand for patient care and the supply of the primary care physician workforce. It was apparent that the clustering of primary care physicians did not correspond to the higher rates of myocardial infarction and asthma. For example, the age-adjusted

rates of myocardial infarction and asthma were substantially higher than the south region of Montgomery County, but the density of primary care physicians was one of the highest among five jurisdictions.

FIGURE 15 GEOGRAPHICAL CLUSTERING OF PRIMARY CARE PHYSICIANS BY POPULATION

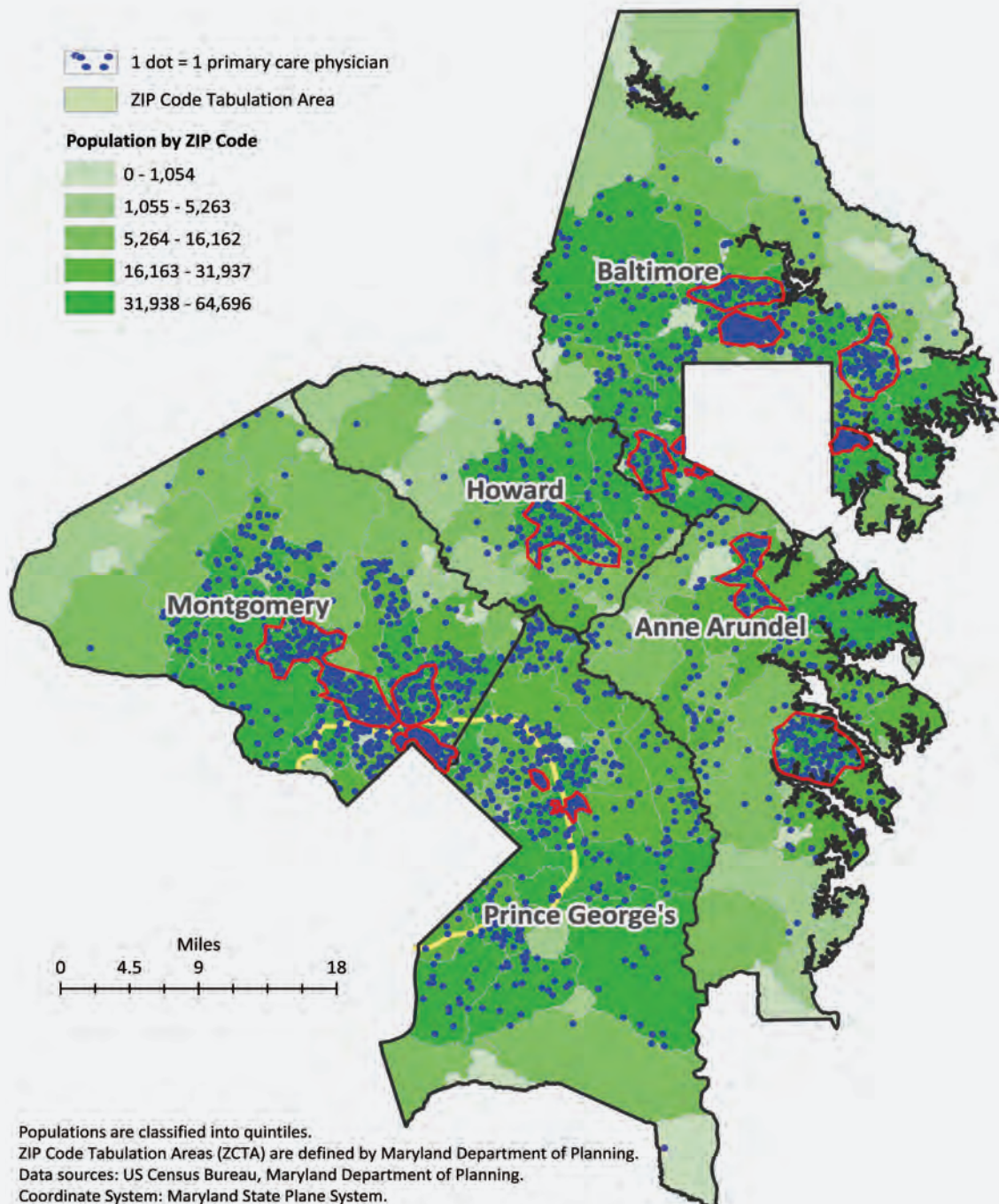


FIGURE 16 GIS ANALYSIS OF PRIMARY CARE PHYSICIAN LOCATION OVERLAYING AGE-ADJUSTED MYOCARDIAL INFARCTION RATE PER 100,000 RESIDENTS

County-wide statistics of ZIP codes areas in the 5th quintile of the age-adjusted rates of myocardial infarction hospital discharge in all ZIP code areas.

COUNTY	NUMBER of ZIP Codes	% of ZIP Codes	POPULATION	% of POPULATION
Prince George's	3	7.5	29,531	3.4
Montgomery	1	2.0	214	0.0
Anne Arundel	10	23.8	244,317	45.4
Baltimore	12	21.8	257,551	32.0
Howard	5	20.0	37,187	13.0

% of ZIP Codes = (NUMBER of ZIP Codes in 5th Quintile)/(Total Number of ZIP Codes in County),
 % of POPULATION = (POPULATION in 5th Quintile)/(Total County Population).

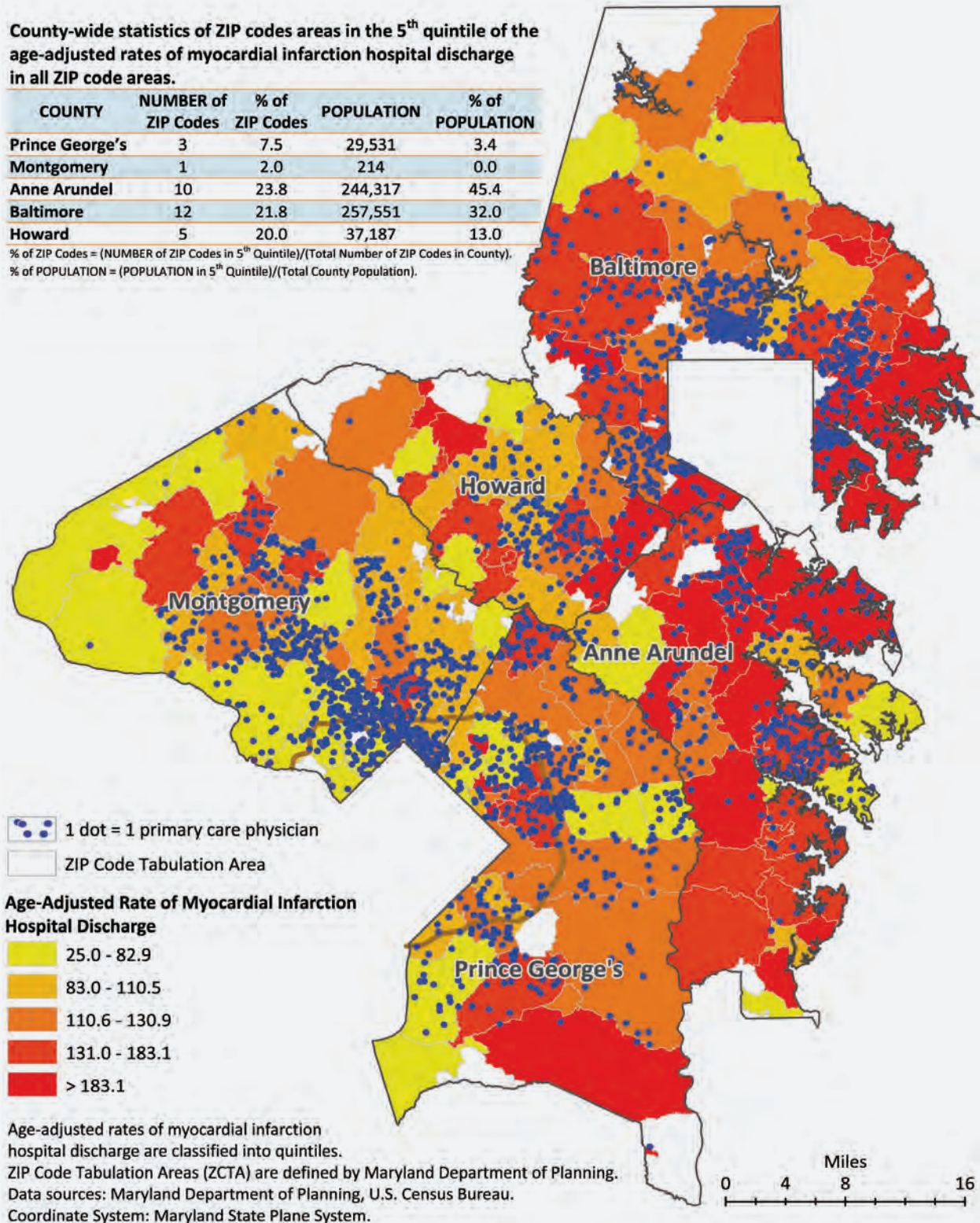
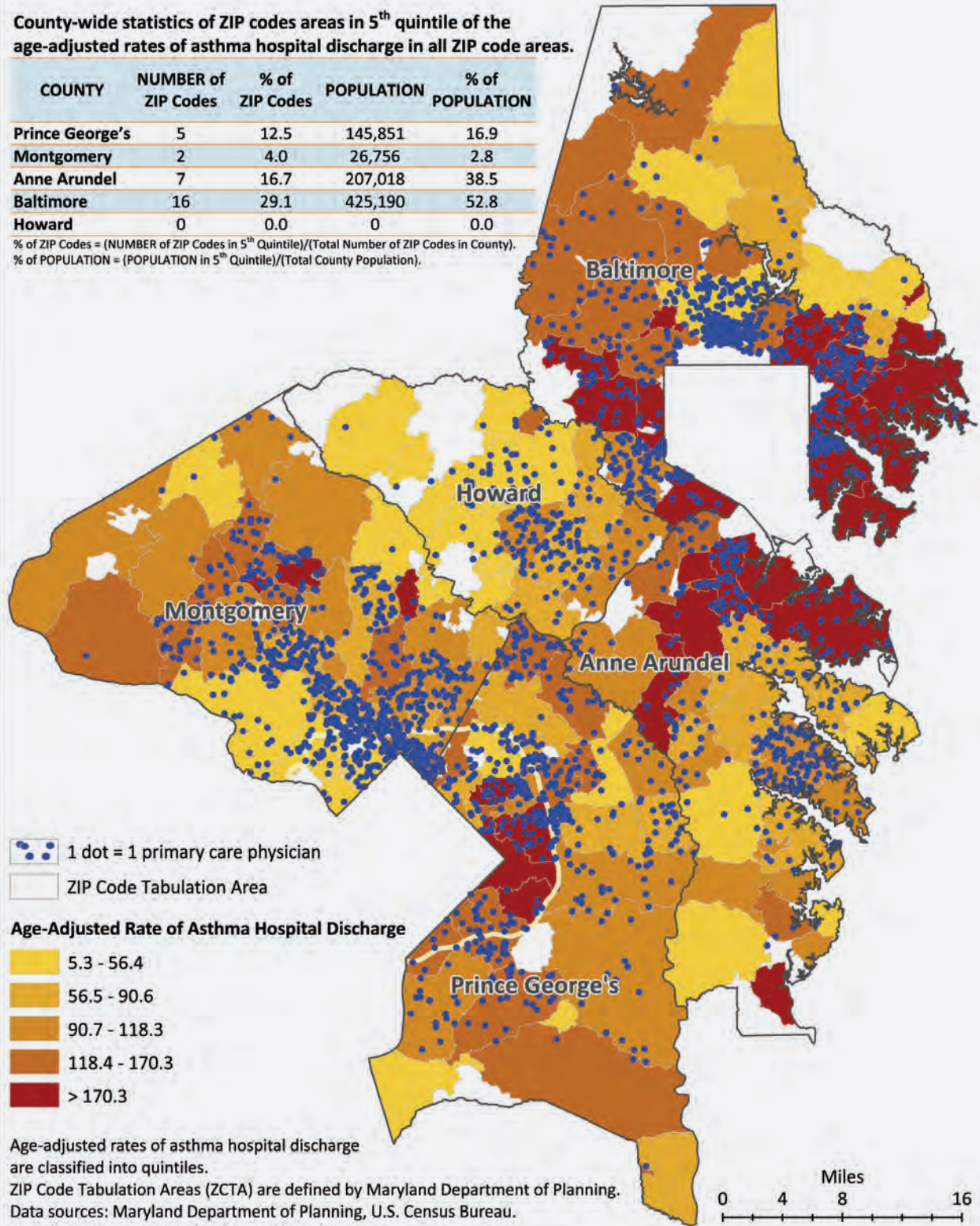


FIGURE 17 GIS ANALYSIS OF PRIMARY CARE PHYSICIAN LOCATION OVERLAYING AGE-ADJUSTED ASTHMA RATE PER 100,000 RESIDENTS

County-wide statistics of ZIP codes areas in 5th quintile of the age-adjusted rates of asthma hospital discharge in all ZIP code areas.

COUNTY	NUMBER of ZIP Codes	% of ZIP Codes	POPULATION	% of POPULATION
Prince George's	5	12.5	145,851	16.9
Montgomery	2	4.0	26,756	2.8
Anne Arundel	7	16.7	207,018	38.5
Baltimore	16	29.1	425,190	52.8
Howard	0	0.0	0	0.0

% of ZIP Codes = (NUMBER of ZIP Codes in 5th Quintile)/(Total Number of ZIP Codes in County).
 % of POPULATION = (POPULATION in 5th Quintile)/(Total County Population).



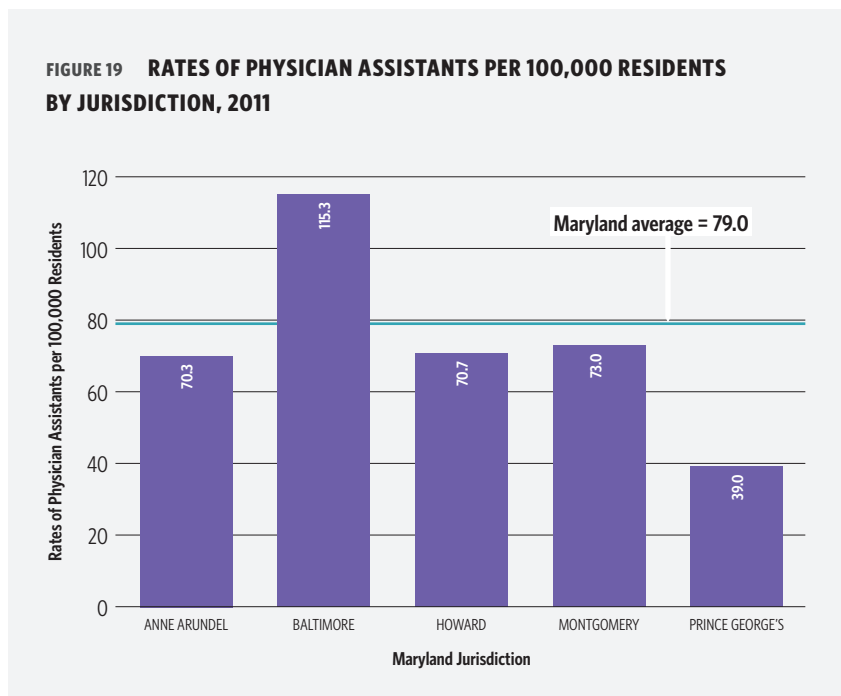
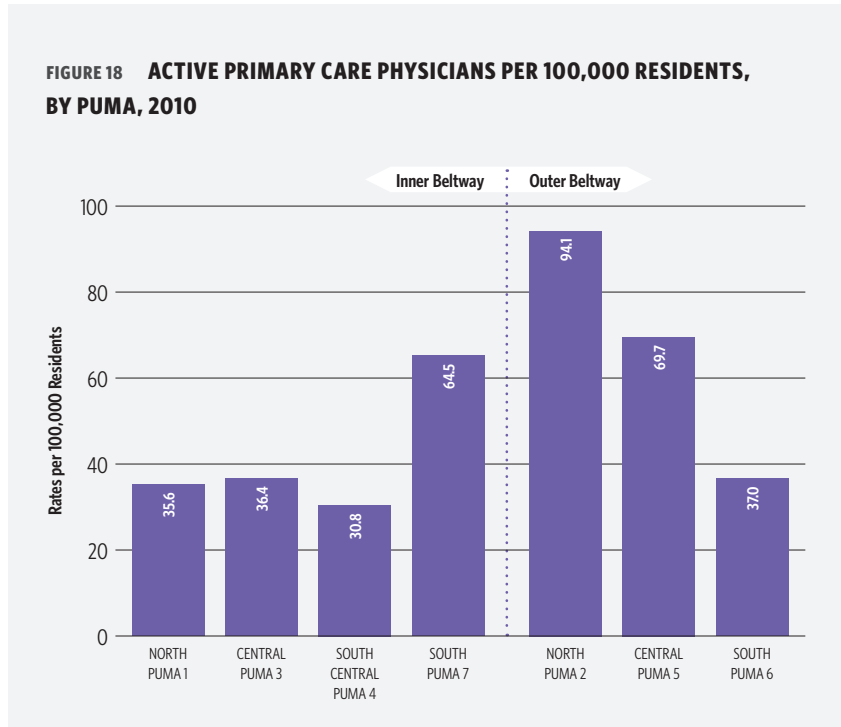
Within Prince George’s County, the rates of primary care physicians per 100,000 residents were lower for three PUMAs (1, 3 and 7) in the inner Beltway than for two outer-Beltway PUMAs (2 and 5). However, one inner-Beltway PUMA (4) was substantially higher (51.9 per 100,000 residents) than other inner-Beltway PUMAs, while one outer-Beltway PUMA (6) was substantially lower (18.8 per 100,000 residents) than other outer-Beltway PUMAs (see Figure 18).

PHYSICIAN ASSISTANTS (PAS)

In 2011, there were approximately 4,560 licensed PAs practicing in Maryland. Of this number, 2,557 practiced in the five selected jurisdictions and 339 in Prince George’s County.

For the county, the rate of physician assistants was the lowest (39.0 per 100,000 residents) among the five selected jurisdictions. This rate was less than half of the average rate for the state of Maryland (79.0 per 100,000 residents). The rate for Prince George’s County was at least 30 rate points lower than the rates for Anne Arundel, Howard and Montgomery counties; it was approximately one-third the rate of Baltimore County (115 per 100,000 residents) (Figure 19).

The geographical map of physician assistants per 100,000 residents was examined (Figure 20) for a more detailed analysis of physician assistant workforce distribution by ZIP code level. If we define the bottom two quintiles of the rates as the areas that had the highest need for primary care (i.e., < 15.6 physician assistants per 100,000 residents), we see that Prince George’s County contained 26 ZIP codes (65 percent of all Prince George’s County ZIP codes) that fell into these areas,



where 572,102 (66.3 percent of all Prince George’s County residents) resided. Baltimore County contained 35 ZIP codes in the shortage area, with

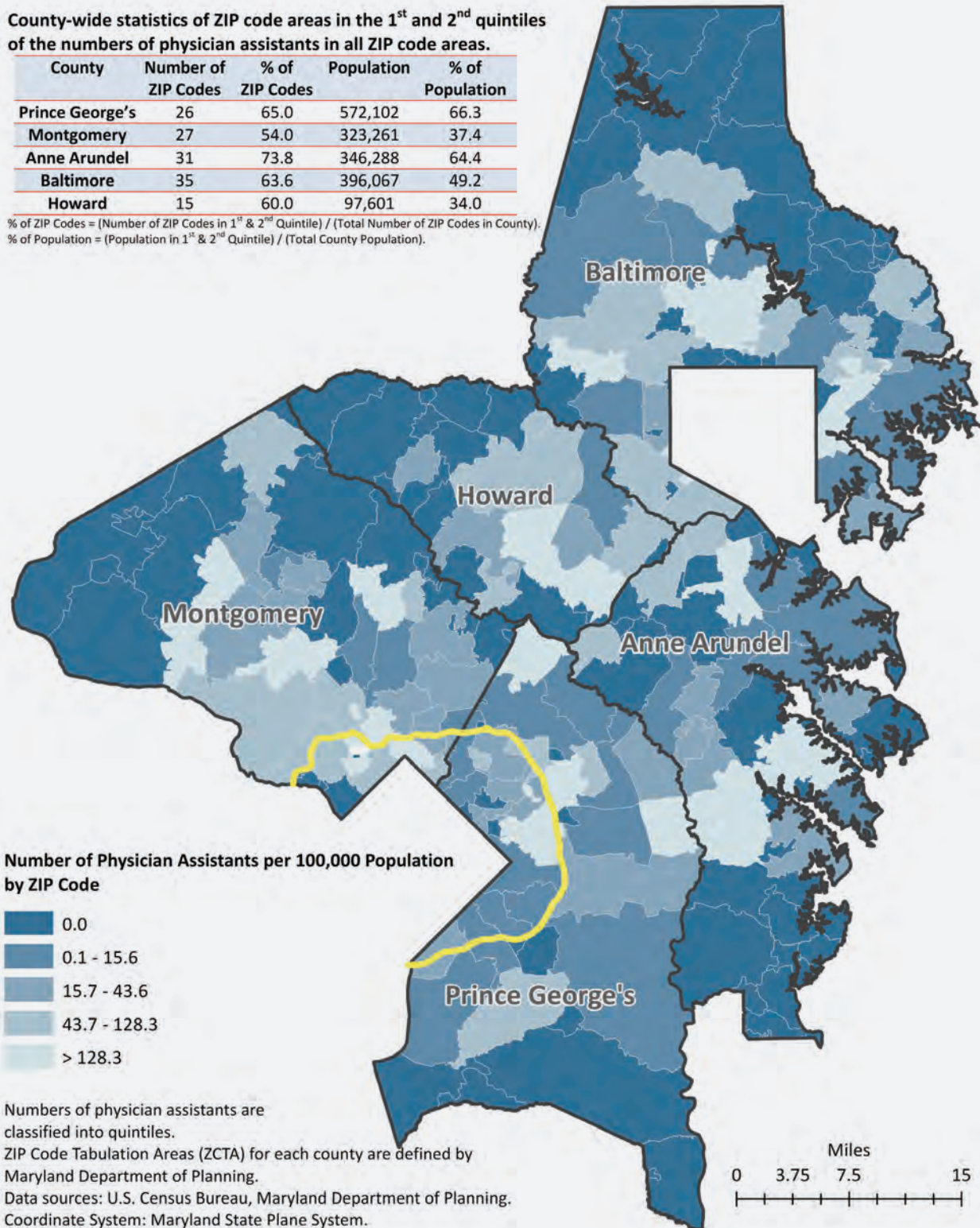
396,067 residents (49.2 percent of all Baltimore County residents).

FIGURE 20 GIS ANALYSIS OF PHYSICIAN ASSISTANTS PER 100,000 RESIDENTS BY JURISDICTION, 2011

County-wide statistics of ZIP code areas in the 1st and 2nd quintiles of the numbers of physician assistants in all ZIP code areas.

County	Number of ZIP Codes	% of ZIP Codes	Population	% of Population
Prince George's	26	65.0	572,102	66.3
Montgomery	27	54.0	323,261	37.4
Anne Arundel	31	73.8	346,288	64.4
Baltimore	35	63.6	396,067	49.2
Howard	15	60.0	97,601	34.0

% of ZIP Codes = (Number of ZIP Codes in 1st & 2nd Quintile) / (Total Number of ZIP Codes in County).
 % of Population = (Population in 1st & 2nd Quintile) / (Total County Population).



Numbers of physician assistants are classified into quintiles.
 ZIP Code Tabulation Areas (ZCTA) for each county are defined by Maryland Department of Planning.
 Data sources: U.S. Census Bureau, Maryland Department of Planning.
 Coordinate System: Maryland State Plane System.

Within Prince George’s County, the rates of physician assistants per 100,000 residents were lower for three PUMAs in the inner Beltway (PUMAs 1, 3 and 7) than for two outer-Beltway PUMAs (2 and 5). However, one inner-Beltway PUMA (4) was substantially

higher (51.9 per 100,000 residents) than other inner-Beltway PUMAs, while one outer-Beltway PUMA (6) was substantially lower (18.8 per 100,000 residents) than other outer-Beltway PUMAs (Figure 21).

FIGURE 21 LICENSED PHYSICIAN ASSISTANTS PER 100,000 RESIDENTS, BY PUMA, 2011

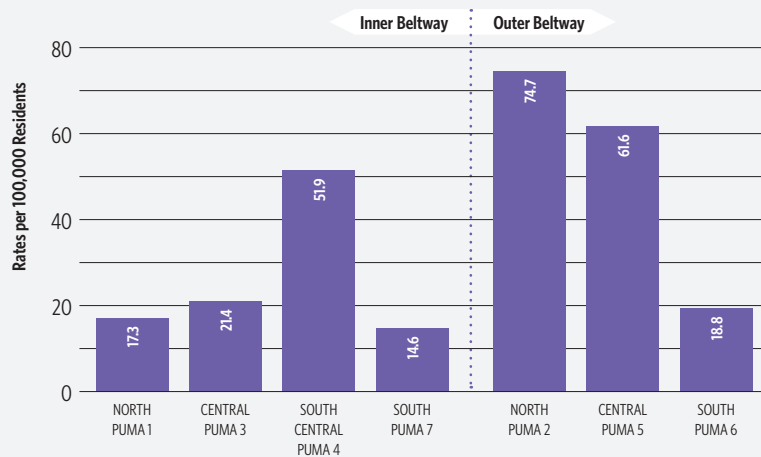
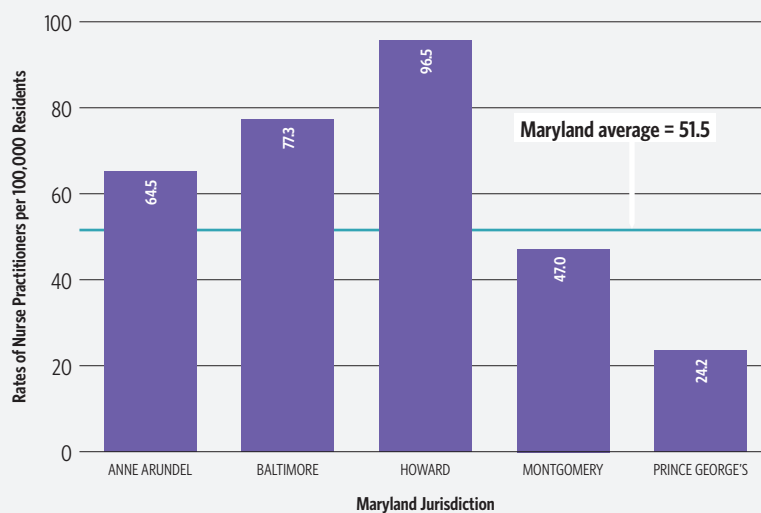


FIGURE 22 RATES OF NURSE PRACTITIONERS PER 100,000 RESIDENTS BY JURISDICTION, 2011



NURSE PRACTITIONERS

In 2011, there were approximately 3,002 licensed nurse practitioners in Maryland. Of this number, 1,930 practiced in five jurisdictions and 211 in Prince George’s County.

The geographical map of nurse practitioners per 100,000 residents was examined (Figure 22) for a more detailed analysis of nurse practitioner workforce distribution by ZIP code level. If we define the bottom two quintiles of the rates as the area in need of primary care (i.e., < 23 nurse practitioners per 100,000 residents), we see that Prince George’s County contained 24 ZIP codes (60.0 percent of all Prince George’s County ZIP codes) that fell into this area, where 510,554 people (59.1 percent of all Prince George’s County residents) resided. Baltimore County contained 20 ZIP codes in this area, with 146,227 residents (18.2 percent of all Baltimore County residents).

For Prince George’s County, the rate of nurse practitioners was the lowest (24.2 per 100,000 residents) among five jurisdictions. This rate was less than half of the average rate for the state of Maryland (51.5 per 100,000 residents). The rate for Prince George’s County was less than one-fourth of the rate for Howard County, which has the highest rate (96.5 per 100,000 residents) among the five selected jurisdictions (see Figure 23).

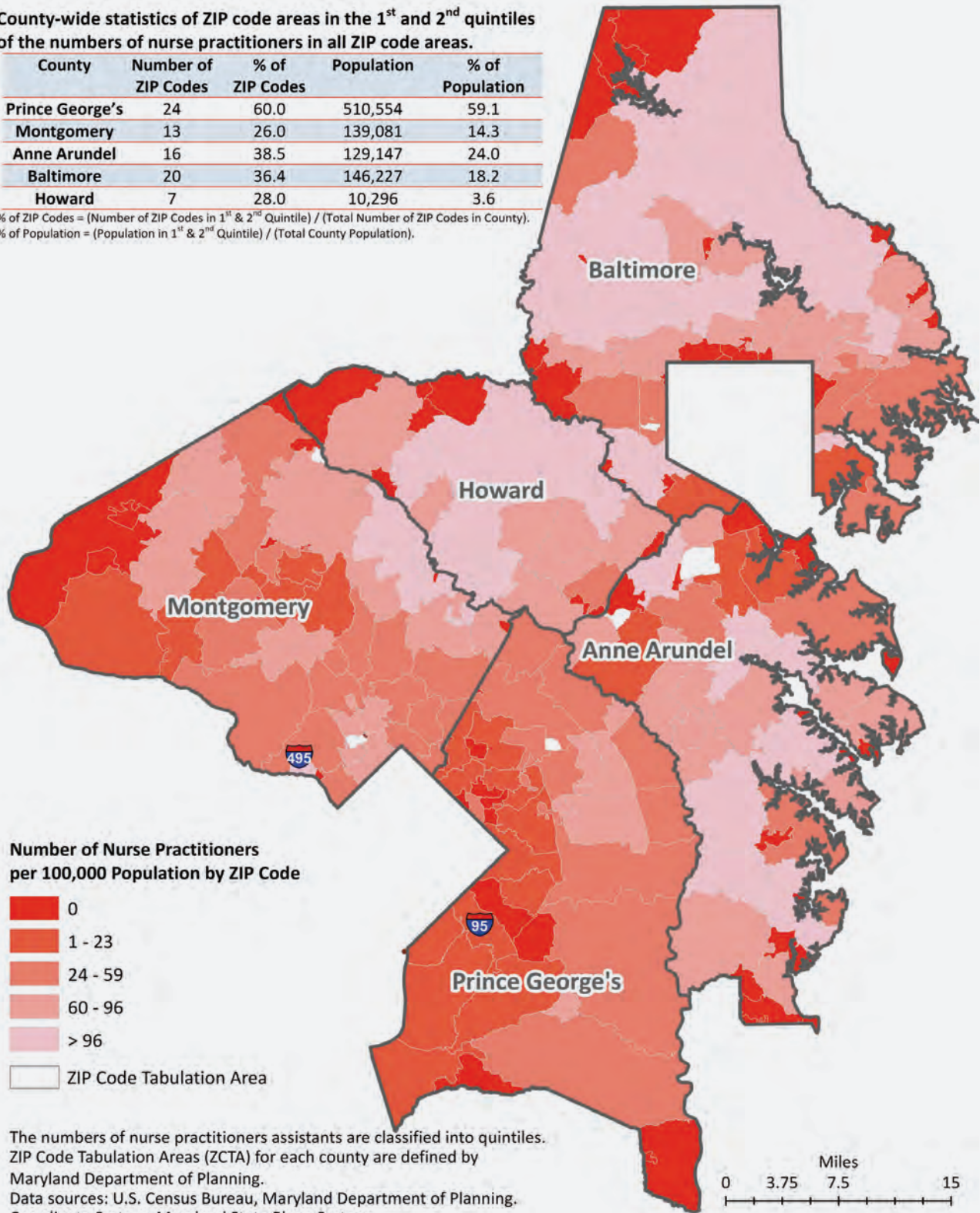
Within Prince George’s County, the rates of nurse practitioners per 100,000 residents were substantially lower for inner-Beltway PUMAs (1, 3, 4 and 7) than outer-Beltway PUMAs (2, 5, and 6). For the inner-Beltway areas, the rates ranged from 4.2 to 11.6, while the outer-Beltway areas had rates from 24.3 to 49.6. Two inner-Beltway PUMAs (4 and 7) had the lowest rates, 7.9 and 4.2, respectively (Figure 24).

FIGURE 23 GIS ANALYSIS OF NURSE PRACTITIONERS PER 100,000 RESIDENTS BY JURISDICTION, 2011

County-wide statistics of ZIP code areas in the 1st and 2nd quintiles of the numbers of nurse practitioners in all ZIP code areas.

County	Number of ZIP Codes	% of ZIP Codes	Population	% of Population
Prince George's	24	60.0	510,554	59.1
Montgomery	13	26.0	139,081	14.3
Anne Arundel	16	38.5	129,147	24.0
Baltimore	20	36.4	146,227	18.2
Howard	7	28.0	10,296	3.6

% of ZIP Codes = (Number of ZIP Codes in 1st & 2nd Quintile) / (Total Number of ZIP Codes in County).
 % of Population = (Population in 1st & 2nd Quintile) / (Total County Population).



DENTAL CARE

In 2011, there were approximately 6,651 dental care professionals (4,121 dentists and 2,527 dental hygienists) practicing in Maryland. Of this number, 4,442 practiced in the five selected jurisdictions and 618 in Prince George’s County (470 dentists, 148 hygienists).

For Prince George’s County, the rate of the combined dental care professionals was the lowest (71.6 per 100,000 residents) among five jurisdictions, and the only county among five jurisdictions with the rate below the average rate for the state of Maryland (115.2 per 100,000 residents). Anne Arundel County had the second-lowest rate among the five counties (120.9 per 100,000 residents) which was almost 50 higher than the Prince George’s County (Figure 25).

For a more detailed analysis of the dental care professional workforce distribution by ZIP code level, the geographical map of dental care professionals per 100,000 residents was examined (Figure 26). If we define the bottom two quintiles of the rates as the high primary care need area (i.e., ≤ 59 dental care professionals per 100,000 residents), we see that Prince George’s County contained 23 ZIP codes (57.5 percent of all Prince George’s County ZIP codes) that fell into this area, where 419,780 residents (48.6 percent of all Prince George’s County residents) resided. Baltimore County contained 24 ZIP codes in the dental care need area, with 270,042 residents (33.6 percent of all Baltimore County residents).

FIGURE 24 LICENSED NURSE PRACTITIONERS PER 100,000 RESIDENTS, BY PUMA, 2011

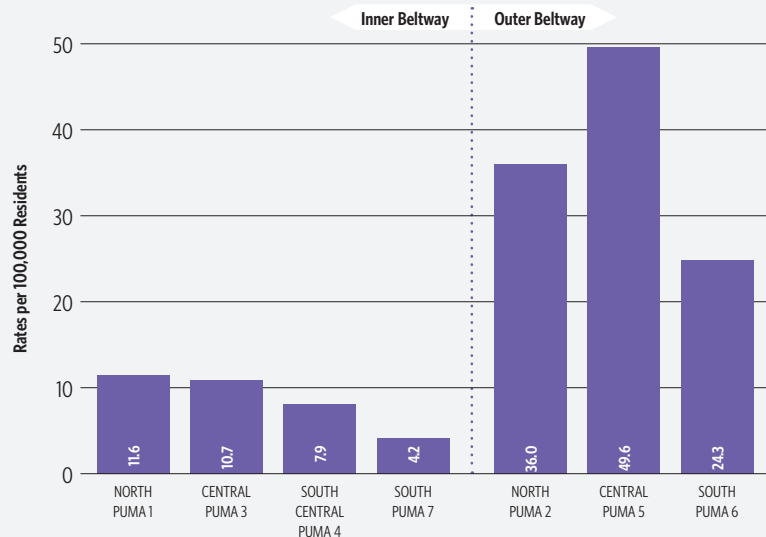


FIGURE 25 RATES OF DENTAL CARE PROFESSIONALS PER 100,000 RESIDENTS BY JURISDICTION, 2011

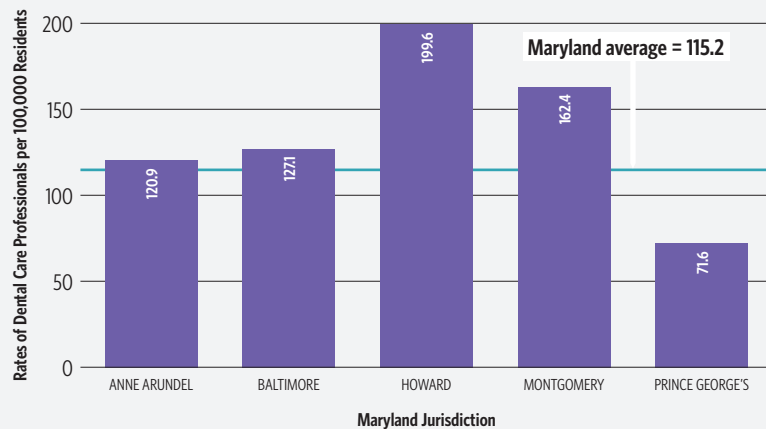


FIGURE 26 GIS ANALYSIS OF DENTAL CARE PROFESSIONALS PER 100,000 RESIDENTS BY JURISDICTION, 2011

County-wide statistics of ZIP code areas in the 1st and 2nd quintiles of the numbers of dental care professionals in all ZIP code areas.

County	Number of ZIP Codes	% of ZIP Codes	Population	% of Population
Prince George's	21	52.5	283,949	32.9
Montgomery	19	38.0	38,318	3.9
Anne Arundel	17	40.5	62,617	11.6
Baltimore	23	54.8	150,307	18.7
Howard	7	28.0	9,746	3.4

% of ZIP Codes = (Number of ZIP Codes in 1st & 2nd Quintile) / (Total Number of ZIP Codes in County)
 % of Population = (Population in 1st & 2nd Quintile) / (Total County Population).

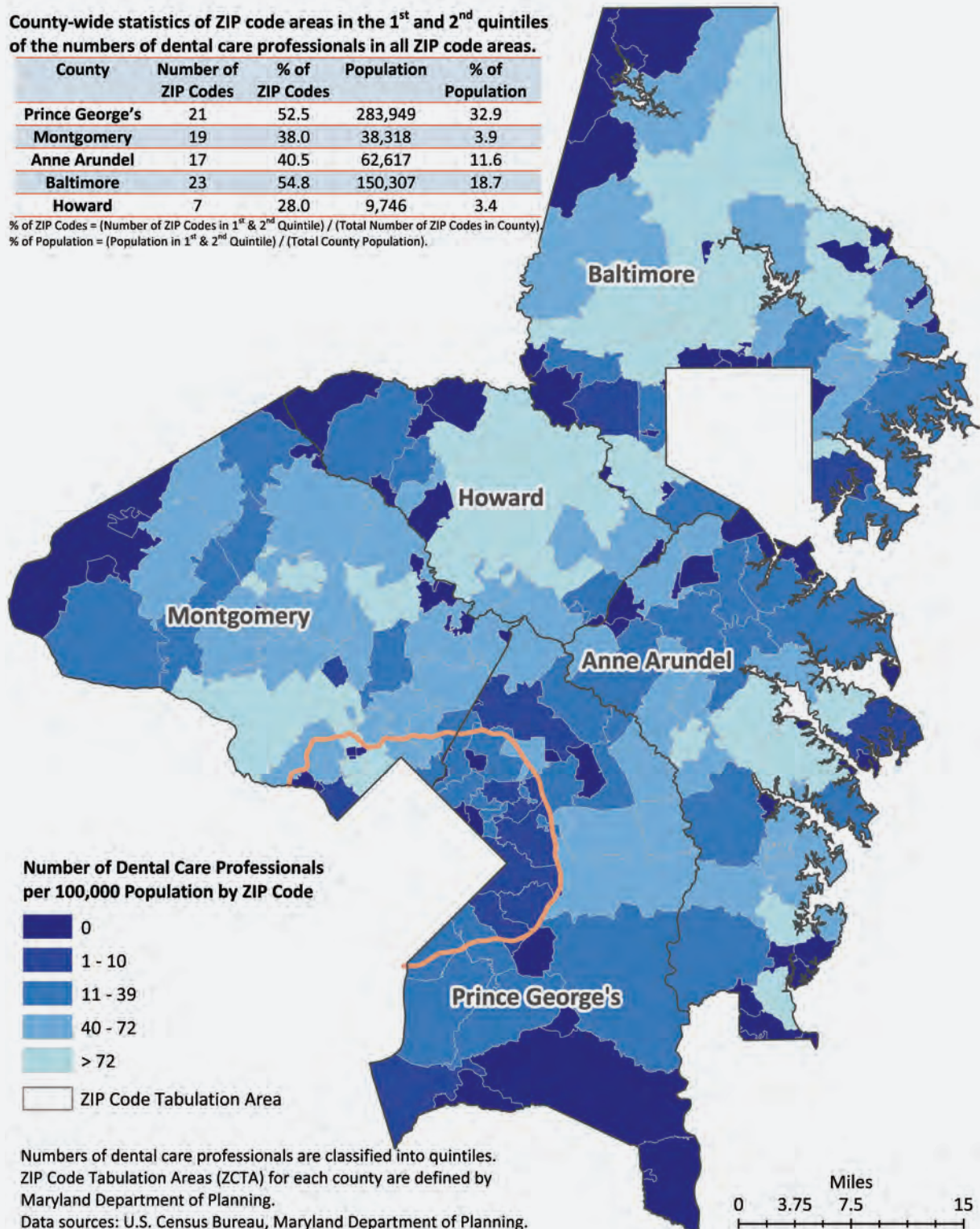
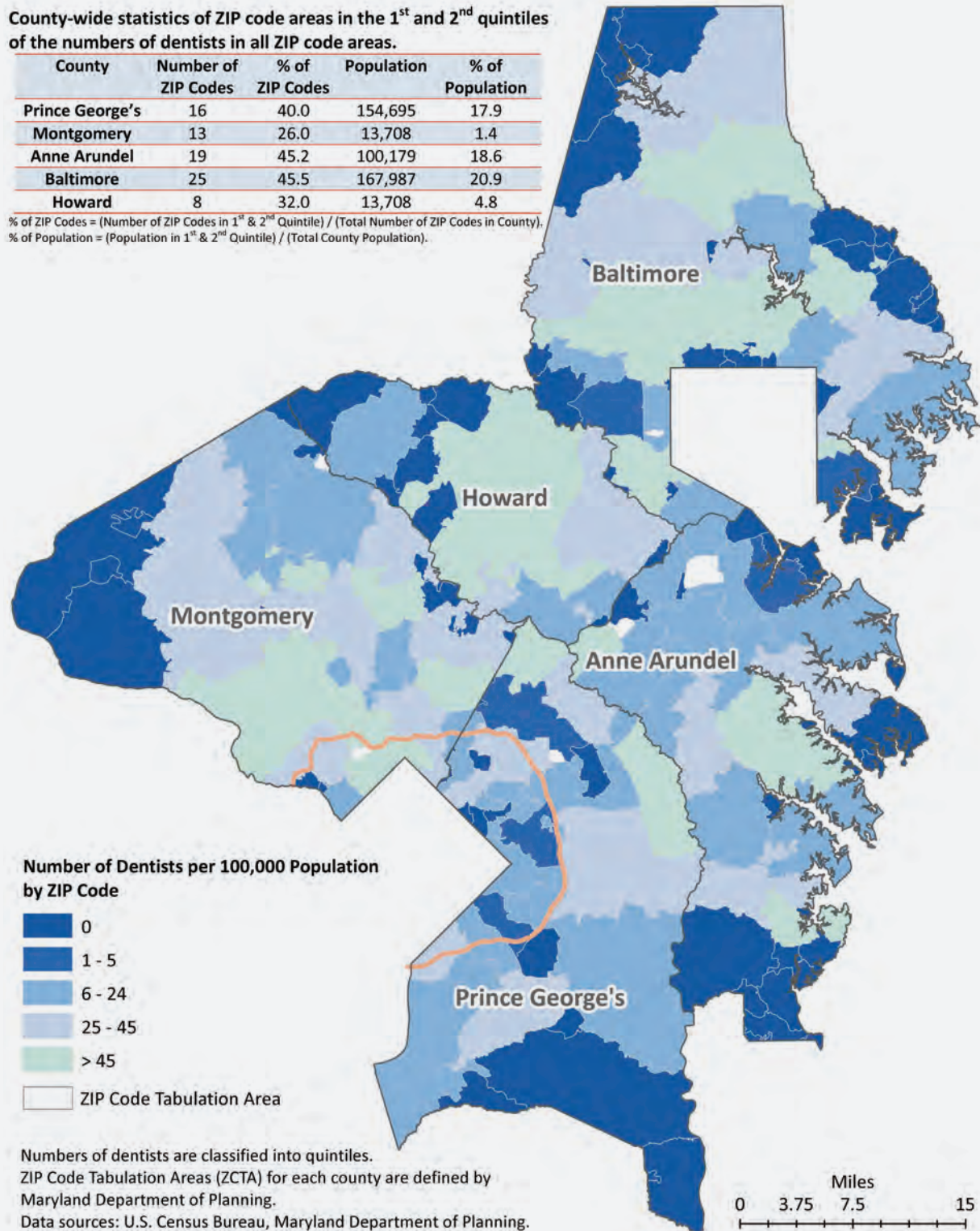


FIGURE 27 GIS ANALYSIS OF DENTISTS PER 100,000 RESIDENTS BY JURISDICTION, 2011

County-wide statistics of ZIP code areas in the 1st and 2nd quintiles of the numbers of dentists in all ZIP code areas.

County	Number of ZIP Codes	% of ZIP Codes	Population	% of Population
Prince George's	16	40.0	154,695	17.9
Montgomery	13	26.0	13,708	1.4
Anne Arundel	19	45.2	100,179	18.6
Baltimore	25	45.5	167,987	20.9
Howard	8	32.0	13,708	4.8

% of ZIP Codes = (Number of ZIP Codes in 1st & 2nd Quintile) / (Total Number of ZIP Codes in County),
 % of Population = (Population in 1st & 2nd Quintile) / (Total County Population).

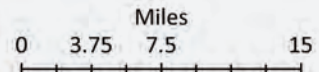


Number of Dentists per 100,000 Population by ZIP Code

- 0
- 1 - 5
- 6 - 24
- 25 - 45
- > 45

ZIP Code Tabulation Area

Numbers of dentists are classified into quintiles.
 ZIP Code Tabulation Areas (ZCTA) for each county are defined by Maryland Department of Planning.
 Data sources: U.S. Census Bureau, Maryland Department of Planning.
 Coordinate System: Maryland State Plane System.



Figures 27 and 28 present separate geographical maps of dentists and dental hygienists workforce distribution by ZIP code level per 100,000 residents.

Within Prince George’s County, the rates of dental care professionals per

100,000 residents were substantially lower for inner-beltway PUMAs (3, 4 and 7) than for two of the outer-beltway PUMAs (2 and 5). For the inner-beltway areas, the rates ranged from 14.9 to 54.9, while the rates

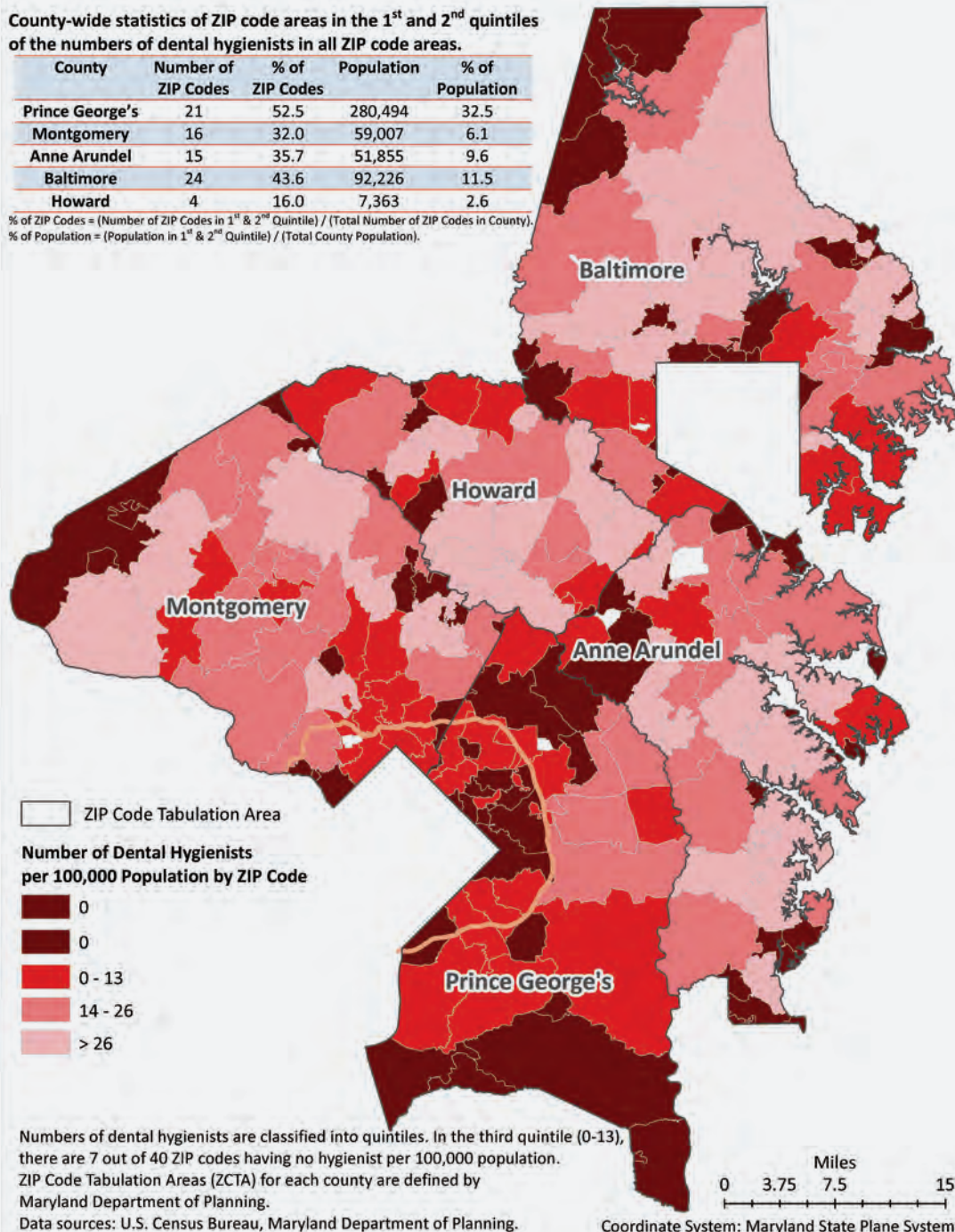
for outer-beltway areas ranged from 61.6 to 82.3. Additionally, the lowest rate in the outer-beltway PUMAs (61.6) was greater than the highest rate in the inner-beltway PUMAs (54.9) (Figure 29).

FIGURE 28 GIS ANALYSIS OF DENTAL HYGIENISTS PER 100,000 RESIDENTS BY JURISDICTION, 2011

County-wide statistics of ZIP code areas in the 1st and 2nd quintiles of the numbers of dental hygienists in all ZIP code areas.

County	Number of ZIP Codes	% of ZIP Codes	Population	% of Population
Prince George’s	21	52.5	280,494	32.5
Montgomery	16	32.0	59,007	6.1
Anne Arundel	15	35.7	51,855	9.6
Baltimore	24	43.6	92,226	11.5
Howard	4	16.0	7,363	2.6

% of ZIP Codes = (Number of ZIP Codes in 1st & 2nd Quintile) / (Total Number of ZIP Codes in County).
 % of Population = (Population in 1st & 2nd Quintile) / (Total County Population).



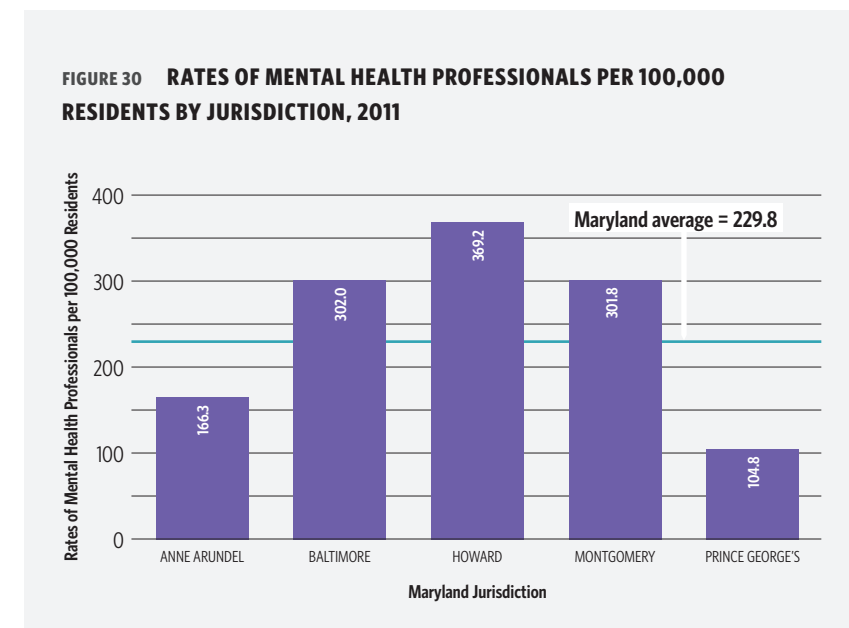
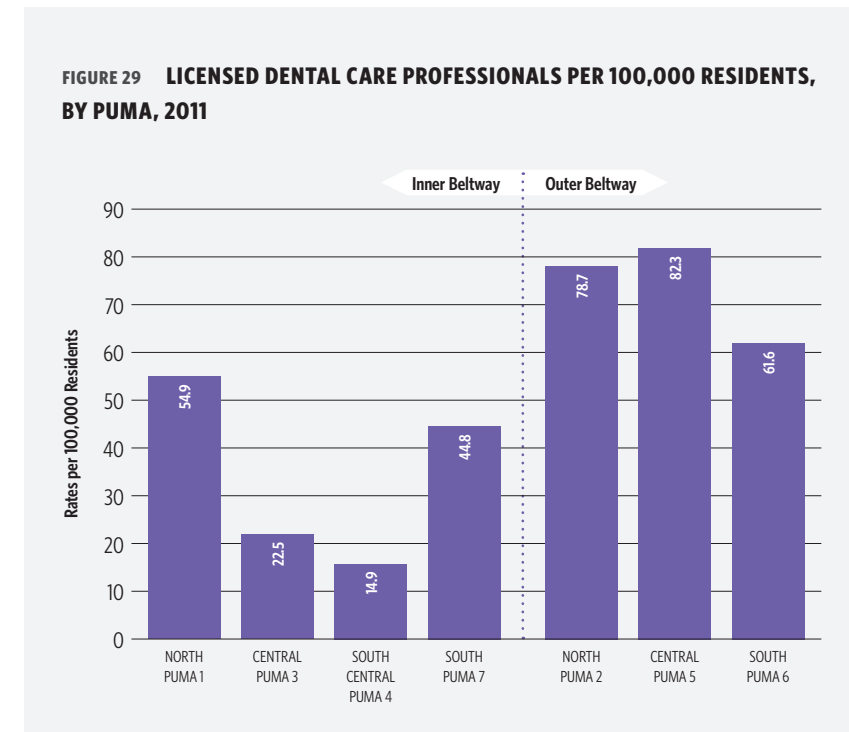
MENTAL HEALTH PROFESSIONALS

In 2011, there were approximately 13,266 mental health professionals (licensed social workers (3,849), licensed psychologists (1,762), psychiatrists (456) and licensed counselors (2,156) practicing in Maryland. Of this number, 8,223 practiced in the five selected jurisdictions and 905 in Prince George’s County; 396 social workers, 114 licensed psychologists, 31 psychiatrists and 364 licensed counselors.

For Prince George’s County, the rates of mental health professionals were the lowest (104.8 per 100,000 residents) among five jurisdictions. This rate was less than half of the average rate for the state of Maryland (229.8 per 100,000 residents). Anne Arundel County had the second-lowest rate among the five counties, 166.3 per 100,000 residents, but this rate was 60 points higher than the rate of Prince George’s County. All other jurisdictions (Baltimore, Howard and Montgomery counties) had rates that were approximately three times that of Prince George’s County (Figure 30).

For a more detailed analysis of the mental health professional workforce distribution by ZIP code level, the geographical map of mental health professionals per 100,000 residents was examined (Figure 31). When we define the bottom quintile of the rates as the high primary care-need area (i.e., < 61 mental health professionals per 100,000 residents), we see that Prince George’s County contained 14 ZIP codes (35 percent of all Prince George’s County ZIP codes) that fell into this area, where 266,659 people (30.9 percent of all Prince George’s County residents) resided. Baltimore County contained eight ZIP codes in this high primary care-need area, with 65,933 residents (8.2 percent of all Baltimore County residents).

Within Prince George’s County, the rates per 100,000 residents were



substantially lower for inner-Beltway PUMAs (1, 3, 4 and 7) than for the outer-Beltway PUMAs (2, 5, and 6). For the inner-Beltway areas, the rates ranged from 37.5 to 81.9, while the rates for the outer-Beltway areas ranged from 107.6 to 169.7. Additionally, the lowest rate in the outer-Beltway PUMAs (107.6) was greater than the highest rate in the inner-Beltway PUMAs (81.9) (see Figure 32).

SUMMARY

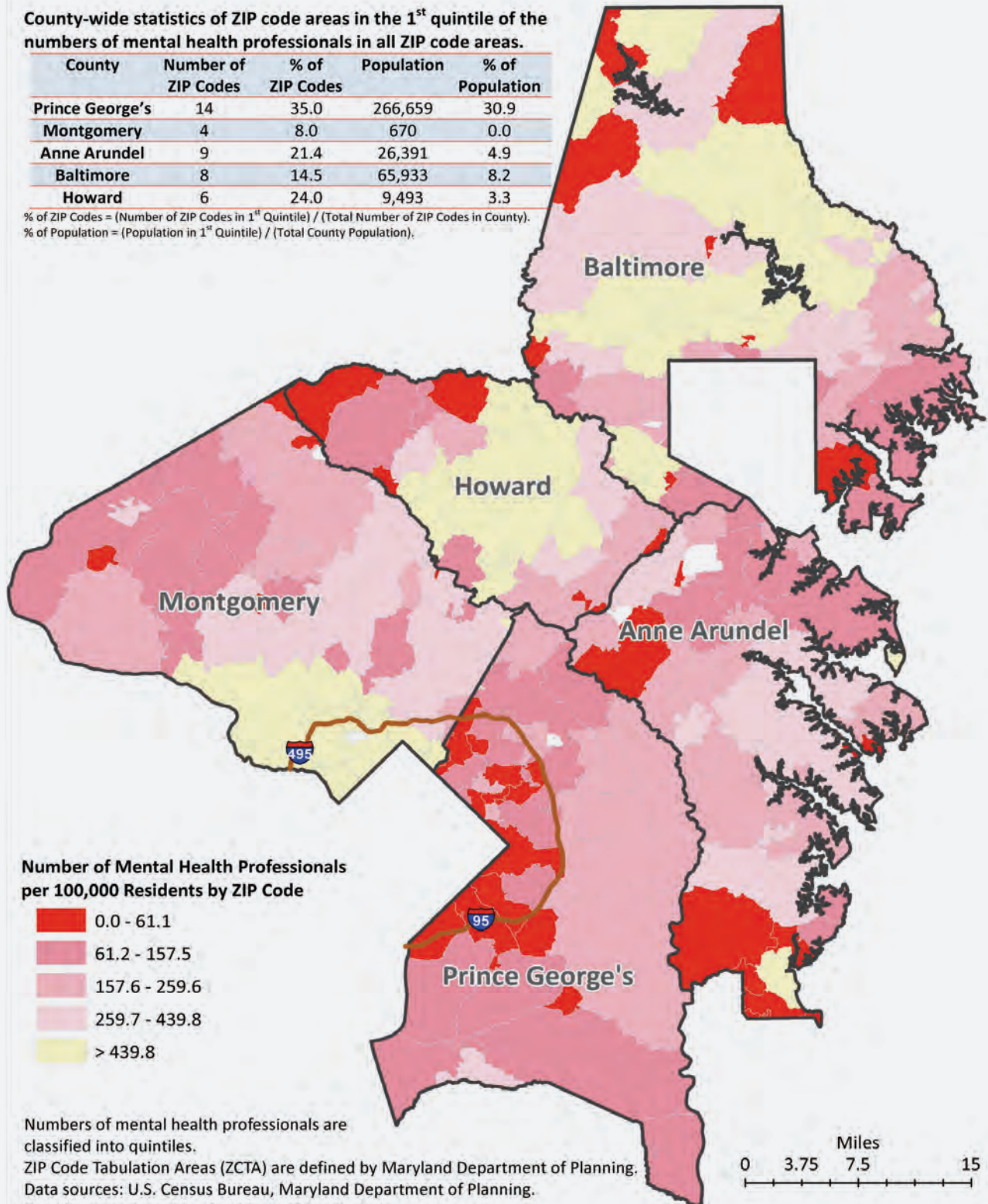
This part of this investigation assessed the distribution of the health care workforce associated with primary care, including: primary care physicians, nurse practitioners, physician assistants, dental care professionals (dentists and dental hygienists), and behavioral and mental health professionals (psychologists, psychiatrists,

FIGURE 31 GIS ANALYSIS OF MENTAL HEALTH PROFESSIONALS PER 100,000 RESIDENTS BY JURISDICTION, 2011

County-wide statistics of ZIP code areas in the 1st quintile of the numbers of mental health professionals in all ZIP code areas.

County	Number of ZIP Codes	% of ZIP Codes	Population	% of Population
Prince George's	14	35.0	266,659	30.9
Montgomery	4	8.0	670	0.0
Anne Arundel	9	21.4	26,391	4.9
Baltimore	8	14.5	65,933	8.2
Howard	6	24.0	9,493	3.3

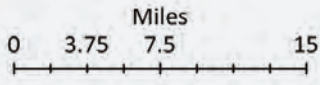
% of ZIP Codes = (Number of ZIP Codes in 1st Quintile) / (Total Number of ZIP Codes in County).
 % of Population = (Population in 1st Quintile) / (Total County Population).



Number of Mental Health Professionals per 100,000 Residents by ZIP Code

- 0.0 - 61.1
- 61.2 - 157.5
- 157.6 - 259.6
- 259.7 - 439.8
- > 439.8

Numbers of mental health professionals are classified into quintiles.
 ZIP Code Tabulation Areas (ZCTA) are defined by Maryland Department of Planning.
 Data sources: U.S. Census Bureau, Maryland Department of Planning.
 Coordinate System: Maryland State Plane System.



clinical social workers, counselors and therapists). In addition, this investigation assessed the level of primary care need based on quantifying the provider-to-population rates.

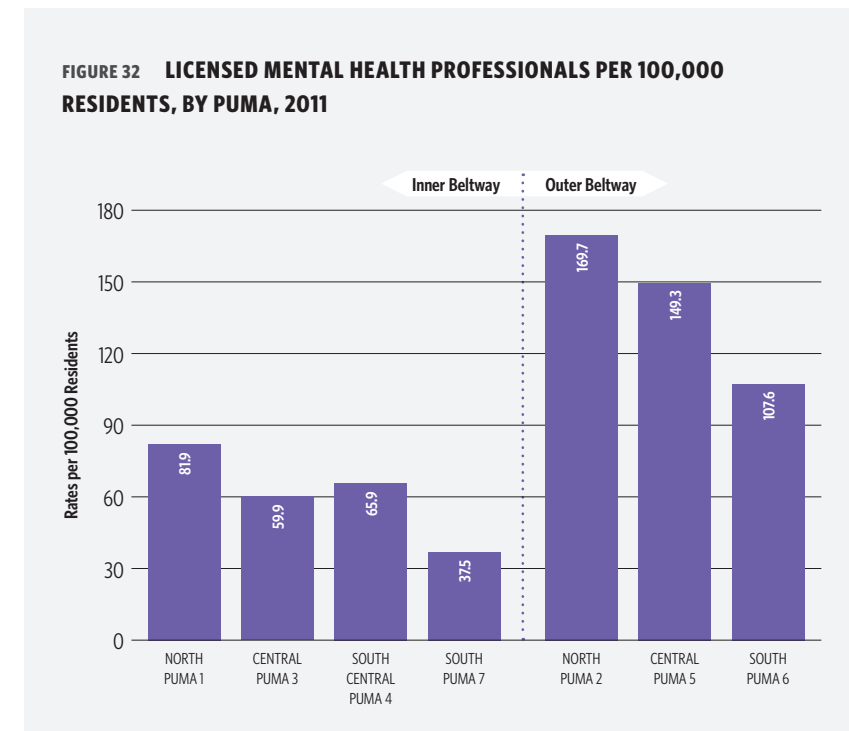
Three major analyses were conducted on Prince George’s County and four neighboring counties:

- Between jurisdictions
- Within ZIP codes
- Within Prince George’s County Public Microdata Areas (PUMAs)

PRIMARY CARE PHYSICIANS

The results indicated that the primary care physician workforce for Prince George’s County was substantially less than the neighboring jurisdictions. Specifically, the rate of primary care physicians for Prince George’s County was below the average rate of primary care physicians per 100,000 residents in Maryland, and below any of the four neighboring jurisdictions. When considering the lowest two quintiles as the high primary care-need area, the rate of primary care physicians supply was smaller than or equal to 9.6 per 100,000; 138,677 residents (16.2 percent of the population) in Prince George’s County lived in this area. The overlay geographical analysis case studies indicated that there was a disparity between the primary care physician locations and the rates of myocardial infarction and asthma hospital discharges.

Within Prince George’s County, some disparities were observed. Overall, the outer-Beltway areas (PUMAs 2, 5, and 6) had higher rates than the inner-Beltway areas (PUMAs 1, 3, 4 and 7). The average rate of primary care physicians per 100,000 residents in the outer Beltway was about 20 points higher than that of the inner Beltway (66.9 vs. 40.8). It was also noted that inside the Beltway, the rate for PUMA 7 (64.5) was substantially higher than for other PUMAs inside the Beltway, which had



rates in the 30s). In the outer Beltway, the rate for PUMA 6 (37.0) was substantially lower than in the other two PUMAs (94.1 and 69.7).

PHYSICIAN ASSISTANTS

The results indicated that the physician assistants’ workforce for Prince George’s County was substantially lower than the neighboring jurisdictions. Specifically, the rate of physician assistants for Prince George’s County was just about half of the Maryland average and at least 30 points below any of the four neighboring jurisdictions. Furthermore, when considering the lowest two quintiles as the high primary care-need area, the rate of physician assistants supply was smaller than or equal to 15.6 per 100,000 residents; 572,102 individuals (66.3 percent of the population) in Prince George’s County lived in this area. Overall, the outer-Beltway areas (PUMAs 2, 5 and 6) in Prince George’s County had higher rates than the inner-Beltway areas (PUMAs, 1, 3, 4 and 7). However, the rate for PUMA 4 was substantially higher than other PUMAs inside the Beltway and the rate

for PUMA 6, in the outer Beltway, was substantially lower than in the other two PUMAs.

NURSE PRACTITIONERS

The results indicated that the nurse practitioners’ workforce for Prince George’s County was substantially lower than the average for Maryland and the neighboring jurisdictions. The rate of nurse practitioners for Prince George’s County was less than half of the Maryland average and at least 30 points below any of the four neighboring jurisdictions. Furthermore, when considering the lowest two quintiles as the high primary care-need area, the rate of nurse practitioners supply was smaller than or equal to 23.0 per 100,000; 510,554 residents (59.1 percent of the population) in Prince George’s County lived in this area. All outer-Beltway areas (PUMAs 2, 5 and 6) in Prince George’s County had much higher rates than inner-Beltway areas (PUMAs 1, 3, 4 and 7).

DENTAL CARE PROFESSIONALS

The results indicated that the dental care workforce for Prince George’s

County was substantially lower than the neighboring jurisdictions. There are 470 dentists and 148 dental hygienists in Prince George's County in comparison to 1,203 dentists and 375 dental hygienists in Montgomery County.

Specifically, the rate of dental care professionals, when dentists and dental hygienists are combined, for Prince George's County was more than 40 points lower than the Maryland average, and substantially lower than Montgomery and Howard counties. Furthermore, when considering the lowest two quintiles of dental care professionals as the high primary care need Prince George's County has a more substantial proportion of its residents living in this areas,

419,780 residents (48.6 percent of all Prince George's County residents), as compared with Baltimore County with 270,042 residents (33.6 percent of all Baltimore County residents). Only 5.9 percent of Montgomery County's population falls within these same two quintiles. Overall, the outer-Beltway areas (PUMAs 2, 5 and 6) in Prince George's County had higher rates than the inner-Beltway areas (PUMAs 1, 3, 4 and 7). However, the rate for PUMA 1 is higher than for other PUMAs inside the Beltway.

MENTAL HEALTH PROFESSIONALS

The results indicated that the mental health workforce for Prince George's County was substantially lower than

the neighboring jurisdictions. Specifically, the rate of mental health professionals for Prince George's County was less than half of the Maryland average and was about 200 points below any of the three neighboring jurisdictions (Baltimore, Howard and Montgomery). Furthermore, when considering the lowest quintile as the high primary care-need area, the rate of mental health professionals supply was smaller than or equal to 61.1 per 100,000 residents; 266,659 residents (30.9 percent of the population) in Prince George's County lived in this area. Overall, the outer-Beltway areas (PUMAs 2, 5 and 6) in Prince George's County had higher rates than the inner-Beltway areas (PUMAs 1, 3, 4 and 7).

ADDITIONAL CONSIDERATIONS AND OVERALL SUMMARY

These findings reinforced the previous reports conducted by RAND (Lurie, Harris, Shih, Ruder, Price, Martin, Acosta, & Blanchard (2010), by the 2010 Primary Care Needs Assessment (DHMH, 2010) and the Maryland Physician Workforce Study (MHCC Extramural Report, 2011). However, the current study expanded on previous studies by including the full range of primary care health care workforce categories, provided an analysis at the ZIP code level, and applied geospatial mapping to investigate the areas of high primary care need and the variations within PUMAs. Prince George's County has a substantially lower number and ratio of primary care physicians, physician assistants, nurse practitioners, dental care professionals and mental health professionals compared with neighboring jurisdictions. The areas that are more affected appear in the inner-Beltway PUMAs, where a large proportion of lower-income African American/blacks and Hispanics reside, than in the outer-Beltway PUMAs (See Tables 1 and 2).

Even within Prince George's County, there were disparities across ZIP codes. The Prince George's County ZIP code areas that fell within the Beltway (inside the yellow line in Figure 31.) generally had lower rates than ZIP code areas lying outside the Beltway (see Table 3). To contribute to discussions about primary care health care workforce need, we also applied the HRSA provider-to-population ratios for Health Professions Shortage Areas at the PUMA level for primary care physicians (1:2,000), dentists (1:3,000) and

mental health professionals, as measured by psychiatrists alone (1:10,000). (HRSA, 2011). Table 4 reflects the findings of this assessment.

Although the study did not attempt to investigate the reasons for these disparities, the literature suggested that economic factors in the region might influence the recruitment and retention of this professional workforce. Health care workers—particularly those providing direct services—may face many issues related to safety and work benefits in their work environments. The

lack of having teaching hospitals with an academic affiliation also may contribute to this challenge of recruitment and retention. These factors should be carefully studied in future assessments of the health care workforce. They should also be considered in any attempts to understand why Prince George's County had substantially lower rates of health care workers than other comparable counties in Maryland.

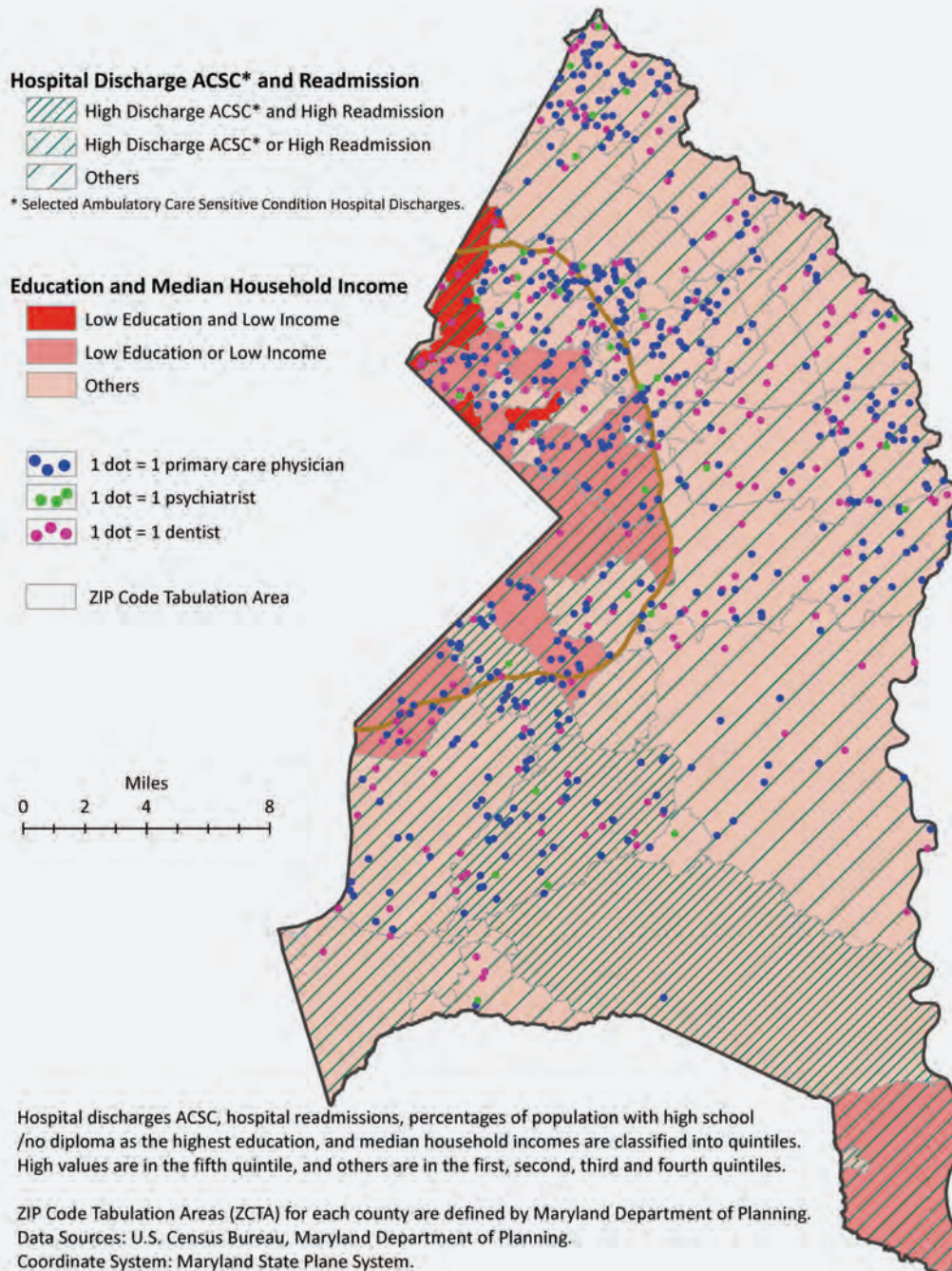
Figure 31 presents an integrated map of Prince George's County consisting of three areas: 1) the

ambulatory care sensitive-condition hospital discharges and readmissions; 2) demographics of education and median household income and 3) the geographical distribution of health care workforce of primary care physicians, psychiatrists and dentists.

LIMITATIONS The ZIP code-level data analysis may provide more detailed sub-county-level information, but it is not without limitations. Some ZIP codes located in the sparsely populated areas of the county have a small number of residents and are thus more

likely to have no patient care professionals providing care in the area. As a result, the rate computed for such areas is zero. On the other hand, if it happens that one or a few patient care professionals do provide services in these areas, the resulting rate could be

FIGURE 33 INTEGRATED MAP OF PRINCE GEORGE'S COUNTY CONSISTS OF HOSPITAL DISCHARGES AND READMISSIONS; EDUCATION AND MEDIAN HOUSEHOLD INCOME; AND THE GEOGRAPHICAL DISTRIBUTION OF HEALTH CARE WORKFORCE



unrealistically high. These zeros and inflated rates may become “noise” for the true pattern of the rates of patient care workforce computation and for the geographical mapping.

FUTURE CONSIDERATIONS The ZIP code-level patient care workforce data analysis may be compared to the health professional shortage areas (HPSAs), medically underserved areas (MUAs) and medically underserved

populations (MUPs). Currently, the HPSA data is based on the census tracts, which do not match with the ZIP code areas, making it difficult to combine the patient care workforce data with HPSAs without the alignment with the ZIP code. Future studies may also consider the socioeconomic index in relation to geographical mapping and the patient care workforce. Multiple density clustering—i.e., clusters of residents, clusters of patients and clusters of the patient care workforce—may also be considered.

PUMAs are generally useful in categorizing regions within Prince George’s County. However, since each PUMA consists of more than 100,000 residents, the sub-county-level analysis of patient care workforce by PUMA may lose some necessary granularity. Breaking some or all of the PUMAs down into two to three regions might better illustrate the socio-demographic profile of the residents and the supply of the patient care workforce.

In the past, the definition of active physicians varied from study to study, making the results incomparable. Our definition of active physicians was perhaps more stringent than in other studies. Though the physician counts appeared to be smaller than that of the previous reports, our study could reflect more of the true patient care workforce. In the future, the tallying of physicians and other applied patient care workforce may be standardized so that studies on Maryland’s patient care workforce can be compared across years.

TABLE 3 THE RATES OF HEALTH CARE WORKFORCE PER 100,000 POPULATION BY TYPE AND BY PUMA FOR PRINCE GEORGE’S COUNTY

Region	Primary Care	Physician Assistant	Nurse Practitioner	Dentist	Dental Hygienist	Mental Health
Inner Beltway						
PUMA1	35.6	17.3	11.6	54.9	15.4	81.9
PUMA3	36.4	21.4	10.7	22.5	2.1	59.9
PUMA4	30.8	51.9	7.9	15.9	4.4	65.9
PUMA7	64.5	14.6	4.2	44.8	4.2	37.5
Outer Beltway						
PUMA2	94.1	74.7	36.0	78.7	18.5	169.7
PUMA5	69.7	61.6	49.6	82.3	32.1	149.3
PUMA6	37.0	18.8	24.3	61.6	27.0	107.6

TABLE 4 THE NUMBER OF THREE HEALTH CARE WORKFORCE WORKERS NEEDED BY PUMA, PRINCE GEORGE’S COUNTY

Region	Current PCP count	Number of PCPs needed	Current dentist count	Number of dentists needed	Current psychiatrist count	Number of psychiatrists needed
Inner Beltway						
PUMA1	37	15	57	0	3	7
PUMA3	34	13	21	10	4	5
PUMA4	35	22	17	21	2	9
PUMA7	62	0	43	0	1	9
Outer Beltway						
PUMA2	102	0	85	0	9	2
PUMA5	128	0	151	0	7	11
PUMA6	67	24	96	0	5	13

REFERENCES

- Cherry, K. (2007). *Difference Between Psychologists and Psychiatrists*. Retrieved from psychology.about.com/od/psychotherapy/f/psychvspsych.htm.
- ESRI. (2012). ArcGIS Desktop Version 10. Retrieved from www.esri.com/software/arcgis/about/gis-for-me.html.
- Hanchette, C.L. (2003). Geographic Information Systems. In P.W. O'Carroll, Y.A. Yasnoff, M.E. Ward, L.H. Ripp, and E.L. Martin (Ed.), *Public Health Informatics* (pp. 431-466). New York, NY: Springer.
- Institute of Medicine. (1994). *Defining Primary Care: An Interim Report*. Washington D.C.: The National Academies Press.
- Kaiser Family Foundation. (2011). *Distribution of U.S. Population by Race/Ethnicity, 2010 and 2050*. Retrieved from facts.kff.org/chart.aspx?ch=364.
- Lurie, N., Harris, K. M., Shih, R. A., Ruder, T., Price, A., Martin, L.G., Acosta, J.C., & Blanchard, J. C. (2010). *Assessing Health and Health Care in Prince George's County*. Retrieved from www.rand.org.
- Maryland State Data Center. (2012). *2010 Census Data*. Retrieved from census.maryland.gov.
- MHCC Extramural Report. (2011). *Maryland Physician Workforce Study: Applying the Health Resources and Services Administration Method to Maryland Data*.
- Primary Care Needs Assessment. (2010). Primary Care Office, Office of Health Policy and Planning, Family Health Administration, Department of Health and Mental Hygiene.
- U.S. Census. Retrieved from www.census.gov/geo/www/maps/puma5pct.htm.
- Woodward, M. (1999). *Epidemiology: Study Design and Data Analysis*: Chapman & Hall/CRC.
- United States Census Bureau. (1999). *Census 2000 Public Use Microdata Area (PUMA) Maps* Retrieved from www.census.gov/geo/www/maps/puma5pct.htm.
- United States Census Bureau. (2010). *American Fact Finder*. Retrieved from factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
- United States Census Bureau. (2012). *American Fact Finder*. Retrieved from factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
- United States Department of Health and Human Services, Health Resources and Services Administration. (2011). *Find Shortage Areas: HPSA by State & County*. Retrieved from hpsafind.hrsa.gov/HPSASearch.aspx.
- Valentine, D. (2008, October 30). *County has highest percentage of uninsured residents in Maryland*. Gazette.net. Retrieved from ww2.gazette.net/stories/10302008/prinnew171042_32470.shtml

APPENDIX A

TABLE A1 PRINCE GEORGE'S COUNTY HEALTH CARE WORKFORCE PER 100,000 RESIDENTS BY ZIP CODE

ZIP CODE	Primary Care			
	Physicians	Nurse Practitioners	Dentists	Psychiatrists
20601	346.0	1730.1	2076.1	173.0
20607	0.0	20.5	10.2	0.0
20608	0.0	0.0	0.0	0.0
20613	9.7	29.2	19.4	0.0
20623	0.0	72.9	0.0	18.2
20705	11.5	30.7	23.1	0.0
20706	85.3	31.0	43.9	2.6
20707	147.2	38.4	128.0	8.0
20708	54.8	27.4	66.5	0.0
20710	21.5	0.0	10.7	0.0
20712	0.0	0.0	44.3	0.0
20715	37.9	37.9	117.5	1.9
20716	115.5	57.7	129.9	2.4
20720	9.5	80.8	61.8	0.0
20721	40.7	59.2	103.6	1.9
20722	70.0	35.0	0.0	0.0
20735	90.3	11.3	81.9	4.2
20737	62.9	19.3	38.7	0.0
20740	76.4	10.4	76.4	3.5
20742	51.2	0.0	0.0	19.2
20743	0.0	2.6	18.1	0.0
20744	41.4	13.8	55.2	0.0
20745	38.7	7.0	84.4	0.0
20746	69.4	0.0	20.8	0.0
20747	20.0	10.0	12.5	1.2
20748	79.9	5.2	33.5	1.3
20762	0.0	0.0	0.0	0.0
20769	166.6	60.6	45.4	0.0
20770	154.9	47.7	87.4	7.9
20772	28.2	49.3	70.4	0.0
20774	86.0	46.5	74.4	2.3
20781	43.7	0.0	26.2	0.0
20782	42.5	19.6	58.9	1.6
20783	4.5	6.7	38.2	0.0
20784	20.4	13.6	17.0	1.7
20785	77.0	11.4	14.3	1.4

APPENDIX B: ADDITIONAL DOCUMENTATION METHODS FOR SECTION 1

This appendix describes our methods for additional analyses required for Section I of the Study report and includes an overview of our approach for designating and projecting primary care workforce areas of need and delineation of ZIP codes with high primary care need.

PRIMARY CARE WORKFORCE NEED BY GEOGRAPHIC AREA

This following step by step approach describes our approach to assessing primary care workforce need and resulted in the generation of Map A and the table of estimated counts for primary care providers by PUMA in Section I.

1. Initial identification of counts of primary care professionals was provided for physicians, nurse practitioners, physician assistants, dentists, dental hygienists, social workers, psychologists, and counselors and therapists. (See Technical Report on Physician Counts and Technical Report on Geographic Mapping and Primary Care Providers)
2. We used Public Use Microdata Areas (PUMAs) as the geographic footprint in County. This approach, rather than using ZIP code provider ratio data, was recommended by DHMH (Office of Primary Care). We adjusted the PUMAs to ensure that estimated populations capture County residents, given that some ZIP codes overlap geographic boundaries with other counties.
3. For projections we focus only on the Health Resources and Services Administration (HRSA) categories for primary care providers: medical (primary care physicians), dental (dentists), and mental health (core mental health providers and/or psychiatrists).
4. Specific approach for each category of health providers follows:
 - 4.1 Primary care physicians are defined by four specialties (general or family practice; pediatrics; internal medicine; and obstetrics and gynecology). Similar to HRSA, we have counted only non-federal physicians (of medicine and osteopathy) providing direct patient care; and do not include physicians who participate solely in teaching, research and/or administration without practice. Unlike HRSA we have not fractionated the hours per physician. Our count includes physicians who report practicing 20 hours or more a week. Each such physician is considered "a count." Unlike HRSA, we have not included interns and residents; we include all physicians who have designed Prince George's County as a primary practice location. To ensure quality of care, we only count physicians who report being Board Certified in their respective specialties. This is not mentioned in the HRSA guidance. Physicians who are counted are those who have a practice in the county. This could be a primary or secondary practice.
 - 4.2 Dentists include any licensed dentist in the County. Most dentists are general practitioners, so no attempt was made to separate general practitioners from specialists.
 - 4.3 Mental health workers were reviewed in two ways:
 - a. Board certified psychiatrists, or
 - b. Core Mental Health Providers, defined as Board certified psychiatrists, psychologists, clinical social workers, and therapists/counselors. We use a modification of the HRSA definition of "core mental health professionals," minus psychiatric nurse specialists, for our initial assessment. The HRSA definition from Criteria for Mental Health HPSA states: "Core mental health professionals or core professionals includes those psychiatrists, clinical psychologists, clinical social workers, psychiatric nurse specialists, and marriage and family therapists..."
 - c. We did two assessments: a separate assessment for psychiatrists alone and then a second, for the aggregated core mental health professionals that include psychiatrists, clinical psychologists, clinical social workers and marriage and family therapists (as noted from HRSA above). In our state data base we have one list for therapists and counselors for the latter.

- Personal Communication with staff at Office of Primary Care, DHMH regarding general approach; and for advice on how to approach mental health workers.
5. The HRSA criteria for provider to population ratios used to designate a Health Professions Shortage Area were reviewed:
 - 5.1 Primary Medical Care HPSA includes a:

Ratio of at least 1:3,500, or a Ratio of greater than 1:3,000 if there are other "high needs for primary care services, or insufficient capacity of existing primary care providers."
 - 5.2 Dental HPSA includes a:

Ratio of at least 1:5,000, or a Ratio of worse than 1:4,000 and with unusually high needs for dental services as shortage
 - 5.3 Mental Health HPSA

The HRSA criteria for mental health providers are not clear. We got advice from DHMH to proceed with looking at both provider categories and ratio levels.

For ratios: To determine a need we used 1: 30,000 and worse for a shortage of psychiatrists alone; and 1:10,000 and worse for the core mental health professionals.

Ratios in item #5 were obtained from HRSA site: bhpr.hrsa.gov/shortage/hpsas/designationcriteria/primary-carehpsaoverview.html accessed 5/31/12.
 6. HRSA also mentions other ratios as "meeting the need for primary care providers" with the following ratios. **We used these ratios as indicating a "sufficient" workforce capacity and applied these to determine additional counts of these providers needed by PUMA.**

Physicians: 1:2,000
Dentists: 1:3,000
Core Mental Health providers: 1:10,000

Ratios in item #6 were obtained from HRSA site: bhpr.hrsa.gov/shortage accessed 5/31/12

 7. Logic for identifying "Need" for primary care providers
 - 7.1 We considered immediate need; not a projected future need.
 - 7.2 We acknowledge, but do not separate specialties within the primary care physician category.
 - 7.3 Need is based on 2010 population census
 - 7.4 We do not adjust according to population practices, but acknowledge them.
 - 7.5 We recognize that provider counts needed may change over time depending upon provider mix, but acknowledge that this is not taken into account for this exercise.
 8. We applied the aforementioned approach to create Map A in Section 1 that identifies ZIP codes with three levels of primary care physician ratios.
 9. We also applied the aforementioned approach and used the ratios from item #6 to develop our estimation of need for each of the three provider categories. The resulting table is presented in Section I in response to the identification of primary care workforce need by geographic area. The additional counts needed are based on the number needed to add to the base counts in order to reach the respective recommended ratio for each PUMA. Using the seven PUMAs in the County we identified the count of each category of health provider and determined the additional count needed to reach the ratio considered to be sufficient: 1:2,000 for primary care physicians; 1:3,000 for dentists; and 1:10,000 for core mental health providers. Where the existing base counts were sufficient to meet the recommended ratio, no additional workforce counts are noted. We then added the individual PUMA specific additional counts needed to reach the total additional count needed for that sub-county level. While we did not find a shortage using "core mental health providers" we did when only psychiatrists were used. This area warrants further study.

ZIP CODES WITH HIGH PRIMARY— CARE NEED

To determine geographic areas that reflect high primary care need we developed an algorithm using workforce, health care and population factors applied at the ZIP code level. These categories and respective criteria selected are ones that have been shown to be associated with primary care, such as the ratio of primary care providers to population. Hospital events, such as the proportion of discharges that were considered ambulatory care sensitive hospitalizations

and the rate of 30 day readmissions, reflect care that could have been averted and managed outside the hospital within a primary care network. Finally population characteristics, such as education and income levels, have been associated with lower levels of health and low levels of recommended health care utilization.

We provide our rationale and approach for each of these factors and for the algorithm. We stress that we view this assessment as preliminary and a complement to the assessment of primary care physician to population ratios provided in Map A. Three categories of criteria were used to estimate primary care need in the County by ZIP codes.

Better health outcomes have been demonstrated when the number of primary care physicians is sufficient to serve a given population. We applied one of the criteria that Health Resources and Services Administration (HRSA) uses to designate Health Professions Shortage Areas as described earlier. HRSA designates a geographic area with a primary care physician to population ratio of at least 1:3,500 or worse as a shortage area, while a ratio of 1:2,000 is viewed as sufficient. If this ratio is equal to or worse than the equivalent to one provider to 3,500 individuals, then we viewed this area having a primary physician shortage area. If the ratio is equal to or better than the equivalent to one provider to 2,000 individuals, then we viewed this area as having sufficient primary care physicians. Ratios that fall within these two parameters are considered at risk for a shortage of providers.

We used ZIP code level data from two hospital events for County residents: an index that captures hospital discharges for conditions that are ambulatory care sensitive, referred to as the Prevention Quality Indicator (PQI) and the 30-day readmission rate.

Both of these events reflect the level of primary care capacity in the community. High rates are associated with lower primary care capacity. We used values at or above the average rate for each of these factors as indicating a primary care need. These data come from Technical Report 6. The average rate for the PQI is 20.2 and for the 30-day readmission rate is 10% (.10).

For the population characteristics we used the median income for each ZIP code population and education. Education was defined by the criteria of the proportion of individuals 25 years of age or older who attended high school but did not receive a diploma. If the ZIP code population was equal to or higher than the average for the County we considered this to reflect lower educational attainment. For income we used the median income for the County as an indicator. If the median income for the ZIP code was equal to or lower than the median income for the County we considered this to be low income.

A summary of the criteria for each of these categories follows:

Primary Care Physicians, derive provider-to-population (PCP) ratio per ZIP code and use:

- PCP worse than 1:3,500 ratio for High Need, and
- PCP worse than 1:2,000 but better than 1:3,500 for Trending to High Need,

Hospital Events:

- PQI for ZIP code is 20% or greater (20.2% is average for County Zip codes 2007-2009), and
- 30 Day Readmission for ZIP code is 10% or greater (10% is average for County Zip codes 2007-2009).

Population Characteristics:

- ZIP code percent of population 25 years and older who attended high school but did not get a diploma is 10.5% or greater than 10.5%, and
- ZIP code median family income is \$58,353 or lower.

These categories and respective criteria were then applied according to the following algorithms to define need for primary care:

High Need

HIGH NEED = PCP worse than 1:3,500 PLUS one or both of PQI or Readmission PLUS one or both of education and income

Trending to HIGH NEED (approaching highest need for primary care):

Trending to HIGH NEED = PCP worse than 1:2,000 but better than 1:3,500 PLUS one or both of PQI or Readmission PLUS one or both of education/income

MEDIUM NEED (has several indicators of need in each of two of three categories, but not in all):

MEDIUM NEED = PCP worse than 1:2,000 but better than 1:3,500 PLUS one or both of PQI or Readmission OR one or both of education/income

ADEQUATE (appears to be able to meet primary care need)

ADEQUATE = None of the criteria used to determine need were met.

The following table documents Prince George's County ZIP code specific data for each of the five factors and identifies the outcome of applying the algorithm we developed to identify primary care need. This includes: High Need, Trending to High Need, Medium Need, Some Need (with presence (+)

or absence (-) of the three categories delineated), and Adequate. We used these designations to create Map B in Section I.

FINDINGS

Applying this approach, seven ZIP codes fall into the High Need category: Aquasco, Brandywine, Bladensburg, Mount Rainier, Capital Heights, District Heights and one ZIP code of Hyattsville. Three additional ZIP codes are trending

toward High Need: these include two more ZIP codes in Hyattsville and one in Oxon Hill. Areas of Medium Need have been identified for 7 ZIP codes. Of the remaining ZIP codes, all but two (Beltsville and one part of Bowie) have a low ratio of primary care physicians to population, but do not meet any of the other criteria used for this assessment. For this analysis, these two areas fall within the trending to Medium Need category. However, if decisions

are to be made solely on provider to population ratios, these two areas would fall in a higher need category.

LIMITATIONS

Our algorithm is a crude measure and does not give weights to the different factors. It also does not assess other measures of primary care need such as infant mortality rates or availability of safety net clinics.

ZIP CODES AND TOWN/AREAS BY PRIMARY CARE PHYSICIAN RATIO, PREVENTION QUALITY INDICATOR (PQI), 30 DAY READMISSION RATES, PROPORTION OF POPULATION WITH ONLY HIGH SCHOOL EDUCATION AND ZIP CODE MEDIAN INCOME

Zip Code	Town/Area	Primary Care Physician: 100K	Any PQI per ZIP code	Readmission Rate for 2009 for ZIP code	Proportion with HS education but no diploma in ZIP code	Median Income for ZIP code	Identification of Type of Need and Other Status
20601	Waldorf	346.0	0.25	0.00	8.6	66125	Adequate
20607	Accokeek	0.0	17.65	0.13	7.8	82060	Medium
20608	Aquasco	0.0	33.73	0.08	21.8	61354	High
20613	Brandywine	9.7	31.37	0.12	13.4	62842	High
20623	Cheltenham	0.0	15.31	0.11	4.8	78889	Medium
20705	Beltsville	11.5	14.09	0.04	6.0	60149	+--
20706	Lanham	85.3	24.19	0.10	10.2	58528	--
20707	Laurel	147.2	20.96	0.05	8.5	53006	--+
20708	Laurel	54.8	18.95	0.04	8.6	52129	--+
20710	Bladensburg	21.5	25.34	0.05	21.4	35112	High
20712	Mount Rainier	0.0	20.26	0.03	17.3	35889	High
20715	Bowie	37.9	14.37	0.11	4.5	76206	Medium
20716	Bowie	115.5	14.82	0.09	4.5	72641	Adequate
20720	Bowie	9.5	11.74	0.10	4.7	83728	Medium
20721	Bowie	40.7	14.32	0.09	1.7	94851	+--
20722	Brentwood	70.0	30.99	0.07	20.3	44928	--+
20735	Clinton	90.3	36.05	0.14	7.9	71317	--
20737	Riverdale	62.9	19.87	0.06	16.0	46427	--+
20740	College Park	76.4	9.17	0.07	8.3	50844	--+
20742	University of Maryland	51.2	0.38	0.00	-	-	NA

Zip Code	Town/Area	Primary Care Physician: 100K	Any PQI per ZIP code	Readmission Rate for 2009 for ZIP code	Proportion with HS education but no diploma in ZIP code	Median Income for ZIP code	Identification of Type of Spot and Other Status
20743	Capitol Heights	0.0	48.32	0.07	18.5	44197	High
20744	Fort Washington	41.4	27.27	0.14	7.0	74933	Medium
20745	Oxon Hill	38.7	31.14	0.14	15.0	42247	Trending to High
20746	Suitland	69.4	29.27	0.08	12.2	43566	--+
20747	District Heights	20.0	32.03	0.09	13.3	47663	High
20748	Temple Hills	79.9	32.56	0.12	11.4	51578	--+
20762	Andrews Air Force Base	0.0	0.67	0.33	2.8	44310	DROP
20769	Glenn Dale	166.6	15.60	0.08	5.0	91066	Adequate
20770	Greenbelt	154.9	14.14	0.08	5.2	46200	--+
20772	Upper Marlboro	28.2	20.48	0.09	8.1	73612	Medium
20774	Upper Marlboro	86.0	18.76	0.07	6.2	70019	Adequate
20781	Hyattsville	43.7	20.54	0.05	12.6	45883	Trending to High
20782	Hyattsville	42.5	21.24	0.04	11.9	43783	Trending to High
20783	Hyattsville	4.5	16.50	0.02	15.9	43345	Medium
20784	Hyattsville	20.4	23.23	0.08	11.7	49834	High
20785	Hyattsville	77.0	36.49	0.06	15.8	43108	--+

TECHNICAL REPORT 5

An Overview of the Public and Public Health Resources in Prince George's County

Elliot A. Segal, M.P.H., MUrS

Amber Sims, M.P.H.

Sylvette LaTouche Howard, Ph.D.

INTRODUCTION

To contribute to the answer of the question, “What resources can be mobilized in the public health sector to complement the impact of the health care system?” we undertook a high-level overview of Prince George’s County public and public health-sector resources.

We interpreted this question to reflect both existing and potential public health-sector resources that could be mobilized to complement the impact of the health care system. The design of a new health care system requires we extend and link with existing resources that provide support to population health. It also offers the opportunity to review the basic functions of public health in light of a new system design. Support for population health depends on the expertise and services that underpin these basic functions: assessment, policy development and assurance. This support also includes the full scope of services, from clinical comprehensive or specialty health care services, screening and referral programs to health education and counseling services. Ideally the decision as to which resources in the public health sector to mobilize and how they can be mobilized should be considered at the initial stages of the design of a new health care system. This would permit integrated system planning dedicated to identifying

programmatic foci of a new system and to activities that contribute to improvement in the priority health outcomes. It also would permit a review of the capacity of basic public health functions to support an enhanced and modified new system. The result would be the mobilization of a tailored set of resources to complement the system’s effectiveness and reach.

We also have interpreted this question to include population health improvement as a focus of the impact. The opportunities and challenges related to partnerships and linkages among public health and medicine have received renewed interest. The focus on population health is a centerpiece of public health practice and programs. The recent health care reform initiatives and legislation have reinforced the need to address population health, not just the health of individuals who seek care. Stine and Chokshi (2012) highlight the opportunity for these partnerships to address population health in an era of economic austerity and use the resulting partnerships to

provide more efficient and cost-effective services and care. These authors highlight Maryland’s State Health Improvement Process as one example of an “effective collaboration between health systems and public health departments.” This state resource and the County’s Health Improvement Plan provide the foundational processes and documents for collaboration support and accountability. The definition of integrating primary care and public health is well-stated in the IOM Report, “Primary Care and Public Health: Exploring Integration to Improve Population Health (IOM, 2012)”: “The linkage of programs and activities to promote overall efficiency and effectiveness and achieve gains in population health.” This report also provides a framework that defines the spectrum of degrees of integration. Ultimately, awareness of existing and needed public health-sector resources in the context of the overall health care system redesign should facilitate effective partnerships.

METHODS

Within the parameters of this study, we took a preliminary step in capturing a high-level “snapshot”, as of early 2012, of traditional public health-sector programs, programs that service

vulnerable populations and programs that support the public’s ability to maintain their health and quality of life in Prince George’s County. This technical report is designed to give a “flavor”

of the scope of resources, primarily those that are situated within the public sector and are of importance to population health throughout the lifespan. They are designed to be used as a

basis for determining which categories should be pursued for an in-depth assessment of capacity and ability to be mobilized. A more specific look at the behavioral and mental health programs available in the County and a brief summary of the dental programs is provided. Subsequent steps would require targeted discussions with and among entities in the County. This would need to be followed by detailed assessments of selected resources in order to delineate capacity and ability to be mobilized. We believe this assessment will best be done in tandem with the programs identified for the new system.

We used the following approach to identify and categorize the resources:

- We focused on resources that are available to individuals who are most at risk for prevalent health conditions as well as resources that are available to all County residents that do not require additional eligibility. In addition, emphasis was placed on resources that support health promotion, disease prevention and early diagnosis and care, rather than tertiary care.
- A detailed search was conducted, primarily Internet-based, to identify and determine the scope of services for all entities providing the delineated range of health and health-related services.
- Members of the advisory committee were asked to provide suggestions for inclusion. These suggestions were incorporated into the appropriate categories and reports.
- All identified entities and their specific addresses are identified by street address and select entities are mapped and included in Technical Report #3 to permit review by geographic area and type. In addition, the geographic locations of the safety net clinics were used as part of the econometric model found in Technical Report #6.

FINDINGS

The County includes a broad array of programs that provide services to specific populations and contribute to the general wellness and quality of life of all County residents. These programs and resources are included:

- Prince George's County Health Department Services
- Safety net programs
- Hospital community health benefit activities
- Behavioral and mental health facilities and programs
- Prince George's County School programs/services
- Nursing homes and long-term care facilities

- Department of Parks and Recreation
- University of Maryland Extension

We recognize that the academic and community-related programs in the County provided by Bowie State University, Prince George's County Community College and the University of Maryland, College Park campus are an asset.

PRINCE GEORGE'S COUNTY HEALTH DEPARTMENT

The mission of Prince George's County Health Department (PGCHD) is "to protect the public's health, assure availability of and access to quality health care services and promote individual and community responsibility for the prevention of disease, injury and disability." (PGCHD, 2012) PGCHD serves as the County's public health sector centerpiece and provides a broad range

of programs and services to County residents.

The programs offered by the PGCHD are housed in 11 locations dispersed throughout the County. Table 1 and Table 2 identify the programs, by name, according to the primary population or condition being addressed. These programs reflect the identified needs of the County and the commitment made to support maternal and child health, address substance use and mental health, and infectious diseases. The majority of the programs and services provide general screening and referral, health education and counseling services, and about one-third provide clinical care.

In addition to the PGCHD programs, there are four School-Based Wellness Centers under the auspices of the department. These centers provide comprehensive social and health services and are located in four of the County's public high schools: Bladensburg High School, Fairmont

Heights High School, Northwestern High School and Oxon Hill High School. The goal is to “make students available for learning by promoting health, preventing disease, and reducing behavioral risks.” (PGCHD, 2011). Services include physical examination, laboratory testing, mental health counseling, treatment of common illnesses, gynecological care, on-site screening/treatment of sexually transmitted infections, dental care and immunizations.

The Prince George’s County Health Improvement Plan 2011 to 2014 sets the agenda for the “Blueprint for a Healthier County.” (PGCHD, 2011) This plan and the PGCHD programs provide the basis for identifying resources that can be mobilized to support a new health care system.

Our study of 13 comparable health care systems reveals that public health departments and federally qualified community health centers were mentioned most often by the 13 interviewed health care systems as potential public health resources that can be mobilized to complement the health care system’s impact on health outcomes. It is interesting that many of the health systems mentioned public health departments as complementary sources of funding, despite the funding cuts currently underway by federal, state and local governments to public health programs. This means that health systems still expect public health departments to fulfill their public health missions despite the funding cuts. Interviews with the systems provided additional evidence of the value of these community health centers.

The different health systems have many creative ideas when it comes to mobilizing public health resources that may be useful for Prince George’s County to take into consideration when designing their new health system. Some of these are already part of the state-supported initiatives,

TABLE 1 PRINCE GEORGE’S COUNTY HEALTH DEPARTMENT PROGRAMS BY POPULATION

Population	Program
Infants	Healthy Start Program
	Infant at Risk Program
	Infants and Toddlers Program
Children/Teens	Care for Kids Program
	Dental Health Program
	Healthy Teens and Young Adult Center
	Healthy Teens Center
	Immunization Program
	Oasis Youth Services
	Operation Safe Kids
	Youth and Community Services Program
Women—Maternity	Dental Health Services
	Regional Access Centers
	Tapestry Program
Women—General	Breast and Cervical Cancer Program
	Healthy Women/Healthy Lives
	Maternal Health and Family Planning
Family	Food Protection Program
	Healthline
	Medical Assistance for Families
	Women, Infants and Children
Adults	Cancer Prevention, Education, Screening and Treatment Program (CPEST)
	Medical Assistance Transportation (MAT)
	The Cheverly Adult Services Program
Seniors	Adult Evaluation and Review Services
	Division of Adult and Geriatric Health

such as funding that comes from a state tobacco tax and the receipt of the Community Transformation Grants from the Centers for Disease Control and Prevention (Maryland Department of Health and Mental

Hygiene now holds). Other initiatives included: a state health department-sponsored Chronic Care Initiative that requires insurers to participate; an integrated, collaborative system or community coalition with community

health centers; partnering with school systems and employers; and local news media health awareness campaigns.

SAFETY NET PROGRAMS

Safety net programs provide a critical role in the health care delivery system, providing primary care health services to vulnerable and uninsured or underinsured populations. These programs involve federal designation and include designation of medically underserved areas and populations (MUA/MUP) and designation of health professional shortage areas (HPSAs).

Such designations identify areas of high need and allow communities to request providers through the National Health Service Corps (NHSC) and establishment of certification of facilities such as federally qualified health centers (FQHCs) or FQHC “look-alike” centers. In addition, state governors can designate areas using state criteria and data approved by the federal government. The latter are primarily used by rural health clinics. Table 3 identifies the programs for the safety nets that are provided by Prince George’s County hospitals. Table 4 provides the names and locations of the traditional safety net clinics in the County.

Prince George’s County has been shown to have a low capacity for providing safety-net care apart from hospital and emergency room care (Lurie et al. 2009). This is in part due to shortages in primary care physicians in poor areas of the County (Lurie et al. 2008). Until 2012, the County had six MUA/MUPs, and was the only County in the state with multiple MUPs (MDHMH, 2010). In early 2012 two more areas were designated.

The County has only one FQHC (Greater Baden Medical Services) that has multiple locations. In addition, two other FQHCs located outside the County, Mary’s Center (based in the District of Columbia) and Community Clinic, Inc. (based in Montgomery County) have established clinical sites within the County. Table 4 provides the locations of these centers and clinics. In addition, the ministries in the County and a few non-profits provide services to uninsured and underinsured individuals.

The health care systems we interviewed highlighted the importance of federally qualified health centers (FQHCs) in providing primary care to underserved populations. The Affordable Care Act (ACA) contains provisions to expand FQHCs. Given the magnitude of the uninsured population in the County, it is clear resources must be invested into expanding community health centers.

OUTPATIENT AND COMMUNITY PROGRAMS OFFERED BY HOSPITALS TO THE PUBLIC: A LOOK AT COMMUNITY BENEFIT REPORTS

As a result of the limited safety net, the burden of the uninsured and underinsured extends to the hospitals in the County, particularly Prince George’s County Hospital. Programs for the community and that contribute to the

TABLE 2 PRINCE GEORGE’S COUNTY HEALTH DEPARTMENT PROGRAMS BY CONDITION/TOPIC

Condition/Topic	Program
STI/HIV/Disease Control	Epidemiology
	HIV/AIDS Program (HAP)
	Sexually Transmitted Disease (STD) Control Program
	Suburban Maryland Ryan White Part A Administrative Agency
	Tuberculosis Control Program
Substance Abuse/Mental Health	Alcohol and Other Drugs Prevention Program
	Assessment and Case Management Services
	Division of Addictions and Mental Health
	Southern Region Addictions
	Substance Abuse Services
	Tobacco Cessation Program
	Tobacco Use Prevention, Cessation and Enforcement
Environment/Emergency Preparedness	Communicable and Vector Borne Disease Control
	Division of Environmental Health
	Environmental Engineering Program
	Plan Review/Institutions Program
	Public Health Emergency Preparedness (PHEP)

public’s health are also provided by the five hospitals in the County. Of these, Dimensions Healthcare oversees two hospitals (Laurel Hospital and Prince George’s Hospital) and the Bowie Health Clinic. The latter provides 24-hour, urgent-care services. The services noted by hospitals include health promotion and education programs tailored to health risk reduction, patient support groups, health screenings, immunization programs and community outreach and education materials.

Community benefit reports are provided by each hospital in the state and provide a glimpse into the investment and types of programs offered by hospitals. Reports from each Maryland hospital are collected by the Health Services Cost Review Commission (HSCRC). This process was initiated by the Maryland General Assembly in 2001(Chapter 178 of the 2001 Laws of Maryland, and codified under Health-General Article %19-303 of the Maryland Annotated Code) and the FY 2010 reports reflect the seventh year of this practice.

Community benefit is defined by the Maryland law as “an activity that is intended to address community needs and priorities primarily through disease prevention and improvement of health status, including: health services provided to vulnerable or underserved populations; financial or in-kind support of public health programs; donations of funds, property, or other resources that contribute to a community priority; health care cost containment activities; and health education screening and prevention services.” (HSCRC, 2011).

The same report states that community benefits should meet the following criteria: “Ultimately improve the health status and well being of specific populations in the organization’s service area who are known to have difficulty accessing care and/or who have chronic needs; generate a low or

TABLE 3 PROGRAMS FOR THE SAFETY NET PROVIDED BY PRINCE GEORGE’S COUNTY HOSPITALS

Hospital	Description of Services
Prince George’s Hospital Center	Community support and outreach
	Partial hospitalization and intensive outpatient programs
	Emergency psychiatric services
	Inpatient behavioral health treatment
	Staff is comprised of psychiatrists, counselors, dietitians, pharmacists and social workers.
Doctors Hospital	Offers the “Look Good ... Feel Better” program—a free program designed to help women undergoing cancer treatment adapt to temporary side effects of some cancer therapies.
	Offers a range of services including support groups for various illnesses.
Laurel Regional Hospital	Childbirth education classes
	P.A.C.E. (People with Arthritis Can Exercise)
	Smoking cessation program (four-week program)
	Support groups—Alcoholics Anonymous, Al-Anon, Nar-Anon
	Bi-Polar support group
	Narcotics Anonymous
	Parkinson support group
Rehabilitation sharing group—strokes and long-time illness	
Southern Maryland Hospital Center	Health screenings (i.e. blood pressure, diabetes, cholesterol and triglycerides) and assessments (i.e. cardiac risk)
	Educational materials are available as well as referrals for a variety of specialized areas. Vaccines for pneumonia and the seasonal influenza are also offered.
	Cardiology services—performs EKG/stress tests/Holter Monitors/ echocardiograms (inpatient and outpatient)
	Car seat safety
	Breastfeeding classes
Fort Washington Medical Center	NBC 4 Your Health event—annual health fair; FWMC medical professionals will be on hand to provide assessments and screenings.
	Community health fairs
	Free screenings
	Diabetes management seminar

TABLE 4 TRADITIONAL SAFETY NET CLINICS IN PRINCE GEORGE'S COUNTY

FQHC	Clinic
Greater Baden Medical Services, Inc.* Five locations:	Glenarden 3028 Brightseat Rd., Glenarden, MD 20706
	Capital Heights 1458 Addison Rd., Capital Heights, MD 20743
	Oxon Hill WIC 6188 Oxon Hill Rd, Oxon Hill, MD 20745
	Suitland WIC 5001 Silver Hill Rd, 2nd Floor, Suitland, MD 20746
	Brandywine 7450 Albert Rd., 2nd Floor, Brandywine, MD 20613
Mary's Center	8908 Riggs Rd., Hyattsville, MD, 20782
Community Clinic, Inc Two Locations:	9001 Edmonston Road, Suite 40, Greenbelt, MD 20770
Pregnancy Aid Center	4780 Erie Street, College Park, MD, 20742

*Greater Baden Medical Services is the only County-based FQHC in Prince George's County.

negative margin; are not provided for marketing purposes; and/or the service or programs would likely be discontinued if the decision were made on a purely financial basis."

The ACA calls for every hospital to conduct a "community health needs assessment at least once every three years in order to maintain its tax-exempt status and avoid an annual penalty of up to \$50,000." (USDHHS, 2012). Currently, the guidelines for reporting community benefits for hospitals are being revised to incorporate aspects of the ACA. Table 6 is a summary of FY 2010 Prince George's County hospital community benefit reports and Table 7 summarizes the programs that are provided by these hospitals.

Consideration should be given to partnerships among the hospitals and the County health department to support a shared County-wide assessment and a common planning process in order to support coordination and reinforcement of evidence-based programs aligned with community needs. This approach would be cost-effective, promote use of evidence-based interventions and truly begin to address population health. In addition, given the fact that a large proportion of residents frequent hospitals in the surrounding jurisdictions, consideration also should be given to extending an aspect of that partnership to those hospitals as well.

BEHAVIORAL AND MENTAL HEALTH SERVICES

Behavioral and mental health programs are available in all hospitals and through the private sector health care providers. The latter capacity is presented as part of the paper "Identification of Geographic Areas of Need for Primary Care." The rates of licensed provider categories for psychiatrists, clinical social workers, therapists/

TABLE 5 HPSA SUMMARY MEDICALLY UNDERSERVED AREAS IN PRINCE GEORGE'S COUNTY BY NAME, TYPE (MEDICALLY UNDERSERVED AREA (MUA); MEDICALLY UNDERSERVED POPULATION (MUP)), DESIGNATION AND UPDATE DATES

Name	MUA	MUP	Governor MUP	Designated Date	Update Date
District Heights/Capital Heights Service Area	✓			12/30/1992	2/1/1994
Low-Income: Brandywine Service Area			✓	12/20/1992	2/1/1994
Prince George Service Area	✓			5/11/1994	—
Low-Income: Glenarden Service Area		✓		9/11/2002	—
Low-Income: Berwyn Heights		✓		9/11/2002	—
Low-Income: Takoma/Langley			✓	9/11/2003	—
Collington Neighborhood	✓			1/5/2012	—
Accokeek Neighborhood	✓			1/12/2012	—

counselors and psychologists are presented by County ZIP code and PUMA and compared to the overall rates in surrounding jurisdictions.

The County's Department of Family Services, Mental Health and Disabilities Division provides leadership for the "development and institution of a diverse, comprehensive and accessible array of high quality public mental health services" (PGCDF, 2011). These services embrace the contributions that citizens with disabilities bring to the Prince George's County community. Additionally, the division oversees all public mental health services and monitors the related programs and mental health professionals in this system.

The County's safety net facilities include behavioral and/or mental health services. Also identified are several non-governmental entities (NGOs) that are free-standing and provide services that vary widely in

their scope. Because of the interest in identifying the scope of behavioral and mental health services, we provide specific contact information and an inventory of facilities derived from the County as well as our review. Table 8 provides the names and contact information for the identified facilities. In addition to the facilities listed in the latter table, clinical services are provided by Greater Baden Medical Services, Inc. and Mary's Center provides mental health services.

A thorough review of the behavioral and mental health capacity of the County beyond the identification of facilities and providers is recommended. The review will need to take into account the multidisciplinary nature of the provider groups involved in the provision of behavioral and mental health services, the diversity of the leadership and accountability of the programs and facilities planning and providing services and outreach

programs, the mental health needs of the community, and the proposed enhanced mental health training of primary care providers (State of Maryland and Governor's Workforce Investment Board, 2011). Ultimately, the challenge is to develop a detailed plan for integration of behavioral and mental health and primary care.

PRINCE GEORGE'S COUNTY DENTAL HEALTH SERVICES AND PROGRAMS

The County was the home of Deamonte Driver, a 12-year-old boy who died in 2007 due to a dental infection that was not managed. The factors contributing to his tragic death are complex, but the solution would have been simple since we know how to prevent tooth decay. Maryland responded swiftly in response to Deamonte's death and took immediate legislative and

TABLE 6 SUMMARY OF FY 2010 PRINCE GEORGE'S COUNTY HOSPITAL COMMUNITY BENEFIT REPORTS

Hospital	Employees	Total Staff Hours in CB Operations	Total Hospital Operating Expense	Total Community Benefit	Total CB as % of Total Operating Expense	FY2010 Amount in Rates for Charity Care, DME and NSPI	Total Net CB minus charity care, DME, NSPI in Rates	Total Net CB (minus charity care, DME, NSPI in Rates) as % of Operating Expense	CB Reported Charity Care	Reported Contact with Local Health Department	Score Card
Doctors	1298	80	\$183,636,478	\$3,916,189	2.13%	\$798,832	\$3,117,357	1.70%	\$923,563	no	90.00%
Fort Washington	446*	0	\$43,015,368	\$946,512	2.20%	\$307,393	\$639,119	1.49%	\$634,221	yes	60.00%
Laurel Regional	519	61	\$92,314,100	\$15,171,974	16.44%	\$3,202,533	\$11,969,441	12.97%	\$5,741,000	no	70.00%
Prince George's	1478	61	\$245,390,100	\$41,939,862	17.09%	\$14,995,029	\$26,944,833	10.98%	\$17,794,506	Yes	100.00%
Southern Maryland	1636	0	\$215,067,531	\$16,909,732	7.86%	\$2,161,874	\$14,747,858	6.86%	\$1,764,265	Yes	80.00%
Total County	5,377	202	\$779,423,577	\$78,884,269	10.12%	\$214,656,61	\$57,418,608	34.00%	\$26,857,555	n/a	n/a
Average County	1075**	40.4	\$155,844,715.40	\$15,776,853.80	9.14%	\$4,293,132.20	\$11,483,721.60	6.80%	\$5,371,511	n/a	n/a
Total State	80,544	38,577	\$12,647,785,380	\$1,051,051,746	8.31%	\$437,489,304	\$613,562,442	4.85%	\$347,434,061		
Average State	2,014	839			7.71%			5.22%		Yes+91.30% No+8.70%	96.39%

*The hospital did not provide the number of employees in its FY 2010 CB report, therefore the number reported is from the FY 2009 report.

**rounded to the nearest whole number

programmatic action. A special issue of the *Journal of Public Health Dentistry* (Horowitz & Kleinman, 2012; Vargas, Casper, Altema-Johnson, Kolasny, 2012, Thuku, Carulli, Costello & Goodman, 2012) documents the state's efforts in addressing oral health of the population and includes recommendations and lessons from other states and national perspectives. Five years later

there still is a major need for resources to provide evidence-based preventive and health promotion services and programs to the dentally uninsured and underinsured in this County (this is usually three times greater than the percent of medically uninsured). The County health department and efforts of professional organizations and practicing dental professionals provide

select programs.

The Prince George's County Health Department, Dental Health Program operates one facility in the Cheverly Health Center, located centrally in the County. The clinic houses five operatories and staff includes Program Chief Dr. Debony Hughes, one PTE dental hygienist, one PTE general dentist, one PTE pediatric dentist and two dental assistants. Funding from the Maryland Department of Health and Mental Hygiene has provided programmatic fees for the pediatric residents from Howard University College of Dentistry to rotate through the clinic one day per week. The Dental Health Program provides education and comprehensive dental treatment to all children 0 to 18 years of age and pregnant women. The program accepts children and pregnant women enrolled in the Maryland Healthy Smiles Program and the uninsured on a sliding scale fee. The program also receives Ryan White funding to provide dental care to those residents living with HIV/AIDS. Educational programs are presented in the Prince George's County Public School System, during National Children's Dental Health Month and throughout the school year, emphasizing the relationship of good oral health to overall good health.

Collaborations are in place with several organizations to reach beyond the walls of our clinic to engage communities and vulnerable populations in our mission to improve oral health. The Deamonte Driver Dental Van Project and the Howard University College of Dentistry are two of these organizations whose presence has provided delivery and dissemination of dental services and education to the most needed populations of the County.

TABLE 7 SUMMARY OF FY 2010 PRINCE GEORGE'S COUNTY HOSPITALS HEALTH PROGRAMS

Hospital/ Medical Center	Initiated/Maintained Health Programs	
Southern Maryland Hospital (SMH)	Cerebrovascular and chronic conditions programs	Cardiac and Wellness Expo
		Diabetes Expo
	Adult and childhood obesity programs	Weight Management Support Group
		Fit n' Fun Weight Management Program
	Prostate cancer programs	Prostate Screening Event
Stroke and mental health programs	Monthly support groups	
	Spiritual health programs	Chaplaincy services
Fort Washington Medical Center (FWMC)	Diabetes Management Program Series	
	General health education presentations	Heart Health
		Hypertension
		Lifestyle behavior
		Respiratory ailments (asthma, COPD, bronchitis)
Community awareness and engagement events		
	Health screenings	
Prince George's Hospital Center (PGHC)	Community Health Task Force	
	Partnerships with the National Institutes of Health	National Library of Medicine focused on community sustainability
		Health delivery
Laurel Regional Hospital (LRH)	Community health education	
	Health screenings	
	Eye examinations	
	Diabetes and pain management consultation	

TABLE 8 PRINCE GEORGE'S COUNTY FACILITIES PROVIDING BEHAVIORAL AND MENTAL HEALTH SERVICES

Name of Center	Location	Contact Information
Affordable Behavioral Consultants, Inc.	1400 Mercantile Lane, Suite 206 Largo, MD 20774	Christine Williams, CEO (301) 386-7722 (301) 386-7789 FAX
Adam's House	5001 Silver Hill Road Suitland, MD 20746	(301) 817-1900
Adult Evaluation and Review Services (AERS)	1701 McCormick Drive, Suite 200 Largo, MD 20774	(301) 324-2980
Affiliated Sante Group (Lanham location)	4372 Lottsford Vista Road Lanham, MD 20706	Fred Chanteau 1-888-867-2683 EXT 311 (301) 429-2180 FAX
Alek's House, Inc.	4200 Forbes Boulevard, Suite 122 Lanham, MD 20706	Syndney Bryson (301) 429-6100 (301) 429-1333 FAX
Alek's House, Inc. (District Heights location)	7930 Cryden Way, Suite 100 District Heights, MD 20746	(301) 420-7772
All that Matters	5108 Belgreen Street Suitland, MD 20746	Sandra Pyant (301) 516-7084
All That's Therapeutic, Inc.	6192 Oxon Hill Road, Suite 311 Oxon Hill, MD 20745	Dawn Chism, Executive Director (301) 567-0400 (301) 567-7900 FAX
Arm's Reach, LLC	7700 Old Branch Ave., Suite B-104 Clinton, MD 20735	Miquel Davis, Director (301) 877-7748 or (301) 877-7055
Arundel Lodge	337 Brightseat Road, Suite 106 Landover, MD 20785	Mike Drummond (301) 499-6870
Care Connections	9602 Martin Luther King Jr. Highway Lanham, MD 20706	Howard Eisenburg, Executive Director (301) 596-1255
Castles of Love Assisted Living, LLC	15554 Peach Walker Drive Bowie, MD 20716	Charlotte H. Branch, CEO (301) 249-4594 (301) 218-0266 FAX
Center For Therapeutic Concepts, Inc.	1300 Mercantile Lane, Suite 204 Upper Marlboro, MD 20774	Regina Stanley, CEO (301) 386-2991 (301) 386-1994 FAX
Community Counseling & Mentoring Services, Inc.	1400 Mercantile Lane, Suite 232 Largo, MD 20774	Anthony Carvana, Executive Director (301) 583-0001 (301) 583-3403 FAX
Community Crisis Services, Inc.	4316 Farragut Street Hyattsville MD 20781	Timothy Jansen, Director (301) 864-7095
Contemporary Family Services, Inc.	6525 Belcrest Road, Suite G-40 Hyattsville, MD 20782	John Monroe Jr., Director (301) 779-8345 (301) 779-8417 FAX
Crawford Consulting and Mental Health Services, Inc.	6490 Landover Road Cheverly, MD 20785	Patrick Crawford, Director (301) 341-5111 (301) 341-5211 FAX
Detention Center mccjtp (Maryland Community Criminal Justice Treatment Program)	13400 Dille Drive Upper Marlboro, MD 20772	Stephan Simmons, Program Services Division Chief (301) 952-4800
District Court (Mental Health Court)	14735 Main Street Upper Marlboro, MD 20772	Patrice Lewis, Presiding Judge (301) 952-2721
Division of Adult and Geriatric Health	1701 McCormick Drive, Suite 200 Largo, Maryland 20774	(301) 883-3526
Division of Addictions and Mental Health	1701 McCormick Drive, Suite 230 Largo, MD 20774	(301) 883-3514
	Outpatient Services:	Southern Region (301) 856-9400
		Northern Region (301) 583-5920
Essential Therapeutic Perspectives, Inc.	8100 Professional Place, Suite 202 Landover, MD 20785	Virginia Arnegard, Director (301) 577-4440 (301) 577-4123 FAX
Family Behavioral Services, LLC	6475 New Hampshire Avenue, Suite 650 Hyattsville, MD 20783	Nadege Fevry, Director (301) 270-3200 (301) 270-4600 FAX
Family Service Foundation	5301 76th Avenue Landover Hills, MD 20784	Rob Claxton EXT. 201, CEO (301) 459-2121 (301) 459-0675 FAX
Guide Program, Inc.	8643 Cherry Lane Laurel, MD 20707	Scott Birdsong, CEO (301) 549-3602 (301) 549-3605 FAX
Healthy Teens Center	7824 Central Avenue Landover, MD 20785	(301) 324-5141
Independent Psychiatric Services	7801 Old Branch Ave., Suite 212 Clinton, MD 20735	Grace Inyang, m.d., Director (301) 856-8516 (301) 856-8515 FAX
Institute For Family Centered Services	4351 Garden City Drive Landover, MD 20785	Robin McCrea, Acting Director (301) 386-9490
Institute For Life Enrichment	4700 Berwyn House Road, Suite 101A College Park, MD 20740	Dr. James Savage Jr., Director (301) 474-3750 (301) 474-4046 FAX
Joshya Sussal, m.d., pa	7474 Greenway Center Drive, Suite 730 Greenbelt, MD 20770	(301) 982-3437 (301) 982-9452 FAX
links, Inc.	8715 Greenbelt Road, Suite 301 Greenbelt, MD 20770	(301) 731-0383

Maryland Family Resource, Inc.	903 Brightseat Road Landover, MD 20785	Leonard Bivins, Executive Director, EXT 109 (301) 333-2980 (301) 333-8161 FAX	Rims Center For Enrichment & Development	1895 Brightseat Road Landover, MD 20785	Yolanda Coleman, CEO (301) 773-8201 or 8202 (301) 773-8203 FAX
Melwood*	5606 Dower House Road Upper Marlboro, MD 20772	(301) 599-8000 (301) 599-0180 FAX	Southern Region Addictions	9314 Piscataway Road Clinton, MD 20735	(301) 856-9400
Mental Health Resources Plus	6192 Oxon Hill Road, Suite 412 Oxon Hill, MD, 20745	(301) 749-2003	Substance Abuse Services	501 Hampton Park Blvd. Capitol Heights MD 20743	(301) 324-2872
Metropolitan Mental Health Clinic, Inc.	96 Harry S. Truman Drive, Suite 250 Upper Marlboro, MD 20774	Makeitha AbdulBarr, Director (301) 324-0600 (301) 324-5009 FAX	Tateioms, LLC	14435 Cherry Lane Court, Suite 206 Laurel, MD 20707	Regina Sharber, Director (301) 362-0090
NAMI Prince George's County	6513 Queens Chapel Road University Park, MD 20782	James Jones, Director (301) 429-0970	The ARC of Prince George's County*	1401 McCormick Drive Largo, MD 20774	Jack M. Ramsey, Executive Director (301) 925-7050 (301) 925-4387 FAX
New Pathway's Therapeutic Services	4200 Forbes Boulevard, Suite #202 Lanham, MD 20706	Elaine Wilson, Clinical Director (301) 577-7390 Phone (301) 577-7392 FAX	The Cheverly Adult Services Program	3003 Hospital Drive, Ground Floor Cheverly, MD 20785	(301) 583-5920
Norfield Acres-Adventures	5400 Norfield Road Capital Heights, MD 20743-4135	Eleanor Bonner, Director (301) 735- 0596	Tobacco Cessation Program	1801 McCormick Drive, Suite 250 Largo, MD 20774	(301) 883-3516
Oasis Youth Services Bureau	13900 Laurel Lakes Avenue, Suite 225 Laurel, MD 20707	(301) 498-4500	Vesta Inc.—Forestville	3900 Forestville Road Forestville, MD 20747	Maxine Curtis, Regional Director (301) 736-2636 (301) 736-2405 FAX
On Our Own of Prince George's County, Inc.	6513 Queens Chapel Road University Park, MD 20782	Daphne Klein, Director (301) 699-8939 (301) 699-5378 FAX	Vesta Inc.—Lanham	9301 Annapolis Rd. Lanham, MD 20706	Carol Nasr-Carle, Regional Director (301) 459-9840 (301) 459-9110 FAX
Operation Safe Kids	1701 McCormick Drive, Suite 230 Largo, MD 20774	(301) 324-4288	Volunteers of America Chesapeake	4611 Assembly Drive, Suite D Lanham, MD 20706	Tomeka Bolden, rrp, Senior Program Director (301) 306-0904
People Encouraging People	337 Brightseat Road Landover, MD 20785	Sean Lare, Director (301) 429-8950 (301) 429-8959 FAX	Winn Team, LLC	6511 Princess Garden Parkway, Suite 121 Lanham, MD 20706	Al Laws, CEO (443) 756-9047
Progressive Life Center—Prince George's County	8800 Jericho City Drive Landover, MD 20785	Evette Clark, Director (301) 909-6824 (301) 909-6825 FAX	Youth and Community Services Program (4 Locations)	Central Region— Cheverly Health Center 3003 Hospital Drive, Ground Floor Cheverly, MD 20785	(301) 583-7752
Psychotherapeutic Rehabilitation Services (prs)	337 Brightseat Road, Suite 106 Landover, MD 20785	D. Cherrey Jones, PMHCNS-BC, MBA, CEO (301) 499-6870	Northern Region—Langley Park Youth and Family Services Center	1401 E. University Boulevard, Suite 201 Hyattsville, MD 20783	(301) 434-4895
QCI Behavioral Health	9475 Lottsford Road, Suite 250 Largo, MD 20774	Millie Richmond, CEO (301) 636-6504 (301) 636-6509 FAX	Laurel Youth and Family Services Center	13992 Baltimore Avenue, Suite 203 Laurel, MD 20707	(301) 498-4500
Regenerations	5900 Princess Garden Parkway, Suite 670 Lanham, MD 20706	Steve Howden (301) 259-5782	Southern Region—D. Leonard Dyer Regional Health Center	9314 Piscataway Road, First Floor Clinton, MD 20735	(301) 817-3130
Rehabilitation Systems, Inc.	10210 Greenbelt Road, Suite 950 Greenbelt, MD 20706	Donna Coe, Executive Director (301) 794-9444 (301) 794-7444 FAX			

*Agency received funding from Prince George's County (Department of Family Services)

PRINCE GEORGE'S COUNTY PUBLIC SCHOOLS

Public schools traditionally have contributed to the health education of children and youth, provided or contracted for basic health functions identified by the health department and school systems, and have provided needed health care services for children while they are in school. In addition, schools provide eligible children with free lunch programs, and school principals and teachers have partnered with a broad range of sectors, including health care, to offer programs beyond the routine curriculum. The school system provides a natural link between families and teachers, between communities and the public education sector. Finally, school buildings offer the community another site for community-based events.

The Prince George's County Public Schools system (PGCPS) is administered at the County level and is overseen by the Maryland State Department of Education. The system includes 107 elementary schools, 24 middle schools and 24 high schools. The Board of Education of Prince George's County's mission is "to advance the achievement of its diverse student body through community engagement, sound policy governance, accountability, and fiscal responsibility." (Prince George's County Board of Education, 2010a).

The PGCPS invests in the capacity and professional development of its health-related staff. As an example, in the 2009-10 school year, the PGCPS system conducted 16 hours of professional staff development with 225 school nurses and other allied health professionals on critical areas of medical need, inclusive of but not limited to, diabetes, case management, delegation and blood-borne pathogens. In addition, the County hired and conducted orientation for 35 professional school-registered nurses,

trained 38 non-licensed individuals who were certified as medication technicians, and provided training for 78 participants who completed the renewal class as medication technicians (Prince George's County Board of Education, 2010b).

The PGCPS partners with County academic programs and supports the development of the health care workforce pipeline. The schools served as a clinical practicum sites for 155 nursing students from Prince George's Community College and 20 nursing students from Bowie State University.

Many county schools have a registered nurse assigned to them and a few have additional providers such as psychologists, speech pathologists and occupational therapists. Figures 1, 2, 3 and 4 provide a profile of the distribution of these providers by level of school: elementary, middle school and high school. The elementary schools have the greatest diversity of providers. As noted earlier, there are four School-based Wellness Centers (SBWCs) located in four high schools.

Since schools have nurse health

FIGURE 1 PRINCE GEORGE'S COUNTY SYSTEM—ELEMENTARY SCHOOL SERVICES

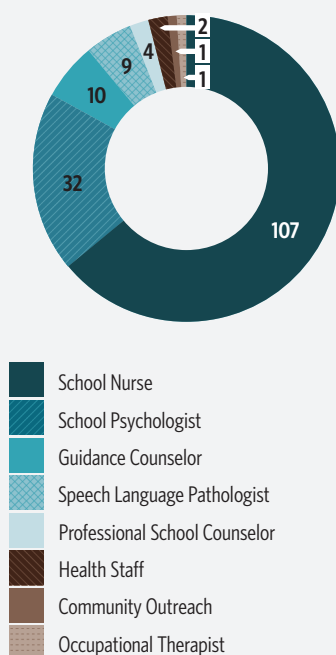
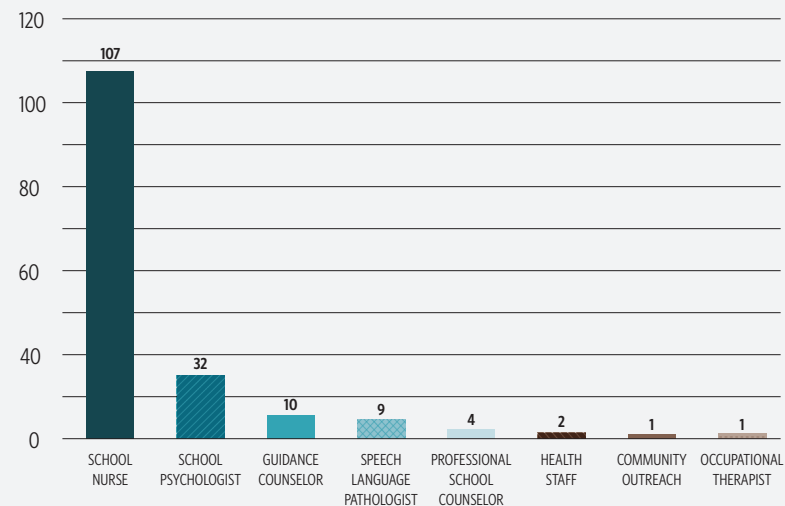


FIGURE 2 PRINCE GEORGE'S COUNTY SYSTEM—ELEMENTARY SCHOOL SERVICES



offices, they offer the opportunity to expand to become community/school-based health centers in the future as additional federal resources become available. All schools are part of the American Heart Association-Dell Foundation-Clinton Foundation Alliance for a Healthier Generation. The schools also provide Medicaid services to IEP

and IFSP eligibles. For example, Frances Fuchs Early Childhood Center has more than 500 preschool age-children with special needs enrolled and receiving a variety of services. Also, it is worth noting that Dimensions Healthcare originally had the contract with PGCPs to operate SBWCs, now managed by the health department.

NURSING HOMES AND HOME HEALTH CENTERS

Nursing homes and home health centers provide institutional and home-based services for the elderly and for special needs populations. There are 20 nursing home facilities in the County (Table 9). They cover a wide spectrum of services that include respite and rehabilitative services and may include outpatient rehabilitative services. For example, Gladys Spellman Speciality Hospital is located at Laurel Regional and focuses primarily on very sick patients. Southern Maryland Hospital has a subacute care center that offers a number of services. The Prince George’s County Senior Care Program provides services for seniors who may be at risk for nursing home placement. Older adults can access publicly funded services, or if they are not available, the staff will make arrangements with private vendors. Services can include personal care, chore, adult daycare, financial help for medications, medical supplies, respite care, home-delivered meals, emergency response system, transportation and others.

Home health centers provide nursing services, home health aides, and one or more other services such as physical therapy, occupational therapy and social services. Most often, the health care staff may provide care based on the needs of clients and families. Home health centers participate in the Medicare program and many health insurance programs include a home health benefit. A physician referral is often required and a medical reason is regularly needed for these services to be reimbursed by Medicare or insurance. Home health care is suitable whenever a person prefers to stay at home, but needs ongoing care that cannot simply be provided by family and friends. Table 10 includes 14 entities that provide a varying range of home health services. Most include

FIGURE 3 PRINCE GEORGE’S COUNTY SYSTEM—MIDDLE SCHOOL SERVICES

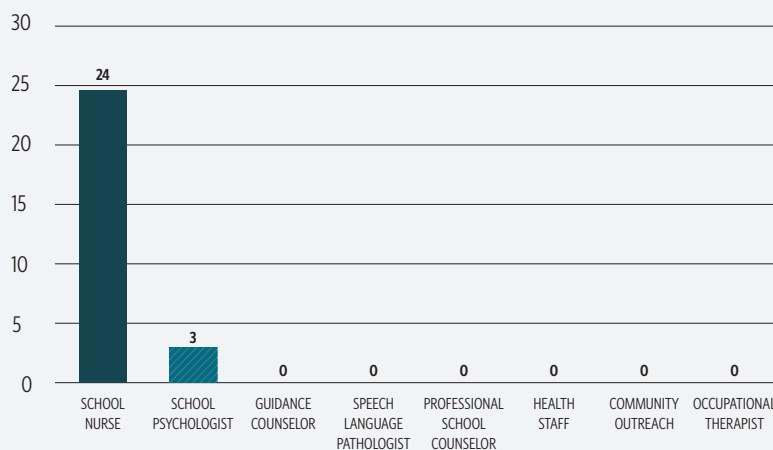
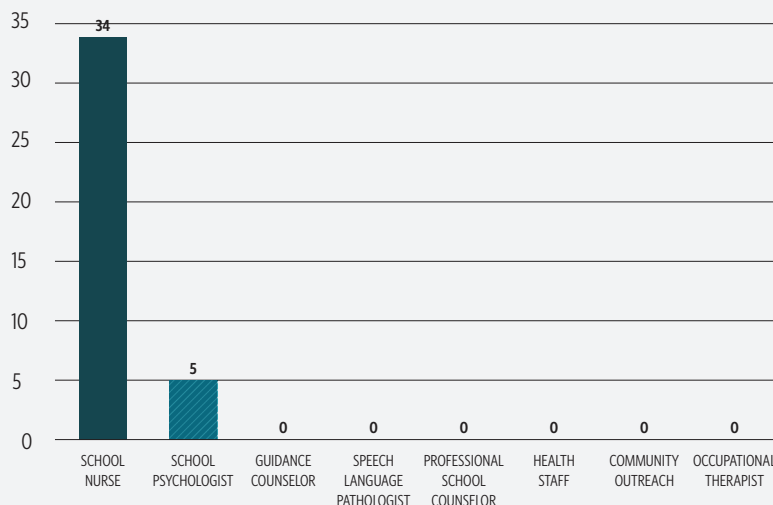


FIGURE 4 PRINCE GEORGE’S COUNTY SYSTEM—HIGH SCHOOL SERVICES



skilled nursing care and many provide additional specialty services such as diabetic management, cardiac and oncologic care management, physical and occupational therapy and nutrition management. There are opportunities for the County to look at options with federal monies to support innovative programs for special need populations, such as cash and counseling and money follows the person.

by a maintenance crew that cares for the parks and facilities, an inclusion specialist who assists citizens with special needs and a coordinator who works with the community centers to provide programs for teens and preteens.

Prince George’s County Parks and Recreation sites are divided into three areas: Northern (Laurel, Beltsville,

Berwyn Heights, College Park, Riverdale Park, Langley Park, Greenbelt, New Carrollton, Landover Hills, Cheverly, Bladensburg, Cottage City and Hyattsville); Central (Bowie, Mitchellville, District Heights, Landover, Seat Pleasant, Capitol Heights, Fairmont Heights, Forestville and Glenarden); and Southern (Marlow Heights, Forest

PRINCE GEORGE’S COUNTY PARKS AND RECREATION

Prince George’s County has more than 26,000 acres of Maryland-National Capital Park and Planning Commission (M-NCPPC) parkland. Approximately one-third has been developed to provide active and passive recreation opportunities. There are approximately 46 miles of paved hiker/biker/equestrian trails that run throughout M-NCPPC’s park system. Additionally, fitness trails, hiking trails, walking loop trails and nature trails are also located in neighborhood and community parks.

There are several community centers that are part of the County’s parks and recreation programs. They provide a rich array of health improvement programs. These include fitness centers, classes, nutrition, cooking, and a variety of programs geared to seniors, adolescents, child care, etc. These centers provide a substantial opportunity to incorporate health promotion as well as clinical services. Many of these centers are incorporated in schools or are adjacent to schools that add additional health promotion and wellness opportunities for school-based wellness and community health centers.

Parks and other recreational facilities provide access to residents throughout the northern, central and southern parts of the County. Each area is staffed

TABLE 9 PRINCE GEORGE’S COUNTY NURSING HOMES FACILITIES

Name of Institution	Location	No. of Beds
Bradford Oaks Center	7520 Surratts Road, Clinton MD, 20735	180
Cherry Lane Nursing Center	9001 Cherry Lane, Laurel, MD 20708	155
Clinton Nursing and Rehabilitation	9211 Stuart Lane, Clinton, MD 20735	267
Collington Episcopal Life Care	10450 Lottsford Rd, #210, Bowie, MD 20721	44
Cresecent Cities Center	4409 East West Highway, Riverdale, MD, 20737	140
Forestville Health & Rehabilitation Center	7420 Marlboro Pike, Forestville, MD 20747	160
Fort Washington Health and Rehabilitation	12021 Livingston Road, Fort Washington, MD 20744	150
Future Care Pineview	9106 Pine View Lane, Clinton, MD 20735	192
Gladys Spellman Specialty Hospital at Laurel Regional Hospital	7300 Van Dusen, Laurel, MD 20707	61
Heartland Health Care Center -Adelphi	1801 Metzertott Road, Adelphi, MD 20783	218
Heartland Health Care Center- Hyattsville	6500 Riggs Road, Hyattsville, MD 20783	160
HillHaven Nursing Center	3200 Powder Mill Rd., Adelphi, MD 20783	66
Larkin Chase Care and Rehabilitation Center	15005 Health Center Drive, Bowie, MD 20716	120
Magnolia Center Nursing Home	8200 Good Luck Road, Lanham, MD 20706	104
ManorCare Health Services - Largo	600 Largo Road, Glenarden, MD 20774	130
Patuxent River Health and Rehabilitation	14200 Laurel Park Drive, Laurel, MD, 20707	177
Sacred Heart Home INC.	5805 Queens Chapel Road, Hyattsville, MD 20782	100
St. Thomas More Medical Complex	4922 LaSalle Road, Hyattsville, MD 20782	250
Subacute Care Center Southern Maryland	7503 Surratts Road, Clinton, MD 20735	24
Villa Rosa Nursing Home, Inc	3800 Lottsford Vista Road, Mitchellville, MD 20721	101

Heights, Oxon Hill, Accokeek, Baden/Brandywine, Ft. Washington, Clinton, Temple Hills, Upper Marlboro and Morningside) (PGCPD, 2012).

MARYLAND EXTENSION

University of Maryland Extension-Prince George's County (UME) has been a leader and partner in implementing programs throughout the County that address obesity; food insecurity; low levels of fitness; unhealthy diets for youth, families and senior citizens; best practices in conservation and nutrient management; and signature programs in outdoor education. The programs include:

- Nutrition and Finance Education programs target underserved and high-risk families, especially those with young children:
- **Food Stamp Nutrition Education (FSNE) program** (SNAP-ED at the federal level) has four nutrition educators, two assigned to the County health department and two at the Center for Educational Partnership (CEP) in Riverdale.
- **Expanded Foods and Education Program (EFNEP)** includes seven local nutrition educators housed at the CEP and working throughout the County. Both programs offer classes and hands-on experiences through public and private agencies and community centers. In the schools, educators offer teacher training to integrate nutrition, fitness and other healthy living concepts into ongoing public school academic curriculum and serve on advisory committees and task forces.

- **Healthy Cents and Stretching Your Food Dollar** are programs that combine nutrition and financial education for youth and adult audiences. Participants include school youth, teen moms, women in shelters and senior citizens.

4-H Youth Development works with schools, community centers and volunteers to offer healthy living programs including Health Rocks, a substance abuse prevention program; Up for the Challenge, a healthy living and nutrition program and outdoor education; and camping at the Patuxent River 4-H Center. 4-H also offers major STEM programs in the areas of robotics, engineering and physical science, which help youth to connect their personal lives with their surroundings.

Agriculture includes the Master Gardener Volunteer program, Agriculture Marketing and Nutrient Management advising. Major programs include Grow It, Eat It, Preserve It; Sheridan Street Community garden; Farmers' Market support; educational programs for the general public through libraries, schools and churches; Bay Wise Certification; and development of best practices for landowners in the areas of conservation and nutrient runoff. Extension also supports economic development in the urban and rural areas of the community as it pertains to food and farms.

Extension collaborates with many organizations including M-NCPPC (Healthy Heights, Extreme Teens and Community Centers), Prince George's County Public Schools (Alliance for a Healthier Generation, individual schools at all levels), Head Start, Judy Hoyer Centers, County Memorial Library System, municipal governments and County government departments. UME also supports school and community gardens and offer advice to homeowners, farmers and businesses as requested.

HIGHER EDUCATION ACADEMIC RESOURCES IN THE COUNTY

The County has a number of higher education academic resources that contribute to health and wellness capacity. In addition, health professions students from University of Maryland, Baltimore have also rotated through sites in the County. These programs include health provider and public health workforce training, continuing education as well as research and service programs.

The health care systems we interviewed had two innovative programs that included academic partners and could serve as models. One program involved a partnership between the academic health care system and a community-based clinic to establish a medical home with case managers for the under- and uninsured. This program was successful in achieving cost savings and improvements in quality of care. Another system formed a community-wide "Nurse Advice Line" in collaboration with the public health department, managed-care organizations and the university, and operated in both rural and urban areas. This Nurse Advice Line helped the state health department identify illnesses statewide and resulted in decreased emergency department visits, increased medical homes and better coordination of patient care.

TABLE 10 PRINCE GEORGE'S COUNTY HOME HEALTH CENTERS

Name of Institution, Contact Information	Description of Services
Americare In-Home Nursing 10905 Fort Washington Road, Suite 300 Fort Washington, MD 20744	<ul style="list-style-type: none"> ▪ Orthopedic rehabilitation ▪ Cardiac Care Program™ ▪ Diabetic management ▪ Pain management ▪ Wound care management ▪ Joint replacement program ▪ Fall prevention program ▪ Oncology care program ▪ Observation and assessment ▪ Chronic disease management
Southern Maryland Hospital 10403 Hospital Drive, Suite G-9 Clinton, MD 20735	<ul style="list-style-type: none"> ▪ Home health aide ▪ Occupational therapist ▪ Registered nurse ▪ Social worker ▪ Speech therapist <p>Specialty Areas:</p> <ul style="list-style-type: none"> ▪ Certified wound ostomy nurse on staff ▪ Nutritionist on staff ▪ Wound-care certified ▪ Orthopedics ▪ Diabetes education ▪ Cardiac-related diagnosis ▪ Wound ostomy, continence
Medstar Health, Vna, Inc. 4061 Powder Mill Road, Suite 500 Beltsville, MD 20705	<ul style="list-style-type: none"> ▪ Physical therapy ▪ Occupational therapy ▪ Speech therapy ▪ Home health aide ▪ Nursing care
Professional Healthcare Resources, Inc. 4429 Forbes Boulevard Lanham, MD 20706	<ul style="list-style-type: none"> ▪ Clinical assessment and monitoring ▪ Wound care ▪ Intravenous therapy ▪ Psychiatric nursing ▪ Diabetic care and services ▪ Cardiac care services ▪ Comprehensive patient and caregiver education ▪ Physical or occupational therapy ▪ Nutritional counseling
Revival Homecare Agency 4810 Saint Barnabas Road Temple Hills, MD 20748	<ul style="list-style-type: none"> ▪ Home health aid ▪ Medical social ▪ Medicare ▪ Nursing care ▪ Occupational therapy ▪ Physical therapy ▪ Speech pathology
Adventist Home Care Services 12041 Bournefield Way, Suite B Silver Spring, MD 20904	<p>Adult nursing for:</p> <ul style="list-style-type: none"> ▪ Diabetes mellitus ▪ Coronary artery disease (CAD) ▪ Congestive heart failure (CHF) ▪ Chronic Obstructive Pulmonary Disease (COPD) ▪ Decubitus care ▪ Post-surgical wound care ▪ Ostomy care ▪ Feeding tubes ▪ Indwelling urinary catheters
	<p>Diabetes Management:</p> <ul style="list-style-type: none"> ▪ Assessment of patient's condition ▪ Instruction of patients and families on monitoring blood glucose levels ▪ Dietary counseling and meal planning ▪ Medication teaching ▪ Awareness of drug interaction ▪ Treatment of feet and other skin issues ▪ Circulatory needs ▪ Meal planning ▪ Assessment for need of adaptive equipment and occupational therapy
	<p>Coordination of community services:</p> <ul style="list-style-type: none"> ▪ Medication management, ostomy care, cardiac nursing, maternal and child care, wound care, pediatric nursing, lactation support, phototherapy
Amedisys Home Health Care 12510 Prosperity Drive, Suite 350, Silver Spring, MD 20904	<ul style="list-style-type: none"> ▪ Home-based skilled nursing ▪ Rehabilitation ▪ Chronic disease management
Amedisys Home Health Care— Largo Location 1401 Mercantile Lane, Suite 351 Largo, MD 20774	<ul style="list-style-type: none"> ▪ Home-based skilled nursing ▪ Rehabilitation ▪ Chronic disease management
First Health Care Network 1408 Golf Course Drive Bowie, MD 20721	<ul style="list-style-type: none"> ▪ Non-medical home care ▪ Personal care services ▪ Homemaker services ▪ Respite care services ▪ Hospice care services

Maryland Healthcare Services Deal with the following illnesses:

4810 Saint Barnabas Road
Temple Hills, MD 20748

- Congestive heart failure
- Unstable angina
- Unstable blood pressure
- Osteoarthritis
- Osteoporosis
- Rheumatoid arthritis
- Pneumonia
- Anemia
- Chronic Obstructive Pulmonary Disease (COPD)
- Stroke
- Bowel disorders
- Diverticulitis
- Fractures
- Post-operative surgery
- Parkinson's Disease
- Multiple Sclerosis
- Urinary retention
- Uncontrollable blood sugar—diabetes

Home Call of Prince George's County

1408 Golf Course Drive
Bowie, MD 20721

- Nursing care
- Physical therapy
- Occupational therapy
- Speech pathology
- Medical social and home health aide services

Specialty Care Services

4810 Saint Barnabas Road
Temple Hills, MD 20748

- Wound care management
- Diabetic management and care
- Cardiac/respiratory care
- Post-operative care
- Nutrition therapy
- Safety measures and universal precautions
- Medication management
- Tube feeding
- Injections

Angels of Mercy Home Health
Care Services LLC

99 Commerce Place, Suite 100
Largo, MD 20772

- Elderly care or geriatric care
- Personal care services
- Nursing procedures (vital signs monitoring, wound care, IV Therapy, etc.)
- Assistance with daily living activities
- Home-bound status
- Bedside care (temporary, intermittent or long-term care)

Family and Nursing Care

8555 16th Street, Suite 101
Silver Spring, MD 20910

- Alzheimer's Disease
- Parkinson's Disease
- Cancer
- Hospice care
- Dementia
- Diabetes
- Heart disease
- Stroke
- Depression

Provide skilled nursing for:

- Medication management
- Diabetes management
- Tube feeding
- Wound care
- Injections
- Ostomy care

Also provide activities of daily living, companionship, mobility assistance and other support services

Homewatch Caregivers

6475 New Hampshire Avenue,
Suite 304
Hyattsville, MD 20783

- Dementia care
- Elder care for chronic conditions such as (diabetes, Parkinson's, stroke, ALS or Lou Gehrig's disease, heart disease and lung disease)
- Elderly care such as travel assistance, hospital discharge care

SUMMARY

This snapshot review reveals that the County has many assets that are directed to health and wellness of its residents. These are imbedded in public health sector programs as well as in public sector programs that support education, social services and recreation. Upon cursory review, the public health sector programs in the County appear to be aligned with lifestage and special population needs and with health conditions identified in the County Health Improvement Plan.

However, this snapshot also reinforces what other reports have emphasized: The County safety net clinics are severely limited in size and number and are not resourced to meet the current needs of the community. Two new federal designated medically underserved areas were added to the County this year. To achieve success of any health care system, there must be an investment to fulfill and manage the County's safety net needs. This is the most critical and the first factor to remedy. The hospital community benefit reports reveal the burden of charitable care provided by Prince George's County Hospital that extends the safety net.

We used secondary data to identify the existence and range of services provided by these programs. The existing capacity of these facilities and programs to meet the disease prevention and disease management demands of populations in need was not directly reviewed. Prior to considering the mobilization of specific public health resources, a critical review of current program and clinical care structure, process and outcomes is needed in light of the plans for the design of a new health care system and in the context of the priority health outcomes to be improved.

The capacity for delivering the basic public health functions of assessment, policy development and assurance must be given priority in this review. These functions must be in place to serve the public health sector and to serve as a hub for the coordination and interaction of health and health care

programs within the overall system. This type of review should be tailored to determine which, whether and how existing programs can be expanded or modified to address the health outcome priorities and complement the impact of the health care system, especially in the context of the state health care reform innovations and mandates. Ultimately this review would provide the basis for determining the actual fiscal, workforce, Health Information Technology (HIT) and programmatic investments needed to reach a level capacity to meet the current health needs of uninsured and underinsured County residents.

The continuation of existing partnerships and the forging of new ones would be beneficial. Emerging multi-sectoral coalitions, like the County's Health Care Coalition, offer opportunities to communicate across organizational borders and enrich health and wellness for County residents through proactive coordination of services and activities. Technical Report #2 noted that partnerships were viewed as an approach for tackling wellness and prevention goals such as the County government, schools and wellness programs working together to prevent obesity and tobacco use. The stakeholders from this report also mentioned collaboration opportunities by co-sponsoring events with community-based organizations, employers in the County and religious organizations.

Novel approaches, such as those implemented by other systems, should guide the integration of public health

sector and health-system programs for population health (See Technical Report: Interviews with Professionals in Model Health Care Systems).

We appreciate the input from leadership and staff from the County Executive's Offices and from the Prince George's County Health Department. In addition, we would like to acknowledge the meetings and input from the leadership and staff of the Maryland Extension programs and Prince George's County Parks and Recreation Services.

REFERENCES

- Adashi, E.Y., Geiger, H.J., & Fine, M.D. (2010). Health care reform and primary care—the growing importance of the community health center. *The New England Journal of Medicine*, 362 (22), 2047–2050.
- Health Services Cost Review Commission. (2011). Maryland Hospital Community Benefits Report FY 2010. Retrieved from www.mdhospitals.org/File%20Library/Community/Community%20Benefits/FY2010-HSCRC-Maryland-Hospital-Community-Benefits-Report_July-2011.pdf.
- Horowitz, A. M., & Kleinman, D. V. (2012). Oral health literacy: a pathway to reducing oral health disparities in Maryland. *Journal of Public Health Dentistry*, 72, S26–S30.
- Institute of Medicine. (2012). *Primary Care and Public Health: Exploring Integration to Improve Population Health*. Washington DC: The National Academies Press.
- Lurie, N., Harris, K. M., Shih, R. A., Ruder, T., Price, A., Martin, L. G., Acosta, J., & Blanchard, J. C. (2009). *Assessing health and health care in Prince George's County*. Prepared for the Prince George's County Council, by RAND Corporation.
- Lurie, N., Gresenz, C.R., Blanchard, J.C., Ruder, T., Chandra, A., Ghosh-Dastidar, B., Price, A., Siegel B., Regenstein, M., Sickler, D., Norton, B., Jones, K. (2008). *Assessing Health and Health Care in the District of Columbia*. RAND WR-534.
- Maryland Department of Health and Mental Hygiene. (2010). 2010 Primary Care Needs Assessment. Retrieved from ideha.dhmm.maryland.gov/IDEHASHaredDocuments/PCO_Needs_Assessment_11_16_11.pdf.
- Maryland General Assembly. (2001). Chapter 178 of the 2001 Laws of Maryland. Retrieved from www.msa.md.gov/megafile/msa/speccol/sc2900/sc2908/000001/000798/pdf/am798-1632.pdf.
- Prince George's County Board of Education. (2010a). Prince George's County Board of Education Handbook. Retrieved from [www.boarddocs.com/mabe/pgcps/Board.nsf/files/8C5KBA5108C4/\\$file/BOE+Handbook.pdf](http://www.boarddocs.com/mabe/pgcps/Board.nsf/files/8C5KBA5108C4/$file/BOE+Handbook.pdf).
- Prince George's County Board of Education. (2010b). 2010 Annual Report. Retrieved from www1.pgcps.org/communications/index.aspx?id=113586.
- Prince George's County Department of Family Services, Mental Health and Disabilities Division. (2011, August 17). Mental Health and Disabilities Division Mission Statement. Retrieved from www.princegeorgescountymd.gov/government/agencyindex/familyservices/mental_health.asp.
- Prince George's County Department of Parks and Recreation. (2012). Locations. Retrieved from www.pgparks.com/Your_Parks/Locations.htm.
- Prince George's County Health Department. (2011). Health Services For Youth. Retrieved from www.princegeorgescountymd.gov/Government/AgencyIndex/Health/pdf/HealthServicesForYouth.pdf.
- Prince George's County Health Department. (2012). Prince George's County Health Improvement Plan 2011 to 2014, Blueprint for a Healthier County. Retrieved from www.princegeorgescountymd.gov/Government/AgencyIndex/Health/pdf/LocalhealthPlanPrefinal.pdf.
- Stine, N. W., & Chokshi, D. A. (2012). Opportunity in Austerity—A Common Agenda for Medicine and Public Health. *New England Journal of Medicine*, 366(5), 395–397.
- Thuku, N. M., Carulli, K., Costello, S., & Goodman, H. S. (2012). Breaking the cycle in Maryland: oral health policy change in the face of tragedy. *Journal of Public Health Dentistry*, 72, S7–S13.
- United States Department of Health and Human Services. (2012). Key Features of the Affordable Care Act, By Year. Retrieved from www.healthcare.gov/law/timeline/full.html.
- Vargas, C. M., Casper, J. S., Altema-Johnson, D., & Kolasny, C. R. (2012). Oral health trends in Maryland. *Journal of Public Health Dentistry*, 72, S18–S22.

TECHNICAL REPORT 6

Current (2007-2009) Experiences and Future Projections of Prince George's County Residents' Hospital Encounters

Karoline Mortensen, Ph.D.

INTRODUCTION

As part of the Public Health Impact Study of Prince George's County, a series of studies were conducted to contribute to the understanding of hospital, health care and community population elements of a health care system that may contribute to the improvement of selected health outcomes. These studies provide both descriptive and analytic findings of the hospital use of Prince George's County residents and of the hospitals they frequent. They were designed to complement the work of groups, beyond that of the School of Public Health, who are contributing to the design phase of the regional health care system and primarily focused on select hospital encounters of County residents.

The econometric model informing this section was designed to primarily provide answers to the question, "What elements of a health care system (hospital and community) can affect key health outcomes and by how much?" Secondly, the model provides insights of relevance to all of the questions posed by the advisory committee. The model was designed to integrate data from multiple sources to reflect effects of different aspects of the health care system on hospital discharges. The model provides a look at the macro level of the health care system and also allows flexibility to explore how health system and other factors affect discharges for each major disease or condition differently.

A critical component of access to health care is the receipt of timely and effective primary care to prevent disease, manage chronic illness and treat acute illness at an early stage to avoid hospitalization (Delia, 2003; Ansari, Laditka, and Laditka, 2006). The supply of primary care physicians, nurse practitioners and safety net clinics are known components of access. Primary

care physician supply is associated with improved health outcomes (Macinko, Starfield & Shi, 2007). Areas with higher concentrations of physician supply have been found to have fewer ambulatory care, sensitive discharges than areas with lower supply (Laditka, Laditka, and Probst, 2005), but this relationship does not always hold true (Krakauer, Jacoby, Millman & Lukomnik, 1996; Epstein, 2001).

The demographic and health characteristics of Prince George's County residents, access and capacity of the County's health care system, and patterns of hospital and emergency department use have been reported in extensive detail (Lurie, Harris, Shih, Ruder, Price, Martin et al., 2009). The results from this econometric model are critical for taking the next steps to analyze the associations between these local characteristics and inpatient discharges for key health outcomes. The econometric model estimates the statistically significant relationships that are essential to understand in order to improve the County's health care system. It is not enough to know the

ratios per 1,000 residents of primary care physicians, nurse practitioners, physician assistants and safety net clinics in the County; it is imperative to understand how these health system factors are related to discharges for key health outcomes. Once we begin to understand the inner workings of these relationships, stakeholders in Prince George's County are able to focus on the factors that have the most significant impact. The outline of this section is as follows: This section first describes the data used in the analysis, then details the empirical methodology and concludes with an analysis of discharge data.

DATA

A number of databases and data sources were used to define elements of the community, the hospital health care system and of the community health care system. The primary data source was data for fiscal years 2007, 2008 and 2009 acquired from the Health Services Cost Review Commission (HSCRC) and the District of Columbia Hospital Association (DCHA) containing discharge data for Prince George's County residents. Discharges were from 59 hospitals located in Prince George's County, Montgomery County, Baltimore County, Anne Arundel County, the District of Columbia and a variety of other hospitals in the state of Maryland.

The data included the following fields: indicator for Maryland or D.C. hospital, year, ZIP code, city, sex, age, race, hospital, where admitted from, visit type, discharge status, International Classification of Diseases version 9 (ICD-9) primary diagnosis, ICD-9 secondary diagnosis, primary payer, total charges, hospital division, All Patient Refined Diagnosis code (APR), APR description, Diagnosis-Related Group (DRG) and DRG description. There were no unique patient identifiers in the data set.

A variety of data sources were used to collect information on ZIP codes, Maryland health care workforce, hospital characteristics and readmissions for each ZIP code. ZIP code population data for 2000 and 2010 were collected from the Bureau of Census Population Data (U.S. Census Bureau, 2012). These data were used to assess population growth within each ZIP code in Prince George's County and to project population growth into 2022 for the hospital discharge 10-year projections.

Maryland Health Workforce Data described in the geographic mapping section of this report were used for this

analysis. We include a measure of the ratio of board-certified primary care physicians, a ratio of nurse practitioners and a ratio of physician assistants at the ZIP code level per 1,000 residents. Data on the 59 hospitals' total discharges (not limited to discharges of only Prince George's County residents) for fiscal year 2010 were collected from the American Hospital Directory website (www.ahd.com). One of the major limitations of the HSCRC and DCHA discharge data is that it did not include unique identifiers, so readmission rates for individuals in the data could not be calculated. Readmission rates at the ZIP code level were supplied by the Maryland Health Care Commission staff from their analysis of HSCRC discharge abstract data for fiscal years 2008 and 2009 (personal communication, Jeff Johnson).

SAMPLE SIZE The initial data set of 297,117 discharges included approximately 100,000 discharges for each fiscal year, with D.C. hospitals reporting roughly one quarter of discharges for Prince George's County residents (Table 1).

Data were missing for a number of each of the fields. ZIP code data were coded as zero, 77777 or 99999 for 171

observations, so those observations were dropped as they could not be mapped to additional data on Prince George's County residents (Appendix). ZIP codes that were for counties outside of Prince George's County (primarily representing D.C. and Montgomery County) were also dropped, reducing the sample by an additional 3,191 discharges. Discharges that had a ZIP code assigned to a post office rather than a residential area were reassigned the ZIP code value for the geographic area surrounding the post office. The hospital name was missing for 1,725 discharges, so those observations were dropped as well. In order to maximize information from the data, different sample sizes were used for different analyses. Tables at the discharge level of analysis that did not require information on gender, primary diagnosis code and payer information used a large sample that included observations missing those data (n=292,030). For the regression models, discharges missing a primary diagnosis code (1,988) and payer information (5,623) were excluded. The resulting dataset for the regression models had a sample size of 284,402 discharges.

TABLE 1
DISCHARGE DATA PER FISCAL YEAR, MARYLAND AND D.C.

Fiscal Year	Maryland	D.C.	Total
2007	71,201	27,541	98,742
2008	73,004	25,262	98,266
2009	74,402	25,707	100,109
Total			297,117

Source: 2007, 2008 and 2009 inpatient discharge data from HSCRC and DCHA

METHODS

A commonly used indicator of access to primary care and its overall effectiveness is the number of ambulatory care-sensitive admissions within a given population (Ansari, Laditka, & Laditka 2006). The Agency for Healthcare Research and Quality (AHRQ) has developed measures of health care quality that make use of readily available hospital inpatient administrative data. Prevention Quality Indicators (PQIs) identify ambulatory care-sensitive hospital admissions in geographic areas that evidence suggests may have been avoided through access to high-quality outpatient care (Agency for Healthcare Research and Quality, 2012a). Access to good outpatient care and early intervention can potentially prevent these ambulatory care-sensitive conditions.

AHRQ states that these indicators provide insight into the community health care system and services outside the hospital setting (Agency for Healthcare Research and Quality, 2012b). The ambulatory care-sensitive discharges can be used as a screening tool to help flag potential health care quality problem areas that need further research and investigation. Ambulatory care-sensitive discharges measured by PQIs provide a check on primary care access or outpatient services in

a community by using patient data found in a hospital discharge abstract (Agency for Healthcare Research and Quality, 2012b). These data help public health agencies, state data organizations and health care systems improve health care quality in their communities. This analysis used the March 2012 technical specifications.

AHRQ provides an algorithm to identify these ambulatory care-sensitive PQIs at the County level, using County-level discharges of each of the identified conditions in the numerator, and County population as the denominator. AHRQ clearly specifies that the denominator is based on the County of patient residence, not the County of the hospital. We modify their calculation to include ZIP code-level discharge counts for each of the relevant indicators in the numerator, and ZIP code-level population counts from the 2010 U.S. Census in the denominator. The purpose of the PQI, or ambulatory care-sensitive discharge, analysis is to show geographic variation in discharges that could have been prevented with better access to outpatient care. Our analysis focuses on those indicators reflecting chronic disease that are most aligned with the key health outcomes of interest for the public health impact assessment.

The ambulatory care-sensitive conditions that we examine in the analysis represent key health outcomes that are chronic conditions—those most amenable to an improved health care delivery system. These include the diabetes short-term complications admission rate, diabetes long-term complications admission rate, the chronic obstructive pulmonary disease (COPD) or asthma in older adults admission rate, asthma in younger adults admission rate, hypertension admission rate, heart failure admission rate, angina without procedure admissions rate, uncontrolled diabetes admission rate, and an indicator for a discharge with any of these admission types. The PQI ambulatory care-sensitive discharge measure excludes transfers from a hospital (transfers from a skilled nursing facility are not identified in the data).

The public health impact assessment is primarily concerned about factors that affect discharges for specific diagnoses, including cardiovascular disease, diabetes and asthma, that could be avoided altogether if treated in a more appropriate outpatient setting. ICD-9 codes were used to identify these diagnoses from the primary diagnosis code in the discharge data and to generate the PQI ratios.

VARIABLES

Key variables in the model include ambulatory care-sensitive hospitalizations per 1,000 residents, readmissions within 30 days, health care workforce capacity (physicians, physician assistants, nurse practitioners and safety net clinics), and patient and population characteristics. The analyses include

sex, age, race/ethnicity and proportion of the population at or below the federal poverty level (FPL) at the ZIP code level (Epstein, 2001; Delia, 2003). Data for Prince George's County are from the U.S. Census for 2010 (U.S. Census Bureau, 2012). We classify race/ethnicity at the ZIP code level in

categories that include non-Hispanic white and minority. Minority includes Hispanic, black and other, where other includes American Indian and Alaska Native, Asian, Native Hawaiian and Pacific Islander, some other race and two or more races. White is the reference category in the analyses. Due to

TABLE 2 AMBULATORY SENSITIVE CONDITIONS DEFINITIONS AND SAMPLE MEANS

Prevention Quality Indicator (PQI)	Description	ICD-9 Codes for Numerator	Age	Percent of Prince George's County Resident Discharges	Count PQI Prince George's County Residents
1	Diabetes short-term complications admission rate	25010 25011 25012 25013 25020 25021 25022 25023 25030 25031 25032 25033	18+	0.5	1,355
3	Diabetes long-term complications admission rate	25040 25041 25042 25043 25050 25051 25052 25053 25060 25061 25062 25063 25070 25071 25072 25073 25080 25081 25082 25083 25090 25091 25092 25093	18+	0.9	2,474
5	COPD or asthma in older adults admission rate	COPD: 4660 490 4910 4911 49120 49121 4918 4919 4920 4928 494 4940 4941 496 Asthma: 49300 49301 49302 49310 49311 49312 49320 49321 49322 49381 49382 49390 49391 49392	40+	1.4	4,069
7	Hypertension admission rate	4010 4019 40200 40210 40290 40300 40310 40390 40400 40410 40490	18+	0.6	1,816
8	Heart failure admission rate	39891 4280 4281 42820 42821 42822 42823 42830 42831 42832 42833 42840 42841 42842 42843 4289	18+	2.8	8,097
13	Angina without procedure admission rate	4111 41181 41189 4130 4131 4139	18+	0.4	1,143
14	Uncontrolled diabetes admission rate	25002 25003	18+	0.2	527
15	Asthma in younger adults admission rate	Asthma: 49300 49301 49302 49310 49311 49312 49320 49321 49322 49381 49382 49390 49391 49392 Cystic fibrosis and anomalies of the respiratory system: 27700 27701 27702 27703 27709 51661 51662 51663 51664 51669 74721 7483 7484 7485 74860 74861 74869 7488 7489 7503 7593 7707	18-40	0.2	492

Sample size excludes those with missing data on hospital locations, sex, primary diagnosis and primary payer. N=284,402

All PQIs are ratios per 1,000 residents of the numerators described above divided by the ZIP code population.

Asthma in younger adults admission rate includes age 40, as does asthma in older adults, resulting in an overlap of discharges

Procedure codes were not included in the discharge data, so PQIs requiring procedure codes (hypertension, heart failure and angina) do not exclude by procedure code, which may overstate PQI.

missing 2010 Census data on ZIP codes 20601, 20607, 20608 and 20613, data from 2000 are used instead. Poverty is included as the proportion of the population at or below the federal poverty level, as measured by the 2000 U.S. Census (2010 data were not available at the ZIP code level as of April, 2012).

In preliminary analyses using age categories, also from U.S. Census data, of under age 18, age 18 to 44 (reference category), 45 to 64, and 65 and older, only the over 65 category was significant. To keep the model parsimonious, we include age over 65, with under age 65 as the referent category. Sex is mea-

sured by the proportion of females in each ZIP code; males are the reference category.

Ambulatory-sensitive conditions were defined using several of the AHRQ PQIs, and were analyzed individually in the econometric models as the outcome variable. The ICD-9 codes

used to define each PQI are described in Table 2. The PQIs we measured that indicate ambulatory sensitive visits for chronic conditions include diabetes short-term complications admissions rate, diabetes long-term complications admissions rate, COPD or asthma in older adults admission rate, hypertension admissions rate, heart failure admissions rate, angina without procedure admissions rate, uncontrolled diabetes admissions rate, asthma in younger adults admissions rate,

and an indicator for any of the above ambulatory care-sensitive conditions admissions rate. The count for each type of discharge was divided by the ZIP code population and presented as a rate per 1,000 residents. Procedure data were not available in the discharge data set, so the conditions that exclude cases with a cardiac procedure code (hypertension, heart failure and angina) may be over-estimated. Discharges with an indicator that they were transfers from other

hospitals were excluded.

These conditions and the respective hospital encounters provide a picture of the management of care and discharges within hospitals as well as the capacity of the relationship between hospitals and community-based primary care. We did not include all conditions defined as ambulatory care-sensitive, rather we selected a subset that aligned with several key health outcomes.

ANALYSIS

Using the aforementioned data sources including discharges, characteristics of the hospitals and local health system factors, data were merged in at both the hospital and patient ZIP code levels. We used this merged data file to model the dynamic effects of “what if” scenarios for each of the conditions, such as the potential impacts of changes in elements such as health care workforce supply on discharges, as well as project the impact of these changes out into the future.

We applied the model using a macro-level approach in order to

address the relationship between the various outcomes at the ZIP code level, and overall system and population characteristics. We used the lens of specific conditions for a more specific assessment of any discharge for an ambulatory care-sensitive condition, as well as each identified ambulatory care-sensitive condition in turn and for the 30-day readmissions rate.

Ordinary Least Squares linear probability models were estimated to analyze the relationship between community, hospital and ZIP code-level factors and discharges for specific diagnoses.

The macro-level approach analyzes ZIP code-level data on PQI discharges. Data from 2007, 2008 and 2009 are aggregated to increase sample size for the ratios (Epstein, 2001). The models are constrained by the sample size at the ZIP code level, since there are only 36 ZIP codes in Prince George’s County. Therefore robust regression models were also estimated. Robust regression is an alternative to least squares regression when data may be contaminated by outliers or influential observations.

PATTERNS OF HOSPITAL USE BY PRINCE GEORGE’S COUNTY RESIDENTS

To get a more detailed view of resident hospital experiences and their impact on hospitals in the County and the surrounding area, we pursued answers to several questions. Where do Prince George’s County residents go for hospital inpatient care? For those residents using County hospitals, what proportion of all hospital discharges and inpatient days did residents represent? This information allows planners to

view the impact of resident patterns of use, and raises questions about who comprises the remaining patients that use the County hospitals and estimate what proportion of hospital discharges for other jurisdictions County residents represent. The answers to the latter questions would provide useful information for planning a regional center of excellence as well as for forging formal regional partnerships among hospitals.

Aggregate discharge data for 2007, 2008 and 2009 are displayed in Table 3 to provide the distribution of discharges of Prince George’s County residents across hospitals in Prince George’s County, D.C., Montgomery County, Anne Arundel County, Baltimore County and numerous other hospitals in the state of Maryland. Only 45.5 percent of discharges for Prince George’s County residents are

TABLE 3 INPATIENT DISCHARGES FOR PRINCE GEORGE'S COUNTY RESIDENTS (2007-2009)

HOSPITAL NAME	COUNT	%	HOSPITAL NAME	COUNT	%	HOSPITAL NAME	COUNT	%
Prince George's Hospitals	132,929	45.5	Baltimore County Hospitals	10,714	3.7	Other Maryland Hospitals	5,408	1.9
Doctors Community Hospital	31,273	10.7	Bon Secours Hospital	55	0.0	Atlantic General Hospital	48	0.0
Fort Washington Hospital	6,736	2.3	Franklin Square Hospital	68	0.0	Braddock Hospital (Western Maryland Regional)	4	0.0
Laurel Regional Medical Center	13,125	4.5	Good Samaritan Hospital	194	0.1	Calvert Memorial Hospital	700	0.2
Prince George's Hospital Center	41,043	14.1	Greater Baltimore Medical Center	242	0.1	Carroll County General Hospital	38	0.0
Southern Maryland Hospital	40,752	14.0	Harbor Hospital Center	191	0.1	Chester River Hospital	8	0.0
Montgomery County Hospitals	55,592	19.0	Johns Hopkins Bayview	612	0.2	Civista Medical Center	1,962	0.7
Adventist Rehab Hospital	731	0.3	Johns Hopkins Hospital	3,509	1.2	Dorchester General Hospital	9	0.0
Holy Cross Hospital	27,528	9.4	Johns Hopkins Oncology	588	0.2	Frederick Memorial Hospital	66	0.0
Montgomery General Hospital	850	0.3	Kernan Hospital	208	0.1	Garrett County Memorial Hospital	8	0.0
Shady Grove Adventist Hospital	1,508	0.5	Maryland General Hospital	164	0.1	Harford Memorial Hospital	21	0.0
Suburban Hospital	1,601	0.5	Mercy Medical Center	267	0.1	Howard County General Hospital	2,026	0.7
Washington Adventist Hospital	23,374	8.0	Northwest Hospital Center	47	0.0	Memorial Hospital at Easton	27	0.0
District of Columbia Hospitals	76,683	26.3	Saint Joseph Hospital	130	0.0	Memorial of Cumberland	9	0.0
Children's National Medical Center	11,626	4.0	Sinai Hospital	380	0.1	Peninsula Regional Medical Center	83	0.0
George Washington University Hospital	6,566	2.2	St. Agnes Healthcare	450	0.2	St. Mary's Hospital	343	0.1
Georgetown University Hospital	7,367	2.5	University of Maryland Hospital	1,941	0.7	Union of Cecil Hospital	5	0.0
Greater Southeast Community	1,595	0.5	University of Maryland Cancer Center	443	0.2	Upper Chesapeake Medical Center	17	0.0
Howard University Hospital	3,014	1.0	University of Maryland Shock Trauma	864	0.3	Washington County Hospital	34	0.0
Providence Hospital	12,431	4.3	Union Memorial Hospital	361	0.1			
Sibley Memorial Hospital	2,552	0.9	Anne Arundel County Hospitals	10,704	3.7	TOTAL DISCHARGES	292,030	100.0
VA Medical Center	1,863	0.6	Anne Arundel Medical Center	10,222	3.5	Prince George's County Residents		
Washington Hospital Center	29,669	10.2	Baltimore Washington Medical Center	482	0.2			

Source: 2007, 2008 and 2009 inpatient discharge data from HSCRC and DCHA

from Prince George's County hospitals. Dimensions Healthcare hospitals were on the low and high ends of the spectrum, with Laurel Regional accounting for 4.5 percent of discharges of Prince George's County residents and Prince George's Hospital Center accounting for 14.1 percent, the highest of any of the County's hospitals.

The majority of County residents are discharged from hospitals in the region outside of the County. D.C. hospitals represent 26.3 percent of County resident discharges, with Washington Hospital Center accounting for 10.2 percent of County residents' discharges. Providence Hospital accounted for 4.3 percent

of discharges, Children's National Medical Center for 4.0 percent and the remaining hospitals for 2.5 percent or less. Montgomery County hospitals account for 19.0 percent of County residents' discharges; Holy Cross Hospital represents 9.5 percent of total discharges and Washington Adventist Hospital accounts for 8 percent. The

remaining hospitals each represent less than 1 percent of discharges. Hospitals in Baltimore account for 3.7 percent of discharges for Prince George's County residents, Anne Arundel hospitals for 3.7 percent and hospitals in the other counties of Maryland account for the remaining 1.9 percent of County discharges. There were no dominant hospitals in the Baltimore area, whereas in Anne Arundel County, Anne Arundel Medical Center represented the bulk of the discharges with 3.5 percent. The remaining hospitals in the Maryland area, such as Civista Medical Center (0.7 percent) and Howard County General Hospital (0.7 percent) represented a very small fraction of the Prince George's County resident discharges.

There is significant variation in payer type across jurisdictions (Table 4), with discharges from Prince George's County hospitals reflecting the payer mix representative of safety net hospitals. Approximately two-thirds of discharges from Prince George's County hospitals are reimbursed by Medicare (34.6 percent), Medicaid (16.9 percent) or self-pay/uninsured (7.3 percent), with only an average of one-third of the discharges reimbursed by private payers (32.3 percent). Discharges from hospitals in D.C., Montgomery County, Baltimore County, Anne Arundel County and other jurisdictions in Maryland had a larger proportion of discharges from private payment sources, and lesser proportions reimbursed by Medicaid, Medicare and self payment. Montgomery County hospitals average payer mix was 53.3 percent of discharges reimbursed by private insurance, 16.9 percent by Medicaid, 23.0 percent by Medicare, 6.1 percent paid out of pocket by the uninsured and 0.7 percent were categorized as other payer. D.C. area hospitals average was 49.1 percent by private payer, 21.2 percent by Medicaid, 23.3 percent by Medicare, 6.1 percent by the uninsured

and 0.7 percent by other sources. Average payer mix for Baltimore County and the other grouped Maryland hospitals closely mirrored that of D.C. Anne Arundel County hospitals had a significantly higher share of private pay discharges than any of the other jurisdictions, with 62.3 percent of them reimbursed by private payers.

There was also significant variation within jurisdictions. In Prince George's County, Fort Washington Hospital had the highest proportion of reimbursement by private payers at 41.2 percent, whereas Prince George's Hospital Center had the lowest proportion at 24.0 percent. Prince George's Hospital Center had 47.1 percent of discharges reimbursed by Medicaid, relative to only 3.8 percent at Fort Washington Hospital. All hospitals had a significant share of discharges reimbursed by

Medicare, ranging from 20.7 percent at Prince George's Hospital Center to 44.7 percent at Doctors Community Hospital. The uninsured accounted for a high of 10.6 percent of discharges at Fort Washington Hospital and a low of 6.3 percent at Laurel Regional Medical Center.

Prince George's County hospitals serve out-of-County patients as well as its own residents; the extent to which those patients account for their total discharges varies by hospital. Hospital-reported fiscal year 2010 total discharges were used with fiscal year 2009 discharges for Prince George's County from the HSCRC data for County residents to estimate the percent of each hospital's discharges that are for County residents (These are estimates since the discharge data base sample size is reduced due

TABLE 4 ESTIMATED PERCENT OF PRINCE GEORGE'S COUNTY HOSPITAL DISCHARGES THAT ARE FOR PRINCE GEORGE'S COUNTY RESIDENTS

Hospital		2009 actual	2010 actual*	Prince George's residents/total [^]
Doctors Community Hospital	# discharges	10,598	12,357	85.8%
	# inpatient days	43,691	51,708	84.5%
Fort Washington Medical Center	# discharges	2,243	3,078	72.9%
	# inpatient days	8,502	10,924	77.8%
Laurel Regional Hospital	# discharges	4,330	6,929	62.5%
	# inpatient days	17,778	27,426	64.8%
Prince George's Hospital Center	# discharges	13,815	15,789	87.5%
	# inpatient days	60,875	101,520	60.0%
Southern Maryland Hospital	# discharges	13,825	18,660	74.1%
	# inpatient days	51,059	72,877	70.1%

Source: 2007, 2008 and 2009 inpatient discharge data from HSCRC and DCHA

Includes data on all discharges even those missing data on primary payer, etc.

* Data from American Hospital Directory for fiscal year 2010 ending June 30, 2010. Includes discharges from ALL ZIP codes, not just Prince Georges' County

[^] Ratio takes 2009 Prince George's County residents discharges per hospital/2010 AHD data for total discharges for each hospital to get the estimate for the ratio of how many discharges are Prince George's County residents.

to observations with missing data, although the majority of those discharges were for D.C. hospitals). These calculations are presented in Table 4. Prince George’s County residents account for an estimated 85 percent of discharges from Doctors Community Hospital. County residents represent about 73 percent of discharges from Fort Washington Medical Center, 63 percent from Laurel Regional Hospital, 88 percent of Prince George’s Hospital Center, and 74 percent of Southern Maryland Hospital. There is significant

variation in hospital capacity in the County. In terms of discharges, Southern Maryland Hospital (13,825), Prince George’s Hospital Center (13,815) and Doctors Community Hospital (10,598) had significantly more discharges than Laurel Regional Hospital (4,330) and Fort Washington Medical Center (2,243) in 2009. This variation is expected since bed size varies considerably for these hospitals. Prince George’s Hospital Center has 329 beds, Southern Maryland Hospital has 265 beds, Doctors Community Hospital has

190 beds, Laurel Regional Hospital has 95 beds and Fort Washington Medical Center has 37 beds (www.ahd.com).

WHAT IS THE PAYMENT PROFILE OF THE HOSPITAL USE FOR COUNTY RESIDENTS?

The payer data tabulated in Table 5 reveal the payer mix for County resident hospital discharges by jurisdiction. Looking at the three major jurisdictions where residents go for hospital care

TABLE 5 INPATIENT DISCHARGES BY PAYER SOURCE AND HOSPITAL (2007, 2008, 2009) VALUES REPORTED AS PERCENTAGES

Hospital Name	Private	Medicaid	Medicare	Uninsured	Other
Prince George’s Hospitals	32.3	25.0	34.6	7.3	0.8
Doctors Community Hospital	36.4	11.8	44.7	6.4	0.7
Fort Washington Hospital	41.2	3.8	44.1	10.6	0.3
Laurel Regional Medical Center	31.6	27.4	34.0	6.3	0.6
Prince George’s Hospital Center	24.0	47.1	20.7	7.9	0.4
Southern Maryland Hospital	36.4	15.6	39.6	7.1	1.3
Montgomery County Hospitals	53.3	16.9	23.0	6.1	0.7
Adventist Rehab Hospital	30.7	6.4	54.8	6.3	1.8
Holy Cross Hospital	67.0	17.3	11.9	2.9	0.9
Montgomery General Hospital	56.6	15.2	16.6	11.4	0.2
Shady Grove Adventist Hospital	69.4	13.1	11.7	3.8	2.0
Suburban Hospital	54.3	6.1	26.6	9.0	3.9
Washington Adventist Hospital	36.3	17.8	36.1	9.6	0.2

Hospital Name	Private	Medicaid	Medicare	Uninsured	Other
District of Columbia Hospitals	49.1	21.2	23.2	2.3	4.1
Children’s National Medical Center	44.1	52.5	0.7	2.7	0.0
George Washington University Hospital	61.8	3.0	28.8	4.4	2.0
Georgetown University Hospital	61.9	5.3	30.1	0.4	2.3
Greater Southeast Community	44.8	6.1	31.3	16.7	1.1
Howard University Hospital	63.1	3.0	21.1	11.6	1.3
Providence Hospital	19.2	58.3	18.9	0.1	3.5
Sibley Memorial Hospital	70.9	0.5	20.5	2.2	5.7
VA Medical Center	0.0	0.0	0.0	0.0	100.0
Washington Hospital Center	57.0	7.8	32.5	1.8	0.8
Baltimore County Hospitals	49.9	18.8	22.6	4.9	3.9
Bon Secours Hospital	7.3	14.5	16.4	41.8	20.0
Franklin Square Hospital	52.9	23.5	10.3	8.8	4.4
Good Samaritan Hospital	48.5	12.9	33.5	4.1	1.0

TABLE 5 INPATIENT DISCHARGES BY PAYER SOURCE AND HOSPITAL (2007, 2008, 2009) (CONTINUED) VALUES REPORTED AS PERCENTAGES

Hospital Name	Private	Medicaid	Medicare	Uninsured	Other	Hospital Name	Private	Medicaid	Medicare	Uninsured	Other
Greater Baltimore Medical Center	65.3	9.9	19.4	2.1	3.3	Other Maryland Hospitals	46.3	17.3	27.3	6.5	2.6
Harbor Hospital Center	46.6	26.7	17.3	8.9	0.5	Atlantic General Hospital	37.5	4.2	45.8	8.3	4.2
Johns Hopkins Bayview	36.6	20.4	23.4	5.4	14.2	Braddock Hospital (Western Maryland Regional)	50.0	0.0	50.0	0.0	0.0
Johns Hopkins Hospital	54.4	18.5	25.7	0.3	1.1	Calvert Memorial Hospital	41.0	17.1	31.7	6.7	3.4
Johns Hopkins Oncology	62.9	15.3	21.3	0.0	0.5	Carroll County General Hospital	39.5	21.1	23.7	10.5	5.3
Kernan Hospital	50.5	16.3	25.5	2.9	4.8	Chester River Hospital	25.0	0.0	25.0	25.0	25.0
Maryland General Hospital	20.1	54.3	14.6	7.9	3.0	Civista Medical Center	40.1	23.8	29.0	6.1	1.1
Mercy Medical Center	58.1	17.6	19.5	1.9	3.0	Dorchester General Hospital	22.2	44.4	33.3	0.0	0.0
Northwest Hospital Center	44.7	27.7	17.0	8.5	2.1	Frederick Memorial Hospital	31.8	16.7	33.3	9.1	9.1
Saint Joseph Hospital	56.2	6.2	29.2	0.8	7.7	Garrett County Memorial Hospital	87.5	0.0	12.5	0.0	0.0
Sinai Hospital	56.3	20.3	17.9	2.4	3.2	Harford Memorial Hospital	47.6	14.3	9.5	19.0	9.5
St. Agnes Healthcare	62.9	14.2	16.0	6.0	0.9	Howard County General Hospital	58.5	12.4	19.6	5.9	3.5
University of Maryland Hospital	41.4	21.0	27.5	8.1	2.1	Memorial Hospital at Easton	37.0	14.8	48.1	0.0	0.0
University of Maryland Cancer Center	42.8	24.9	18.8	7.8	5.7	Memorial of Cumberland	66.7	0.0	22.2	0.0	11.1
University of Maryland Shock Trauma	47.8	16.4	10.9	14.4	10.5	Peninsula Regional Medical Center	45.8	16.9	32.5	3.6	1.2
Union Memorial Hospital	47.4	8.0	18.3	10.8	15.5	St. Mary's Hospital	27.4	11.4	50.4	9.3	1.5
Anne Arundel County Hospitals	62.3	7.1	26.4	2.8	1.4	Union of Cecil Hospital	40.0	20.0	40.0	0.0	0.0
Anne Arundel Medical Center	63.4	7.1	25.9	2.5	1.2	Upper Chesapeake Medical Center	41.2	11.8	5.9	17.6	23.5
Baltimore Washington Medical Center	39.5	6.7	36.8	9.4	7.5	Washington County Hospital	35.3	23.5	20.6	20.6	0.0

All discharges Prince George's County residents

Source: 2007, 2008 and 2009 inpatient discharge data from HSCRC and DCHA

Sample size is 286,407; excludes the 5,683 discharges with missing data on payer

(Prince George’s County, Montgomery County and D.C.), it is clear that residents who have private insurance are utilizing hospitals outside the County, while residents who have Medicaid, Medicare or who are uninsured predominate in the County hospitals. The findings for specific hospitals within Prince George’s County reflect the undue burden of Medicaid patients on

Dimensions Healthcare hospitals compared with other County hospitals. The data also reflect findings from previous studies that residents who have the capacity to pay for care are using services outside the County (Lurie, Harris, Shih, Ruder, Price, Martin et al., 2009).

In order to assess what hospital/health care and community population elements of the health care system

can affect health outcomes, such as those identified as having high impact if improved, we focused on the proportion of hospital encounters that fall within the ambulatory care-sensitive condition category. In this manner we explored the association of selected elements with hospital discharges.

PATTERNS OF HOSPITAL USE BY PRINCE GEORGE’S COUNTY RESIDENTS FOR SELECTED AMBULATORY CARE-SENSITIVE CONDITIONS

Prince George’s County resident discharges for each ambulatory care-sensitive PQI measure were detailed in Table 2. Diabetes-short term complications admissions were 0.5 percent, or 1,355 discharges, and diabetes long-term complications admissions were 0.9 percent (2,474 of discharges). COPD or asthma in older adults was the primary diagnosis for 4,069 discharges or 1.4 percent of County resident’s discharges. Hypertension was the primary diagnosis for 0.6 percent of discharges (1,816), heart failure for 2.8 percent (8,097), angina for 0.4 percent (1,143), uncontrolled diabetes for 0.2 percent (527) and asthma in younger adults for 0.2 percent or 492 discharges. Any ambulatory care-sensitive condition indicated by one of the above PQIs was also included as a variable; this indicator accounted for 7.0 percent (19,973) of discharges. By looking at this subset ambulatory care-sensitive conditions and learning about associations with community population and health care elements, we can begin to estimate the capacity of the health care system to make a difference in the County’s health status and health outcomes.

The community population and hospital characteristics elements we selected are ones that have been

highlighted in the literature as contributing to improved health outcomes. These are listed in Table 6.

We looked at these elements and associations at the ZIP code level and at the level of the Public Use Microdata Areas (PUMAs). This level of detail was undertaken to contribute to decision making for the regional health care system.

The distribution of these discharges at the ZIP code level is detailed in Table 7. Some ZIP codes with few discharges have PQI indicator rates of zero. ZIP code 20601, for example, only had 50 total discharges over the three-year period, so PQI admissions rates are zero for most indicators. There is significant variation in PQI admissions rates across ZIP codes. The rates show that heart failure, diabetes and asthma are quite prevalent in the community and are important to address.

The definitions, means and standard errors of the dependent variables included in the econometric model are described in Table 8. The mean PQI ratio aggregated across all the ZIP codes was 21.2 (standard deviation of 10.6). This can be interpreted as on average 21 discharges per 1,000 total population of Prince George’s County residents were for any of these ambulatory care-sensitive conditions related

TABLE 6 COMMUNITY AND HEALTH SYSTEM CHARACTERISTICS

Community Population Elements

Age

Sex

Race/Ethnicity

Poverty Level

Health Care Elements

Primary Care Physician-to-Population Ratio

Nurse Practitioner-to-Population Ratio

Physician Assistant-to-Population Ratio

Presence of Safety Net Clinic

to a chronic condition. The readmission rates aggregated at the ZIP code level (available only for fiscal year 2008 and 2009 data) were also used as a dependent variable; readmissions averaged 10 percent for hospitalized Prince George’s County residents.

Descriptive statistics for the explanatory variables are also included in Table 8. Age, sex and proportion of the ZIP code population that is minority were controlled for in the analyses, following Epstein (2001). The aggregate age

TABLE 7 ZIP CODE-LEVEL DATA FOR OUTCOME VARIABLES

ZIP Code	Short-term Diabetes	Long-term Diabetes	COPD & Asthma	Hypertension	Heart Failure	Angina	Uncontrolled Diabetes	Asthma Younger Adults
20601	0.00	0.04	0.17	0.00	0.00	0.00	0.00	0.04
20607	1.33	1.12	3.37	1.94	7.24	1.84	0.20	0.61
20608	0.00	7.62	7.62	1.09	8.71	5.44	0.00	1.09
20613	2.45	2.19	9.87	3.29	11.30	1.60	0.17	0.17
20623	1.46	0.73	1.82	0.73	7.65	2.55	0.36	0.00
20705	1.18	1.76	2.71	1.07	5.73	0.73	0.50	0.42
20706	1.55	3.54	5.38	1.96	9.43	1.01	0.67	0.62
20707	1.52	2.16	4.50	1.36	9.42	1.14	0.51	0.32
20708	1.64	1.76	3.95	1.37	7.87	1.33	0.55	0.39
20710	2.36	2.25	5.69	2.36	9.13	0.97	1.07	1.50
20712	1.88	2.55	2.33	1.44	9.41	1.44	0.55	0.55
20715	0.49	1.21	4.36	1.02	5.88	1.02	0.11	0.23
20716	0.82	3.51	2.21	1.49	5.63	0.67	0.34	0.10
20720	0.81	1.14	2.71	0.76	5.33	0.62	0.24	0.29
20721	0.85	1.81	2.04	1.55	6.51	0.70	0.22	0.52
20722	0.88	3.15	9.28	1.93	12.61	1.58	0.70	0.70
20735	2.23	4.94	7.71	3.08	14.34	2.09	0.90	0.76
20737	1.74	2.47	3.96	2.18	6.96	1.21	0.58	0.82
20740	0.73	1.42	2.26	0.38	3.44	0.63	0.07	0.17
20742	0.13	0.00	0.00	0.00	0.13	0.13	0.00	0.00
20743	2.46	6.71	9.45	4.53	20.35	2.05	1.11	1.73
20744	1.99	3.27	4.55	2.25	12.20	1.75	0.75	0.47
20745	2.50	3.97	5.20	2.85	13.78	1.51	0.74	0.60
20746	1.56	3.19	6.35	3.16	11.65	2.01	0.59	0.73
20747	2.15	3.55	6.77	2.57	13.08	1.50	1.10	1.25
20748	1.88	3.51	7.24	3.04	12.84	2.29	0.90	0.90
20762	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.00
20769	0.61	1.21	3.33	0.45	6.97	1.82	0.45	0.76
20770	1.11	2.18	3.73	1.03	3.97	1.19	0.52	0.24
20772	1.55	2.21	3.94	1.97	8.35	1.48	0.70	0.21
20774	1.60	2.49	3.84	2.00	6.63	1.16	0.63	0.28
20781	0.87	2.45	4.63	2.36	7.87	1.22	0.87	0.17
20782	1.15	2.59	3.73	2.49	8.64	1.47	0.56	0.49
20783	1.26	2.45	2.94	1.62	6.59	0.88	0.36	0.34
20784	1.77	3.09	4.41	2.31	9.20	1.02	0.65	0.71
20785	2.85	4.85	6.73	4.17	14.15	1.94	1.00	1.08

Source: 2007, 2008 and 2009 discharge data from HSCRC and DCHA, rates per 1,000 County residents

Total sample size= 292,013

TABLE 8 DEFINITIONS AND MEANS OF MODEL VARIABLES

Variable	Description	Mean	Standard Deviation	
Dependent Variables				
Prevention Quality Indicator (PQI) Proportion	Proportion of discharges (2007-2009) that were ambulatory care-sensitive hospitalizations	0.070	0.256	
PQI ratio	Ratio of discharges that are ambulatory care-sensitive to ZIP code population per 1,000 residents	21.168	10.558	
Readmission rate	ZIP code-level readmissions rate 2008, 2009	0.101	0.054	
Demographic variables				
Age distribution	0-17	Proportion of ZIP code population age 0-17	0.239	0.053
	18-44	Proportion of ZIP code population age 18-44	0.415	0.125
	45-64	Proportion of ZIP code population age 45-64	0.256	0.072
	65+	Proportion of ZIP code population age 65 and older	0.089	0.034
Poverty	Proportion of ZIP code population at or below federal poverty level	0.078	0.041	
Female	Proportion of ZIP code population female	0.515	0.025	
Minority	Proportion of ZIP code population that is non-white, including: black, Hispanic, Asian, American Indian, Native Hawaiian and Pacific Islander, some other race and two or more races	0.798	0.171	
Health Workforce Characteristics				
Licensed physicians	Ratio of licensed physicians in the ZIP code	1.130	1.214	
Board-certified physicians	Ratio of board-certified physicians in the ZIP	0.924	1.035	
Primary care physicians	Ratio of primary care physicians in the ZIP	0.489	0.457	
Adult primary care physicians	Ratio of primary care physicians not including pediatricians in the ZIP code	0.401	0.386	
Nurse practitioners	Ratio of nurse practitioners in the ZIP code	0.241	0.228	
Physician assistants	Ratio of physician assistants in the ZIP code	0.408	0.552	
Safety net clinic	Dichotomous indicator of safety net clinic in ZIP code	0.222	0.421	

Notes: All of the ratios are calculated as per 1,000 County residents.

distribution was categorized by under age 18 (proportion = 0.239), 18 to 44 (proportion = 0.415), 45 to 64 (proportion = 0.256) and the proportion 65 and older (.089); the distribution of these proportions varied across ZIP codes. Results from preliminary analyses showed that only the proportion of the population over 65 was statistically significant, so we used an indicator of over 65 compared to under 65. On

average, 52 percent of the population was female. The race distribution of the population was indicated by a variable reflecting the proportion of the population in each ZIP code that was classified as minority. Whites were the referent group, and minority included black, Hispanic, Asian, American Indian, Native Hawaiian and Pacific Islander, some other race and two or more races. Roughly 80 percent of Prince George's

County residents were minorities. On average, 7 percent of the residents were at or below federal poverty level; this ranges from 2 percent in some ZIP codes to a maximum of 18 percent.

Health workforce characteristics measured at the ZIP code level were included as explanatory variables. The ratio of primary care physicians per 1,000 County residents (0.401) was a key explanatory variable. The ratio of

TABLE 9 ZIP CODE-LEVEL DATA FOR KEY OUTCOME VARIABLES

ZIP Code	Any PQI	Readmission Rate 2008	Readmission Rate 2009	ZIP Code	Any PQI	Readmission Rate 2008	Readmission Rate 2009
20601	0.25	0.14	0.00	20740	9.17	0.07	0.07
20607	17.65	0.13	0.13	20742	0.38	0.04	0.00
20608	33.73	0.11	0.08	20743	48.32	0.07	0.07
20613	31.37	0.10	0.12	20744	27.27	0.17	0.14
20623	15.31	0.09	0.11	20745	31.14	0.15	0.14
20705	14.09	0.03	0.04	20746	29.27	0.11	0.08
20706	24.19	0.11	0.10	20747	32.03	0.11	0.09
20707	20.96	0.04	0.05	20748	32.56	0.11	0.12
20708	18.95	0.05	0.04	20762	0.67	0.07	0.33
20710	25.34	0.07	0.05	20769	15.60	0.12	0.08
20712	20.26	0.05	0.03	20770	14.14	0.09	0.08
20715	14.37	0.12	0.11	20772	20.48	0.11	0.09
20716	14.82	0.10	0.09	20774	18.76	0.08	0.07
20720	11.74	0.09	0.10	20781	20.54	0.06	0.05
20721	14.32	0.12	0.09	20782	21.24	0.03	0.04
20722	30.99	0.11	0.07	20783	16.50	0.03	0.02
20735	36.05	0.17	0.14	20784	23.23	0.09	0.08
20737	19.87	0.06	0.06	20785	36.49	0.08	0.06

Source: 2007, 2008 and 2009 discharge data from HSCRC and DCHA. Readmission rate data are ZIP code-level data received from HSCRC and DCHA. Total sample size= 292,013

nurse practitioners per 1,000 population (mean of 0.241) and physician assistants (mean of 0.343) were also included as a key explanatory variable reflecting work force supply. Presence of a safety net clinic in the ZIP code was included as a dichotomous indicator variable. The proportion of ZIP codes with a safety net clinic was 0.22.

ZIP code-level details on each of these outcome variables (any PQI and readmission rates) are tabulated in Table 9.

WHAT WE LEARNED ABOUT ASSOCIATIONS USING HOSPITAL DISCHARGES

We examined associations of community population and health care elements with each ambulatory care-sensitive condition hospital encounter. The results from the ordinary least squares regressions and robust regressions are presented in Appendices B through J, including the estimated coefficients, standard errors, t-statistics, P values and elasticities. The elasticity is calculated for ease of interpretation. It represents the

percentage change in the mean rate of the dependent variable (ambulatory care-sensitive PQI) resulting from a 10 percent increase in the mean of each independent variable. For example, the elasticity for the minority variable is calculated as the mean of the minority variable (.798) divided by the mean of the outcome variable (any PQI, 21.168). This dividend is multiplied by the β coefficient for minority ($\beta=29.6$) and then by 10 to determine the effect of a 10 percent increase in the means ($\epsilon=29.2 * (.798/21.2) * 10 = 11.01$). A 10 percent increase in the proportion of the population that is non-white was

TABLE 10 AGGREGATE RESULTS: SIGNIFICANCE OF ASSOCIATIONS FOR SELECTED AMBULATORY CARE-SENSITIVE VISITS

Variable	Short-term Diabetes	Long-term Diabetes	COPD/ Asthma	Hyper-tension	Heart Failure	Angina	Uncontrolled Diabetes	Asthma Young Adults	Any Ambulatory Care
Age, Race and Sex Distribution									
Female							+		
Age 65+		+	+		+	+		+	+
Minority	+	+		+	+		+	+	+
Poverty									
Supply Characteristics									
Safety net clinic									
Primary care physician ratio									
Nurse practitioner ratio		-		-			-	-	-
Physician assistant ratio									

Notes: The direction of the relationship is indicated by a +/- sign if the relationship is significant at the $p < .05$ level.

TABLE 11 INTERPRETATION OF ELASTICITY FOR ANY AMBULATORY CARE-SENSITIVE DISCHARGE MODEL

Element/Variable	Elasticity	Implication	Improvement (+) Decline (-)
Population 65+	6.4	A 10 percent increase in the population 65+ is associated an increase in the ambulatory care-sensitive hospital discharge ratio of 6.4 percent.	-
Race/Ethnicity	11.0	A 10 percent increase in the proportion of the population that is non-white is associated with an increase in the ambulatory sensitive hospital discharge ratio of 11.0 percent.	-
Nurse practitioner to population ratio	-1.60	A 10 percent increase in the ratio of nurse practitioners to population is associated with a decrease in the ambulatory care-sensitive hospital discharge ratio of 1.6 percent.	+

associated with an 11 percent increase in the rate of ambulatory care-sensitive discharges. The robust regression coefficients are compatible for the ordinary least squares regression coefficients for the variables that are statistically significant in the model.

Specific details on the estimates from the individual PQI admissions ratios are presented in an aggregate format in Table 10, an example of interpretation is included in Table 11, and all of the coefficients and elasticities

are presented in more detail in the Appendices B through J. These include the results for short-term diabetes, long-term diabetes, COPD and asthma, hypertension, heart failure, angina, uncontrolled diabetes and asthma in younger adults. The consistent findings across these models are that age and gender distribution across the ZIP codes are not persistently significantly associated with the ambulatory sensitive discharges, although proportion of population over 65 is positively associated

with these discharges in some models. The proportion of the population that is minority is positively associated with ambulatory care-sensitive discharges in most of the models; increasing the proportion of the population that is non-white associated with higher ratios of ambulatory care-sensitive discharges.

Perhaps surprising, the primary care physician ratio per 1,000 residents and physician assistant ratio are not significant in any of these models. This

TABLE 12 LINEAR REGRESSION MODEL RESULTS READMISSIONS (PERCENTAGE)

Variable	Coefficient	Standard Error	t-statistic	P Value
Age, Race and Sex Distribution				
Female	0.17	0.43	0.40	0.69
Age 65+	-0.28	0.26	-1.09	0.29
Minority	-0.02	0.06	-0.38	0.71
Poverty	-1.02	0.26	-3.86	0.01
Supply Characteristics				
Safety net clinic	0.02	0.02	1.17	0.25
Primary care physician ratio	0.00	0.02	0.20	0.85
Nurse practitioner ratio	-0.11	0.05	-2.46	0.02
Physician assistant ratio	-0.01	0.02	-0.34	0.74
Constant	0.15	0.20	0.76	0.45

Number of observations (ZIP codes): 36

R² = 0.4373, Adjusted R² = 0.2706

*Readmissions is the percent of discharges that resulted in a readmission within 30 days for each ZIP code.

ROBUST REGRESSION RESULTS

Variable	Coefficient	Standard Error	t-statistic	P Value
Age, Race and Sex Distribution				
Female	0.25	0.37	0.67	0.51
Age 65+	0.27	0.25	1.08	0.29
Minority	0.02	0.05	0.31	0.76
Poverty	-0.49	0.25	-1.92	0.07
Supply Characteristics				
Safety net clinic	0.01	0.02	0.78	0.44
Primary care physician ratio	0.01	0.02	0.38	0.71
Nurse practitioner ratio	-0.03	0.04	-0.65	0.52
Physician assistant ratio	-0.01	0.02	-0.46	0.65
Constant	-0.03	0.17	-0.18	0.86

Number of observations (ZIP codes): 35

*Elasticity is the percentage change in the dependent variable associated with a 10 percent increase in the independent variable.

finding is consistent with findings using discharge data for all of the state of Virginia (Epstein, 2001). However, the ratio of nurse practitioners per 1,000 residents is statistically significantly associated with fewer ambulatory care-sensitive discharges per 1,000 residents, highlighting the importance of physician extenders in mitigating discharges for conditions that could be avoided with access to primary care in the community.

WHAT WE LEARNED ABOUT ASSOCIATIONS USING 30-DAY HOSPITAL READMISSIONS

In order to get an additional measure of all ambulatory care-sensitive conditions we looked at 30-day readmissions for County residents (Table 12). Hospital readmissions are an important measure of quality of health care highlighted in the Patient Protection and Affordable Care Act of 2010. Up to 50 percent of readmissions have been found to be preventable (Benbasat & Taragin 2000) and they may reflect quality of care in the hospital and in the community.

These readmissions were aggregated as a proportion of admissions for each ZIP code. Similar to the other models, the only health care workforce supply variable that was significantly associated with lower readmissions is the nurse practitioner ratio variable. However, this relationship was not significant in the robust regression models, so it should be interpreted with caution.

GENERAL PROJECTIONS FOR HOSPITAL DISCHARGES FOR 2017 AND 2022

Projections for Prince George’s County residents’ use of Prince George’s County hospitals for 2017 and 2022

and a more general model for total discharges for all County residents were estimated. All five hospitals in Prince George's County are privately owned. Four of the five are non-profit; the only for-profit hospital is Southern Maryland Hospital. Analyses conducted for other localities interested in projecting hospital demand were used to model projections (Stewart, Tate, Finlayson, et al., 2002; Moscovitch, 2005; Minnesota Department of Health, 2006). These are simple, unadjusted projections that only account for population growth. Our methods closely follow those used in Minnesota to predict the impact of a new hospital in Cass County (Minnesota Department of Health, 2006). Several key assumptions were made for the hospital discharge projections, similar to those in the Minnesota analysis. The first assumption was that hospitalizations by age groups would be the same as they were in 2009. To predict future changes in hospitalization rates, we removed the two lowest and two highest ZIP code growth rates, modeling slower or faster growth rates in the ZIP codes that account for 75 percent of each hospital's discharges. We assumed that past growth rates (population change between 2000 and 2010) would hold true for the period 2012-2022. We assumed that the group of ZIP codes that account for 75 percent of each hospital's discharges would remain the same. We also assume that utilization behaviors and technology improvements have the same effect in the future as they had on past discharges. The data supplied by HSCRC and DCHA were only for Prince George's County residents.

There was no clear pattern in discharges for Prince George's County residents using Prince George's County hospitals over the 2007 to 2009 fiscal year period. Fiscal year 2008 discharges were somewhat lower than for the 2007 fiscal year period, except for

Laurel Regional Hospital and Southern Maryland Hospital, which were slightly higher. In contrast, some hospitals saw fiscal year 2009 discharges increase compared to the previous fiscal year (Doctors Community Hospital, Fort Washington Medical Center and Prince George's Hospital Center), but fiscal year 2009 discharges were lower than fiscal year 2007 discharges for Fort Washington Medical Center, Laurel Regional Hospital and Prince George's Hospital Center. Since no clear trends in growth were identified, the projections were based off of the fiscal year 2009 data.

Projection results for inpatient growth for Prince George's County hospitals are shown in Table 13. As described in the methods section, population growth rates between 2000 and 2010 U.S. Census were calculated for the ZIP codes that account for 75 percent of each hospital's discharges. We calculated the average growth rate for these ZIP codes for the actual projection. We then re-estimated an upper bound for the average ZIP code growth by removing the two ZIP codes with the lowest growth rates, and the lower bound by removing the two ZIP codes with the highest growth rates. These projections are presented in the lower/upper bound row. Projections were calculated for both total discharges as well as for the total number of inpatient days.

There was significant variation in both the population of these ZIP codes as well as in their growth rates. Some ZIP codes experienced population decreases over the 10-year period, whereas other ZIP codes with small population totals experienced growth rates as high as 43 percent. The growth in ZIP codes accounting for 75 percent of Doctors Community Hospital's (190 beds) discharges ranged between -7 percent and 43 percent. The average growth rate used for the projection was 11.3 percent, with a lower bound of 6.1

percent and an upper bound of 15.2 percent. Fort Washington Hospital (37 beds) had 45 percent of its discharges coming from one ZIP code, 20744. Three ZIP codes (20744, 20745, and 20748) accounted for 75 percent of its discharges. The average population growth in these ZIP codes was 1.7 percent. Since there were only three ZIP codes in the 75 percent of discharges, we estimated the lower bound using the lowest ZIP code growth rate (-3 percent) and the upper bound using the ZIP with the highest growth rate (5 percent). One ZIP code (20707) accounted for 30 percent of the discharges from Laurel Regional Hospital. This ZIP code had a 23 percent population growth rate between 2000 and 2010. Three ZIP codes accounted for 65 percent of visits and seven ZIP codes accounted for 75 percent of discharges. The average ZIP code-population growth rate was 9.1 percent, the lower bound was estimated at 4.4 percent and the upper bound at 13.8 percent. Prince George's Hospital Center had two ZIP codes each account for 15 percent of discharges (20743, 20785) and both of those ZIP codes had negative population growth. Overall, 12 ZIP codes accounted for 75 percent of their discharges. The average population growth for these ZIP codes was 5.6 percent, the lower bound was estimated at 2 percent and the upper bound at 7.8 percent. One ZIP code (20735) accounted for 21.6 percent of Southern Maryland Hospital's discharges, and six ZIP codes accounted for 75 percent of their discharges. The average population growth rate was 4.6 percent, the lower bound was at less than 1 percent and the upper bound at 7.8 percent.

The projected increases in discharges are relatively modest (Table 13). Discharges from Doctors Community Hospital are projected to be 11,194 in 2017 and 11,790 in 2022. The estimated range for the 2022 projections includes a lower bound of 11,245

TABLE 13 PROJECTIONS FOR 2017 AND 2022 DISCHARGES FOR PRINCE GEORGE'S COUNTY HOSPITALS

Hospital		2017 projected	2022 projected
Doctors Community Hospital	# discharges	11,194	11,790
	(lower, upper bound)	(10,921, 11,403)	(11,245, 12,209)
	# inpatient days	46,149	48,606
	(lower, upper bound)	(45,024, 47,012)	(46,357, 50,332)
Fort Washington Medical Center	# discharges	2,262	2,280
	(lower, upper bound)	(2,209, 2,299)	(2,175, 2,355)
	# inpatient days	8,573	8,644
	(lower, upper bound)	(8,375, 8,715)	(8,247, 8,927)
Laurel Regional Hospital	# discharges	4,528	4,726
	(lower, upper bound)	(4,425, 4,629)	(4,520, 4,928)
	# inpatient days	18,591	19,403
	(lower, upper bound)	(18,169, 19,005)	(18,560, 20,231)
Prince George's Hospital Center	# discharges	14,206	14,598
	(lower, upper bound)	(13,953, 14,354)	(14,091, 14,893)
	# inpatient days	62,600	64,325
	(lower, upper bound)	(61,484, 63,249)	(62,093, 65,623)
Southern Maryland Hospital	# discharges	14,148	14,470
	(lower, upper bound)	(13,877, 14,361)	(13,929, 14,896)
	# inpatient days	52,250	53,442
	(lower, upper bound)	(51,251, 53,038)	(51,442, 55,016)

2017 and 2022 projections use 2009 data

Includes data on all discharges, even those missing data on primary payer, etc.

and an upper bound of 12,209. The number of inpatient days is projected to be 48,606 in 2022. Discharges from Fort Washington Medical Center are projected to be 2,262 in 2017 (range 2,209–2,299) and 2,280 in 2022 (range 2,175–2,355). Inpatient days are projected to total 8,573 (range 8,375–8,715) in 2017 and 8,644 (range 8,247–8,927) in 2022. These numbers are relatively low relative to the 2007 and 2008 discharges, since they are

based off of 2009 figures, which were lower than the two previous years. Laurel Regional Hospital discharges are projected to be 4,528 in 2017 (range 4,425–4,629) and 4,726 in 2022 (range 4,520–4,928). Total inpatient days in 2017 are projected to be 18,591 (range 18,169–19,005) and 19,403 in 2022 (range 18,560–20,231). Prince George's Hospital Center discharges are projected to be 14,206 in 2017 (range 13,953–14,354) and 14,598 in

2022 (range 14,091–14,893). Inpatient days are estimated to be 62,600 in 2017 (range 61,484–63,249) and in 2022, 64,325 (range 62,093–65,623). Southern Maryland Hospital discharges are projected to be 14,148 in 2017 (range 13,877–14,361) and 14,470 in 2022 (range 13,929–14,896). Total inpatient days in 2017 are projected to be 52,250 (range 51,251–53,038), and 53,442 in 2022 (range 51,442–55,015).

For comparison with national statistics, we took the average discharge ratio per 1,000 Prince George's County residents for 2007, 2008 and 2009. The average annual discharge ratio for Prince George's County was 101.8 per 1,000 residents. This is slightly lower than the national average of 116.9 per 1,000 population in 2006, 117.9 per 1,000 population in 2008 and 118.1 in 2009 (CDC 2008, CDC 2009). (The discharge data used in this analysis do not include data on the non-civilian population, which may explain some of the undercount.)

The coefficients from the regression model of total discharges by ZIP code per 1,000 County residents are reported in Table 14. This allows us to understand the associations of community and health care system characteristics associated with total discharge ratios, and gives us a projection we can use in modeling future discharge ratios. The predicted discharge ratio from the model is 101.9 discharges per 1,000 County residents. This ratio can be increased or reduced based on beliefs about changes in the health care system and community in the future.

For overall discharge ratios, the proportion of the population over 65, the proportion of the population that is minority, and the proportion of the population living at or below federal poverty level are all associated with more hospital discharges per 1,000 residents in the ZIP code. None of the health care workforce supply variables

were significant in this model. This finding suggests that presence of a safety net clinic, and supply of primary care physicians, nurse practitioners and physician assistants are not significantly associated with discharges for Prince George’s County residents. The outcome measured is all discharges, including injury and other acute conditions, which may mask the types of visits that truly would be impacted by local workforce supply.

Given the econometric model findings and the articulated intention of the planned regional medical center with an ambulatory primary care network, further estimates could be introduced to modify these projections. The following estimates could support additional health improvements.

1. Changes in health care workforce supply. The goal of the Governor’s Workforce Investment Board is to “increase workforce capacity by 10-25 percent over the next 10 years.” Given our econometric model findings this could reflect a decline in hospital use with the right mix of primary care workers and demonstrate an improvement in health outcomes for the County.
2. The Maryland Health Benefit Exchange plans to be launched in 2014 and will extend insurance coverage to the uninsured and underinsured. Given the payer profile mix of County residents, this could be another factor that would contribute to improved health outcomes. The Maryland State Health Improvement Process estimates 17.2 percent of County residents do not have insurance.

TABLE 14 LINEAR REGRESSION MODEL RESULTS DISCHARGE RATIO PER 1,000 RESIDENTS

Variable	Coefficient	Standard Error	t-statistic	P Value	Elasticity*
Age, Race and Sex Distribution					
Female	-309.82	550.98	-0.56	0.58	-5.05
Age 65+	1864.30	327.61	5.69	0.01	5.25
Minority	323.57	72.92	4.44	0.01	8.18
Poverty	742.05	337.11	2.20	0.04	1.83
Supply Characteristics					
Safety net clinic	-10.57	25.95	-0.41	0.69	-0.07
Primary care physician ratio	3.08	30.96	0.10	0.92	0.05
Nurse practitioner ratio	-19.88	58.03	-0.34	0.74	-0.15
Physician assistant ratio	30.53	28.09	1.09	0.29	0.39
Constant	-19.31	253.54	-0.08	0.94	

Number of observations (ZIP codes): 36
 R2 = 0.7707, Adjusted R2 = 0.7028

*Elasticity is the percentage change in the dependent variable associated with a 10 percent increase in the independent variable.

ROBUST REGRESSION RESULTS

Variable	Coefficient	Standard Error	t-statistic	P Value	Elasticity*
Age, Race and Sex Distribution					
Female	142.99	550.98	0.30	0.69	2.33
Age 65+	1804.10	283.72	6.36	0.01	5.09
Minority	228.28	63.15	3.61	0.01	5.78
Poverty	881.64	291.95	3.02	0.01	2.18
Supply Characteristics					
Safety net clinic	-12.07	22.48	-0.54	0.60	-0.08
Primary care physician ratio	-10.77	26.81	-0.40	0.69	0.17
Nurse practitioner ratio	-5.20	50.26	-0.10	0.92	-0.04
Physician assistant ratio	24.17	24.33	0.99	0.33	0.31
Constant	-168.04	219.57	-0.77	0.45	

Number of observations (ZIP codes): 36

*Elasticity is the percentage change in the dependent variable associated with a 10 percent increase in the independent variable

3. The Maryland State Health Improvement Process and the Prince George’s County Health Improvement Plan emphasize target	improvements in all measures aimed at 2014. Most of these measures for chronic conditions reflect a 5 percent improvement.	The efforts planned to achieve these improvements also could contribute to further improvements in health.
--	--	--

PROJECTING FUTURE DEMAND

<p>Demand for inpatient care is sensitive to a variety of factors, including access to primary care, the economy, socio-demographic characteristics, health insurance coverage and technology. In Prince George’s County, reputation, perception of quality of care and geographic proximity matter as well. All of these factors will play a role in determining inpatient demand in the</p>	<p>future. Incorporating data and information from the KPMG market analysis, we can make assumptions about future demand for inpatient care in Prince George’s County. These assumptions also factor in the expected future increases in primary care workforce, spread of insurance via the benefit exchanges and successful outcomes from the state and County health</p>	<p>improvement plans. Taken together with declining trends for inpatient utilization over the last several decades, it seems reasonable to expect a 1 percent per year decline in inpatient discharges per 1,000 residents. For Prince George’s County, this means that in the next decade, the discharge ratio is expected to decrease to below 100 discharges per 1,000 residents.</p>
---	---	--

PUBLIC USE MICRODATA AREA (PUMA) RESULTS

<p>Public Use Microdata Areas (PUMAs) can be used to identify broader geographic variation in outcomes at a level that aggregates across ZIP codes. Descriptive statistics at the PUMA level are presented in Table 15. These descriptive statistics are unadjusted, meaning they are only taking ZIP code population into account. They do not account for the distribution of age, minorities, sex or income in the PUMAs (see results in the following table for these adjusted models).</p> <p>There are several striking findings when the data are tabulated at this level. PUMAs 1 and 5, and in many cases 2, are consistently lower than the average across these measures. Specifically, the lowest ratios are for: short-term diabetes in PUMAs 1 and 5, long-term diabetes in PUMAs 2 and 5, COPD/asthma in PUMAs 1 and 5, hypertension in PUMAs 2 and 5, heart failure in PUMAs 1 and 5, angina in PUMAs 1 and 5, uncontrolled diabetes</p>	<p>in PUMAs 1 and 5, asthma in younger adults in PUMAs 1 and 2 (and also relatively low in 5) and any PQI in PUMAs 1 and 5. Total discharge ratios and 30-day readmissions are lowest in PUMAs 1 and 2. Essentially, PUMA 5 has lower ratios than the other PUMAs across all of the PQIs. The PUMAs with the highest ratios of ambulatory care-sensitive discharges include PUMA 7 for every measure, and PUMA 4 for every measure except uncontrolled diabetes and 30-day readmissions.</p> <p>Moving beyond descriptive statistics, analysis including PUMA designation as an independent variable was conducted to isolate differences in types of discharges. These models controlled for the demographic and local health care workforce variables included in the previous models. The PUMA analyses are reported in Table 16. Presenting the results in one table rather than numerous tables allows us to see which PUMAs have higher rates of</p>	<p>ambulatory care-sensitive discharges, readmissions and total discharges.</p> <p>All of the results are relative to PUMA 5, a PUMA chosen because of its central location outside of the Beltway. PUMA 5 population is higher-income, gaining population and majority black. PUMA 1, a lower-income, losing population and growing Hispanic area, is not significantly different from PUMA 5 on any of the outcome measures once demographic and health workforce characteristics are included in the model. PUMA 2, a higher-income, gaining population, majority black area, is similar in discharges to PUMA 5 but does have statistically significantly lower 30-day readmissions than PUMA 5. PUMA 3, which is lower-income, stable population, growing Hispanic, differs significantly on several measures from PUMA 5. PUMA 3 has a higher rate of discharges for COPD/asthma in older adults, heart failure and any ambulatory</p>
--	--	--

care-sensitive discharge. PUMA 4, a lower-income, losing population and majority black area, has a higher discharge ratio for COPD/asthma, hypertension, heart failure, asthma in younger adults and any ambulatory care-sensitive discharge relative to PUMA 5. PUMA 6, a higher-income, gaining population, majority black area, has a higher ratio of COPD/asthma, heart failure, angina and any ambulatory care-sensitive discharge than PUMA 5. PUMA 7, a lower-income, losing population and majority black area, has higher ratios of heart failure and any ambulatory care-sensitive discharge than PUMA 5.

There are limitations to using hospital discharge data for statistical analyses (Schoenman, Sutton, Elixhauser & Love, 2007). The data provided by HSCRC and DHA had several limitations. Some observations had missing data and in some cases those observations had to be excluded (for example, those discharges missing the hospital name). The data did not include a unique identifier, so readmissions could not be directly identified in the data. The data set received did not have procedure codes, which are useful in determining the discharges to use for some of the PQIs. More than 70,000 discharges did not have data on the All Patient Refined Diagnosis Related Groups (APR-DRGs), a system of classifying hospital discharges. APR-DRGs are grouped using ICD-9 codes as well as other discharge level data. This was not a major limitation, as using ICD-9 codes and AHRQ's PQIs are commonly adopted strategies in the literature. In fact, an advantage to using PQIs is that they take the population size into consideration. However, PQIs are traditionally measured at the County level. This within-County analysis adopted the same methodology and applied it to the ZIP code level rather than the County level. The ZIP code-level of analysis is also a limitation, as there

TABLE 15 PUMA LEVEL OUTCOME RATIOS PER 1,000 RESIDENTS

Outcome Measure	PUMA 1	PUMA 2	PUMA 3	PUMA 4	PUMA 5	PUMA 6	PUMA 7
Short-term Diabetes	1.04	1.37	1.38	2.49	0.96	1.22	1.98
Long-term Diabetes	2.15	1.96	2.28	5.02	2.13	2.46	3.56
COPD/Asthma	2.98	3.72	4.33	7.65	3.41	4.34	6.26
Hypertension	1.50	1.21	1.80	3.76	1.32	1.59	3.01
Heart Failure	6.22	6.75	7.90	15.86	6.62	7.79	12.76
Angina	0.99	1.10	1.08	1.83	1.00	1.86	1.94
Uncontrolled Diabetes	0.33	0.52	0.63	1.07	0.38	0.37	0.74
Asthma Younger Adults	0.33	0.34	0.64	1.36	0.40	0.37	0.73
Any PQI	15.64	17.03	20.09	38.94	16.26	20.31	30.99
30-day Readmissions	0.05	0.06	0.07	0.09	0.11	0.15	0.13
Total Discharge Ratio (aggregate 2007, 2008 and 2009 data)	280.64	310.37	312.57	431.48	286.89	259.74	362.67

Source: HSCRC and DCHA discharge data for 2007, 2008 and 2009

TABLE 16 LINEAR REGRESSION RESULTS: PUMA ASSOCIATIONS

Outcome Measure	PUMA 1	PUMA 2	PUMA 3	PUMA 4	PUMA 6	PUMA 7
Short-term Diabetes						
Long-term Diabetes						
COPD/Asthma			+	+	+	
Hypertension				+		
Heart Failure			+	+	+	+
Angina					+	
Uncontrolled Diabetes						
Asthma Younger Adults				+		
Any PQI			+	+	+	+
Total Discharge Ratio						
30-day Readmissions			-			

Source: Relationships from models estimating the association between Public Use Microdata Areas (PUMAs) and ratios of ambulatory care-sensitive discharges, readmissions and total discharges. The relationships are relative to PUMA 5. Since the estimated coefficients themselves do not have meaningful interpretations, the tables include an indicator of the sign of the coefficient if the relationship is statistically significant at the $p=0.05$ level.

are only 36 ZIP codes in Prince George's County. The regression models were parsimonious to maximize degrees of freedom.

The health care workforce findings in this study need careful follow-up. The data used for this study include licensed primary care practitioners and

their reported practice locations and do not reflect their actual practice configurations and capacity.

DISCUSSION

This model provided a ZIP code-level analysis describing the relationship between local health system factors and Prince George's County residents' inpatient utilization. The majority of Prince George's residents seek hospital care outside of the County borders, including D.C. and Montgomery County hospitals. The payer mix for these discharges varies significantly across hospitals. Discharges from the D.C. and Montgomery County hospitals are much more likely to have private insurance as the primary payer, whereas Prince George's County hospitals have the highest proportion of visits paid for by public sources of coverage including Medicaid and Medicare. There were no consistent differences in trends in utilization between 2007 and 2009.

Ambulatory care-sensitive discharges, measured using AHRQ's Prevention Quality Indicators (PQIs), were analyzed for each ZIP code in Prince George's County. The ZIP code-level factors relating to these discharges were modeled using ordinary least squares and robust regression. The results consistently show that the ratio of nurse practitioners to 1,000 residents in a ZIP code is negatively associated with discharges for ambulatory care-sensitive admissions and the proportion of the population that is minority is associated with increases in these admissions. Physicians, physician assistants and presence of a safety net clinic in the ZIP code were not related to the ambulatory care-sensitive admissions in the model. These findings also hold in the readmissions

model. Although this finding has been confirmed in some of the previous literature, it is an important dynamic to investigate within Prince George's County.

Several recommendations arise from this analysis. First, review of the patient characteristics and related factors for all County hospital discharges and readmissions, as well as emergency department use is encouraged, not just for Prince George's County residents. This will allow a more comprehensive assessment of the current demand on the health care system in Prince George's County and as a regional resource since the hospitals also provide care to non-County residents.

Second, a group should be convened to critically review these findings in the context of other such studies in the region and to use the model to test other elements of the system. Third, a more specific assessment of the practice characteristics of the primary care workforce should be conducted, with an emphasis on nurse practitioners, in order to understand the specifics and implication of the reported association. It is important to further explore the relationship between nurse practitioners and admissions, including the existing practice models within the hospitals and the community. Adding a nurse practitioner to an inpatient surgery team has been found to improve overall resource use as well as reduce unnecessary emergency department visits by 50 percent (Robles, Slogoff, Ladwig-Scott, et al., 2011). The current analysis does not measure where or

how nurse practitioners are practicing.

Fourth, we encourage investment in an information system that can monitor the interaction and contributions of the elements of the system and report on outcome levels in real time. Fifth, we recommend consideration of site visits to select health systems that have successfully altered to improve health outcomes to obtain additional information and insights.

REFERENCES

- Agency for Healthcare Research and Quality. (2012a). AHRQ Quality Indicators. Retrieved from www.qualityindicators.ahrq.gov.
- Agency for Healthcare Research and Quality. (2012b). Prevention Quality Indicators Overview. Retrieved from www.qualityindicators.ahrq.gov/Modules/pqi_overview.aspx.
- Ansari, Z., Laditka, J. N., & Laditka, S. B. (2006). Access to health care and hospitalization for ambulatory care sensitive conditions. *Medical Care Research and Review: MCRR*, 63(6), 719-741. doi:10.1177/1077558706293637.
- Benbassat, J. & Taragin M. (2000). Hospital readmissions as a measure of quality of health care. *Archives of Internal Medicine*, 160(8),1074-1081. doi:10.1001/archinte.160.8.1074.
- Centers for Disease Control and Prevention. (2008). Number, rate, and average length of stay from short-stay hospitals. Retrieved from www.cdc.gov/nchs/data/nhds/1general/2008gen1_agesecalos.pdf.
- Centers for Disease Control and Prevention. (2009). Number, rate, and average length of stay from short-stay hospitals. Retrieved from www.cdc.gov/nchs/data/nhds/1general/2009gen1_agesecalos.pdf.
- Delia, D. (2003). Distributional issues in the analysis of preventable hospitalizations. *Health Services Research*, 38(6 Pt 2), 1761-1780. doi:10.1111/j.1475-6773.2003.00201.x.
- Epstein, A. J. (2001). The role of public clinics in preventable hospitalizations among vulnerable populations. *Health Services Research*, 36(2), 405-420.
- Krakauer, H., Jacoby, I., Millman, M., & Lukomnik J.E. (1996). Physician impact on hospital admission and on mortality rates in the Medicare population. *Health Services Research*, 31(2), 191-211.
- Laditka, J. N., Laditka, S. B., & Probst, J. C. (2005). More May Be Better: Evidence of a Negative Relationship between Physician Supply and Hospitalization for Ambulatory Care Sensitive Conditions. *Health Services Research*, 40(4), 1148-1166. doi:10.1111/j.1475-6773.2005.00403.x.
- Macinko, J., Starfield, B., & Shi, L. (2007). Quantifying the health benefits of primary care physician supply in the United States. *International Journal of Health Services Research*, 37(1), 111-126.
- Minnesota Department of Health. (2006). *Proposal for a new inpatient facility in Cass County, Minnesota*. Retrieved from www.health.state.mn.us/divs/hpsc/hep/moratorium/cassctylegrpt.pdf.
- Moscovitch, E. (2005). *Massachusetts Community Hospitals—A Comparative Economic Analysis*. Retrieved from www.mcchweb.org/leg_10/research_econimicreport_10_05.pdf.
- Robles, L., Slogoff, M., Ladwig-Scott, E., Zank, D., Larson, M.K., Aranha, G., & Shoup, M. (2011). The addition of a nurse practitioner to an inpatient surgical team results in improved use of resources. *Surgery*, 150(4), 711-717.
- Schoenman, J. A., Sutton, J. P., Elixhauser, A., & Love, D. (2007). Understanding and enhancing the value of hospital discharge data. *Medical Care Research and Review*, 64(4), 449-468. doi:10.1177/1077558707301963.
- Stewart, D. K., Tate, R., Finlayson, G., MacWilliam, L., & Roos, N. (2002). *Projecting hospital bed needs for 2020*. Manitoba Centre for Health Policy. Retrieved from mchp-appserv.cpe.umanitoba.ca/reference/hsp2020.pdf.
- U.S. Census Bureau. (2012). American fact finder. Retrieved from factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

APPENDIX A**SAMPLE SIZE**

Starting Sample Size: 297,117, Analysis sample size: 284,402

Exclusion Criteria	# Observations Dropped
ZIP code 0, 77777 or 99999	171
ZIP code not in Prince George's County	2,522
Hospital location missing	1,725
Sex missing	17
Primary payer missing	5,623
Primary diagnosis data missing	1,988

ZIP codes identified from Prince George's County 2010 Maryland Department of Planning:
http://www.mdp.state.md.us/MSDC/ZIPcode_map/2010/prinzc10.pdf

Post office ZIP codes are mapped to the overlapping residential ZIP code.

APPENDIX B

LINEAR REGRESSION MODEL RESULTS ANY AMBULATORY CARE-SENSITIVE DISCHARGE PER 1,000 RESIDENTS

Variable	Coefficient	Standard Error	t-statistic	P Value	Elasticity*
Age, Race and Sex Distribution					
Female	38.84	56.75	0.68	0.50	9.45
Age 65+	152.49	33.74	4.52	0.01	6.41
Minority	29.21	7.51	3.89	0.01	11.01
Poverty	25.09	34.72	0.72	0.48	0.93
Supply Characteristics					
Safety net clinic	1.34	2.67	0.50	0.62	0.14
Primary care physician ratio	-1.85	3.19	-0.58	0.57	-0.43
Nurse practitioner ratio	-14.08	5.98	-2.35	0.03	-1.60
Physician assistant ratio	3.28	2.89	1.13	0.27	0.63
Constant	-34.74	26.11	-1.33	0.20	

Number of observations (ZIP codes): 36

R² = 0.7489, Adjusted R² = 0.6745

*Elasticity is the percentage change in the dependent variable associated with a 10 percent increase in the independent variable.

ROBUST REGRESSION RESULTS

Variable	Coefficient	Standard Error	t-statistic	P Value	Elasticity*
Age, Race and Sex Distribution					
Female	45.01	59.70	0.75	0.46	10.95
Age 65+	143.85	35.50	4.05	0.01	6.05
Minority	27.60	7.90	3.49	0.01	10.40
Poverty	23.87	36.53	0.65	0.52	0.88
Supply Characteristics					
Safety net clinic	0.23	2.81	0.08	0.94	0.02
Primary care physician ratio	-1.82	3.35	-0.54	0.59	-0.42
Nurse practitioner ratio	-14.31	6.29	-2.27	0.03	-1.63
Physician assistant ratio	3.26	3.04	1.07	0.29	0.63
Constant	-35.54	27.47	-1.29	0.21	

APPENDIX C

LINEAR REGRESSION MODEL RESULTS SHORT-TERM DIABETES

Variable	Coefficient	Standard Error	t-statistic	P Value	Elasticity*
Age, Race and Sex Distribution					
Female	7.63	4.52	1.69	0.10	23.17
Age 65+	-0.28	2.69	-0.10	0.92	-0.15
Minority	2.76	0.60	4.62	0.01	12.98
Poverty	1.26	2.77	0.46	0.65	0.58
Supply Characteristics					
Safety net clinic	0.21	0.21	0.99	0.33	0.27
Primary care physician ratio	-0.34	0.25	-1.33	0.20	-0.98
Nurse practitioner ratio	-0.77	0.48	-1.62	0.12	-1.09
Physician assistant ratio	0.39	0.23	1.69	0.10	0.93
Constant	-4.66	2.08	-2.24	0.03	

Number of observations (ZIP codes): 36

R² = 0.6905, Adjusted R² = 0.5989

*Elasticity is the percentage change in the dependent variable associated with a 10 percent increase in the independent variable.

ROBUST REGRESSION RESULTS

Variable	Coefficient	Standard Error	t-statistic	P Value	Elasticity*
Age, Race and Sex Distribution					
Female	8.08	4.13	1.96	0.06	24.53
Age 65+	-1.42	2.46	-0.58	0.57	-0.75
Minority	3.01	0.55	5.51	0.01	14.16
Poverty	2.10	2.53	0.83	0.41	0.97
Supply Characteristics					
Safety net clinic	-0.04	0.19	-0.21	0.84	-0.05
Primary care physician ratio	-0.24	0.23	-1.05	0.30	-0.68
Nurse practitioner ratio	-0.86	0.44	-1.98	0.06	-1.22
Physician assistant ratio	0.41	0.21	1.95	0.06	0.99
Constant	-5.06	1.90	-2.66	0.01	

Number of observations (ZIP codes): 36

*Elasticity is the percentage change in the dependent variable associated with a 10 percent increase in the independent variable.

APPENDIX D

LINEAR REGRESSION MODEL RESULTS LONG-TERM DIABETES

Variable	Coefficient	Standard Error	t-statistic	P Value	Elasticity*
Age, Race and Sex Distribution					
Female	-0.61	9.78	-0.06	0.95	-2.01
Age 65+	30.16	5.81	5.19	0.01	12.81
Minority	3.01	1.29	2.33	0.03	10.72
Poverty	3.91	5.98	0.65	0.52	
Supply Characteristics					
Safety net clinic	0.13	0.46	0.28	0.78	0.16
Primary care physician ratio	-0.36	0.55	-0.66	0.52	0.53
Nurse practitioner ratio	-2.36	1.03	-2.29	0.03	-1.88
Physician assistant ratio	0.89	0.50	1.78	0.09	1.41
Constant	-2.07	4.50	-0.46	0.65	

Number of observations (ZIP codes): 36

R² = 0.6942, Adjusted R² = 0.6036

*Elasticity is the percentage change in the dependent variable associated with a 10 percent increase in the independent variable.

ROBUST REGRESSION RESULTS

Variable	Coefficient	Standard Error	t-statistic	P Value	Elasticity*
Age, Race and Sex Distribution					
Female	8.42	5.70	1.48	0.15	16.80
Age 65+	9.62	4.35	2.21	0.04	3.32
Minority	3.80	0.77	4.96	0.01	11.75
Poverty	6.60	3.39	1.94	0.06	1.99
Supply Characteristics					
Safety net clinic	0.07	0.26	0.26	0.80	0.06
Primary care physician ratio	-0.12	0.31	-0.39	0.70	-0.23
Nurse practitioner ratio	-1.49	0.59	-2.55	0.02	-1.39
Physician assistant ratio	0.70	0.28	2.47	0.02	1.10
Constant	-6.22	2.63	-2.36	0.03	

Number of observations (ZIP codes): 35

*Elasticity is the percentage change in the dependent variable associated with a 10 percent increase in the independent variable.

APPENDIX E

LINEAR REGRESSION MODEL RESULTS COPD & ASTHMA

Variable	Coefficient	Standard Error	t-statistic	P Value	Elasticity*
Age, Race and Sex Distribution					
Female	8.42	17.69	0.48	0.64	9.83
Age 65+	39.96	10.52	3.80	0.01	8.06
Minority	3.55	2.34	1.52	0.14	6.42
Poverty	8.59	10.82	0.79	0.43	1.52
Supply Characteristics					
Safety net clinic	0.66	0.83	0.79	0.43	0.33
Primary care physician ratio	0.21	0.99	0.21	0.84	0.23
Nurse practitioner ratio	-2.36	1.86	-1.27	0.22	-1.28
Physician assistant ratio	0.14	0.90	0.15	0.88	0.13
Constant	-6.69	8.14	-0.82	0.42	

Number of observations (ZIP codes): 36

 R² = 0.5696, Adjusted R² = 0.4420

*Elasticity is the percentage change in the dependent variable associated with a 10 percent increase in the independent variable.

ROBUST REGRESSION RESULTS

Variable	Coefficient	Standard Error	t-statistic	P Value	Elasticity*
Age, Race and Sex Distribution					
Female	16.45	14.20	1.16	0.26	19.21
Age 65+	32.49	8.45	3.85	0.01	6.55
Minority	3.73	1.88	1.98	0.06	6.75
Poverty	5.30	8.69	0.61	0.55	0.94
Supply Characteristics					
Safety net clinic	-0.08	0.67	-0.12	0.91	-0.04
Primary care physician ratio	0.35	0.80	0.43	0.67	0.39
Nurse practitioner ratio	-3.61	1.50	-2.41	0.02	-1.97
Physician assistant ratio	0.35	0.72	0.48	0.64	0.32
Constant	-10.00	6.54	-1.53	0.14	

Number of observations (ZIP codes): 36

*Elasticity is the percentage change in the dependent variable associated with a 10 percent increase in the independent variable.

APPENDIX F

LINEAR REGRESSION MODEL RESULTS HYPERTENSION

Variable	Coefficient	Standard Error	t-statistic	P Value	Elasticity*
Age, Race and Sex Distribution					
Female	9.79	6.17	1.59	0.12	27.55
Age 65+	6.92	3.67	1.89	0.07	3.37
Minority	3.46	0.82	4.25	0.01	15.08
Poverty	2.17	3.77	0.57	0.57	0.92
Supply Characteristics					
Safety net clinic	0.26	0.29	0.91	0.37	0.31
Primary care physician ratio	-0.32	0.35	-0.92	0.37	-0.85
Nurse practitioner ratio	-1.74	0.65	-2.67	0.01	-2.29
Physician assistant ratio	0.38	0.31	1.20	0.24	0.85
Constant	-6.37	2.84	-2.25	0.03	

Number of observations (ZIP codes): 36

R² = 0.7278, Adjusted R² = 0.6471

*Elasticity is the percentage change in the dependent variable associated with a 10 percent increase in the independent variable.

ROBUST REGRESSION RESULTS

Variable	Coefficient	Standard Error	t-statistic	P Value	Elasticity*
Age, Race and Sex Distribution					
Female	9.46	5.69	1.66	0.11	26.62
Age 65+	4.69	3.38	1.39	0.18	2.28
Minority	3.81	0.75	5.06	0.01	16.61
Poverty	3.30	3.48	0.95	0.35	1.41
Supply Characteristics					
Safety net clinic	-0.20	0.27	-0.73	0.47	-0.24
Primary care physician ratio	-0.13	0.32	-0.41	0.68	-0.35
Nurse practitioner ratio	-1.87	0.60	-3.12	0.01	-2.46
Physician assistant ratio	0.37	0.29	1.29	0.21	0.82
Constant	-6.39	2.62	-2.44	0.02	

Number of observations (ZIP codes): 36

*Elasticity is the percentage change in the dependent variable associated with a 10 percent increase in the independent variable.

APPENDIX G

LINEAR REGRESSION MODEL RESULTS HEART FAILURE

Variable	Coefficient	Standard Error	t-statistic	P Value	Elasticity*
Age, Race and Sex Distribution					
Female	19.40	24.33	0.80	0.43	11.87
Age 65+	45.48	14.47	3.14	0.01	4.81
Minority	14.07	3.22	4.37	0.01	13.33
Poverty	5.19	14.89	0.35	0.73	0.48
Supply Characteristics					
Safety net clinic	0.67	1.15	0.59	0.56	0.18
Primary care physician ratio	-1.18	1.37	-0.86	0.40	-0.69
Nurse practitioner ratio	-5.09	2.56	-1.99	0.06	-1.46
Physician assistant ratio	1.66	1.24	1.34	0.19	0.80
Constant	-16.15	11.20	-1.44	0.16	

Number of observations (ZIP codes): 36

 R² = 0.7154, Adjusted R² = 0.6311

*Elasticity is the percentage change in the dependent variable associated with a 10 percent increase in the independent variable.

ROBUST REGRESSION RESULTS

Variable	Coefficient	Standard Error	t-statistic	P Value	Elasticity*
Age, Race and Sex Distribution					
Female	29.71	21.45	1.38	0.18	18.17
Age 65+	35.58	12.76	2.79	0.01	3.76
Minority	12.42	2.84	4.37	0.01	11.77
Poverty	4.69	13.13	0.36	0.72	0.43
Supply Characteristics					
Safety net clinic	-1.39	1.01	-1.38	0.18	-0.36
Primary care physician ratio	-0.26	1.21	-0.21	0.83	-1.15
Nurse practitioner ratio	-5.76	2.26	-2.55	0.02	-1.64
Physician assistant ratio	1.40	1.09	1.28	0.21	0.68
Constant	-19.21	9.87	-1.95	0.06	

Number of observations (ZIP codes): 36

*Elasticity is the percentage change in the dependent variable associated with a 10 percent increase in the independent variable.

APPENDIX H

LINEAR REGRESSION MODEL RESULTS ANGINA

Variable	Coefficient	Standard Error	t-statistic	P Value	Elasticity*
Age, Race and Sex Distribution					
Female	-7.66	7.09	-1.08	0.29	-28.57
Age 65+	19.62	4.22	4.65	0.01	12.65
Minority	0.80	0.94	0.85	0.40	4.63
Poverty	0.10	4.34	0.02	0.98	0.06
Supply Characteristics					
Safety net clinic	-0.23	0.33	-0.68	0.50	-0.37
Primary care physician ratio	0.14	0.40	0.35	0.73	0.50
Nurse practitioner ratio	-0.53	0.75	-0.71	0.48	-0.92
Physician assistant ratio	-0.20	0.36	-0.54	0.59	-0.59
Constant	3.12	3.26	0.95	0.35	

Number of observations (ZIP codes): 36

R² = 0.4894, Adjusted R² = 0.3381

*Elasticity is the percentage change in the dependent variable associated with a 10 percent increase in the independent variable.

ROBUST REGRESSION RESULTS

Variable	Coefficient	Standard Error	t-statistic	P Value	Elasticity*
Age, Race and Sex Distribution					
Female	1.02	4.46	0.23	0.82	3.81
Age 65+	8.30	3.40	2.44	0.02	5.35
Minority	1.42	0.60	2.37	0.03	8.21
Poverty	0.17	2.65	0.07	0.95	0.10
Supply Characteristics					
Safety net clinic	-0.08	0.21	-0.39	0.70	-0.13
Primary care physician ratio	0.55	0.24	2.24	0.03	1.95
Nurse practitioner ratio	-1.00	0.46	-2.18	0.04	-1.74
Physician assistant ratio	-0.26	0.22	-1.16	0.26	-0.77
Constant	-1.10	2.06	-0.54	0.60	

Number of observations (ZIP codes): 35

*Elasticity is the percentage change in the dependent variable associated with a 10 percent increase in the independent variable.

APPENDIX I

LINEAR REGRESSION MODEL RESULTS UNCONTROLLED DIABETES

Variable	Coefficient	Standard Error	t-statistic	P Value	Elasticity*
Age, Race and Sex Distribution					
Female	3.31	1.63	2.03	0.05	32.47
Age 65+	0.00	0.97	0.00	0.99	0.00
Minority	1.22	0.22	5.63	0.01	18.54
Poverty	1.84	1.00	1.84	0.08	2.73
Supply Characteristics					
Safety net clinic	-0.12	0.08	-1.56	0.13	-0.51
Primary care physician ratio	0.08	0.09	2.03	0.39	0.75
Nurse practitioner ratio	-0.38	0.17	-2.21	0.04	-1.74
Physician assistant ratio	0.03	0.08	0.41	0.68	0.23
Constant	-2.22	0.75	-2.95	0.01	

Number of observations (ZIP codes): 36

 R² = 0.6063, Adjusted R² = 0.4897

*Elasticity is the percentage change in the dependent variable associated with a 10 percent increase in the independent variable.

ROBUST REGRESSION RESULTS

Variable	Coefficient	Standard Error	t-statistic	P Value	Elasticity*
Age, Race and Sex Distribution					
Female	3.68	2.15	0.74	0.46	36.10
Age 65+	-0.17	1.27	-0.14	0.89	-0.29
Minority	1.24	0.28	4.38	0.01	18.85
Poverty	1.27	1.31	0.97	0.34	1.89
Supply Characteristics					
Safety net clinic	-0.12	0.10	-1.16	0.26	-0.51
Primary care physician ratio	0.09	0.12	0.74	0.46	0.84
Nurse practitioner ratio	-0.38	0.23	-1.69	0.10	-1.74
Physician assistant ratio	0.03	0.11	0.23	0.82	0.23
Constant	-2.37	0.98	-2.40	0.02	

Number of observations (ZIP codes): 36

*Elasticity is the percentage change in the dependent variable associated with a 10 percent increase in the independent variable.

APPENDIX J

LINEAR REGRESSION MODEL RESULTS ASTHMA YOUNGER ADULTS

Variable	Coefficient	Standard Error	t-statistic	P Value	Elasticity*
Age, Race and Sex Distribution					
Female	2.56	2.82	0.91	0.37	20.31
Age 65+	4.00	1.68	2.39	0.02	5.49
Minority	0.98	0.37	2.62	0.01	12.05
Poverty	2.43	1.73	1.41	0.17	2.92
Supply Characteristics					
Safety net clinic	-0.16	0.13	-1.24	0.23	-0.55
Primary care physician ratio	-0.08	0.16	-0.49	0.63	-0.60
Nurse practitioner ratio	-0.62	0.30	-2.10	0.05	-2.30
Physician assistant ratio	0.08	0.14	0.58	0.57	0.50
Constant	-1.91	1.30	-1.47	0.15	

Number of observations (ZIP codes): 36

R² = 0.6063, Adjusted R² = 0.4897

*Elasticity is the percentage change in the dependent variable associated with a 10 percent increase in the independent variable.

ROBUST REGRESSION RESULTS

Variable	Coefficient	Standard Error	t-statistic	P Value	Elasticity*
Age, Race and Sex Distribution					
Female	1.21	2.72	0.45	0.66	9.60
Age 65+	3.39	1.61	2.10	0.04	4.65
Minority	0.91	0.36	2.52	0.02	11.19
Poverty	2.16	1.66	1.30	0.21	2.60
Supply Characteristics					
Safety net clinic	-0.25	0.13	-1.95	0.06	-0.86
Primary care physician ratio	0.00	0.15	0.00	1.00	0.00
Nurse practitioner ratio	-0.59	0.29	-2.06	0.05	-2.19
Physician assistant ratio	0.06	0.14	0.47	0.65	0.37
Constant	-1.14	1.25	-0.91	0.37	

Number of observations (ZIP codes): 36

*Elasticity is the percentage change in the dependent variable associated with a 10 percent increase in the independent variable.

APPENDIX K

TABLE K1 PRINCE GEORGE'S COUNTY DISCHARGE AND POPULATION CHARACTERISTICS AT THE ZIP CODE LEVEL

ZIP	Name	PUMA	2000 Census Population	2010 Census Population	Total Discharges per ZIP 2007-2009*	Total Discharges per ZIP 2007-2009 complete data only+	2010 Proportion Non-white	2010 Proportion Female	Licensed Physician Ratio ^	Board Physician Ratio ^
20601	Waldorf	6	22279	24156	50	50	0.59	0.52	0.08	0.08
20607	Accokeek	6	7069	9802	2600	2542	0.78	0.51	0.00	0.00
20608	Aquasco	6	1015	919	407	402	0.52	0.49	0.00	0.00
20613	Brandywine	6	8266	11860	4240	4181	0.66	0.51	0.17	0.08
20623	Cheltenham	6	2702	2744	646	629	0.87	0.51	0.36	0.36
20705	Beltsville	2	22802	26188	7548	7415	0.77	0.51	0.34	0.23
20706	Lanham	5	37642	38692	14382	14118	0.91	0.53	2.33	1.91
20707	Laurel	2	25637	31538	10642	10540	0.70	0.52	3.46	3.11
20708	Laurel	2	25062	25546	8368	8273	0.81	0.53	0.86	0.74
20710	Bladensburg	3	7782	9313	3593	3465	0.95	0.53	0.54	0.21
20712	Mount Rainier	3	9067	9031	3119	2937	0.88	0.50	0.00	0.00
20715	Bowie	5	25226	26382	8098	8019	0.43	0.52	1.14	1.02
20716	Bowie	5	19595	20787	6182	6070	0.73	0.54	2.41	2.02
20720	Bowie	5	14713	21031	5277	5190	0.80	0.53	0.14	0.10
20721	Bowie	5	22412	27016	7014	6899	0.94	0.54	0.56	0.48
20722	Brentwood	3	5400	5711	2240	2152	0.87	0.50	1.05	0.88
20735	Clinton	6	32887	35421	15039	14768	0.90	0.53	4.29	3.36
20737	Riverdale	3	19938	20684	7812	7578	0.88	0.48	1.74	1.31
20740	College Park	1	31041	28780	5765	5636	0.47	0.47	1.36	1.08
20742	University of Maryland	3	N/A	7808	152	149	0.37	0.47	1.15	0.90
20743	Capitol Heights	4	41549	38621	19065	18420	0.98	0.54	0.08	0.00
20744	Fort Washington	6	48198	50722	16600	16173	0.92	0.53	0.91	0.79
20745	Oxon Hill	7	27692	28451	10335	9898	0.95	0.53	1.27	0.77
20746	Suitland	7	28530	28838	11037	10633	0.96	0.55	1.18	0.97
20747	District Heights	4	39920	40054	15812	15316	0.97	0.55	0.25	0.22

TABLE K1 PRINCE GEORGE'S COUNTY DISCHARGE AND POPULATION CHARACTERISTICS AT THE ZIP CODE LEVEL (CONTINUED)

ZIP	Name	PUMA	2000 Census Population	2010 Census Population	Total Discharges per ZIP 2007-2009*	Total Discharges per ZIP 2007-2009 complete data only+	2010 Proportion Non-white	2010 Proportion Female	Licensed Physician Ratio ^	Board Physician Ratio ^
20762	Andrews Air Force Base	6	7925	2973	74	73	0.44	0.47	0.00	0.00
20769	Glenn Dale	5	4942	6604	1783	1758	0.77	0.50	2.42	2.12
20770	Greenbelt	2	21186	25173	7687	7559	0.76	0.54	4.97	4.33
20772	Upper Marlboro	6	35414	42625	12931	12648	0.86	0.52	0.54	0.45
20774	Upper Marlboro	5	32942	43013	12308	12002	0.96	0.55	2.09	1.84
20781	Hyattsville	3	11217	11440	4158	4029	0.76	0.48	0.52	0.44
20782	Hyattsville	1	28764	30560	10562	10096	0.85	0.51	0.79	0.56
20783	Hyattsville	1	43380	44487	14643	14045	0.92	0.45	0.16	0.07
20784	Hyattsville	3	27092	29449	11363	11080	0.92	0.51	0.34	0.31
20785	Hyattsville	4	39086	35052	15634	15252	0.94	0.54	2.11	1.57

*Data include discharges missing payer and primary diagnosis

+Observations with missing information are dropped

^The workforce data are ratios of the count of workforce supply in the ZIP code per ZIP code population per 1,000 residents.

TABLE K2 PRINCE GEORGE'S COUNTY DISCHARGE AND POPULATION CHARACTERISTICS AT THE ZIP CODE LEVEL

ZIP	Name	PUMA	Primary Care Physician Ratio ^	Adult Primary Care Physician Ratio ^	Nurse Practitioner Ratio	Safety Net Clinic	Proportion Under Age 18	Proportion Age 18-44	Proportion Age 45-64	Proportion Age 65+	At or below Poverty Level	Physician Assistant Ratio
20607	Accokeek	6	0.00	0.00	0.20	0	0.25	0.33	0.33	0.09	0.04	0.00
20608	Aquasco	6	0.00	0.00	0.00	0	0.20	0.27	0.34	0.19	0.07	0.00
20613	Brandywine	6	0.08	0.00	0.25	1	0.24	0.34	0.31	0.12	0.06	0.00
20623	Cheltenham	6	0.00	0.00	0.73	0	0.28	0.34	0.32	0.06	0.02	0.00
20705	Beltsville	2	0.11	0.11	0.31	0	0.24	0.39	0.26	0.10	0.07	0.15
20706	Lanham	5	0.85	0.75	0.31	1	0.27	0.38	0.26	0.10	0.08	1.52
20707	Laurel	2	1.46	1.20	0.38	0	0.22	0.42	0.26	0.10	0.06	1.93
20708	Laurel	2	0.55	0.20	0.27	0	0.26	0.45	0.22	0.07	0.06	0.08
20710	Bladensburg	3	0.21	0.21	0.00	0	0.27	0.44	0.20	0.09	0.12	0.21

TABLE K2 PRINCE GEORGE'S COUNTY DISCHARGE AND POPULATION CHARACTERISTICS AT THE ZIP CODE LEVEL (CONTINUED)

ZIP	Name	PUMA	Primary Care Physician Ratio [^]	Adult Primary Care Physician Ratio [^]	Nurse Practitioner Ratio	Safety Net Clinic	Proportion Under Age 18	Proportion Age 18-44	Proportion Age 45-64	Proportion Age 65+	At or below Poverty Level	Physician Assistant Ratio
20712	Mount Rainier	3	0.00	0.00	0.00	0	0.23	0.46	0.24	0.07	0.13	0.00
20715	Bowie	5	0.38	0.34	0.38	0	0.22	0.35	0.29	0.15	0.02	0.34
20716	Bowie	5	1.15	1.01	0.58	0	0.25	0.38	0.27	0.10	0.02	1.35
20720	Bowie	5	0.10	0.10	0.81	0	0.26	0.34	0.33	0.07	0.03	0.10
20721	Bowie	5	0.41	0.33	0.59	0	0.25	0.30	0.34	0.11	0.02	0.11
20722	Brentwood	3	0.70	0.53	0.35	0	0.25	0.40	0.26	0.09	0.11	0.35
20735	Clinton	6	0.90	0.82	0.11	0	0.23	0.33	0.32	0.11	0.03	0.62
20737	Riverdale	3	0.63	0.48	0.19	0	0.29	0.46	0.19	0.06	0.11	0.24
20740	College Park	1	0.76	0.73	0.07	1	0.12	0.65	0.16	0.08	0.18	0.42
20742	University of Maryland	3	0.51	0.38	0.00	0	0.00	1.00	0.00	0.00	0.07	0.64
20743	Capitol Heights	4	0.00	0.00	0.03	1	0.26	0.37	0.25	0.12	0.12	0.08
20744	Fort Washington	6	0.41	0.39	0.14	0	0.23	0.32	0.31	0.13	0.03	0.08
20745	Oxon Hill	7	0.39	0.39	0.07	1	0.24	0.39	0.27	0.09	0.10	0.32
20746	Suitland	7	0.69	0.69	0.00	1	0.25	0.41	0.24	0.09	0.09	0.07
20747	District Heights	4	0.20	0.20	0.10	0	0.26	0.40	0.26	0.08	0.09	0.05
20748	Temple Hills	7	0.80	0.54	0.05	0	0.22	0.37	0.29	0.12	0.07	0.08
20762	Andrews Air Force Base	6	0.00	0.00	0.00	0	0.35	0.58	0.06	0.00	0.02	0.00
20769	Glenn Dale	5	1.67	1.36	0.61	0	0.26	0.31	0.34	0.09	0.03	0.76
20770	Greenbelt	2	1.55	1.31	0.48	1	0.23	0.44	0.25	0.07	0.10	0.56
20772	Upper Marlboro	6	0.28	0.16	0.49	0	0.25	0.37	0.29	0.09	0.03	0.14
20774	Upper Marlboro	5	0.86	0.70	0.46	0	0.23	0.36	0.30	0.11	0.03	0.16
20781	Hyattsville	3	0.44	0.35	0.00	0	0.25	0.44	0.25	0.07	0.15	0.00
20782	Hyattsville	1	0.43	0.26	0.20	0	0.22	0.45	0.23	0.09	0.10	0.10
20783	Hyattsville	1	0.04	0.04	0.07	1	0.22	0.51	0.19	0.08	0.12	0.07
20784	Hyattsville	3	0.20	0.20	0.14	0	0.27	0.41	0.24	0.07	0.08	0.20
20785	Hyattsville	4	0.77	0.57	0.11	0	0.27	0.40	0.24	0.09	0.15	1.54

[^]The workforce data are ratios of the count of workforce supply in the ZIP code per ZIP code population per 1,000 residents.

TECHNICAL REPORT 7

An Assessment of Comparable Model Health Care Systems: Interviews with Key Professionals

Laura Wilson, Ph.D., Rada Dagher, Ph.D., Lori Simon-Rusinowitz, Ph.D., Dawn Hamilton, J.D.

INTRODUCTION

The literature consistently shows that accessibility to primary care services improves population health, lowers health care spending and is associated with a more equitable distribution of health within communities (Starfield, Shi, & Macinko, 2005). An adequate supply of primary care physicians has been shown to optimize health outcomes (Goodson, 2010). However, studies show that the U.S. have a severe maldistribution of primary care physicians (Goodell, Dower, & O'Neill, 2011). Communities that have reduced access to primary care—typically comprising a high proportion of uninsured, low-income and minority individuals—has a correspondingly high proportion of death and disease rates than communities that have better access to primary care (Bodenheimer & Pham, 2010).

Under the Patient Protection and Affordable Care Act of 2010 (ACA), 32 million more Americans will obtain health insurance, thereby increasing the number of individuals who will seek primary care services and require more primary care physicians to meet their health care needs (Brook & Young, 2010). However, the U.S. lacks a sufficient number of primary care physicians to serve the health care needs of Americans, with many urban and rural communities currently underserved. Yet, these areas tend to have the greatest need for health care services (Goodell, Dower, & O'Neill, 2011). As a result of the projected shortage of primary care physicians, millions of individuals will be unable to readily obtain the health care services they need (Kirsch, Henderson, & Dill, 2012). Other factors, such as an aging population and the growth of the U.S. population will further increase the need for primary care over the next 15 years (Bodenheimer, Chen, & Bennett, 2009). In 2020, it is projected that

the U.S. will have shortages of 45,500 primary care physicians and 46,100 medical specialists (Kirch, Henderson, & Dill, 2011).

The ACA reforms address the primary care supply issues through several policy mechanisms, including implementation of physician payment reform, primary care workforce expansion legislation and practice innovations. In addition, the ACA takes steps to resolve the maldistribution of primary care physicians by authorizing (though not guaranteeing) funds for tuition assistance to make it possible for poorer students to enter medical school, as these students are more likely to practice primary care in underserved communities (Dorsey, Nicholson, & Frist, 2011). Since the enactment of the ACA, the federal government has introduced financial incentives designed to improve the current primary care practice model and strengthen primary care services.

In October 2011, the Department of Health and Human Services (HHS)

announced the Federally Qualified Health Center (FQHC) Advanced Primary Care Practice demonstration, which will financially support community health centers for providing quality care and provide technical assistance throughout the demonstration period, Nov. 1, 2011, and Oct. 31, 2014 (The Centers for Medicare and Medicaid Services, 2011). Another ACA initiative, led by the Health Resources Service Administration (HRSA), the Health Center Quality Improvement and Patient Centered Medical Home Supplement Funding demonstration, supplies more than 900 community health centers providing primary care services throughout the U.S. with resources to better coordinate and deliver care to patients. (HHS).

It is clear that states must take steps to improve their health systems and increase primary care access under the ACA; it is particularly critical that states address the maldistribution of primary care providers (Kirsch, Henderson, & Dill, 2012). In response to the predicted

physician workforce shortage, the state of Maryland has developed a plan to prepare the state's workforce for the full implementation of health reform. This plan contains strategies to address the impending physician shortage in an effort to mitigate the negative impact on residents' health. To address the lack of supply of primary care practitioners in service shortage areas, Maryland will take steps to ensure optimum use of innovative state and federal opportunities for primary care workforce development by 2012 (The State of Maryland & The Governor's Workforce Investment Board, November 2011).

Ensuring access to primary care services is a key factor in avoiding initial hospitalizations and post-discharge readmissions, since these providers serve as gatekeepers into the health care system, and can provide continuity of care after a patient is discharged from the hospital (Starfield, Shi, & Macinko, 2005) (Minott, 2008). A recent study found a substantial association between regional rates of

overall hospital admissions and rates of readmissions (Epstein, Ashish, & Orav, 2011). These findings underscore the need for primary care providers to be available to patients when health problems arise, so that avoidable hospitalizations are prevented (Starfield, Shi, & Macinko, 2005). Based on a review of the literature, reducing hospital readmissions will require system redesign, including re-engineered discharge planning and post-discharge coordination of care. Studies have shown that transitional care management plays a key role in preventing avoidable hospital readmissions (Oh, 2011). Effective care transition requires accountability among all participants, and facilitates a smooth handoff between the hospital and post-discharge providers, as well as other individuals and organizations that may be responsible for following up with patient care post-discharge (Minott, 2008). Changes in the culture of health care will be necessary. For example, physicians and other professionals

must embrace a patient-centered, collaborative, integrated approach over professional autonomy.

In summary, the literature has mainly focused on strengthening primary care and reducing hospital readmissions. Thus our study attempted to fill some of the gaps in this literature by conducting an overview of comparative health care system models to identify informative characteristics to help guide the design of an effective, efficient and financially viable medical system able to improve health care delivery for all income levels in Prince George's County. Our team identified a group of existing models of regional health systems within Maryland (Montgomery County) and other states (e.g. Arizona, Colorado, Michigan, New Mexico, North Carolina, Oklahoma, Pennsylvania, Utah, Vermont and Wisconsin) that can inform and demonstrate components of the proposed Regional Medical System in Prince George's County.

METHODS

RESEARCH QUESTIONS, INTERVIEW PARTICIPANTS AND DATA COLLECTION

SELECTION CRITERIA

After IRB submission and approval, we conducted telephone interviews with officials from 13 health care systems. The systems were selected based on a review of relevant literature and websites, and included innovative health care systems (e.g. hospitals, community health centers and other health care facilities) that provide high-quality, accessible and cost-effective primary, chronic and specialty health care services. We also identified one system that does not meet these criteria

(Arizona) for comparison purposes.

DEVELOPMENT OF THE INTERVIEW GUIDE

The primary study questions guided the development of the interview questions. Interviews addressed the following issues: (1) key health outcomes amenable to improvement, (2) elements in the health care system that affect these outcomes, (3) geographic distribution of health care resources and areas of greatest need for primary care, (4) utilization of the health care system by paying and non-paying patients, (5) type of public health sector resources mobilized to complement the health care system, (6) financing mechanisms

utilized by the health care system and (7) changes in the health care system implemented in the past year, including any innovations. See Appendix A for the complete interview guide.

IDENTIFICATION OF KEY INFORMANTS AND DATA COLLECTION

To identify appropriate informants for each health care system, a project team member contacted individuals in administrative roles in the 13 identified systems via phone or email, invited them to participate in the study and scheduled an interview. Potential participants received a brief summary of the research to request their participation and if they agreed, they received an

informed consent form and the interview questions in advance. There were no monetary incentives for participants. Two faculty researchers experienced in interview techniques from the Department of Health Services Administration conducted one-hour telephone interviews February through March 2012. All interviews were audiotape recorded and transcribed. During the interview, participants were asked open-ended questions (Appendix A) that pertain to the health care systems they oversee. Participants were informed that their identities would remain confidential.

DATA ANALYSIS

The methods described by Miles and Huberman (1994) and Morgan and Krueger (1998) guided the qualitative analysis for this study. First, the researchers developed brief descriptive case studies of each health care system. Next, the comments captured for each of the project study research questions were transcribed and structured the analysis of the in-depth qualitative interviews. Three project analysts read the entire transcripts and the interviewers' notes. Using the study research questions to structure the analysis, they developed table shells that mirror the interview questions. To answer each study question, they reviewed the transcripts and identified key themes related to each question. To establish consistent definitions of themes and sub-themes among analysts, they analyzed the first interview as a team. When they reached agreement on

definitions, they analyzed the remaining interviews independently. To illustrate the themes and identify descriptive quotes, they sorted and categorized the interview statements.

The analysts conducted this process using word processing to highlight, color code and re-arrange interview statements by research questions, themes and sub-themes. After they assembled each category, they wrote a descriptive summary for each section, comparing similarities and differences. They also selected notable quotes to illustrate each section.

Each table includes data for all 13 health care systems, thus the researchers were able to answer each research question across health care systems. The analysts reduced the extensive qualitative data into synthesized tables with themes and sub-themes that answer each research question.

TABLE 1 WHAT ARE THE KEY HEALTH OUTCOMES MOST AMENABLE TO IMPROVEMENT BY A NEW HEALTH CARE SYSTEM?

THE FOLLOWING IS A LIST OF THE HEALTH OUTCOMES WITH THE NUMBER OF HEALTH SYSTEMS FOCUSING ON EACH OUTCOME:

Diabetes Keeping blood sugar low (under 7)	12	Congestive heart failure	5	Chronic kidney disease	1
Mental illness Identify mental illness in primary care (team that trains primary care providers on identifying mental illness or behavioral health problems)	7	Coronary artery disease/cholesterol	5	Decrease tobacco use	1
High blood pressure	6	Increase number of insured people/access to care. Work with Extension Service health workers to train health navigators, who help people enroll in Medicaid and other insurance	3	HIV care	1
Asthma Uncontrolled asthma is a cause of many emergency room visits	5	Programs for children Childhood immunizations, childhood development screening and dental care for children	3	Homeless population	1
Cancer care Breast, cervical, colorectal; especially chronic cancers-slow growing (e.g. prostate cancer)	5	Increase immunization rates by focusing on school-based programs in indigent areas, train community college health workers to give immunizations	2	Increase high school graduation and create pipelines to health professions training. Address multiple priorities as increased education levels and decreased unemployment (via health care jobs) will lead to better health outcomes.	1
				Oral health	1
				Osteoporosis	1

PRELIMINARY FINDINGS

Our preliminary findings are organized according to each primary study question.

KEY HEALTH OUTCOMES MOST AMENABLE TO IMPROVEMENT BY A NEW HEALTH CARE SYSTEM

Table 1 includes key health outcomes addressed by the 13 model health care systems interviewed. While Prince George’s County has identified their own priorities (Prince George’s County Health Improvement Plan, 2011-2014), lessons from these systems can be instructive. The 13 systems reported 17 health outcomes most amenable to improvement, and most are chronic

conditions. Seven of these outcomes were mentioned five times or more: diabetes care, mental illness/behavioral health conditions identified in a primary care setting (with training/consultation from behavioral health specialists), hypertension, asthma, cancer care, coronary artery disease/cholesterol management and congestive heart failure. Three other health outcomes were mentioned more than one time: children’s programs (immunizations, child development screening and pediatric dental care), increased access to care/insurance and increased immunization rates. Individual health care systems identified the following seven items: HIV care, osteoporosis, chronic kidney disease, oral health, care

for the homeless, decreased tobacco use and increased high school graduation rates and developing a pipeline to health professions education.

One health care system explained that a key element in determining health outcomes most amenable to change is community support for addressing specific health care problems. It looks at the state’s standing in the country on health indicators and selects areas that have clear metrics to measure success and have community support to address the problem. For that reason, its priorities look different from many other systems. For example, this system focuses on high school graduation rates and creating a pipeline to health professions education. It

TABLE 2 WHAT RESOURCES CAN BE MOBILIZED IN THE PUBLIC HEALTH SECTOR TO COMPLEMENT THE IMPACT OF THE HEALTH CARE SYSTEM? THE MOST COMMON PUBLIC HEALTH RESOURCES MENTIONED BY THE SYSTEMS WERE PUBLIC HEALTH DEPARTMENTS AND FEDERALLY QUALIFIED HEALTH CENTERS.

HOWEVER, THERE WERE MANY OTHER SUGGESTIONS AS OUTLINED BELOW. POTENTIAL PUBLIC HEALTH RESOURCES:

Community health centers (federally qualified health centers)	9	County funds and a collaborative relationship between community providers and hospitals support the County-wide program. County funds support care; however, the program relies on pro bono primary and specialty care from community providers as well as free clinic space from hospitals and community	1	Local news media (e.g. bilingual campaigns for prenatal care and immunizations)	1
Public health department (although public health programs are being cut by federal, state and local governments)	9	Data sharing among all types of providers (using electronic medical records)	1	Need for integration of community resources by one agency	1
Community-based providers (e.g., community mental health centers)	1	Federal government (since states have deficits)	1	Owned or funded clinics	1
Community-wide Nurse Advice Line in partnership with the public health department, managed care organizations and a university. Works in rural and urban areas. Receives 15,000 calls/month, leads to decreased ER visits, increased medical homes, and coordinated care (patient records are faxed to the medical home the next day). Health Department monitors Nurse Advice Line to identify illness statewide.	1	Health-related foundations (e.g. cardiovascular disease prevention, HIV prevention, etc.)	1	Partnering with school systems and employers	1
Community Transformation Grants funded by the Centers for Disease Control and Prevention	1	Integrated, collaborative system, public health and community coalition results in greater improvements in health outcomes than can be achieved by a health system acting alone.	1	Proceeds from the state tobacco tax	1
				Specific community resources (new free clinic, resources for specific population e.g. heart disease or children)	1
				State government (One state government required insurers to participate in a Chronic Care Initiative administered by the state health department.)	1

selected this priority as it achieves several outcomes of importance to the community: increased education levels, improved health outcomes (resulting from improved education), increased recruitment of minority students for health professions and decreased unemployment as health care is a growing job sector.

MOBILIZING PUBLIC HEALTH RESOURCES TO COMPLEMENT THE HEALTH CARE SYSTEM'S IMPACT

The health care system respondents mentioned public health departments and federally qualified health centers most often when asked about mobilizing public health resources to complement their systems' impact. However, as reflected in Table 2, they had many other suggestions, including a state health department-sponsored Chronic Care Initiative that requires insurers to participate; an integrated, collaborative system or community coalition with community health centers; community transformation grants from the Centers for Disease Control and Prevention; and funding from a state tobacco tax.

One interesting program involved a partnership between the academic health care system and a community-based health care services clinic initially funded by the system, which established a medical home with case managers for the under- and uninsured. Demonstrated successes in cost reduction, savings and quality improvement led to hospital leadership support. Another innovative health care system developed a community-wide "Nurse Advice Line" in partnership with the public health department, managed care organizations and a university. It operates in rural and urban areas and receives 15,000 calls per month. This program

has led to decreased emergency department visits, increased medical homes and coordinated care (patient records are faxed to the medical home the next day). The state health department monitors the Nurse Advice Line to identify illness statewide.

GEOGRAPHIC DISTRIBUTION OF HEALTH CARE RESOURCES AND AREAS OF GREATEST NEED FOR PRIMARY CARE

Table 3 reports systems' strengths and weaknesses in geographic distribution of resources. In general, systems showed a consensus acknowledging that rural areas were in greatest need for primary care. One system located in a very urban state mentioned that they did not have problems with geographic distribution of health care resources as 90 percent of the population in the state lives in Metropolitan Statistical Areas (MSAs). Its services are equally distributed over the geography of the state. However, it is important to note that community resources can be difficult to access in crime-ridden urban areas. Examples of strengths in geographic distribution of resources include: a program that sends providers to a neighboring hospital (i.e. providers go to patients instead of patients traveling to providers), federally qualified community health centers (FQHC) in underserved areas and having far-reaching acute care hospitals as well as urgent care centers. One comprehensive system covers a broad geographic region of one state and includes all aspects of the health care system (insurance coverage, acute care hospitals, health care centers, physicians employed by the system). All parts of the health care system interact with neighboring systems (e.g. system physicians practice in non-system community hospitals, system nurse practitioners work in nursing homes).

They organize around a regional hub that has primary care and specialty resources to decrease patient driving distances. Their approach is cooperative vs. competitive with other systems—they help smaller community hospitals stay afloat.

Examples of weaknesses in geographic distribution of resources include: shortages of child psychiatrists (especially in rural states), undocumented immigrants with limited services options who may need to use emergency departments (low-income clinics and FQHCs can help) and homeless people who have no home to which they are discharged. One system with worker shortages in rural areas has a two-part approach to this problem: 1) train workers in their own communities so they have roots and stay there (vs. train outsiders who leave) and 2) improve the pipeline for minority health care professionals by improving the poor educational backgrounds for this population, thereby changing who enters health professional schools.

ELEMENTS OF A HEALTH CARE SYSTEM (HOSPITAL AND COMMUNITY) THAT CAN AFFECT OUTCOMES

As indicated in Table 4, respondents have a wide variety of approaches to improve health outcomes. Among the many approaches, the following examples illustrate ideas repeated in more than one system:

- Integrating a behavioral health specialist into the primary health care team to train primary care doctors and expand their capacity to diagnose mental illness. Seven systems are implementing this approach.

- Focusing on fewer readmissions within 30 days of a hospitalization. The financial disincentive in the ACA has encouraged health care systems to shift their thinking about their responsibilities for discharge and follow-up procedures. As hospitals will be financially penalized for readmissions, rather than financially rewarded, they are developing systems (often involving information technology) to be sure that patients receive comprehensive follow-up services. One system assigns a case manager to all patients over 65 years old when they leave the hospital.
- Establishing tight working relationships with hospitals, nursing homes and home health agencies to improve discharge coordination

TABLE 3 WHAT IS THE GEOGRAPHIC DISTRIBUTION OF HEALTH CARE RESOURCES AND WHERE ARE THE AREAS OF GREATEST NEED FOR PRIMARY CARE?

Having a big academic medical center in the area with lots of affiliate providers

Rewarding people in primary care through state initiatives such as one state’s Chronic Care Initiative

Sending providers once a week to a neighboring hospital (i.e., sending the providers to the patients instead of the other way round)

Having affiliated ambulatory care centers

The County program has 25 service locations with diverse provider types (e.g. hospital, FQHC), and focuses on four areas with greatest need.

Federally qualified community health centers located in underserved areas to provide primary care

Having a broad service area and placing primary care throughout the region, having physical locations and facilities strategically located

Implementing open access or advanced access to primary care (i.e., patient can call any time of day and night and schedule an appointment for same or next day). In addition, building a navigation platform that includes a 24/7 nurse triage system

Having an adequate number of far-outreaching acute care hospitals and urgent care centers

Having a broad geographic region covered by all aspects of the health care system (insurance coverage, acute care hospitals, health care centers, physicians employed by the system). All parts of the health care system interact with neighboring systems (e.g. system physicians practice in non-system community hospitals, system nurse practitioners work in nursing homes). They organize around a regional hub that has primary care and specialty resources to decrease patient driving distances. The approach is cooperative vs. competitive with other systems, help smaller community hospitals stay afloat.

STRENGTHS IN GEOGRAPHIC DISTRIBUTION OF RESOURCES:

Geographic concentration: “We don’t have any ... facilities across the country, or even across the western part of the United States, we’re tightly focused so that we have docs and hospitals within easy range. So that we’re able to develop a communicating network so that we know what’s going on in the patient’s life. We don’t want them in somebody else’s facility where we don’t know what happened to them. We think that breaks the continuity of care. So we try to be as geographically concentrated as we can as opposed to spread out.”

Avoiding duplication of services: by focusing the care in physician centers and clinics and avoiding freestanding surgery centers and the like

Having a fairly extensive air transport system to reach remote communities, including trained people in stabilization of very ill patients

Having a big academic medical center in the area with lots of affiliate providers

Rewarding people in primary care through state initiatives such as one state’s Chronic Care Initiative

Sending providers once a week to a neighboring hospital (i.e., sending the providers to the patients instead of the other way round)

Federally qualified community health centers located in underserved areas to provide primary care

Having a broad service area and placing primary care throughout the region, having physical locations and facilities strategically located

Having a County program with 25 service locations including diverse provider types (e.g. hospital, FQHC), and focuses on four areas with greatest need

Having affiliated ambulatory care centers

Implementing open access or advanced access to primary care (i.e., patient can call any time of day and night and schedule an appointment for same or next day). In addition, building a navigation platform that includes a 24/7 nurse triage system

Having a broad geographic region covered by all aspects of the health care system (insurance coverage, acute care hospitals, health care centers, physicians employed by the system). All parts of the health care system interact with neighboring systems (e.g. system physicians practice in non-system community hospitals, system nurse practitioners work in nursing homes). It’s organized around a regional hub that has primary care and specialty resources to decrease patient driving distances. The approach is cooperative vs. competitive with other systems, help smaller community hospitals stay afloat.

and prevent readmissions. One comprehensive system places nurse practitioners in nursing homes full time to monitor patients and prevent hospitalizations, offer care in the nursing homes rather than hospitals when possible, and provide needed post-hospitalization follow-up care.

- Shifting the hospital mentality to keep people healthy and avoid unnecessary care. This requires changing hospital leaders' mindsets to understand that the goal is "to do the best for patients rather than increase profits." This practice requires information technology to help practitioners provide services based on "best practices" with prompts to remind all providers about important procedures.
- Developing a team-based, multi-disciplinary, multi-specialty approach to treatment based on bundled payment for services. Each team is responsible for patient outcomes, conducts tasks to meet established metrics and receives financial incentives for patient outcomes. Information technology prompts team members to meet the required metrics.

TABLE 4 WHAT ELEMENTS OF A HEALTH CARE SYSTEM (HOSPITAL AND COMMUNITY) CAN AFFECT THESE OUTCOMES AND BY HOW MUCH (MODEL)?

THE DIFFERENT SYSTEMS HAD VARIOUS APPROACHES TO IMPROVE HEALTH OUTCOMES:

Tracking prescriptions (filled/not filled) to monitor compliance with medications for patients with chronic diseases. Each provides M.D.s with these data, who then contact and follow up with the patients.

again these are patients who traditionally use the emergency department as their primary access point of resource."

Integrating a mental health specialist into the primary health care team in order to train primary care doctors in diagnosing mental illnesses. Seven systems have done that. The idea is to take some of the mental health services out of the traditional setting and place them into primary care.

Intensive focus on prevention: Providers focus on intensive prevention versus general wellness when possible (e.g. address obesity, exercise, good nutrition, etc. to prevent diabetes). When it isn't possible, they focus on preventing further complications of a disease (e.g. diabetes).

Parity in coverage of mental health services

Electronic record prompting leads to best practices and fewer re-admissions, decreased costs and fewer deaths.

"[W]e have **all the range of psychiatric services from acute inpatient to partial hospitalization programs** and again, we work very closely with the community mental health center located in our County that does a lot of the outpatient work, so we provide call coverage for psychiatric services for them. They come to our emergency department when someone shows up here with a mental health issue and we jointly evaluate the patients to see if they need inpatient, can they go to one of their programs, so we work very closely as part of I'd say the continuum of care in mental health."

Policy changes based on data/evidence based practices: The hospital reviews regularly data on health outcomes and the literature to develop policy changes.

Coordination of care when a patient leaves the hospital using electronic records that inform the primary care M.D. that her/his patient is leaving the hospital. This results in better patient outcomes and lower readmissions.

Access to care for the insured and uninsured:

- Development of a health care services extension infrastructure that can deliver health care resources to areas in need to improve health of the residents
- Identify where to focus health care improvement efforts and resources to improve population health
- Creation of medical home through partnership with a community health care services clinic that reduced admissions, readmissions and ER utilization:
- Case managers identify patients and follow up with them to ensure they are accessing post-treatment services, taking medications, have transportation, etc. have decreased "no show" rate to follow-up appointments for people discharged from ER, etc.
- "[W]e've been able to dramatically reduce the uninsured margin to the hospital, what I heard last to [increase the margin] by \$5 million because

Shift in hospital mentality: Keep people healthy and avoid unnecessary care. Requires changing the mindset of hospital leaders and providers to understand that the goal is to do the best for patients rather than increase profits. It also requires developing payment systems that maintain incomes while avoiding unnecessary care.

"[A]s a not-for-profit company, **our shareholders are the people that we care for.** And so, for us to do an unnecessary CAT scan or an unnecessary surgery or to give them an expensive medication that's not going to benefit them is essentially abandoning our fiduciary responsibility to our shareholders. I don't know if you've heard other people describe it that way, but it's kind of central to us trying to think differently about things 'cause if we're looking at maximizing the bottom line that ain't gonna do it."

Improvements in IT systems (having prompts in electronic records to help providers ask the right questions, developing IT systems that include "decision support information" to help providers conduct best practices)

Establishing tight working relationships with nursing homes and home health agencies to improve discharge coordination and prevent readmissions

Improvements in outcomes due to **pushing the primary care network outside its traditional setting** into employer and school settings

Building a planned care platform that responds to any condition and is not condition-specific (90 percent of the platform is the same for any condition)

Redesigning care delivery around connected personal experience to reduce readmissions and save costs

“We’re really trying to **redesign care around the entire continuum** and we’re looking at how we build accountability for the patient experience across the continuum building our budget and financing models, or quality models to really tell us how well we deliver care not in incremental visits, but in episodes.”

One hospital’s **real focus on primary care**, including turning their primary care practices into patient-centered medical homes, resulted in having the highest office visits per capita in its area, but the lowest hospitalization rates.

Improvement of patient transitions from hospital to home through case management where planning for patient’s discharge starts once they’re admitted to the hospital

Implementing registries for chronic diseases: Allows community health centers to track and improve their data on chronic disease and has resulted in improvements in cancer prevention and immunizations.

Using the lean system for process improvement that was developed by Toyota improves health outcomes

Having a task force statewide to help in community-wide sharing of data and implementation of electronic medical records

In the specific case of diabetes, **having diabetes coordinators who follow up with patients** resulted in improved diabetes outcomes

Triaging patients in the emergency department and observation status (having many patients that are observation patients rather than inpatient admissions) reduces costs, but extended observation leads to patient dissatisfaction and adverse outcomes.

Focus on high-service users by addressing mainly social problems leading to high levels of use (i.e. access to food, housing and transportation). Extension service trains community health workers to identify frequent users, bring them to case managers and address preventable conditions/high ER use.

The university medical center structure **views community health as a high priority**, and it is under the chancellor’s office (not marginalized). A health economist works in the Office of Community Health and all medical students are required to earn a 17-hour certificate of public health taught by public health M.D.s.

“Access to dental health services is a tough problem to address as it’s expensive. We are trying to **create mid-level dental health professionals to increase access.**”

Develop a team-based, multi-disciplinary, multi-specialty approach to treatment and bundled care for nine diseases with practice metrics. Each team is responsible for patient outcomes, team members have discipline/role specific tasks, IT systems help team members conduct tasks to meet metrics, patient data are available to all team members, and the team receives financial incentives when all metrics are met. For example, different team members are responsible for wellness/prevention steps (e.g. immunizations, blood pressure and cholesterol control, smoking cessation, etc.). Patients receive automated birthday greetings with reminders about appointments/tests that need to be scheduled, and then transferred to a scheduler.

Use “predictive modeling” to anticipate how many hospital patients will need follow-up visits, and create space for visits (rather than schedule as emergencies).

Assign a case manager to anyone 65 years or older who is hospitalized, follow up for a month to monitor progress and schedule appointments

Employ full-time nurse practitioners in nursing homes to manage chronic care and provide treatment at the nursing home vs. hospital. Has reduced ER visits and re-admissions

“We’re not a Kaiser model, a closed system. So **two-thirds of our patients are insured by other insurers.**”

A County-based program has tracking/reporting limitations, and plans to do more outcome measurement in the future. **Process measures show increased access to care for specific population groups** as they have bilingual/bicultural providers (Hispanic, Chinese, Muslim).

Special programs focus patient transition from hospital to home or shelter for the homeless and ER diversion.

Reimbursement approaches have been important to working with providers. They **moved from a capitation to a fixed-fee payment** as that makes budgeting easier.

The program **relies on a strong provider network and an active advisory board** to represent different segments of the community (hospitals, community clinics, medical society, the public at large, etc.).

Coordinated programs that **provide practice coaching** so they can become effective medical homes and learn quality improvement techniques. These programs work in concert with a statewide community care network that funds and provides case management services (so individual practices do not need to establish this infrastructure). They also work in concert with area health education centers (AHECs) to focus on practice re-design. All three programs support one another. Case management has helped manage utilization and education.

Case management services are part of the payment structure. The network began with Medicaid, expanded to the dually eligible population, Medicare and other funders. The network pays case managers to be in primary care practices, especially if a large Medicaid population.

KEY ISSUES TO MAXIMIZE UPTAKE AND ACHIEVE THE POTENTIAL OF A HEALTH CARE SYSTEM FOR PUBLIC HEALTH

As indicated in Table 5, respondents have a wide variety of approaches to maximize uptake and achieve the potential of a health care system for public health. The following examples illustrate variations in the health care systems' thinking, values and philosophies.

- "... our goal is never to maximize utilization, we're trying to keep people from utilizing our services; we increasingly are being successful at getting our docs to think that the utilization of the health care system is a failure. ... it's not a success; we'd like people to be at home and healthy rather than sick and in the hospital. ... We're trying to make sure we're caring for our share ... of the paying population, but we're trying not to think about it as utilization. We're not trying to provide services to them, we're trying to get them under our umbrella and then keep them healthy."
- "(sighs) development of high-quality services, convenience, availability, and that's all very difficult, very challenging to develop when you are also trying to meet the demand for care among those who don't have insurance. ... we had some success in attracting patients who have insurance other than Medicaid, ... it's certainly a challenge to attract patients who have insurance that's a better payer than Medicaid ..."
- "Public perception that the health system offers an excellent facility, services and clinical product. ... must be viewed as a "world-class health facility," ... not ... a facility that primarily serves the uninsured, because the public associates such providers with having poor quality services."
- "... by developing a real efficient system of providing that care for those that aren't paying, you're sort of losing less and doing the right thing, which makes you feel good, but it's really about finding a way to care for the patients that are unable to pay in the same kind of system that you use for those that do pay ... and care for them with dignity and all the other good stuff."
- "Due to health care reform, the system is trying to increase their capacity for change and drive quality improvement. With the pressure to control costs and the pace of health care reform, people are scared that their program might get cut. So a big emphasis on demonstrating value right now. We've had the luxury to focus on the quality part of the value equation, but I think people are really focusing on the cost part of the value equation now."

DISCUSSION

KEY HEALTH OUTCOMES AMENABLE TO IMPROVEMENT

All 13 model health care systems mentioned chronic diseases in their list of health outcomes most amenable to improvement. Thus, this discussion section will focus on chronic diseases, comparing our findings to Prince George's County's health priorities while highlighting the two chronic diseases most frequently mentioned as priority health outcomes: diabetes and mental health. We also chose to highlight one health care system that had a distinct approach to prioritizing improvable outcomes.

Upon examination of Prince George County's Health Improvement Plan for 2011-2014, we found some commonalities in terms of their health priorities (County outcome objectives) and those of the systems we interviewed. These commonalities were particularly salient in the area of chronic disease prevention. Prince George's outcome objectives include, among others: reducing death rates from heart disease; reducing the overall cancer death rate; reducing hypertension-related emergency room (ER) visits; reducing diabetes related ER visits; reducing tobacco use by adults; reducing the number of ER visits related to behavioral health conditions; reducing

new HIV infections among adults and adolescents; and reducing hospital ER visits from asthma. Heart disease, cancer, hypertension, diabetes, asthma and behavioral health are health outcomes that were mentioned by five or more of the health care systems we interviewed. In addition, two outcome objectives of Prince George's County focus on increasing the proportion of persons with health insurance and reducing the proportion of individuals who are unable to obtain, or delay obtaining, necessary medical care, dental care, or prescription medications. These objectives are in line with three of the interviewed health systems whose focus is to increase the number of

TABLE 5 WHAT ARE THE KEY ISSUES TO MAXIMIZE UPTAKE AND ACHIEVE THE POTENTIAL OF A HEALTH CARE SYSTEM FOR PUBLIC HEALTH? THE SYSTEMS HAD DIFFERING VIEWS ON HOW TO MAXIMIZE UPTAKE.

Reduction of emergency room visits and keeping the population healthy

One system was a not-for-profit organization with a health care insurance component that covered one quarter of the population in the state. However, it mostly provided care to patients outside its insurance plan. The managed care plan focuses on overall patient care, ensuring continuity of care and offers other insurance plans better deals if they agree to use only its facilities and physicians with whom this managed care plan collaborates with.

This system focused its efforts on reducing emergency room use and physicians are instructed to welcome people without regard to ability to pay. They do not want the patient to view the ER as their source for primary care. Employed physicians are usually more welcoming of non-paying patients than non-employed or affiliated physicians.

They do not try to maximize utilization by paying patients, as they don't consider it utilization.

"Our goal is never to maximize utilization. We're trying to keep people from utilizing our services; we increasingly are being successful at getting our docs to think that the utilization of the health care system is a failure. It's not a success. We'd like people to be at home and healthy rather than sick and in the hospital. We're trying to make sure we're caring for our share, if you want to call it that, of the paying population, but we're trying not to think about it as utilization. We're not trying to provide services to them, we're trying to get them under our umbrella and then keep them healthy."

Creating a connected personal experience and moving primary care to the employer setting

"I think what we've done is we've tried to place primary care at the employer setting, create access through the system, create what we call a connected personal experience, connect the continuum for individuals who are here for a medical or surgical condition. We're trying to maximize our commercial business, really respond to needs and what people want in that experience and then look at where we place services so they're convenient for people."

Advertising MRI services, exploring global payments

"This is an interesting question because the typical response for many years is, 'We need more patients because we need more revenues so we

want to somehow make services more available, or get fancier equipment to draw people in and kind of the more competitive way of delivering health care.' That has happened in Vermont in the past. We will advertise maybe our MRI services. If you don't want to wait at that hospital come to us and we'll do it faster, which gets to this increasing utilization to bring in new revenues ... So we're doing a lot of exploring of things like how do you form an accountable care organization? Or how do you as a system start accepting global payments for your population that you normally wouldn't be seeing? So some of these more cutting edge ideas of shifting away from fee-for-service to more of a population-based payment strategy."

Maximize use by paying patients: high quality, convenience, availability

"Development of high-quality services, convenience, availability, that's all very challenging to develop when you are also trying to meet the demand for care among those who don't have insurance. So we worked on those issues and had some success in attracting patients who have insurance other than Medicaid, but Medicaid is a payer that's challenging to live on 'cause their reimbursement rates are so low. So it's certainly a challenge to attract patients who have insurance that's a better payer than Medicaid."

Public perception that the health system offers an excellent facility, services and clinical product.

The system must be viewed as a "world-class health facility," which means that it must not be viewed as a facility that primarily serves the uninsured, because the public associates such providers with having poor quality services.

Specific strategies: excellence in trauma care and hope for the ACA to kick in

Maximize use by paying patients by doing public information campaigns and advertising, health fairs, community education

Need to **increase the system's linguistic/cultural sensitivity** to meet the needs of ethnic communities (e.g. need more providers from the ethnic communities).

Provide incentives to provide specialty care in local areas to keep people local (e.g. extensive use of

telehealth services)

Looking to the future when the ACA is implemented, accessibility problems will increase due to more insured people. **Linking community health centers with academic medical centers will make the community centers more attractive for paying patients.**

Automated system that reminds team members about the care that's needed and proving that leads to better results

"... **by developing a really efficient system of providing that care for those that aren't paying** you're sort of losing less and doing the right thing, which makes you feel good, but it's really about finding a way to care for the patients that are unable to pay in the same kind of system that you use for those that do pay and care for them with dignity and all the other good stuff."

While the County-based program targets the uninsured population, and only meets a fraction of current demand, the **increased number of insured people from health care reform will create more competition for unpaid care.** The program is screening eligibility now so as many people as possible will obtain insurance/Medicaid. That will leave only the uninsured (including many undocumented immigrants) in the program.

The state provides the hospital millions of dollars to provide "charity care" and they are always trying to woo more insured patients. They have a highly reputable heart care program that brings in a lot of money, and that cross subsidizes a lot of charity care.

Current and future efforts focus on managing cost and eliminating overutilization, a big emphasis on integration of mental health and primary care.

Due to health care reform, the system is trying to increase its capacity for change and drive quality improvement. With the pressure to control costs and the pace of health care reform, people are scared that their program might get cut, so a big emphasis on demonstrating value right now. We've had the luxury to focus on the quality part of the value equation but I think people are really focusing on the cost part of the value equation now.

insured people and access to care.

Chronic diseases constitute an important focus of health care reform under the Patient Protection and Affordable Care Act (ACA) of 2010. It is estimated that 7 million of the non-elderly uninsured in the U.S. have at least one chronic disease (Hoffman & Schwartz, 2008). The ACA has many components dedicated to prevention of chronic disease including the establishment of a National Prevention, Health Promotion and Public Health Council (ACA, 2010; Section 4001). Moreover, it provides incentives for states that offer Medicaid coverage for all U.S. Preventative Services Task Force grade A and B recommended services (e.g. smoking cessation treatment, screening for diabetes, hypertension, dyslipidemia, obesity and cancer) and for the recommended immunizations by the Advisory Committee for Immunization Practices (ACIP) without cost sharing (ACA, 2010; Section 4106). Similarly, the ACA requires coverage of evidence-based preventive services without cost sharing by private insurance companies (Sections 1001 and 1302), and in Medicare (Sections 4104 and 4105) as well. In addition, this law establishes a National Diabetes Prevention Program (ACA, 2010; Section 10501[g]), which is of great importance as 12 of the health systems interviewed identified diabetes as a priority health outcome. The Maryland State Health Improvement Process (SHIP) and County health plan provide detailed outcome measures and 2014 targets for chronic conditions.

Mental health was an important priority for seven of the interviewed health systems. SHIP highlights behavioral health among its outcome measures, as does the County. Although mental health did not constitute a special focus of health care reform, it definitely benefits from its provisions. The ACA prohibits insurance companies from denying insurance to people with

preexisting conditions; thus, people with preexisting chronic conditions including mental illness, will be protected from discrimination by insurance companies (ACA, 2010; Section 1101). In addition, Medicaid expansions under the ACA will extend insurance to 3.7 million people with severe mental illnesses (Garfield, 2011). Along the same line, regulated insurance exchanges in each state are required to cover mental health in their base-level benefit packages (ACA, 2011; Section 1302). Demonstration projects under reform such as medical homes (Sections 2703 and 3502), improved chronic care management (Sections 2703) and better integration of services will also improve mental health care (ACA, 2010). Maryland has already initiated patient-centered medical home pilots.

One of the health systems interviewed had a non-traditional way of prioritizing health outcomes, which entailed examining national health priorities and setting goals around increasing the state's standing nationwide and prioritizing goals that elicit community support. Thus, this system focused on health equity and healthy communities with the specific goals of increasing the number of the insured, increasing immunizations among indigent populations and increasing high school graduation rates. These are important considerations that health systems planning to improve quality and performance can draw lessons from.

MOBILIZING PUBLIC HEALTH RESOURCES

Public health departments and federally qualified community health centers were mentioned most often by the systems as potential public health resources that can be mobilized to complement the health care system's

impact on health outcomes. It is interesting that many of the health systems mentioned public health departments as complementary sources of funding despite the funding cuts currently underway by federal, state and local governments to public health programs. This means that health systems still expect public health departments to fulfill their public health missions despite the funding cuts. The ACA authorizes generous funding for federally qualified community health centers (The Centers for Medicare and Medicaid Services, 2011). This is relevant to Prince George's County, given the limited safety net capacity. These centers provide important primary care services for many people with chronic illnesses and are usually located in underserved areas such as rural settings (Adashi, Geiger, & Fine, 2010). The interviews with the systems provided additional evidence of the value of these community health centers.

The different health systems had many creative ideas when it comes to mobilizing public health resources that may be useful for Prince George's County to take into consideration when designing their new health system. Among these are two innovative ones. One program involved a partnership between the academic health care system and a community-based clinic to establish a medical home with case managers for the under- and uninsured. This program was successful in achieving cost savings and improvements in quality of care. Another system formed a community-wide "Nurse Advice Line" in collaboration with the public health department, managed care organizations and a university and operated in both rural and urban areas. This Nurse Advice Line helped the state health department identify illnesses statewide and resulted in decreased emergency department visits, increased medical homes and better coordination of patient care.

GEOGRAPHIC DISTRIBUTION OF HEALTH CARE RESOURCES INCLUDING PRIMARY CARE PROFESSIONALS

The national shortage in primary care was echoed in the interview responses of the health systems. While the ACA addresses these shortages through several mechanisms including implementation of physician payment reform, primary care workforce expansion legislation, and by authorizing tuition assistance for medical school among others (ACA, 2010), it is not certain that these measures will be sufficient to accommodate the 32 million Americans who will gain insurance coverage under reform. The stated goal of the Governor's Workforce Investment Board November 2011 report, "Preparing Maryland's Workforce for Health Reform: Health Care 2020," called for increasing "primary care workforce capacity by 10–25 percent over the next 10 years." This workforce includes primary care physicians plus advanced nurse practitioners and physician assistants. The health systems interviewed highlighted that primary care shortages were mostly in rural areas and in some states crime-ridden urban areas.

Some systems had innovative practices to address geographic maldistribution of health care resources. One system addressed shortages in rural areas through training workers in their own communities as opposed to outsiders who don't have roots there and through improving the "pipeline" for minority health care professionals by focusing on increasing educational levels for minorities and increasing their enrollment in health professional schools. Another system covered a broad geographic region of one state and included all aspects of the health care system (insurance coverage, acute care hospitals, health care centers, physicians employed by the system). All parts of this health care system

interacted with other health systems in a cooperative way organizing around a regional hub that has primary care and specialty resources, which decreased patient driving distances. These are creative ideas to address maldistribution of resources that may be useful for Prince George's County to take into consideration when designing their new health system.

ELEMENTS OF A HEALTH CARE SYSTEM THAT CAN AFFECT OUTCOMES

Seven systems mentioned mental health as one of the priority health outcomes and a common strategy to address this issue was to integrate behavioral health specialists into primary care teams to train primary care doctors in diagnosing mental illnesses. Thus, the new trend is to move certain mental health services from their traditional psychiatric settings and place them in primary care settings. Moreover, one system emphasized parity in insurance coverage of mental health including the whole range of psychiatric services and their close collaboration with the community mental health center in order to achieve a continuum of care in mental health. The ACA explicitly states that mental health parity applies to qualified health plans in the health benefit exchanges that will be established by states as well as in Medicaid benchmark plans (ACA 2010; Sections 1311 and 2001). Similarly, the Maryland Health Benefit Exchange Act of 2012 (HB 443) requires qualified health plans to meet the mental health requirements of the Mental Health Parity and Addiction Equity Act.

One important focus of the systems was on achieving fewer readmissions within 30 days of a hospitalization due to fear of being penalized under the ACA for avoidable readmissions. Hospitals will experience financial

penalties such as reductions in Medicare payments for excess preventable readmission rates (ACA, 2010; Sections 3025 and 10309). Maryland has been acting on these types of activities for a while through the Maryland Health Services Cost Review Commission. Some strategies designed by the interviewed systems to reduce readmissions included assigning case managers that follow up patients after discharge; incorporating information technology into comprehensive follow-up services; and establishing tight working relationships with hospitals, nursing homes and home health agencies to improve discharge coordination. All these strategies seem to be inspired by the Hospital Readmissions Reduction Program provided under reform (ACA, 2010; Section 3025).

Another important system element affecting health outcomes entailed shifting the hospital mentality from profit-making to keeping people healthy and avoiding unnecessary care. This included a great focus by providers on prevention, tracking prescriptions to monitor compliance with medications for patients with chronic diseases, electronic records prompting for best practices and changing the mindset of providers from making profits to doing what is best for patients.

Increased access to care was another important system element to improving outcomes. This can be achieved through creation of medical homes, identifying the best use of resources to improve population health, implementing open access or advanced access to primary care (patient can schedule same or next day appointments) and having federally qualified health centers covering underserved areas. As previously mentioned, Maryland has launched a pilot program. However, a few states mentioned that they are mainly waiting for the ACA to kick in order to increase access to their under- and uninsured populations.

A number of systems also mentioned incorporating information technology in their systems as a means to achieve quality, efficient care. This included incorporating prompts in electronic records to help providers ask the right questions and rely less on memory in treating their patients. Another practice is developing information technology systems that include “decision support information” to help providers conduct evidence-based medicine. Information technology can also be used in tracking prescriptions to monitor compliance with medications and to support discharge planning by following up with patients upon hospital discharge.

As one examines the system elements mentioned in the interviews, it becomes clear that at least some of these systems will make use of the ACA provision that encourages Medicaid programs to implement health homes by providing a federal funding match of 90 percent in the first two years (ACA 2010; Section 2703). This provision allows states to compensate health home providers with designated patients for services

that cover care management, essential referrals, provision of individual and family support, and for utilization of health information technology to ensure the monitoring and coordination of all the providers involved in the care of the designated patients.

KEY ISSUES TO MAXIMIZE UPTAKE

The health systems interviewed had different ideas on how to maximize uptake and achieve the potential of a health care system for public health. One system focused its efforts on reducing emergency room visits and keeping the population healthy and refused the concept of increasing paying patients as they viewed their goal to not maximize utilization, but instead to decrease utilization by keeping people healthy. Another system focused on creating what it called a “Connected Personal Experience” and redesigned care around the entire continuum as well as moving primary care to employer and school

settings. A different system mentioned advertising its fancy equipment, such as MRIs, because they needed more revenue. However, respondents also mentioned exploring global payments in order to shift away from fee-for-service to more of a population-based payment strategy. Yet another system mentioned that to maximize use by paying patients it worked hard on developing high-quality services that are convenient and available. However, they emphasized that these strategies are very challenging to develop when trying to meet the demand for care by the uninsured and by Medicaid patients where reimbursement rates are low. Thus, there appear to be differences in the values driving the systems’ answers to ways of maximizing uptake. Some systems focus on strategies to increase the utilization of services by paying patients, while others focus on decreasing unnecessary utilization and on providing a continuum of preventive and treatment services that keep people healthy and prevent avoidable medical complications.

HIGHLIGHTS OF FOUR SYSTEMS

While all 13 health care systems offer valuable lessons that can inform the development of a new system in Prince George’s County, four systems include innovative designs that address critical needs: increased access to care, high-quality services addressing pressing community health outcomes, multi-disciplinary provider teams that offer coordinated care, as well as efficiency and sustainability of provider organizations. (See Appendix B for a summary of each system and an explanation of its relevance to the County.) The innovative components of these systems are highlighted below.

- One health care system, serving a rural, multi-cultural population, focuses on health outcomes that have community support. It looks at the state’s standing in the country on health indicators, and selects areas that have clear metrics to measure success and community support to address the problem. For that reason, their priorities look different from many other systems. As an example, this system focuses on high school graduation rates as improved education levels lead to improved health outcomes and other community priorities

(increased employment as more people would have skills for health care jobs). To meet the needs of a rural, ethnic population, this system works closely with community health workers from the University of Maryland Extension. They coordinate with this well-established system and provide health education and other preventive services. This innovative system also developed a community-wide “Nurse Advice Line” in partnership with the public health department, managed care organizations and a university. It operates in rural and urban areas,

and receives 15,000 calls per month. The Nurse Advice Line has led to decreased emergency department visits, increased medical homes and coordinated care (patient records are faxed to the medical home the next day). The state health department monitors the Nurse Advice Line to identify illness statewide.

- A second system, that serves a mainly urban population, includes multiple components, including hospitals, insurers, employed physicians and other providers. While it is a “tight system” with one board of directors, it also works with other insurers and providers. Its focus on keeping patients healthy and out of the hospital requires a mindset that differs from traditional hospitals. When asked how they increase the number of insured patients, the interview respondent described a philosophy that requires providers to view hospitalization as a failure. The system has developed information technology that helps providers implement best practices by prompting them to ask key questions, schedule preventive services, make follow-up appointments at the time of hospital discharge, etc. In place of increased revenue from admissions, physicians receive incentives for keeping patients healthy. They focus on cost savings by preventing unnecessary re-admissions. For example, they

have “embedded” nurse practitioners in nursing homes so they can offer comprehensive follow-up care for elderly patients when they return from a hospitalization.

- A third system serves a large portion of one state that includes both rural and urban areas. Like the previously described system, this one also includes hospitals, insurers, employed physicians and other providers. However, they work closely with other hospitals, providers and insurers that are outside their system. They also have developed extensive information technology that helps providers follow “best practices” in hospital treatment and follow up care. They have developed a team-based, multi-disciplinary, multi-specialty approach to treatment based on bundled payment for services. Each team is responsible for patient outcomes, conducts tasks to meet established metrics and receives financial incentives for patient outcomes. Information technology prompts team members to meet their required metrics.
- The fourth health care system focuses on increasing access to services for the uninsured population in one large County. It includes a large ethnic and immigrant population, similar to Prince George’s County, and could inform

the development of one component of a new health care system. This County-funded system works with a coalition of hospitals and outpatient providers, including many pro bono services, to serve their target population. In preparation for health care reform implementation, this system has increased its efforts to enroll clients in Medicaid and other programs. In addition, they anticipate increased access problems for people without insurance when the insured population greatly expands. They fear that the health care system’s need to serve more insured patients will impact its ability to focus on those without insurance coverage. When health care reform is implemented, many of the remaining uninsured population will be undocumented immigrants in this service area as well as Prince George’s County.

- All four systems that are highlighted have expanded their capacity to serve a behavioral health population. Three have incorporated a behavioral health specialist into their primary care services.

LIMITATIONS Our ability to speak with more than one informant per health care system was limited by time. Due to tight time constraints, the researchers did not use a qualitative data analysis program that requires line-by-line coding.

SUMMARY

This study has offered a glimpse into 13 innovative systems, with a more in-depth focus on four systems. It is clear that planners of the new health care delivery system could learn additional lessons from further study of these systems. We look forward to future learning from these innovative health care programs.

REFERENCES

- Adashi, E.Y., Geiger, H.J., & Fine, M.D. (2010). Health care reform and primary care—the growing importance of the community health center. *The New England Journal of Medicine*, 362 (22), 2047-2050.
- Bodenheimer, T., Chen, E., & Bennett, H.D. (2009). Confronting the Growing Burden of Chronic Disease: Can the U.S. Health Care Workforce Do the Job? *Health Affairs*, 28(1), 64-74.
- Bodenheimer, T., & Pham, H. H. (2010). Primary Care: Current Problems and Proposed Solutions. *Health Affairs*, 29 (5), 791-798.
- Brook, R. H., & Young, R. T. (2010). The Primary Care Physician and Health Care Reform. *The Journal of the American Medical Association*, 303 (15), 1535-1537.
- The Centers for Medicare and Medicaid. (2010). *2010 Actuarial Report on the Financial Outlook for Medicaid*. Centers for Medicare and Medicaid, Office of the Actuary. CMS.
- Dorsey, E. R., Nicholson, S., & Frist, W. H. (2011). Improving the Supply and Distribution of Primary Care Physicians. *Academic Medicine*, 86 (5), 541-543.
- Epstein, A. M., Ashish, J. K., & Orav, E. J. (2011). The Relationship between Hospital Admission Rates and Rehospitalizations. *The New England Journal of Medicine*, 365, 2287-2295.
- Garfield, R.L., Zuvekas, S.H., Lave, J.R., & Donohue, J.M. (2011). The impact of national health care reform on adults with severe mental disorders. *American Journal of Psychiatry*, 168(5), 486-494.
- Goodell, S., Dower, C., & O'Neill, E. (2011). *Primary Care Workforce in the United States*. Policy Brief #22, The Robert Wood Johnson Foundation.
- Goodson, J. (2010). Patient Protection and Affordable Care Act: Promise and Peril for Primary Care. *Annals of Internal Medicine*, 152 (11), 742-744.
- Hoffman, C., & Schwartz, K. (2008). Eroding access among nonelderly U.S. adults with chronic conditions: Ten years of change. *Health Affairs*, 27(5), w340-w348.
- Kirsch, D. G., Henderson, M. K., & Dill, M. J. (2012). Physician Workforce Projections in an Era of Health Care Reform. *Annual Review of Medicine*, 63 (4.1-4.11).
- Maryland Department of Health and Mental Hygiene. (n.d.). State Health Improvement Process Home: Measures. Retrieved from dhmh.maryland.gov/ship/SitePages/measures.aspx.
- Maryland Health Benefit Exchange Act of 2012. (HB 443). Retrieved from mlis.state.md.us/2012rs/billfile/hb0443.htm.
- Minott, J. (2008). *Reducing Hospital Readmissions*. AcademyHealth and the Commonwealth Fund. Academy Health.
- Oh, J. (2011, September 21). *10 Proven Ways to Reduce Hospital Readmissions*. Retrieved from Becker's Hospital Review: Business & Legal Issues for Health System Leadership, www.beckershospitalreview.com/quality/10-proven-ways-to-reduce-hospital-readmissions.html.
- The Patient Protection and Affordable Care Act of 2010. (Public Law No. 111-148).
- Prince George's County Health Department. (2012). Prince George's County Health Improvement Plan 2011 to 2014, Blueprint for a Healthier County. Retrieved from www.princegeorgescountymd.gov/Government/AgencyIndex/Health/pdf/LocalhealthPlanPrefinal.pdf.
- Starfield, B., Shi, L., & Macinko, J. (2005). Contributions of Primary Care to Health Systems and Health. *The Milbank Quarterly*, 83 (3), 457-205.
- The State of Maryland & the Governor's Workforce Investment Board. (November 2011). Preparing Maryland's Workforce for Health Reform: Health Care 2020. Retrieved from www.gwib.maryland.gov/pub/healthreformcare2020.pdf.

APPENDIX A PUBLIC HEALTH IMPACT STUDY OF PRINCE GEORGE'S COUNTY

*Interview Questions for Professionals
in Model Health Care Systems*

OPENING QUESTION

How long has your system been in its current form in terms of organizational structure, financing, target population and services provided?

QUESTION 1

What are the key health outcomes in your service area most amenable to improvement by a new health care system?

- Has the system been able to improve health outcomes for patients with chronic diseases? Please specify which diseases.
- Describe the improvements in treatment/outcomes for specific population groups.
- Does the system have data and other material to share with us?

QUESTION 2

What elements of your health care system (hospital and community) can affect these outcomes and by how much?

- How did you achieve these improvements?
 - Which elements in the system were involved in obtaining these results and were these elements specific to each disease?
 - How did the system design assist or impede the process?
- Describe the benefits that were realized, including cost savings in regard to the following:
 - Hospital admissions
 - Readmissions
 - ED usage

- Please describe any efforts designed to improve patient transitions from hospital to home and to decrease hospital readmissions.

QUESTION 3

What is the geographic distribution of health care resources in your service area, and where are the areas of greatest need for primary care?

- How does the location of the system and geographic distribution of services optimize its impact on patient and community health? Please specify in regard to hospitals and ambulatory care centers.
- Where is the greatest need in your community for primary care providers and services? Geographic distribution? Describe this system in terms of affordability, availability and access to care.

QUESTION 4

Is your health care system well utilized by both paying and non-paying patients? By what proportion?

- What issues are key to maximizing utilization by paying patients?

If not, what are the challenges you face to maximizing utilization, and what is your system doing to increase utilization?

QUESTION 5

What resources can you mobilize in the public health sector to complement the impact of your health care system (e.g., public health and community-based organizations, community and safety net programs)?

- What other external (e.g. community-based, etc.) resources can you mobilize to facilitate your system's impact on public/community health?

QUESTION 6

What financing mechanisms does your health care system use (e.g. please specify any Medicaid waivers, managed care, etc.)?

Please provide contact information for the financial officer with whom we might speak.

QUESTION 7

a. What changes in your system have you made in the last year?

b. What changes do you expect to make in the next year to keep people healthy and to keep your system sustainable?

c. Have you incorporated mental health into your system? If so, please explain.

d. What type of innovations have you implemented in your system (e.g. innovations in financing, service delivery, discharge coordination to prevent re-admissions)? Are there innovations that you are considering, but have not implemented yet?

APPENDIX B: MODEL HEALTH CARE SYSTEMS DESCRIPTIONS

The following descriptions provide additional information about four systems that are of particular relevance to the new health care delivery system design.

SYSTEM 1

SYSTEM CHARACTERISTICS

One model health care system is a primary care program within an academic health sciences center that serves a rural, multi-cultural population, and focuses on health outcomes that have community support. It looks at the state's standing in the country on health indicators and selects areas that have clear metrics to measure success and community support to address the problem. For that reason, its priorities look different from many other systems. As an example, this system focuses on high school graduation rates as improved education levels lead to improved health outcomes and other community priorities (increased employment as more people would have skills for health care jobs).

INNOVATIVE PRACTICES

To meet the needs of a rural, ethnic population, this system works closely with community health workers from the Extension Service to address the social determinants of disease within each community. It coordinates with this well-established system and provides health education and other preventive services. Health extension agents are located in rural communities across the state and are supported by regional coordinators and the Office of the Vice President for Community Health at the Health Sciences Center. The role of agents is to work with different sectors of the community in identifying high-priority health needs and linking those needs with university

resources in education, clinical service and research. Community needs, interventions and outcomes are monitored by County health report cards. The Health Sciences Center is a large and varied resource, the breadth and accessibility of which are mostly unknown to communities. Community health needs vary, and agents are able to tap into an array of existing health center resources to address those needs. Agents serve a broader purpose beyond immediate, strictly medical needs by addressing underlying social determinants of disease, such as school retention, food insecurity and local economic development. Developing local capacity to address local needs has become an overriding concern. Community-based health extension agents can effectively bridge those needs with academic health center resources and extend those resources to address the underlying social determinants of disease.

This innovative system also developed a community-wide "Nurse Advice Line" in partnership with the public health department, managed care organizations and university. It operates in rural and urban areas and receives 15,000 calls per month. The Nurse Advice Line has led to decreased emergency department visits, increased medical homes and coordinated care (patient records are faxed to the medical home the next day). The state health department monitors the Nurse Advice Line to identify illness statewide.

IMPORTANCE FOR PRINCE GEORGE'S COUNTY

The ethnically diverse population served by the model system is akin to the diverse population of Prince George's County, and the School of Public Health (SPH) has faculty members with extensive experience

working with the Extension Service system in Maryland. Many University of Maryland School of Public Health faculty members are well-versed in conducting community-based needs assessments and identifying key community priorities, as performed by this model system. Many lessons from this system can inform the development of a new health care system in Prince George's County.

SYSTEM 2

SYSTEM CHARACTERISTICS

This system is a not-for-profit organization with multiple components, including 23 hospitals, more than 165 clinics, around 1,000 employed physicians and other providers. Its multi-specialty medical group operates physician clinics, pharmacies, hospital units and urgent care clinics. Moreover, the system owns six community clinics and supports 13 community clinics, all serving and low-income, homeless and uninsured patients. While it is a "tight system" with one board of directors, it also works with other insurers and providers. It has a health care insurance component that covers about 650,000 individuals, which represents approximately one-quarter of the population in the state. This organization mainly serves an urban area where around 90 percent of the population lives in Metropolitan Statistical Areas (MSAs). Its clinical programs include cardiovascular, oncology, women and newborns, primary care, intensive medicine, surgical services, pediatric specialties, and behavioral health. This system's biggest problem in terms of geographic distribution of resources is the large undocumented immigrant population, which they mainly serve through low-income clinics and federally qualified

health centers. Nine percent of the patients this organization serves are non-paying patients, but this organization treats all its patients as if they are covered under its health insurance plan. The physicians employed by this organization are more likely to be welcoming of this non-paying population than non-employed or affiliated physicians. This organization's focus on keeping patients healthy and out of the hospital requires a mindset that differs from traditional hospitals.

FINANCING STRUCTURE

In terms of financing mechanisms, 23 percent of their patients are covered under Medicare, 11 percent under Medicaid, 51 percent are privately insured, 9 percent are uninsured and 6 percent are covered through other means. The organization's health insurance plan is a managed care plan in the sense it is focused on managing overall patient care with the aim of improving health outcomes. In addition, it collaborates with several national health insurance plans to manage the care this organization provides to the insured population. For example, it focuses on coordinating patient care and ensuring continuity of care, and offers other insurance plans a "better deal" if they agree to use only its facilities and physicians with whom it collaborates. This organization believes this approach increases the quality of care delivered to the patient and also reduces costs due to decreased adverse events. Its philosophy is that unnecessary care is not a source of revenue; rather, it is a source of damage to both the patient and to those who are paying the patient's health care bill. Thus, it is now developing payment mechanisms for both its employee-physicians and affiliated physicians that will reward them for avoiding unnecessary procedures and treatment, and increasing the health of their patients in order to reduce the need for such services. According to the senior vice

president of this organization, as a non-profit hospital, their "shareholders" are patients. Its goal is to do the best for their patients, not increase profits.

INNOVATIVE PRACTICES

The system has developed information technology systems including "decision support information" that helps providers implement "best practices" by prompting them to ask key questions, schedule preventive services, make follow up appointments at the time of hospital discharge, etc. In place of increased revenue from admissions, physicians receive incentives in their payment systems for keeping patients healthy. They focus on cost savings by preventing unnecessary re-admissions. For example, nurse practitioners are "embedded" in nursing homes so they can offer comprehensive follow-up care for elderly patients when they return from a hospitalization. They also work with home agencies so that physicians follow patients from hospital to home health care.

Using insurance records, the system tracks prescriptions (filled/not filled) for patients with chronic diseases to monitor compliance with medications. The focus is especially on diabetes, asthma, mental illness, cognitive heart failure and chronic cancers (e.g. prostate). By using metrics/goals for each disease, they track improved health outcomes, cost savings, and decreased emergency department visits and hospitalizations. Moreover, providers focus on intensive prevention and general wellness when possible (e.g. address obesity, exercise and good nutrition to prevent diabetes). When that isn't possible, they focus on preventing further complications of a disease. For mental illness, they have adopted a mental health specialist integrated into the primary health care team. The mental health specialist is part of the initial visits and trains primary care providers to become more mental health competent.

Finally, the organization regularly implements policy changes based on data and evidence-based practices. In conclusion, this organization's main goal is to get its patients healthy and to keep them healthy.

IMPORTANCE FOR PRINCE GEORGE'S COUNTY

While this system is much larger than one County, it offers many lessons for Prince George's County. Its focus on health promotion and disease prevention as a standard of practice addresses both quality and cost issues. The system leaders' philosophy is that the best patient care keeps people healthy and out of hospitals. They achieve this goal with innovative approaches such as adherence to disease prevention protocols and metrics for chronic diseases, technology designed to help practitioners meet these metrics, comprehensive follow-up care after a hospitalization, and case management for all elderly patients who leave the hospital. Their team approach to care, with bundled payments and financial rewards for effective team care, has also helped achieve this goal. This system also treats a large immigrant population, as does the County.

SYSTEM 3

SYSTEM CHARACTERISTICS

System 3 serves a large portion of one state that includes both rural and urban areas. It serves more than 2.6 million residents in 42 counties as a not-for-profit, fully integrated health services organization. The physician-led system includes a multi-disciplinary physician group practice with system-wide aligned goals, clinical programs, an information technology platform, a robust research program and an insurance provider. This system includes three hospitals, 38 community centers with

800 employed physicians (primary care and specialists) and other providers. The system works closely with other hospitals, providers, and insurers that are outside their system.

SYSTEM FINANCING

The system insures 250,000 people. Patient insurance includes the following sources: Medicare (39 percent), Medicaid (12 percent), private insurance (44 percent) and other sources (3 percent), with only 2 percent uninsured.

INNOVATIVE PRACTICES

The system has also developed extensive information technology that helps providers follow “best practices” in hospital treatment and follow up care. It developed a team-based, multi-disciplinary, multi-specialty approach to treatment based on bundled payment for services. Each team is responsible for patient outcomes, conducts tasks to meet established metrics and receives financial incentives for patient outcomes. Information technology prompts team members to meet their required metrics.

IMPORTANCE FOR PRINCE GEORGE’S COUNTY

With a focus on primary care, information technology, team-based care, health services research and insurance coverage from a variety of sources, including Medicaid, this system offers multiple lessons that can inform the development of a new Prince George’s County system.

has mobile clinics that travel throughout areas of the County. All clinics are staffed by medical professionals and are independently operated by non-government entities.

The program aims to ensure that all residents of the County are able to obtain good health care services, regardless of their health care insurance status or income. There are 28 health clinics available throughout the County in multiple communities. Clinics provide basic, essential health care services, such as office visits with medical professionals, medications/prescriptions, wellness check-ups, screenings, chronic disease management (i.e. diabetes and high blood pressure), as well as referrals for specialty care and dental services.

The program also offers a wide range of assistance to adults experiencing homelessness. There are more than 75 sites located throughout the County. A variety of critical services are offered. Each site offers specific types of assistance, including shelter, housing, food, emergency assistance, pharmacy assistance, transportation to medical appointments, STD screening, reproductive and mental health, financial assistance, clothing, supplies for infants (i.e. diapers and formula) and other social services.

SYSTEM FINANCING

The County provides partial funding to support a network of non-profit health clinics. The program relies on pro bono care from providers and donated clinic space. Each of these facilities has a distinctive history and culture, as well as their own additional funding sources.

that it will become will be even more difficult for the uninsured population to obtain care when providers are busier with a larger, insured population. They believe that the remaining uninsured population will comprise many undocumented people who will have limited access to care. This program’s preparation can inform Prince George’s County as it has a large immigrant population.

SYSTEM 4

SYSTEM CHARACTERISTICS

System 4 was created in 2005 and provides low- or no-cost primary care services to medically uninsured, low-income adult residents of an urban County. In addition to “brick and mortar” health clinics, the program also

IMPORTANCE FOR

PRINCE GEORGE’S COUNTY

While this County program serves the uninsured, it is preparing for major changes when many more people become insured through the Affordable Care Act. Program staff are concerned

TECHNICAL REPORTS

Appendices

APPENDIX A OVERVIEW OF DATA SOURCES

Data Source	Time Period	Description of Source	Description of Use
American Hospital Directory <i>Ahd.com</i>	FY 2010	The American Hospital Directory is an online resource for data on hospital characteristics.	Used to determine the total discharges for each Prince George's County hospital in fiscal year 2010
Maryland Health Services Cost Review Commission (HSCRC)	FY 2007, 2008, 2009	HSCRC collects a variety of hospital information including hospital discharge and hospital readmissions data	Used discharge and readmissions data as the outcome variables in the econometric analysis
DHMH Board of Dental Examiners	2011	Lists licensed dentists and dental hygienists, their primary practice address and specialty status for dentists	Used to assess the count and ratio of dentists, dental hygienists and dental care providers
DHMH Board of Nursing	2011	Lists licensed nurse practitioners, their specialty and their primary practice address.	Used to calculate the counts and ratio of nurse practitioners
DHMH Board of Physicians	2011	Lists licensed physicians, primary certification, primary and secondary office location and responses to physician relicensure survey. The Board of Physicians also provided data for licensed physician assistants and their primary practice address.	Used to calculate counts of physicians and physician assistants and derive provider-to-population ratios for physicians, data were used to identify specialists and categories of specialists, and select practice characteristics.
DHMH Board of Professional Counselors and Therapists	2011	Lists licensed counselors and therapists and their primary practice address	Used to assess the count and ratio of core mental health workers, which included social workers, psychologists, counselors and psychiatrists jurisdictions
DHMH Board of Psychology	2011	Lists licensed psychologists and their primary practice address	Used to assess the count and ratio of mental health workers, which included social workers, psychologists, counselors and psychiatrists
DHMH Board of Social Work Examiners	2011	Lists licensed social workers and their primary practice address	Used to assess the count and ratio of mental health workers, which included social workers, psychologists, counselors and psychiatrists
U.S. Census Bureau	2000, 2010	The U.S. Census collects a broad range of information available once every 10 years from the decennial census; estimates are produced between censuses.	Data on ZIP code-level characteristics were used as explanatory variables for workforce counts, ratios and population characteristics (County, ZIP code and PUMA).
U.S. Census Bureau's Annual Estimates of the Population	2007	The Annual Estimates of the Population provides information such as the number of residents in specific jurisdictions	Used to analyze the data on population size for Prince George's County for trend comparisons

Three categories of data were used by the Public Health Impact Study investigators: 1) hospital data used for Technical Reports 4 and 6; 2) health care provider data used for Technical Reports 3, 4 and 6; and 3) population demographic data used for Technical Reports 1, 3, 4 and 6. The data sources are organized in these three categories.

HOSPITAL DATA SOURCES

For Maryland-specific data we used data that originated from the Maryland Health Services Cost Review Commission, but were provided by the Department of Health and Mental Hygiene and the University of Maryland Medical System only

for purposes of this study. Similarly, data that originated from the District of Columbia were provided to us by the University of Maryland Medical System for this study.

HEALTH CARE PROVIDER SOURCES

All data on the eight categories of provider groups were obtained directly from the Department of Health and Mental Hygiene's respective boards that oversee licensure and relicensure.

POPULATION DEMOGRAPHICS SOURCES

We used the U.S. Census data for our population demographic and size information.

APPENDIX B STUDY LIMITATIONS

In reviewing the results of our study, the following limitations should be kept in mind:

TECHNICAL REPORT 1: RANDOM HOUSEHOLD HEALTH SURVEY

The limitations of time and resources constrained the length of the survey and resulted in limiting the questions about health behaviors. In addition, the questions related to race and ethnicity did not provide sufficient sub-group data within racial categories and thus analyses within racial categories were not possible.

TECHNICAL REPORT 2: INTERVIEWS WITH KEY STAKEHOLDERS

While our results present findings from stakeholders in a range of categories, not all identified stakeholders were able to participate in the study. This may have left a gap in the overall assessment of input from stakeholders.

TECHNICAL REPORT 3: PHYSICIAN COUNTS AND CATEGORIZATION AND CHARACTERISTICS OF PHYSICIANS IN THE STATE OF MARYLAND AND PRINCE GEORGE'S COUNTY

Our approach to physician counts varies from other studies. We focused on identifying those physicians who are licensed, providing patient care at least 20 hours per week and who have completed their specialty boards. This approach is designed to address current high-quality, patient care capacity in the County. It is most aligned with the MHCC Hogan Report and differences are described. We also describe these differences when our findings are compared with other reports and provide a very detailed description of our methods to facilitate discussions about the physician workforce. Our approach is internally consistent and should not affect our comparisons with other jurisdictions. Since our counts were developed to be used for geographic analyses at the level of ZIP codes, we did not include a number of physicians who declared the County as their jurisdiction, but whose ZIP code was outside the County. This included a total of 48 physicians of which 18 are primary care physicians.

TECHNICAL REPORT 4: IDENTIFICATION OF GEOGRAPHIC AREAS OF NEED FOR PRIMARY CARE

Our geographic analyses used both ZIP code-level data and data at the level of seven Public Use Microdata Areas (PUMAs) to provide sub-county level information. Use of ZIP codes for provider-to-population ratios can generate results that are skewed due to the variation in the size of the population within a given ZIP code and the number of providers in that same code. We projected need for primary care providers using counts derived from PUMA parameters. Because we used PUMAs, which consist of about 100,000 residents each, we may have lost some more detailed and accurate data than would have been available had we used census tracts. Since there is no match between ZIP codes and census tracts, time did not permit the extensive coding needed to use census tracts. Our identification of primary care need "hot spots" gives equal weight to three categories of factors (primary care physicians, hospital encounters and population characteristics), each of which come from different sources of data.

**TECHNICAL REPORT 5:
OVERVIEW OF PUBLIC AND
PUBLIC HEALTH RESOURCES**

We used predominately secondary data to identify the range of programs and resources in the County. We did not conduct a direct review of these activities. A critical review of these activities is needed to determine their actual capacity.

**TECHNICAL REPORT 6:
CURRENT EXPERIENCES
(2007–2009) AND FUTURE
PROJECTIONS OF PRINCE
GEORGE’S COUNTY
RESIDENTS’ HOSPITAL
ENCOUNTERS**

The data used for these analyses were specific to County residents’ hospital encounters and do not include emergency department use. The projections of future hospital discharges are based on 2009 discharges and population growth rates between 2000 and 2010 census data at the level of ZIP codes, and do not take into account any increases in providers or any variations in their practices. These analyses do not include non-county residents who use and are discharged by county hospitals.

**TECHNICAL REPORT 7:
ASSESSMENT OF
COMPARABLE MODEL
HEALTH CARE SYSTEMS**

Time limited our interviews with one informant per health care system.

**HEALTH OUTCOME
MEASURES AND
PROJECTIONS**

The data presented for the baseline and projected rate of emergency department (ED) visits per 100,000 is limited to use of EDs in Maryland, and does not include the District of Columbia hospitals. Approximately 25 percent of County residents use the latter hospitals for their care.

**DATA ON PRIMARY CARE
WORKFORCE**

We used relicensure data for all eight workforce categories. We did not delineate hours of patient care per week or specialty status, except for the physician category.

**PROJECTION OF THE PRIMA-
RY CARE WORKFORCE NEED**

We only used provider-to-population ratios to project the number of providers needed by PUMA. The ratios used to determine sufficient needs are ones HRSA has referenced when documenting provider need. We realize provider-to-population ratios are not the only indicator of need for care and future assessments would benefit from assessing population health status, travel distances to clinics and other variables. We also did not consider subspecialty provider to population ratios in our projections.

TECHNICAL REPORTS

Index of Tables and Figures

TECHNICAL REPORT 1 **RANDOM HOUSEHOLD HEALTH SURVEY**

TABLE 1 Landline Sample Plan with Stratification by Income 3

TABLE 2 Final Distribution of Landline Completes by Stratum 3

TABLE 3 Comparison of Benchmark Data, Unweighted Sample and Weighted Sample 4

TABLE 4 Sample Dispositions 5

FIGURE 1 Public Use Microdata Areas (PUMAs) in Prince George County 7

TABLE 5 Sample Demographics 8

TABLE 6 Perceived Urgent Health Condition in the County 9

TABLE 7 Top Perceived Health Issues by PUMA 9

FIGURE 2 Health care Issues Poll 9

TABLE 8 Percent of Residents Who Perceive These Health care Issues as a Major Problem in the County 10

TABLE 9 Personal Health Poll 10

TABLE 10 Diagnosed Medical Conditions 10

FIGURE 3 Body Mass Index 11

FIGURE 4 Body Mass Index by PUMA 11

FIGURE 5 Service Importance 12

TABLE 11 Perceived Quality of Care from Usual Source of Care 13

FIGURE 6 Access to a Personal Doctor or Health care Provider by PUMA 13

TABLE 12 In What City or Town is Their Office Located? 14

TABLE 13 Reasons for Seeking Care Outside of Prince George’s County 14

TABLE 14 Reasons for Delay or Difficulty in Getting Health Care 14

TABLE 15 What are Your Top Three Priorities When Deciding on the Location Where You Will Get Health care Services? .. 15

TABLE 16 Priorities Seeking Primary Care by Region 16

TABLE 17 When You Think of Hospitals Serving Prince George’s County Residents, Which Hospital Comes to Mind First? .. 16

TABLE 18 Which Hospital is Located Closest to You? 16

FIGURE 7 Hospital Service Quality 17

TABLE 19 Choice of Hospital for General Hospitalization and Heart Attack Sorted by Best Overall Quality 18

FIGURE 8 To Which Hospital Would You Choose to be Admitted if You Needed Hospitalization for Anything Other Than an Emergency? 18

FIGURE 9 To Which Hospital Would You Choose to be Admitted if You Needed Hospitalization for a Heart Attack? 19

TABLE 20 Thinking of the Last Hospital Stay by You or Someone in Your Household, in Which Hospital was That Last Stay? 19

FIGURE 10 How Pleased Were You with Your Hospital Experience? 19

TABLE 21 Why Did You Not Use a Hospital located Within Prince George’s County? 20

FIGURE 11 What Would Change Your Unfavorable Opinion of Prince George’s County Hospital? 21

FIGURE 12 Thinking Specifically of Laurel Regional Hospital, Whether You Have Ever Been a Patient There or Not, What is Your Overall Opinion of the Hospital? 21

FIGURE 13 What Would Change Your Unfavorable Opinion of Laurel Regional Hospital? 22

FIGURE 14 Importance of Factors in Decision to Use New Hospital. 22

TABLE 22 Health Literacy 23

FIGURE 15 How Confident Are You Filling Out Medical Forms by Yourself? 24

FIGURE 16 Please Tell Me if the Following has been a Major problem for You, a Minor Problem for You, or Not a Problem at all During the Last 12 Months? 24

TECHNICAL REPORT 2 INTERVIEWS WITH KEY STAKEHOLDERS

TABLE 1 Stakeholder Groups From Which Participants Were Recruited. 49

TABLE 2 Stakeholder Groups Captured Through Individual Interviews. 51

TECHNICAL REPORT 3 PHYSICIAN COUNT AND CATEGORIZATION AND CHARACTERISTICS OF PHYSICIANS IN THE STATE OF MARYLAND AND PRINCE GEORGE’S COUNTY

FIGURE 1 Approach to Physician Count Management 71

TABLE 1 Guide to Physician Count Management 72

TABLE 2	Physician Counts Per 100,000 Residents, By Jurisdiction and Selected Specialties	73
TABLE 3	Comparison of Physician Counts	74
TABLE 4	Physician Counts Per 100,000 Residents in Prince George’s County, By Year and Selected Specialties.....	77
TABLE 5	Prince George’s County Physician Rates Per 1,000 By Primary Care and Other Specialties	76
TABLE 6	Selected Practice Characteristics for Prince George’s County Board Certified Total and Primary Care Physicians by Percent and Number, 2010.....	76
TABLE 7	Hospital Characteristics for All Prince George’s County and All State Board-Certified Physicians by Percent and Number, 2009-2010.....	77

**TECHNICAL REPORT 4 IDENTIFICATION OF GEOGRAPHIC AREAS OF NEED FOR PRIMARY CARE:
AN ASSESSMENT OF THE GEOGRAPHIC DISTRIBUTION OF SELECTED HEALTH CARE RESOURCES**

FIGURE 1	Geographical Information of Five Jurisdictions	98
FIGURE 2	Geographical Map of Five Selected Jurisdictions	99
FIGURE 3	GIS Analysis of Population Size by Jurisdictions.....	101
FIGURE 4	GIS Analysis of African American/Black Population by Jurisdictions	102
FIGURE 5	GIS Analysis of Median Household Income by Jurisdictions.....	103
FIGURE 6	GIS Analysis of High School Diploma as the Highest Educational Level by Jurisdictions.....	104
FIGURE 7	Geographical Distribution of Community Facilities	105
FIGURE 8	Age-Adjusted Myocardial Infarction Rate per 100,000 Residents by Jurisdiction, 2009	106
FIGURE 9	GIS Analysis of Myocardial Infarction Hospital Discharge Rates by Jurisdictions	107
FIGURE 10	Age-Adjusted Asthma Rate per 100,000 Residents by Jurisdiction, 2009	108
FIGURE 11	GIS Analysis of Asthma Hospital Discharge Rates by Jurisdictions, 2009	109
FIGURE 12	Geographical Locations of Public Use Microdata Areas (PUMA)	110
TABLE 1	The Number of Health care Workforce by Type and by County	111
TABLE 2	The Number and Type of Dental Care and Mental Health Workforce by County.....	111
FIGURE 13	Primary Care Physician Rate per 100,000 Residents by Jurisdiction, 2010.....	111
FIGURE 14	GIS Analysis of Primary Care Physician Rate per 100,000 Residents by Jurisdiction, 2010	112

FIGURE 15	Geographical Clustering of Primary Care Physicians by Population.	112
FIGURE 16	GIS Analysis of Primary Care Physician Location Overlaying Age-Adjusted Myocardial Infarction Rate per 100,000 Residents.	114
FIGURE 17	GIS Analysis of Primary Care Physician Location Overlaying Age-Adjusted Asthma Rate per 100,000 Residents.	115
FIGURE 18	Active Primary Care Physicians per 100,000 Residents, by PUMA, 2010.	116
FIGURE 19	Rates of Physician Assistants per 100,000 Residents by Jurisdiction, 2011.	116
FIGURE 20	GIS Analysis of Physician assistants per 100,000 Residents by Jurisdiction, 2011.	117
FIGURE 21	Licensed Physician Assistants per 100,000 Residents, by PUMA, 2011.	118
FIGURE 22	Rates of Nurse Practitioners per 100,000 Residents by Jurisdiction, 2011.	118
FIGURE 23	GIS Analysis of Nurse Practitioners per 100,000 Residents by Jurisdiction, 2011.	119
FIGURE 24	Licensed Nurse Practitioners per 100,000 Residents, by PUMA, 2011.	120
FIGURE 25	Rates of Dental Care Professionals per 100,000 Residents by Jurisdiction, 2011.	120
FIGURE 26	GIS Analysis of Dental Care Professionals per 100,000 Residents by Jurisdiction, 2011.	121
FIGURE 27	GIS Analysis of Dentists per 100,000 Residents by Jurisdiction, 2011.	122
FIGURE 28	GIS Analysis of Dental Hygienists per 100,000 Residents by Jurisdiction, 2011.	123
FIGURE 29	Licensed Dental Care Professionals per 100,000 Residents, by PUMA, 2011.	124
FIGURE 30	Rates of Mental Health Professionals per 100,000 Residents by Jurisdiction, 2011.	124
FIGURE 31	GIS Analysis of Mental Health Professionals per 100,000 Residents by Jurisdiction, 2011.	125
FIGURE 32	Licensed Mental Health Professionals per 100,000 Residents, by PUMA, 2011.	126
FIGURE 33	Integrated Map of Prince George’s County.	128
TABLE 3	The Rates of Health Care Workforce per 100,000 Population by Type and by PUMA for Prince George’s County.	129
TABLE 4	The Number of Three Health Care Workforce Workers Needed by PUMA, Prince George’s County.	129

**TECHNICAL REPORT 5 AN OVERVIEW OF THE PUBLIC AND PUBLIC HEALTH RESOURCES
IN PRINCE GEORGE’S COUNTY**

TABLE 1 Prince George’s County Health Department Programs by Population. 140

TABLE 2 Prince George’s County Health Department Programs by Condition/Topic 141

TABLE 3 Programs for the Safety Net Provided by Prince George’s County Hospitals. 142

TABLE 4 Traditional Safety Net Clinics in Prince George’s County 143

TABLE 5 HPSA Summary 143

TABLE 6 Summary of FY 2010 Prince George’s County Hospital Community Benefit Reports 144

TABLE 7 Summary of FY 2010 Prince George’s County Hospitals Health Programs 145

TABLE 8 Prince George’s County Facilities Providing Behavioral and Mental Health Services. 146

FIGURE 1 Prince George’s County System—Elementary School Services. 148

FIGURE 2 Prince George’s County System—Elementary School Services. 148

FIGURE 3 Prince George’s County System—Middle School Services. 149

FIGURE 4 Prince George’s County System—High School Services. 149

TABLE 9 Prince George’s County Nursing Homes Facilities 150

TABLE 10 Prince George’s County Home Health Centers 152

**TECHNICAL REPORT 6 CURRENT (2007–2009) EXPERIENCES AND FUTURE PROJECTIONS
OF PRINCE GEORGE’S COUNTY RESIDENTS’ HOSPITAL ENCOUNTERS**

TABLE 1 Discharge Data per Fiscal Year, Maryland and D.C. 159

TABLE 2 Ambulatory Sensitive Conditions Definitions and Sample Means 161

TABLE 3 Inpatient Discharges for Prince George’s County Residents (2007–2009). 163

TABLE 4 Estimated Percent of Prince George’s County Hospital Discharges that are
for Prince George’s County Residents 164

TABLE 5 Inpatient Discharges by Payer Source and Hospital (2007, 2008, 2009) 165

TABLE 6 Community and Health System Characteristics 167

TABLE 7	ZIP Code-Level Data for Outcome Variables	168
TABLE 8	Definitions and Means of Model Variables	169
TABLE 9	ZIP Code-Level Data for Key Outcome Variables	170
TABLE 10	Aggregate Results: Significance of Associations for Selected Ambulatory Care-Sensitive Visits	171
TABLE 11	Interpretation of Elasticity for Any Ambulatory Care-Sensitive Discharge Model	171
TABLE 12	Linear Regression Model Results	172
TABLE 13	Projections for 2017 and 2022 Discharges for Prince George’s County Hospitals	174
TABLE 14	Linear Regression Model Results	175
TABLE 15	PUMA Level Outcome Ratios per 1,000 Residents	177
TABLE 16	Linear Regression Results: PUMA Associations	177

**TECHNICAL REPORT 7 AN ASSESSMENT OF COMPARABLE MODEL HEALTH CARE SYSTEMS:
INTERVIEWS WITH KEY PROFESSIONALS**

TABLE 1	What Are the Key Health Outcomes Most Amenable to Improvement by a New Health Care System?	196
TABLE 2	What Resources Can be Mobilized in the Public Health Sector to Complement the Impact of the Health Care System?	197
TABLE 3	What is the Geographic Distribution of Health care Resources and Where Are the Areas of Greatest Need for Primary Care?	199
TABLE 4	What Elements of a Health Care System (Hospital and Community) Can Affect These Outcomes and by How Much (Model)?	200
TABLE 5	What are the Key Issues to Maximize Uptake and Achieve the Potential of a Health care System for Public Health?	203



SCHOOL OF
PUBLIC HEALTH



PRINCE GEORGE'S COUNTY

Primary Healthcare Strategic Plan

Our Health Matters!

Access

Quality

Customer Service

Health Promotion

County Executive Rushern L. Baker, III

Rushern L. Baker, III, is the seventh County Executive for Prince George's County. Executive Baker's vision for Prince George's County is for it to be a nationally recognized jurisdiction that will be a leader in the Washington Metropolitan Region because of its unique opportunity to provide a thriving economy, great schools, safe neighborhoods, and high quality healthcare. Since taking office, County Executive Baker has committed the County to addressing healthcare disparities and improving the healthcare delivery system and services for County residents. As a result of County Executive Baker's leadership and vision, a new world-class, state-of-the-art Regional Medical Center is under development as a part of a strategy to transform the County's healthcare system into an efficient, effective, and financially viable healthcare delivery system. In addition, the County is focused on creating new and innovative health programs, enhancing existing services, and making health system changes at the local level that will address the County's most pressing health concerns such as infant mortality, chronic conditions like diabetes and heart disease, HIV and other infectious diseases, access to care, substance abuse, and domestic violence.

County Council

All legislative powers of Prince George's County, Maryland, are vested in the Prince George's County Council. In addition, the County Council sits as the District Council on zoning matters and land use policy, and as the Board of Health to govern and guide health policy. The Prince George's County Council is committed to developing partnerships and encouraging public participation and engagement with our citizens, community leaders, and elected officials. The Council will exercise its oversight and legislative roles to improve services and programs for residents. The Council will manage County resources in an efficient and effective manner.

Council Members

Mary A. Lehman, 1st District

Dani Taveras, 2nd District

Dannielle M. Glaros, 3rd District

Todd M. Turner, 4th District

Andrea C. Harrison, 5th District

Derrick Leon Davis, 6th District, **Vice Chair**

Karen R. Toles, 7th District

Obie Patterson, 8th District

Mel Franklin, 9th District, **Chair**

Clerk of the Council, Redis C. Floyd





Contents

FOREWORD	V
EXECUTIVE SUMMARY	VII
I. PRIMARY HEALTHCARE STRATEGIC PLAN FOR TOMORROW	1
Introduction	1
Goals for the Primary Healthcare Strategic Plan	2
II. THE NEED FOR THE PRIMARY HEALTHCARE STRATEGIC PLAN	7
Assessment of the Current Conditions.....	7
Challenges and Opportunities.....	9
III. METHODOLOGY AND APPROACH	15
Project Leadership	15
Community Involvement.....	15
Research and Analysis	16
IV. PRIMARY HEALTHCARE STRATEGIC PLAN FOR PRINCE GEORGE'S COUNTY	19
Expanding Patient-Centered Primary Care in Health Investment Zones	19
Recruitment and Retention of Primary Care Physicians for Prince George's County	24
Developing a Work Force to Support Expanded Patient-Centered Primary Care in Prince George's County	30
Collaborating on Hospital Community Benefit Programs	35
Building a Sustainable Primary Healthcare System	41
Monitoring and Evaluation.....	42
V. PRINCE GEORGE'S COUNTY MARKETING AND BRANDING STRATEGY	47
Introduction	47
Vision and Goals.....	47
Marketing and Branding Strategies.....	48
Marketing Communication Campaign.....	50
Brand Community Campaign	50
Monitoring and Evaluation of Marketing and Branding Campaigns	51
Summary and Next Steps	51
Marketing and Branding Strategy: Sample Evaluation Questions, Metrics, and Sources.....	54
VI. PHASING PLAN FOR STRATEGY IMPLEMENTATION	55
APPENDIX A SUGGESTED PROTOTYPES: PRIMARY CARE PRACTICES IN HEALTH INVESTMENT ZONES	Appendix A-1
APPENDIX B INDEX OF RESOURCES.....	Appendix B-1
APPENDIX C WEB SITES.....	Appendix C-1
APPENDIX D GLOSSARY OF KEY TERMS.....	Appendix D-1
ACKNOWLEDGMENTS	E-1



List of Maps

Map 1. Health Investment Zones	3
Map 2. Race/Ethnicity and Poverty Distribution	12
Map 3: Suggested Prototypes for Primary Care Practices in Health Investment Zones ...	22

List of Tables

Table 1. Summary Table of Primary Care Practice Prototypes in Health Investment Zones.....	23
Table 2. High-Priority Health Professionals for Patient-Centered Primary Care	31
Table 3. Recommended Metrics for Monitoring and Evaluation for County Health Rankings	46

List of Figures

Figure 1. Primary Healthcare Strategic Plan Key Goals	2
Figure 2. Primary Healthcare Strategic Plan Leadership	17
Figure 3. Patient-Centered Care Model: Example of Care Team within a Patient-Centered Medical Home	32
Figure 4. Take Action Model for Improvement.....	43



FOREWORD

Primary Healthcare Strategic Plan for Tomorrow



For decades, Prince George's County, Maryland, has been grappling with the challenge of enhancing its healthcare delivery network. From hospitals to health clinics, Prince Georgians and other Marylanders living in the southern region of the state have been limited in their access to healthcare. According to a 2009 RAND Corporation report, it was critical that the County take strong and decisive action to improve access to quality healthcare. The County Council was the catalyst for the RAND report, which served as a basis to garner the support of other partners—state government, the University of Maryland Medical System, and Dimensions Healthcare.

It is clear that strong communities have excellent health indicators. A healthy community leads to positive health indicators including high academic outcomes, low crime, and a strong commercial tax base.

In order for Prince George's County to fulfill our destiny as a vibrant community, it is imperative that we focus on improving the health and wellness throughout the County. We must continue our emphasis on healthy living to ensure that our healthcare delivery system is equipped to address the needs of our residents. This will require us to accomplish the following key goals:

- Expand access to high-quality, patient-centered primary care
- Improve the health status of all Prince Georgians
- Advance healthcare as one of the economic drivers for the County

This strategic plan will guide us as we build a strong foundation for success. It is grounded by a tremendous collaboration between the State of Maryland, the University of Maryland Medical System, Dimensions Healthcare System, The Maryland-National Capital Park and Planning Commission, and Prince George's County. These partners and other stakeholders are committed to improving access to healthcare, improved health outcomes, and a high-quality system of primary care.

All stakeholders have worked diligently to advance our healthcare delivery system in Prince George's County. This strategic plan will provide us with a road map that will lead to a world-class healthcare system for all Prince Georgians and residents of Southern Maryland.

Rushern L. Baker, III
County Executive
Prince George's County





EXECUTIVE SUMMARY

Prince George's County, Maryland, is boldly moving forward with its mission to improve the health and quality of life for its residents. This effort began with the 2009 RAND report, *Assessing Health and Health Care in Prince George's County*. The report concluded that high rates of chronic conditions, social-economic disparities within the County, and limited primary care capacity made establishment of a primary care system an urgent concern. It also concluded that high numbers of residents traveling outside of the County for healthcare impeded economic development and that improving overall health required strengthening the public health system and addressing social determinants of health. Prince George's County Executive Rushern L. Baker, III, made healthcare one of his administration's top priorities and committed to the improvement of the County's healthcare delivery system in order to improve the health outcomes of County residents.

To inform the design of an improved system, the University of Maryland School of Public Health was commissioned to assess its potential public health impact. This work resulted in the 2012 report, *Transforming Health in Prince George's County, Maryland: A Public Health Impact Study*. The report presented three broad recommendations to support a successful new healthcare system:

1. Develop a County-led process to improve public health, expand access to high-quality primary care, and support systems integration.
2. Develop a clear brand that promotes a high-quality healthcare system, encourages residents to return to the County for care, and contributes to a successful and thriving system.
3. Establish a high-quality, academically affiliated Regional Medical Center with a strong and collaborative prevention-focused ambulatory care network.

In response to these recommendations, John Snow, Inc., a public health consulting company, was engaged to develop a primary healthcare strategic

plan for Prince George's County, focusing on a County-led process to improve public health and expand access to high-quality primary care while also creating a branding and marketing strategy. The establishment of a Regional Medical Center is proceeding in a parallel but separate process.

Development of the *Prince George's County Primary Healthcare Strategic Plan* (the Primary Healthcare Strategic Plan) was carried out under the direction of the Office of the County Executive, the Board of Health, and the Health Department. These project leaders defined goals for the Primary Healthcare Strategic Plan and convened an Advisory Committee and a Stakeholders Committee to guide and inform the strategy development. These goals are:

1. Expand access to patient-centered primary care services within Prince George's County.
2. Improve the health of all Prince George's County residents.
3. Advance the healthcare industry's contribution to Prince George's County's economic development.

The Advisory Committee, consisting of senior leaders from State and County agencies, healthcare organizations, and academic institutions, focused on the broader policy issues and ensured that the plan would meet the collective needs of Prince George's County. The Stakeholders Committee, with representatives from community providers, health plans, advocacy organizations, and Council appointees, brought the perspectives of their individual organizations and/or constituencies to plan development. Throughout the process, Advisory and Stakeholders Committee members provided input and feedback on research findings and preliminary recommendations through quarterly meetings and follow-up interviews. Advisory and Stakeholder members also served on workgroup committees that developed recommendations on three key areas: physician recruitment and retention, work force development, and community benefit. Contributions by the Advisory, Stakeholders, and



Workgroup Committees were invaluable in keeping the process focused and formulating a strategic plan that could achieve its goals. Further, the spirit of collaboration built among the participants was a hallmark of the planning process, and Prince George's County is committed to ensuring that stakeholder engagement and collaboration continue through plan implementation and into the future.

Significant contributions to the Primary Healthcare Strategic Plan also came from over 300 Prince George's County residents who participated in one or more of the five community meetings held throughout the County. Through guided discussions and polling, participants provided information about where they go for primary healthcare services, how they define quality healthcare, and barriers to primary care and good health. Findings from the community meetings were incorporated into presentations to the Advisory and Stakeholders Committees. Input from populations that may not have been as well represented at the community meetings (Hispanic/Latinos, young professionals and families, other recent immigrants) was obtained through follow-up interviews with representatives from these populations. Finally, the Primary Healthcare Strategic Plan recommendations were informed by prior studies, secondary market data, census data, and site visits to Prince George's County as well as by industry state-of-the-art best practices.

This collaborative and informed process resulted in recommendations for the Primary Healthcare Strategic Plan. The recommendations will collectively contribute to the County meeting the three goals as defined for the Primary Healthcare Strategic Plan.

In addition, the process resulted in a recommended marketing and branding strategy focused on physician recruitment and retention, getting residents to return to the County for their healthcare and building a culture of health that will inspire residents to engage in improving their own health and well-being.

Summary of Recommendations for the Primary Healthcare Strategic Plan

To achieve the goal of expanding access to primary healthcare services, the County would need a multipronged approach:

1. Increase patient-centered primary care practices in high-need areas.
2. Build capacity of existing primary care practices to operate as patient-centered medical homes.
3. Build collaboration among Prince George's County hospitals.
4. Develop work force to support patient-centered primary care.
5. Implement a marketing and branding campaign.
6. Establish a Prince George's County Primary Healthcare Alliance (Primary Healthcare Alliance).
7. Develop and implement a monitoring and evaluation plan.

Recommendation #1: Increase patient-centered primary care practices in high-need areas.

Provide incentives to recruit and retain primary care providers in high-need areas, designated as Health Investment Zones. Health Investment Zones have primary care provider shortages and socioeconomic indicators that impact health. Recommended incentives include but are not limited to:

- Establish Prince George's HealthAssure, a program that provides access to primary healthcare services for low-income patients.
- Secure reduced lease payments for primary care practices in the Health Investment Zones.
- Establish a plan to secure federal and state loan repayment to physicians and dentists that choose to practice in Prince George's County at sites located in federally designated health professional shortage areas or for health professional shortage area-designated organizations.



- Provide low-cost working capital loans to cover start-up costs. These include operating losses during ramp-up period (12 to 18 months), purchase of equipment such as an electronic medical record system, and income guarantees for physicians and midlevel providers.
- Establish a plan to subsidize malpractice costs for certain primary care practices. The County would promote hiring of primary care physicians and midlevel providers by federally qualified health centers, which usually have their malpractice costs covered.
- Establish opportunities for residency training (medical and dental) in Prince George's County provider organizations, and develop a program to compensate physicians who agree to serve as preceptors at these sites.

Recommendation #2: *Build capacity of existing primary care practices to operate as patient-centered medical homes.*

Operating as a patient-centered medical home requires significant resources that are often not available to primary care practices. Further, patient-centered medical homes require staff to support care coordination, mental health integration, and population health management. Recommendations to increase the number of patient-centered medical homes in the County include:

- Encourage the development of a private management service organization to provide services that enable primary care practices to operate as patient-centered medical homes.
- Expand clinical training opportunities within the County to accommodate training sites for the proposed work force.
- Prioritize improving the quality of customer service of all staff in healthcare fields, and provide customer service training to future clinical, public health, and administrative support staff.

Recommendation #3: *Build collaboration among Prince George's County hospitals.*

Build collaboration among hospitals within Prince George's County to develop complementary centers of excellence that would ensure residents have access to a full spectrum of high-quality healthcare services within an integrated delivery system.

- Support development of hospital-based integrated delivery systems, including the new Regional Medical Center.
- Work collectively to promote transitional care between hospitals and primary care providers to ensure appropriate primary care access and engagement among County residents.
- Achieve collaboration among Prince George's County hospitals and the Health Department to conduct community health needs assessment and carry out community health improvement programs.
- Create the Prince George's County Community Health Benefits Partnership to ensure collaboration among Prince George's County hospitals and the Health Department, to conduct community health needs assessment and to carry out community health improvement programs.

Recommendation #4: *Develop work force to support patient-centered primary care.*

- Convene stakeholders with a shared mission of increasing and improving work force capacity.
- Create a systematic work force development plan for the County designed to meet the needs and demands of the patient-centered medical home model.
- Give priority to County residents and educational resources to achieve the proposed work force.
- Prioritize quality customer service training.

(See Table 2: High-Priority Health Professionals for Patient-Centered Primary Care on page 31)



Recommendation #5: *Implement a marketing and branding campaign.*

Develop and implement a marketing and branding strategy to accomplish two targeted marketing goals: (1) recruit and retain primary care providers; and (2) increase the number of County residents that choose to receive healthcare services within Prince George's County.

- Create and carry out marketing campaigns designed for identified market segments.
- Use common branding across all marketing efforts. The proposed brand is **"Prince George's County, Our Health Matters!"**

Recommendation #6: *Establish a Primary Healthcare Alliance.*

Establish the Primary Healthcare Alliance, an independent, stakeholder-led entity, whose mission would be to transform health and healthcare in Prince George's County by leading, collaborating, and aligning efforts to improve primary care delivery. The initial priority for the Primary Healthcare Alliance would be to implement the Primary Healthcare Strategic Plan.

- Secure sustainable funding.
- Convene the initial Board of Directors to serve as the governing body of the Primary Healthcare Alliance.
- Hire the Primary Healthcare Alliance's executive director and launch operations.

Recommendation #7: *Develop and implement a monitoring and evaluation plan.*

Develop and implement a monitoring and evaluation plan to assess whether the Primary Healthcare Strategic Plan is being implemented successfully and achieving desired outcomes.

- Define the monitoring and evaluation process and outcome metrics, data sources, baseline values, and benchmark goals.
- Design report card or other way of reporting results.

Phasing Plan for Strategy Implementation

The Primary Healthcare Strategic Plan would be implemented in phases over a five-year period to balance resource requirements and align with supporting initiatives. An important step would be to convene the Board of Directors and establish the Primary Healthcare Alliance. The Primary Healthcare Alliance, an independent, stakeholder-led entity, whose mission would be to transform health and healthcare in Prince George's County by leading, collaborating, and aligning efforts to improve primary care delivery.

Roles and responsibilities of the Primary Healthcare Alliance would include:

- Facilitate implementation of the Primary Healthcare Strategic Plan.
- Administer the Prince George's HealthAssure Program.
- Create and provide support to Prince George's County Community Health Benefit Partnership.
- Oversee the monitoring and evaluation plan.

A broad implementation phasing plan is outlined below.

Initial Steps and Ongoing:

- Establish Primary Healthcare Alliance.
- Maintain collaboration between the Primary Healthcare Strategic Plan implementation and The Maryland-National Capital Park and Planning Commission on development of land-use plans that support building of healthy communities (walkable communities, planned medical office space, etc.).



Short-Term (0 to 3 Years)

- Recruit primary care providers to practice in Health Investment Zones.
- Establish program of funding for low-income uninsured and underinsured, referred to as Prince George's HealthAssure.
- Focus on customer service and clinical quality through training and quality improvement processes.
- Establish the Prince George's County Community Health Benefits Partnership.
- Establish a task force on care coordination.
- Carry out work force development.
- Roll out marketing campaigns.
- Develop, implement, and maintain monitoring and evaluation plan.

Short- to Medium-Term (3 to 5 Years)

- Continue recruitment in Health Investment Zones.
- Develop a Management Service Organization.
- Expand participation of Prince George's County healthcare organization in medical and dental residency programs.
- Expand primary care networks connected with all hospitals providing services within Prince George's County.

Medium- to Long-Term (5+ Years)

- Recruit and retain primary care physicians by promoting Prince George's County.
- Develop and promote Largo Town Center Life Sciences Center as "one-stop shopping for health"—medical care, social services, pharmacy, fitness centers, healthy food options, and other health-supporting products/services.

The Primary Healthcare Strategic Plan reflects the ongoing commitment of Prince George's County to improving the healthcare system and the health of its residents. The plan focuses both on expanding access to patient-centered primary care that is part of an integrated care system and on building a culture of health within the County. In order to achieve the "triple aim"—improving health outcomes, reducing per capita costs, and improving patient experience—it will be necessary to improve coordination of care within and across systems. The County must also continue to address the conditions that shape health in the environments where people live, work, and play. The Primary Healthcare Strategic Plan fully embraces these concepts of population health and is on the leading edge of healthcare reform in the United States. Once implemented in collaboration with all partners and stakeholders, the Primary Healthcare Strategic Plan will reach its goals of expanding access and improving residents' health while contributing to the County's economic development.

A matrix of a crosswalk between the summary recommendations and the detailed descriptions included in Sections IV and V of the Primary Healthcare Strategic Plan is provided on the following pages.



Matrix of Recommendations

SUMMARY OF RECOMMENDATIONS	FULLY DEVELOPED EXPLANATION OF RECOMMENDATIONS	CROSSWALK TO DETAILED DESCRIPTIONS
1. Increase patient-centered primary care practices in high-need areas.	Provide incentives to recruit and retain primary care providers in high-need areas, designated as Health Investment Zones.	Section IV, Page 28, 29
	Establish Prince George's HealthAssure program for uninsured	Section IV, page 28
	Secure reduced lease payments for primary care practices in the Health Investment Zones.	Section IV, page 26, 28
	Establish a plan to secure federal and state loan repayment to physicians and dentists that choose to practice in Prince George's County at sites located in federally designated health professional shortage areas or for health professional shortage area-designated organizations.	Section IV, page 26, 27
	Provide low-cost working capital loans to cover start-up costs. These include operating losses during ramp-up period (12 to 18 months), purchase of equipment such as an electronic medical record system, and income guarantees for physicians and midlevel providers.	Section IV, page 27
	Establish a plan to subsidize malpractice costs for certain primary care practices. Promote hiring of primary care physicians and midlevel providers by federally qualified health centers, which usually have their malpractice costs covered.	Section IV, page 27, 28
	Establish opportunities for residency training (medical and dental) in Prince George's County provider organizations, and develop a program to compensate physicians who agree to serve as preceptors at these sites.	Section IV, page 29
2. Build capacity of existing primary care practices to operate as patient-centered medical homes.	Encourage the development of a private management service organization to provide services that enable primary care practices to operate as patient-centered medical homes.	Section IV, Page 28
	Expand clinical training opportunities within the County to accommodate training sites for the proposed work force.	Section IV, Page 29, 34
	Prioritize improving the quality of customer service of all staff in healthcare fields, and provide customer service training to future clinical, public health, and administrative support staff.	Section IV, Page 35



SUMMARY OF RECOMMENDATIONS	FULLY DEVELOPED EXPLANATION OF RECOMMENDATIONS	CROSSWALK TO DETAILED DESCRIPTIONS
3. Build collaboration among Prince George's County hospitals.	Support development of hospital-based integrated delivery systems, including the new Regional Medical Center.	Section IV, Page 29
	Work collectively to promote transitional care between hospitals and primary care providers to ensure appropriate primary care access and engagement among County residents.	Section IV, Page 39, 40
	Achieve collaboration among Prince George's County hospitals and the Health Department to conduct community health needs assessment and carry out community health improvement programs.	Section IV, Page 39
	Create the Prince George's County Community Health Benefits Partnership to ensure collaboration among Prince George's County hospitals and the Health Department to conduct community health needs assessment and to carry out community health improvement programs.	Section IV, Page 39
4. Develop work force to support patient-centered primary care.	Convene stakeholders with a shared mission of increasing and improving work force capacity.	Section IV, Page 34
	Create a systematic work force development plan for the County designed to meet the needs and demands of the patient-centered medical home model.	Section IV, Page 34
	Give priority to County residents and educational resources to achieve the proposed work force.	Section IV, Page 34
	Prioritize quality customer service training.	Section IV, Page 35
5. Implement a marketing and branding campaign.	Create and carry out marketing campaigns designed for identified market segments.	Section V, Page 47-54
	Use common branding across all marketing efforts. The proposed brand is "Prince George's County, Our Health Matters!"	Section V, Page 50
6. Establish a Primary Healthcare Alliance.	Establish the Primary Healthcare Alliance, an independent, stakeholder-led entity, whose mission would be to transform health and healthcare in Prince George's County by leading, collaborating, and aligning efforts to improve primary care delivery. The initial priority for the Primary Healthcare Alliance would be to implement the Primary Healthcare Strategic Plan.	Section IV, Page 41
	Secure sustainable funding.	Section IV, Page 41



SUMMARY OF RECOMMENDATIONS	FULLY DEVELOPED EXPLANATION OF RECOMMENDATIONS	CROSSWALK TO DETAILED DESCRIPTIONS
6 (cont'd). Establish a Primary Healthcare Alliance.	Convene the initial Board of Directors to serve as the governing body of the Primary Healthcare Alliance.	Section IV, Page 42
	Hire the Primary Healthcare Alliance's executive director and launch operations.	Section IV, Page 42
7. Develop and implement a monitoring and evaluation plan.	Develop and implement a monitoring and evaluation plan to assess whether the Primary Healthcare Strategic Plan is being implemented successfully and achieving desired outcomes.	Section IV, Page 42-46
	Define the monitoring and evaluation process and outcome metrics, data sources, baseline values, and benchmark goals.	Section IV, Page 45, 46
	Design report card or other way of reporting results.	Section IV, Page 43,44



I. PRIMARY HEALTHCARE STRATEGIC PLAN FOR TOMORROW

Introduction

Prince George's County, Maryland, is boldly moving forward with its mission to improve the health and quality of life for its residents. This effort began with the 2009 RAND report, *Assessing Health and Health Care in Prince George's County*. In 2009, the Prince George's County Council, concerned about the relatively poor health status of the County's residents, engaged the RAND Corporation to study the healthcare needs of its residents and the capacity of the County's healthcare system to meet those needs. In response to the study findings, Prince George's County Executive Rushern L. Baker, III, placed healthcare as one of his administration's top priorities. In July 2011, leaders from Prince George's County, the Maryland Department of Health and Mental Hygiene, the University of Maryland Medical System, the Dimensions Healthcare System, and the University System of Maryland signed a memorandum of understanding to address longstanding challenges and gaps in the County's healthcare delivery system. Their goal was to achieve improved health for the County, including a Regional Medical Center supported by a comprehensive ambulatory care and primary care network. To inform the design of a new system to improve health and healthcare in Prince George's County, the University of Maryland School of Public Health was commissioned to assess the proposed system's potential public health impact while answering key questions. This work resulted in the 2012 report, *Transforming Health in Prince George's County, Maryland: A Public Health Impact Study* (Public Health Impact Study).

The report presented three broad recommendations to support a successful new healthcare system:

1. Develop a County-led process to improve public health, expand access to high-quality primary care, and support systems integration.
2. Develop a clear brand that promotes a high-quality healthcare system, encourages residents to

return to the County for care, and contributes to a successful and thriving system.

3. Establish a high-quality, academically affiliated Regional Medical Center with a strong and collaborative prevention-focused ambulatory care network.

In response to these recommendations, John Snow, Inc., a public health consulting company, was engaged to facilitate the development of the Primary Healthcare Strategic Plan while incorporating the above recommendations. The Primary Healthcare Strategic Plan project focused on two recommendations: expand access to high-quality primary care, and create a clear brand. The establishment of a Regional Medical Center is proceeding in a parallel but separate process. The Primary Healthcare Strategic Plan project was conducted under the joint leadership of the Office of the County Executive, the Prince George's County Board of Health, and the Prince George's County Health Department.

The Primary Healthcare Strategic Plan was developed through a collaborative process. Advisory and Stakeholders Committees provided feedback throughout the planning process. The Advisory Committee provided policy oversight to ensure that the Primary Healthcare Strategic Plan would meet the collective needs of Prince George's County, while the Stakeholders Committee brought the perspectives of their individual organizations and constituencies. Members of both committees provided input during regularly scheduled meetings, workgroups focused on key topics, and one-on-one interviews. Additionally, five community meetings were held to obtain direct input from County residents. While attendance at the community meetings was strong, not all County demographics were well represented, and input from other relevant stakeholders was sought. Data and information were gathered from local, state, and national sources to further inform strategy development and build upon work completed by the RAND Corporation and the



University of Maryland School of Public Health. A review was conducted of published industry best practices.

A hallmark of the planning process was the collaboration built among all stakeholders. Prince George's County is committed to ensuring that this collaboration continues and that there is an infrastructure to support successful implementation, in conjunction with monitoring and evaluation, of the proposed recommendations. Throughout planning, stakeholders emphasized the importance of developing a plan that would facilitate transition from strategy to implementation. Additionally, it was requested that this plan be developed to sustain the County's efforts while addressing healthcare needs into the future.

Goals for the Primary Healthcare Strategic Plan

Expanding Access, Improving Health Outcomes, and Economic Development

The goals for the Primary Healthcare Strategic Plan are to:

1. Expand access to patient-centered primary care.
2. Improve the health status of all Prince George's County citizens.
3. Advance healthcare as one of the economic drivers for Prince George's County.

Recommendations developed through the planning process were evaluated to ensure that they were practicable in achieving the overall goals.

Expanding Access to Patient-Centered Primary Care

The proposed Primary Healthcare Strategic Plan calls for a three-pronged approach to expanding patient-centered primary care:

1. Adding new primary care practices within areas of high primary care needs (referred to as Health Investment Zones).
2. Increasing the number of primary care practices operating as patient-centered medical homes.

3. Building hospital-affiliated primary care networks.

The Public Health Impact Study quantified the additional need of 61 primary care physicians in the County, resulting from the application of the Health Resources and Services Administration primary care physician-to-population ratios. Although the overall shortage of primary care physicians for Prince George's County was estimated to be 61, the need was not evenly distributed throughout the County. The shortage of primary care physicians was concentrated in the inner Beltway and the southern part of the County. In addition, the Public Health Impact Study created a measure of primary care that took into consideration health indicators (readmission rates and hospital discharges) related to patient-centered primary care and social determinants of health (household income, and education levels).

Those areas with high primary care needs and tending to high primary care needs are designated as Health Investment Zones and are of immediate priority for expanding access to patient-centered primary care.

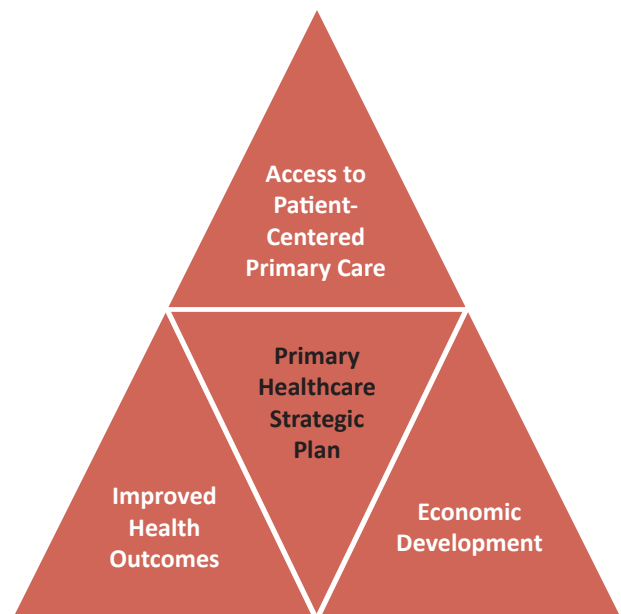
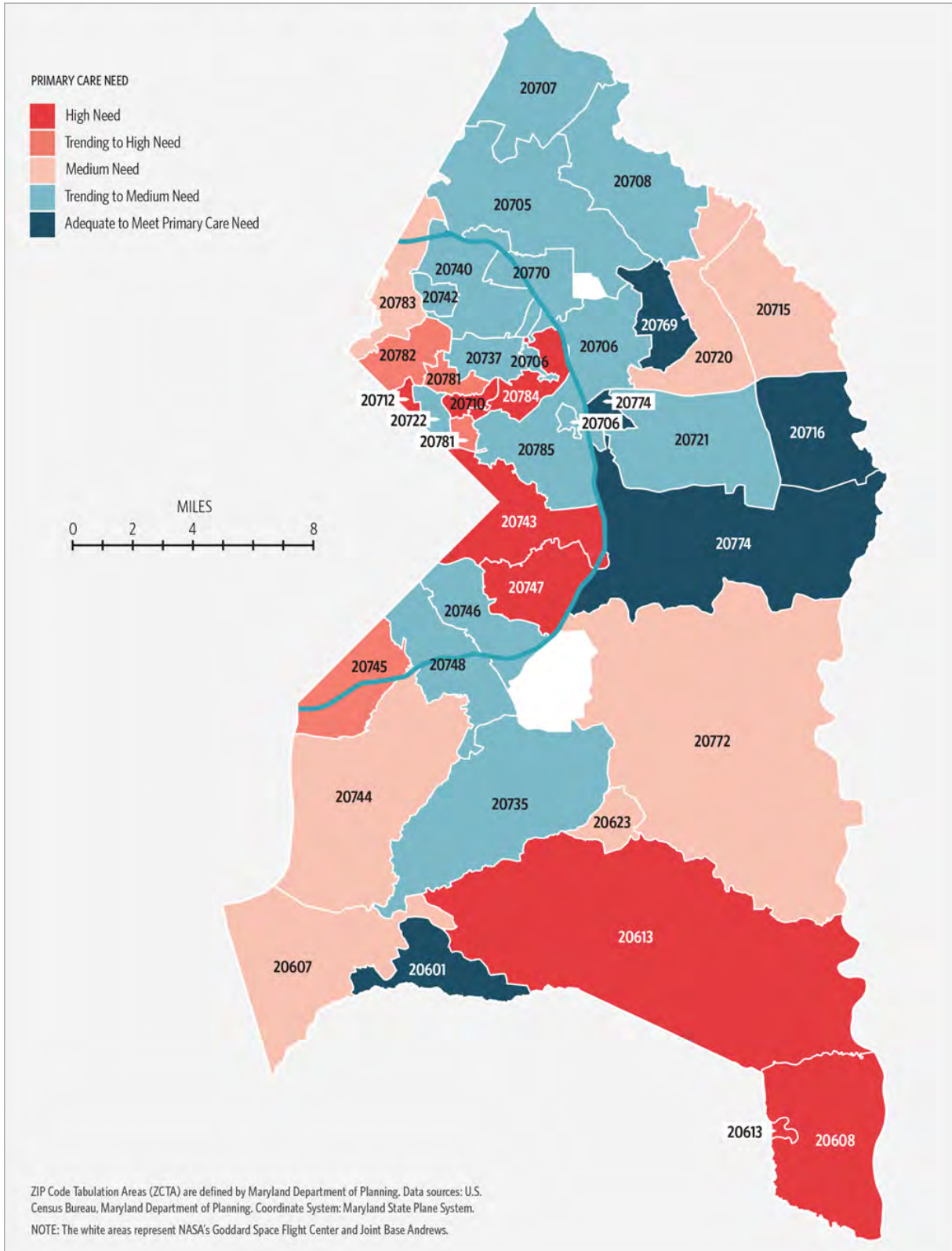


Figure 1. Primary Healthcare Strategic Plan Key Goals



Map 1. Health Investment Zones



Source: University of Maryland School of Public Health, Public Health Impact Assessment Workgroup (2012, July). Transforming Health in Prince George's County, Maryland: A Public Health Impact Study. Retrieved from <http://sph.umd.edu/princegeorgeshealth/Transforminghealth.pdf>



Recommendations will lay out suggested prototypes for patient-centered primary care practices that define:

1. Site selection.
2. A care program based upon demographics of the population.
3. A facility design to support the care program.
4. A business model to achieve financially viable practices.

Expansion of access to patient-centered primary care in Prince George's County means increasing the number of primary care physicians and midlevel providers, but it also means expanding the capacity of primary care practices to transform into patient-centered medical homes. Prince George's County lags behind neighboring jurisdictions in the number of physician practices accredited or certified as patient-centered medical homes. Transformation requires the model of care to become a team-based, integrated patient-centered medical home. Such transformation requires resources and also has implications for work force development as new types of professionals are needed to support patient-centered care and population health management. This plan's recommendations provide approaches on how to increase patient-centered medical home capacity within Prince George's County's primary care physician practices as well as how to strengthen a healthcare work force to support such transformation.

Improving Health Outcomes

Although some health indicators have improved, according to the 2014 Robert Wood Johnson Foundation County Health Rankings, Prince George's County was ranked 14th on health factors (health behaviors, clinical care, social factors, physical environment) out of the 24 Maryland counties. The County was ranked even lower (21st) in the category of clinical care that includes percentage measures of uninsured, physician-to-population ratios, preventable hospitalizations, and health screenings.

While access to patient-centered primary care is a key component of improving health outcomes, stakeholders, including local community members, stressed how important it is to identify contributing social determinants of health and population health management components. Hence, recommendations for the Primary Healthcare Strategic Plan were developed using a social-ecological approach to health promotion. A social-ecological model contextualizes individual behavior within social and physical environments, recognizing that sustaining changes in health behaviors require policies, environments, and social systems that address the determinants of health and support positive lifestyle habits. Further, the Primary Healthcare Strategic Plan would bridge primary care and public health to create an integrated system of care focused on population health.

Economic Development

The healthcare and life sciences industry has been identified as one of four industries targeted for economic development within the County. Based upon information collected from community meetings, a significant percentage of County residents continue to seek healthcare services outside of the County. Evidence-based literature or studies confirm that the reasons for leaving the County do not appear to pertain to race/ethnicity. A perceived lack of quality services was often noted as a reason for going elsewhere for services. In addition, County residents spoke of the perceived lack of board-certified physicians, customer-friendly staff, and pleasant physical facilities. The Primary Healthcare Strategic Plan focuses on building community-based primary care that will help to improve health outcomes while supporting economic development.

Primary care practices will provide employment to physicians, midlevel providers, and support staff and will keep healthcare dollars in the County. Strong primary care networks would be able to enhance the coordination of care with all County hospitals, including the new Regional Medical Center.



Patient-Centered Medical Home

The patient-centered medical home is a model of primary care that is patient-centered, comprehensive, coordinated, and accessible and focused on quality and safety. A patient-centered medical home is a place where patients are treated with respect, dignity, and compassion and where patients' privacy is maintained. The patient-centered medical homes improve healthcare delivery and health through innovative approaches to care coordination and chronic disease management, enabling strong and trusting relationships with providers and staff.

What Does it Mean to Be a Medical Home?

- 1. Comprehensive.** A team of care providers is wholly accountable for a patient's physical and mental health needs, including prevention and wellness and acute and chronic care.
- 2. Whole-Person, Patient-Centered Care.** A partnership among providers, patients, and their families/caregivers that respects patients' needs and preferences. Patients receive education and support to engage and participate in their own care.
- 3. Coordinated.** Care is organized across broader healthcare systems, including access to specialists, hospitals, home healthcare, community services, and public health.
- 4. Accessible.** Patients are able to access primary care services with shorter wait times for appointments and urgent care, 24 hours per day, 7 days per week. Patients are able to communicate with providers through health information technology innovations.
- 5. High Quality.** Clinicians and staff provide high-quality care and are committed to quality improvement to ensure that patients and families/caregivers make informed decisions about their health and to ensure patient safety.



Why Should Practices Choose to Become a Patient-Centered Medical Home?

Primary care practices transform to patient-centered medical homes to improve the care they provide to their patients and their overall health outcomes. Primary care practices recognized as patient-centered medical homes are seen as providing high-quality care by consumers and health plans. Many incentive programs exist to encourage practices to become patient-centered medical homes, including several within Maryland. These initiatives have shown positive outcomes, including fewer visits to the emergency room, improved access, increased prevention services, improved patient and clinician satisfaction, and improved health. Several national organizations provide patient-centered medical home recognition or accreditation. Those organizations are the Joint Commission, the Accreditation Association for Ambulatory Health Care, Inc., and the National Committee for Quality Assurance.

Sources: Agency for Healthcare Research and Quality. Defining the patient-centered medical home. <http://pcmh.ahrq.gov/page/defining-pcmh>

American Academy of Family Physicians. Patient-Centered Medical Home Incentive, Recognition, and Accreditation Programs. <http://www.aafp.org/practice-management/transformation/pcmh/recognition.html>

Patient-Centered Primary Care Collaborative. Maryland. <http://www.pccpc.org/initiatives/Maryland>



Social-Ecological Model for Health Promotion

The World Health Organization and the Centers for Disease Control and Prevention similarly define the social-ecological model as a framework that recognizes that no one factor is responsible for health.

What Are the Key Factors in the Social-Ecological Model?

The social-ecological model identifies various factors at multiple levels that come together to influence health, such as:

- Societal/Policy factors that include social and cultural norms; health, economic, educational, and social policies; and federal policies.
- Community factors that include availability and accessibility of places that promote health, for example where people live, work, and play.
- Organizational factors that include workplace policies, along with the availability of community-based and social service organizations.
- Interpersonal factors that include relationships with providers, family, friends, intimate partners, and peers.
- Individual factors that include personal history and biological factors such as age, gender, and race/ethnicity.



How Does Understanding the Social-Ecological Model Help to Promote Health?

The social-ecological model tells us that many factors influence our health. In recognizing this fact, we can make sure to target prevention efforts and solutions at all levels and especially at the interactions among levels. According to the Centers for Disease Control and Prevention, prevention efforts are more likely to be sustained if they are implemented across the continuum. A similar model is used for the County Health Rankings, a Robert Wood Johnson Foundation program.

Sources:

Centers for Disease Control and Prevention. The Social-Ecological Model: A Framework for Prevention.

<http://www.cdc.gov/violenceprevention/overview/social-ecologicalmodel.html>

World Health Organization. The ecological framework. <http://www.who.int/violenceprevention/approach/ecology/en/>



II. THE NEED FOR THE PRIMARY HEALTHCARE STRATEGIC PLAN

The need for a primary healthcare strategic plan for Prince George's County was clearly identified in the research and technical studies conducted by the Public Health Impact Study. The more recent data and information obtained for the Primary Healthcare Strategic Plan continued to support this need. The following sections provide an overview of the current conditions that support the need for the Primary Healthcare Strategic Plan, the challenges that must be overcome or at least mitigated for the plan to be successful, and the opportunities for addressing challenges and successfully implementing the comprehensive Primary Healthcare Strategic Plan.

Assessment of the Current Conditions

The need for the Primary Healthcare Strategic Plan was driven by several factors summarized below.

Prince George's County residents experience higher rates of chronic diseases and poor health outcomes, both of which can be improved with access to quality primary care services provided within an integrated delivery system.

Prince George's County residents experience higher rates of asthma, diabetes, hypertension, heart disease, and cancer when compared to state averages, according to the findings from the Public Health Impact Study. Further, rates were found to be higher within the African-American population, despite Prince George's County being home to 5 of the 10 most affluent African-American communities in the United States. Although some improvements in health outcomes have been made according to the Prince George's County Health Department's *Health Report 2014*, County residents continue to have poorer health compared to the surrounding counties. A primary goal of the Primary Healthcare Strategic Plan is to improve health outcomes for all citizens of Prince George's County.

Compared to surrounding counties and the State of Maryland as a whole, Prince George's County has a substantially lower ratio of primary care providers-to-population (medical and dental). The areas of highest primary care needs are in the inner Beltway and southern part of the County. Prince George's County also has fewer midlevel providers, who are increasingly important, to meet the need for patient-centered primary care services.

The Public Health Impact Study indicated a need for 61 primary care providers and 31 dental providers. Although there have been new primary care practice sites established in the County since the study was completed, Prince George's County continues to lag behind the state and surrounding counties in population-to-primary care provider ratios for medical, dental, and mental health, according to the 2014 County Health Rankings. A major goal of the Primary Healthcare Strategic Plan is to provide the blueprint to increase the number and capacity of Primary Care physicians practicing in Prince George's County, while decreasing the demand for primary care providers through health promotion and disease prevention.

Prince George's County has relatively fewer primary care providers that have achieved patient-centered medical home recognition/accreditation from national accrediting organizations as well as fewer providers participating in the state-sponsored, patient-centered medical home program.

Achievement of patient-centered medical home recognition/accreditation indicates that a primary care practice has implemented policies, procedures, and systems to support patient-centered care and population health management. Primary care practices that have not transformed to a patient-centered medical home may be less able to contract with health plans and participate in alternative payment arrangements that include quality and shared



cost savings bonuses. Primary care practices that are not operating as patient-centered medical homes may also lack the ability to support population health management and achieve desired improvements in health outcomes for their patients or communities.

Patient-centered primary care is not only the best practice model within the healthcare industry currently but is the model of care desired by Prince George's County residents. Community meeting participants consistently expressed the desire to obtain services from patient-centered medical homes as well as the need for patient-centered medical homes that can serve persons with disabilities. A goal of the Primary Healthcare Strategic Plan is to encourage transformation to patient-centered medical homes among new and existing providers in Prince George's County.

Sufficiently sized space (minimum of 6,000 square feet) that can house primary care practices is lacking in Prince George's County generally and especially in low-income areas.

Not only are low-income areas disproportionately in need of primary care, they are also disproportionately less likely to have the physical space to accommodate a new primary care practice. This makes increasing the number and capacity of primary care practices a challenge.

A relatively large number of Prince George's County residents choose to access healthcare services outside of the County.

The fact that Prince George's County residents travel outside of the County for healthcare services has been substantiated through the household survey completed as a part of the Public Health Impact Study, the real-time survey of residents attending community meetings, and Maryland hospital patient-origin studies. On an average, 50 percent of the County residents, including many long-time residents who attended the four local community meetings, indicated that they travel outside of Prince George's County for primary healthcare services. A desire for timely

access to high-quality, patient-centered care was often noted as a reason for going elsewhere for healthcare services.

A disproportionate percentage of Prince George's County residents are uninsured relative to the County's population. It is expected that this situation will continue even after full implementation of the Patient Protection and Affordable Care Act, given the number of new immigrants that settle in Prince George's County, specifically in the communities located in the northern part inside the inner Beltway.

In 2011, the U.S. Census Bureau estimated that approximately 21 percent of Maryland's uninsured lived in Prince George's County, and 14 percent lived in Baltimore with the remaining living elsewhere around the state. Further, the Urban Institute estimates that 382,000 Maryland residents will remain uninsured postimplementation of the Patient Protection and Affordable Care Act, many of whom are undocumented immigrants. Assuming that the 21 percent uninsured remains constant, this equates to an estimated 80,000 Prince George's County residents being uninsured. The Primary Healthcare Strategic Plan includes developing an adequately funded and equitable program to provide access to primary care services for low-income, uninsured and underinsured residents.

Maryland is shifting to global payments for the state's hospitals.

On January 10, 2014, the Centers for Medicare & Medicaid Services and the State of Maryland jointly announced a new initiative to modernize Maryland's unique all-payer, rate-setting system for hospital services that will improve patient health and reduce costs. The state and the Centers for Medicare & Medicaid Services believe that the new model will provide an opportunity for Maryland to reform its delivery system to align with the goals of delivering better health and better care at a lower cost. Under the new arrangement, the Centers for Medicare & Medicaid Services will require Maryland to



generate \$330 million in Medicare savings over a five-year performance period. Maryland will shift virtually all of its hospital revenue over the five-year performance period into global payment models, providing an incentive for hospitals to work in partnership with other providers (including primary care providers) to prevent unnecessary hospitalizations and readmissions. This shift to global payment for hospitals will change the landscape of primary healthcare delivery in the state, creating the need for a clear patient-centered, integrated primary healthcare plan to support all hospitals to establish better quality and reduce total cost of care.

Challenges and Opportunities

Challenges in and opportunities for implementing the Primary Healthcare Strategic Plan and accomplishing the desired goals are summarized below. Some factors, such as Maryland's shift to global payment, represent both a challenge and an opportunity. The Primary Healthcare Strategic Plan was developed in the context of the existing conditions above with the challenges and opportunities discussed below.

Challenges

Prince George's County has a socially, culturally, and economically diverse population.

Prince George's County is a "majority minority" population. According to the 2013 American Community Survey 1-Year Estimates, Prince George's County's population is 63.7 percent Black or African-American, 16.2 percent Hispanic or Latino (any race), and 4.3 percent Asian—nearly an 85-percent minority. The population is also diverse in economic status. Map 2: Race/Ethnicity and Poverty Distribution on page 12 provides a demographic profile by race/ethnicity and poverty levels based upon the most recent U.S. Census Bureau data. Across the United States, 5 of the 10 most affluent African-American communities are located within Prince George

County where the average household income exceeds \$100,000. On the other end of the spectrum are the communities primarily located inside the Beltway where the average household income is less than \$60,000, and between 15 percent and almost 50 percent of the population are defined as low income (i.e., households below 200 percent of the federal poverty level). The lower-income geographic areas within Prince George's County are predominantly African-American and include Hispanics/Latinos, Caucasians, and, to a lesser extent, Africans and Asians.

The Primary Healthcare Strategic Plan's development took into consideration diversity and community health needs obtained from secondary data sources (including the Public Health Impact Study household survey results and census data) and during community meetings and stakeholder interviews. Additional targeted primary research will add valuable information needed to implement the Primary Healthcare Strategic Plan's multiple components. For example, families with young children, as well as Hispanic/Latino, Asian, and refugee populations, were not well represented at the community meetings. An effective marketing campaign must be developed and aimed at convincing residents within these population groups to choose Prince George's County providers for their healthcare. The following steps need to be carried out:

1. Conduct primary research (focus groups, interviews, survey) to gather information about perceptions, preferences, and needs of all population groups.
2. Develop potential marketing messages and materials and pilot test with target audience.
3. Finalize messages and materials and communication channels.
4. Evaluate results.



There is increasing competition for primary care providers and greater demands on primary care practices to become involved in population health management.

More insured people, more integrated delivery systems, and the proliferation of urgent care centers have all contributed to increased demand for primary care providers. Maryland's recent shift to global payment for hospitals with cost and quality targets will further increase the demand for primary care providers that have transformed to patient-centered medical homes and have well-developed population health management infrastructures.

Under this current environment, physicians are seeking more financially stable employment opportunities. The areas surrounding Prince George's County (the District of Columbia and Montgomery, Anne Arundel, and Howard Counties) offer opportunities for primary care physician employment in established and well-known healthcare organizations, including academic medical centers that offer teaching and research opportunities. Such opportunities are more limited in Prince George's County, although this is an issue the Primary Healthcare Strategic Plan seeks to address.

Significant resources are needed to transform primary care practices to patient-centered medical homes.

Prince George's County needs expanded patient-centered, primary care in a well-developed integrated delivery system. Currently, a relatively small number of primary care practices have received patient-centered medical home recognition/accreditation in Prince George's County. Primary care practices often lack the resources or capabilities (such as implementation of an electronic health-record system and the hiring of care coordinators and community workers) needed to transform to and operate as patient-centered medical homes.

Collaboration on service mix among Prince George's County hospitals could help to improve access for County residents.

Dimensions Healthcare Systems' Prince George's Hospital Center and Laurel Regional Hospital and MedStar Southern Maryland Hospital Center are the only hospitals in the County that provide obstetrics and pediatric services. Doctors Community Hospital and Ft. Washington Medical Center do not offer these services. The number of obstetric beds for the new Regional Medical Center will be reduced from current levels at the Prince George's Hospital Center, but the number of obstetric admissions is projected to remain constant with reduced lengths of stay. The new Regional Medical Center will have few general pediatric beds. Given the differences in services offered by these hospitals, collaboration among hospitals—while respecting competition and regional networks—is critical to having the full spectrum of services within the County.

Significant resources and effort are needed to improve quality of services and to change perceptions about the quality of services delivered in Prince George's County.

The Primary Healthcare Strategic Plan provides a blueprint to improve the quality of care as well as to change the perception of quality through a marketing campaign. Lower quality of care—real or perceived—has a negative impact on the County's ability to recruit and retain physicians. It has also contributed to the significant percentage of residents that travel outside of the County for healthcare services.

Prince George's County does not have a structured program to fund primary care services for low-income uninsured or underinsured individuals.

As previously noted, Prince George's County has many uninsured residents, but it does not have a program to pay primary care providers for services provided to this population. Such programs do exist within Montgomery County and the District of Columbia. Not having a



structured program for uninsured/underinsured residents makes recruitment and retention of primary care providers to low-income areas of high primary care needs more difficult. The lack of such a program also negatively affects County residents' ability to access patient-centered care and to achieve improved health outcomes.

Opportunities

The Primary Healthcare Strategic Plan is aligned with both the County's and the State of Maryland's priorities related to improving health and economic development.

The Prince George's County administration has identified healthcare as a top priority for health improvement and economic development. The Primary Healthcare Strategic Plan is aligned with several current initiatives being implemented within the State of Maryland and Prince George's County that include but are not limited to the *Plan Prince George's 2035 Approved General Plan*, the Transforming Neighborhood Initiative, Maryland's Health Enterprise Zone Program, and development of the Regional Medical Center to be located at the renovated Largo Town Center/ Life Sciences Center.

There is alignment between the Primary Healthcare Strategic Plan and a number of patient-centered medical homes, quality improvement, and care coordination initiatives.

Efforts to achieve the "triple aim" (improved patient experience, better health outcomes, and lower costs) across the healthcare industry are aligned with the Primary Healthcare Strategic Plan. A number of initiatives to expand access to patient-centered medical homes, improve quality, and increase care coordination are currently being implemented. These initiatives, for instance, are sponsored by health plans, the Maryland Department of Health and Mental Hygiene, The Maryland State Medical Society, and the Mid-Atlantic Association of Community Health Centers. As implementation of the Primary Healthcare Strategic Plan begins, Prince George's

County will be able to leverage work with aligned initiatives and build collaboration among the County, health plans, providers, social service organizations, state health exchanges, and other stakeholders to achieve the Primary Healthcare Strategic Plan's goals.

Primary care practice sites proposed in the Primary Healthcare Strategic Plan would meet a demand for residency training, including demand from the new Dimensions Family Practice Residency Program.

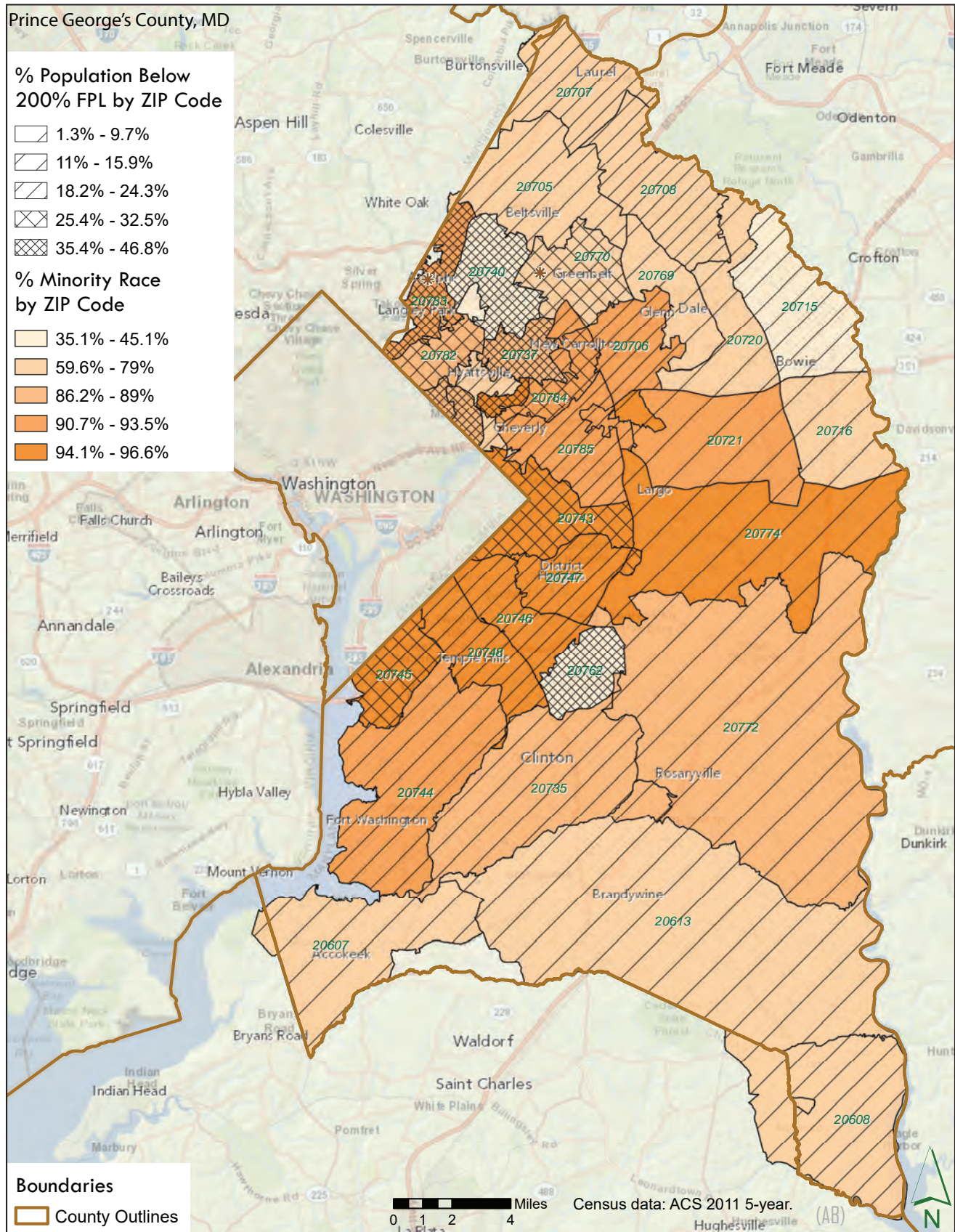
In July 2014, Dimensions Healthcare System's Family Medicine Residency Program at Prince George's Hospital Center commenced operations. Four residents will be accepted into the program annually for a total of 12 residents at full operation. The goal of the Family Medicine Residency Program is to develop outstanding family physicians capable of providing comprehensive and compassionate primary care in a variety of settings. The expanded primary care practices as part of the Primary Healthcare Strategic Plan can serve as residency training sites for the Dimensions Family Practice Residency Program as well as for programs with other academic institutions. The high demand for residency training sites for primary care providers (including physicians, dentists, and midlevel providers) suggests that the expanded primary care sites proposed in the Primary Healthcare Strategic Plan would be well utilized. Physicians often choose to practice where they complete their residency; hence, more residency slots support physician recruitment efforts.

A number of new entrant federally qualified health centers have committed to serving Prince George's County residents, especially low-income and culturally diverse populations.

Since completion of the Public Health Impact Study, two well-recognized federally qualified health centers have established practices in Prince George's County. Another federally qualified health center submitted a New Access Point Grant application to Health Resources



Map 2. Race/Ethnicity and Poverty Distribution



and Service Administration, the federal agency that oversees federally qualified health center funding, to establish a new site in Prince George's County. At the same time, Greater Baden Medical Services, an established federally qualified health center serving the County, is undertaking efforts to improve its quality and access. To optimize access and quality of services for patients, it will be important for federally qualified health centers to collaborate on alignment of service areas. A second challenge will be to prevent any one federally qualified health center from being overwhelmed with uninsured patients. Despite potential coordination challenges, federally qualified health centers represent a great opportunity for expanded access to services for low-income residents in Prince George's County. Federally qualified health centers operate across the United States and serve publicly and privately insured patients, including but not limited to low income populations.

The Patient Protection and Affordable Care Act provides funding for work force development. Existing training programs in the County and the state can be used to implement this funding effectively.

The Patient Protection and Affordable Care Act provides new opportunities to support development of the primary care work force nationwide. The National Health Service Corps has supported primary care through loan repayment since 1972. The stimulus package and the Patient Protection and Affordable Care Act combined provided \$1.8 billion in new funds over five years. By 2015, an increase of 18,000 providers nationwide is expected through the funding. For fiscal year 2014, \$283 million was dedicated to the program from Patient Protection and Affordable Care Act funding, providing more than 5,100 student scholarships and loan repayments in 38 states. Certainly this funding is a significant opportunity for federal resources to support loan repayment across the country and, in particular, in Prince George's County. Yet, mandatory funding continues only through 2015,

and it will be dependent on Congress to authorize continuation.

Prince George's Community College, the University of Maryland, and Bowie State University offer education and training programs for healthcare professionals. Within these programs, there are positions that support patient-centered primary care and population health such as community/public health nursing and health information management. These existing education and training programs can be used to implement additional funding available through the Patient Protection and Affordable Care Act. ***Maryland payment reform supports hospital affiliations with patient-centered primary care practices.***

Maryland's shift to global payment creates an opportunity for Prince George's County. The global payment provides hospitals and hospital-based systems with incentives to invest in patient-centered primary care, community benefit programs, and other health promotion initiatives. Not only do these initiatives improve quality and health outcomes but also help hospitals to realize cost savings. The shift to global payment also presents a challenge to the extent that it increases demand for primary care providers and creates urgency in building patient-centered primary care capacity within Prince George's County.

Prince George's County Health Department enhanced its ability to collect local-level data for Community Health Needs assessment.

The ability to collect and analyze local-area (town- or zip code-level) data on health indicators is essential for preparing community health needs assessment to inform the development of hospital community benefit programs. These data will help to target health improvement initiatives. The County Health Department's recent hiring of staff with expertise in health analysis and health information exchanges will enhance its ability to acquire, analyze, and use local-area data for



health planning and promotion as well as for monitoring and evaluation of the implementation of the Primary Healthcare Strategic Plan.

Maryland Health Connection, the state's health insurance marketplace, took steps to improve the enrollment process and committed to expanded resources for outreach and enrollment in Prince George's County.

In addition, the Maryland Health Connection has committed to increasing resources and strengthening collaboration with community-based organizations operating within Prince George's County for the purpose of increasing residents' enrollment in healthcare coverage.

There is a significant amount of key stakeholders' collaboration.

The healthcare strategic planning process was completed with a spirit of collaboration among all stakeholders, along with a high degree of transparency. Continued collaboration will ensure that the plan is implemented successfully and that its goals are achieved.



III. METHODOLOGY AND APPROACH

The Primary Healthcare Strategic Plan for Prince George's County was developed through a year-long process characterized by:

- Strong and collaborative leadership.
- Broad-based and deep stakeholder input and involvement.
- Structured activities with interim milestones and deliverables.
- Commitment to developing evidence-based recommendations.

The process resulted in a comprehensive plan that has broad-based support among project leadership and stakeholders and will serve as the blueprint for implementation and sustainability for improved primary healthcare for the residents of Prince George's County.

Project Leadership

The project leaders from the Office of the County Executive, The Maryland-National Capital Park and Planning Commission Planning Department, and the Prince George's County Health Department established clear project goals and worked to ensure collaboration among stakeholders throughout the process. They also served as members of the Advisory, Stakeholders, and Workgroup Committees.

The Advisory Committee, responsible for ensuring that the plan would meet the collective needs of Prince George's County, guided and supported the Primary Healthcare Strategic Plan. The Stakeholders Committee brought the perspectives of their individual organizations and constituencies to the plan. In combination, these committees included representation from hospitals, health plans, physicians, federally qualified health centers, advocacy organizations, County departments and agencies, state institutions and agencies, and County residents. During meetings, Advisory and Stakeholders Committee members provided input

and feedback to research findings and preliminary recommendations.

Smaller workgroups were convened with selected representatives of the Stakeholders and Advisory Committees to refine the recommendations tied to key issues. Through facilitated meetings, workgroup members discussed which resources could be mobilized and made recommendations on how the Primary Healthcare Strategic Plan should address physician recruitment and retention, hospital community benefits, and work force development. The outcome of each workgroup was a set of actionable strategies for both the short- and long-term that were integrated into the Primary Healthcare Strategic Plan for Prince George's County.

Community Involvement

One hallmark of the planning process was the desire to obtain input and feedback from the residents of Prince George's County. Multiple approaches were used to engage the community, which included open meetings and representation on the Stakeholders Committee. Community engagement should continue as the Primary Healthcare Strategic Plan is implemented.

Countywide Meeting

On March 1, 2014, The Maryland-National Capital Park and Planning Commission hosted a public meeting at the Jericho Christian Academy in Landover, Maryland, on the topic of primary healthcare and the new Regional Medical Center. The meeting objectives:

1. Ensured an understanding that the new Regional Medical Center and the County's community hospitals will serve as the anchor for the primary care integrated healthcare delivery system with the capacity to deliver high-quality, accessible primary health and prevention as well as hospital care.



2. Provided a forum for further discussion regarding residents' vision and expectations of the new Regional Medical Center.
3. Began a discussion focusing on and creating a culture of health promotion, wellness, and disease prevention.

Information regarding the Regional Medical Center design was provided. Survey cards were used to gather information about the attendees' healthcare use, and discussions were held regarding visions for the Regional Medical Center. Additionally, their visions for primary care services within Prince George's County were discussed. Polling of almost 200 participants was used to obtain general information; 136 community meeting attendees completed the survey cards.

Local Community Meetings

A series of four, two-hour community meetings were held to gather input regarding the Primary Healthcare Strategic Plan.

The objectives of the meetings were to confirm the major health concerns and access-to-care issues facing County residents as well as to get input from residents on what they believe to be the key factors associated with a strong primary care system. Meeting attendees participated in on-site polling, identifying for each community: (1) key determinants of health; and (2) factors associated with a strong primary care system. Data and information gathered during the four local community meetings provided valuable insights that were used to develop the overall strategic plan and the primary care prototypes.

Over 200 residents participated in the countywide meeting, and 100 residents participated in the four community meetings with many indicating that they had lived in Prince George's County for more than 20 years. Despite this level of engagement, few young African-American families and professionals attended. Members of the Hispanic/Latino, Asian, and immigrant communities were also underrepresented at the meetings despite numerous outreach efforts. The Primary Healthcare Strategic

Plan's marketing and branding strategy includes recommendations on gathering more information from these communities.

Summaries of the community meetings are available on the Prince George's County web site (princegeorgescountymd.gov) and the The Maryland-National Capital Park and Planning Commission Planning Department's web site (pgplanning.org).

Advisory and Stakeholders Committees Meetings

Prince George's County residents were well represented on the Advisory and Stakeholders Committees. Committee members resided and/or worked in the County. Further, two residents from each of the nine Council districts were appointed to serve on the Stakeholders Committee as representatives of their respective community. Interviews were conducted with individual Advisory and Stakeholder Committee members to explore community-related issues in more depth.

Findings from the Random Household Health Survey of the Public Health Impact Study: Technical Report 7

Results of the Random Household Health Survey were used to inform the strategy. Further, several questions used for the survey were also used for the on-site polling at the community meetings, providing insights on variations and trends.

Research and Analysis

John Snow, Inc. conducted research and analysis to develop a strategic plan that is unique to Prince George's County. Wherever possible, the extensive body of research on healthcare and planning in Prince George's County that had already been conducted was included. The research and analysis that is used for planning is outlined. More information regarding data and sources is included in Appendix B.



Building on Previous Work

- **2012 University of Maryland School of Public Health, the Public Health Impact Study:** This study identified geographic distribution of primary care providers and shortage areas, estimated an overall shortage of 61 primary care providers distributed throughout the County, described community perceptions of healthcare services available and preferences on where to get care, and recommended the development of a primary care strategy and implementation plan. John Snow, Inc. used this report extensively throughout the planning process and conducted follow-up interviews with several of the authors.
- **2009 RAND Report, *Assessing Health and Health Care in Prince George's County*:** This report studied residents' healthcare needs and the County's healthcare system's capacity to meet those needs.
- **Other Sources:** Findings from Prince George's Community College *Conversation on Building an Integrated Community-oriented Healthcare System in Prince George's County*, and certificate of need application for the new Regional Medical Center.

Literature Review

Peer-reviewed journal articles and other trusted sources were researched to identify industry-best practices and models that would be relevant for Prince George's County. A list of articles, reports, and web sites is included in Appendix C.

Primary Research

- **Follow-Up Interviews with Stakeholders and Industry Leaders:** Over 30 follow-up interviews were conducted with members of the Advisory Committee, Stakeholders Committee, and other industry leaders identified throughout the project. One-on-one interviews focused on gaining more in-depth understanding and information

regarding key topics that were identified during the larger committee or community meetings. These targeted discussions helped to inform primary care strategies, site selection, prototypes, and adjustments in the number of additional primary care providers needed in Prince George's County. A list of those interviewed is included in Appendix B.

- **Demographic and Health Data:** Data were obtained from several sources that included: (1) the U.S. Census Bureau, including the *American Community Survey*, for the County and zip code levels; (2) the Community Health Rankings, (3) the Chesapeake Regional Information System for our patients County-level data on hospital admissions for 2012/2013; and (4) live polling at community meetings. Data were captured to inform the overall plan and, more

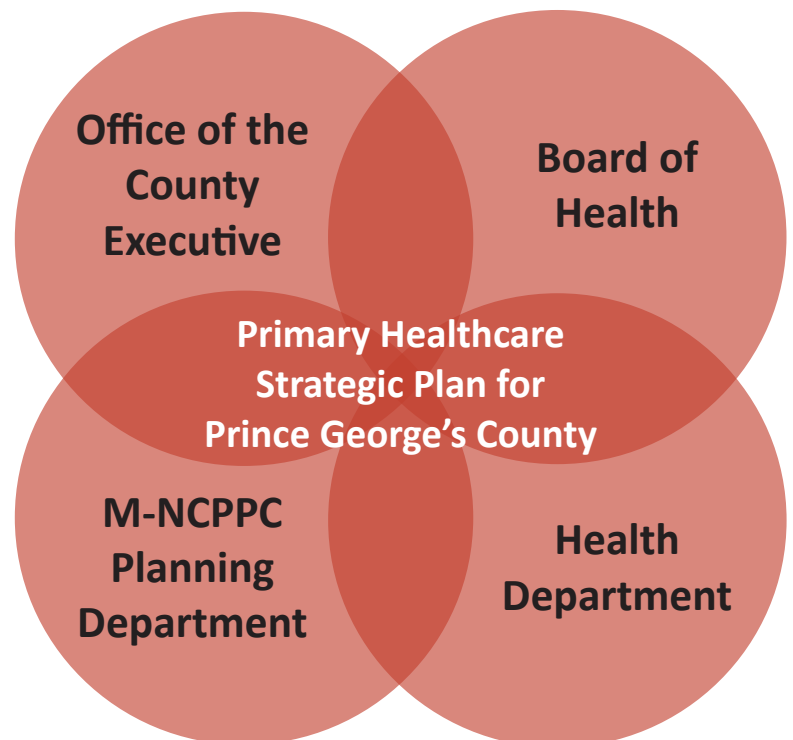


Figure 2. Primary Healthcare Strategic Plan Leadership



specifically, the primary care prototypes and marketing plan.

- **Market Data:** Data on the healthcare market within Prince George's County (in surrounding areas) and for the State of Maryland were obtained from several sources that included but were not limited to:
 1. Health Resource and Services Administration Uniform Data System Mapper.
 2. Maryland Managed Care Organizations enrollment statistics.
 3. Web sites of major healthcare providers.
 4. National Committee for Quality Assurance data request on patient-centered medical home certification within Prince George's County.

5. Medicare Geographic Pricing Cost Index.

Market data were used to inform the overall plan as well as to update physician shortage estimates and inform development of the primary care practice prototypes.

- **Site Visits:** In collaboration with The Maryland-National Capital Park and Planning Commission Planning Department staff, John Snow, Inc. conducted site visits to Prince George's County. Information and data obtained during the site visits were used to inform site selection and design for the primary care prototypes.



IV. PRIMARY HEALTHCARE STRATEGIC PLAN FOR PRINCE GEORGE'S COUNTY

Recommendations for the Primary Healthcare Strategic Plan for Prince George's County are provided in the following section of this report. Recommendations are provided to expand patient-centered primary care, recruit and retain primary care providers, develop a work force to support expansion of patient-centered care, build collaboration on community benefit programs, and build a sustainable model for implementation and monitoring and evaluation.

The matrix provided on page xii of the Executive Summary provides a crosswalk between the recommendations and the detailed descriptions included in Sections IV and V.

Expanding Patient-Centered Primary Care in Health Investment Zones

One of the first priorities of the Primary Healthcare Strategic Plan is to increase the number of primary care practices in high-need areas, designated as "Health Investment Zones." Taking into account community demographics and applying best practices, several recommendations for prototype primary care practices are offered.

Defining Health Investment Zones

Health Investment Zones are defined as those zip codes within the County that were identified by the University of Maryland School of Public Health in its Public Health Impact Study as having high primary care needs or tending to high primary care needs. The University of Maryland School of Public Health created a measure of primary care needs that takes into account physician-to-population ratios, health indicators related to patient-centered primary care (readmission rates and hospital discharges), and social determinants of health (household income and education levels). High primary care need areas meet each of the following criteria:

- Primary care physician-to-population ratio at or worse than 1:3,500 (federal guidelines for the adequate primary care physician-to-population ratio is 1:2,000).
- Population median-income and/or education level lower than the County average.
- Population 30-day readmission rate and/or hospital discharge ratio higher than the County average.

Additional levels of primary care needs were identified. Zip codes that were designated as tending to high primary care needs met the same population, socioeconomic, and hospital event criteria but had physician-to-population ratios between 1:3,500 and 1:2,000. Further levels were developed for medium needs, tending to medium needs, and adequate to meet primary care needs (see zip code-level analysis in Figure 2 on page 17). More information about the methodology behind this stratification can be found in the Public Health Impact Study.

Analysis of Determining Locations, Models of Care, and Facility Design for Primary Care Practices in Health Investment Zones

The Site Selection Committee convened to identify potential locations and models for added primary care practices within the Health Investment Zones. The Site Selection Committee included representatives from the Office of the County Executive, The Maryland-National Capital Park and Planning Commission, the Prince George's County Health Department, and Dimensions Health System. In addition to being within the Health Investment Zones, potential locations were evaluated on their ability to meet the following criteria:

- A federally designated and/or state-designated health professional shortage area.
- An area targeted by the County for economic development and/or health improvement.
- Availability of space to accommodate patient-centered primary care practices.



- Accessibility by private and public transportation that currently exists or is planned for the future.
- Potential to be co-located with community-based organizations, social service agencies, and/or private businesses involved in health promotion (for example, healthy grocer, yoga/pilates center).

Information and data to inform site selection, models of care, and facilities were gathered from several sources that included site visits, master plans, Public Health Impact Study technical reports, Health Resource and Services Administration data, census data, community meetings, and stakeholder interviews. A full list of sources is included in Appendix B.

Suggested prototypes for facility designs were developed to accommodate the models of care for each location. The designs were based upon best practices for patient-centered primary care, as described in the following sections. Visuals of the facility designs are included in Appendix A.

Best Practice Models for Patient-Centered Primary Care

The suggested prototype for primary care practice sites is developed based on the patient-centered medical home model. Best practice models for patient-centered primary care continue to evolve incorporating new research and learning collaborative efforts; all are based upon the core concepts of patient-centered care. (Refer to the Patient-Centered Medical Home diagram on page 5.)

The concept of the patient-centered medical home as a model for primary care is not new. The American Academy of Pediatrics introduced the medical home concept in 1967 as a single location for a patient's healthcare information and, in 2002, greatly expanded the medical home concept to include accessible, continuous, comprehensive, family-centered, coordinated, compassionate, and culturally effective care. In 2007, the American Academy of Pediatrics, the American Academy of Family Physicians, the American College of Physicians, and

the American Osteopathic Association adopted the Joint Principles of the Patient-Centered Medical Home that have served as the basis for various patient-centered medical home initiatives and accrediting programs.

Refinements to the joint principles include certain non-physician healthcare personnel as primary care providers. The care team in a patient-centered medical home may include physicians, midlevel providers, medical assistants, clinical care coordinators, community health workers, and behavioral health providers. Patient-centered primary care also incorporates oral health and medication management. Larger primary care practices support on-site dental and pharmacy services with oral health providers and clinical pharmacists joining the care team.

A fully integrated approach to care reflects the social-ecological model for health promotion. The social-ecological model (also referred to as the whole-person care model) contextualizes individual behavior within social and physical environments. At the same time, the model is flexible and incorporates sustained changes in health behaviors that require revised policies, environments, and social systems to address social determinants of health while supporting individuals' positive lifestyle habits. (See the Social-Ecological Model for Health Promotion diagram on page 6.)

The social-ecological model is consistent with the model used for Robert Wood Johnson County Health Rankings that is based on a model of population health, emphasizing the many factors that, if improved, can help make communities healthier places to live, learn, work, and play. County Health Rankings provides benchmarks and comparisons for evaluating the health of a County's population and are used by the Health Department to produce the annual Health Report 2014. The County Health Rankings model was used at the four local community meetings to elicit input from County residents on their health and healthcare.



The Primary Healthcare Strategic Plan defines primary care to encompass primary prevention (health promotion), secondary prevention (screening), and medical care (chronic disease management and acute care). Further, the Primary Healthcare Strategic Plan recommends that primary care practices have integrated behavioral health, oral health, and care coordination. A list of services included as primary care is included in Appendix B.

Recommendations for Patient-Centered Primary Care in Health Investment Zones

Recommendations for patient-centered primary care practices in Health Investment Zones are solidly grounded in the patient-centered medical home and social-ecological models. Recommendations are consistent with the Community Integrated Medical Home model being implemented as part of Maryland's state innovation management grant. Further, the Prince George's County Health Department and The Maryland-National Capital Park and Planning Commission, through its planning, zoning, and review functions, support the social-ecological model and their efforts can strongly influence social determinants of health and health promotion. Their leadership and strong participation bodes well for achieving the goals of the Primary Healthcare Strategic Plan.

Recommendation: *Implement suggested prototypes for primary care practices in those areas identified as Health Investment Zones.*

Time Frame: Prototypes 1, 2, and 3 should be developed in the short-term; Prototype 4 should be developed within three to five years, consistent with the new Regional Medical Center opening.

Four prototypes for primary care practices were developed; one for each of the four geographic areas designated as a Health Investment Zones: Riverdale/New Carrollton/Langley Park, Brandywine, Oxon Hill, and Capitol Heights. (See Map 3: Suggested Prototypes for Primary Care Practices in Health Investment Zones on page 22).

Prototypes are summarized in Table 1, and additional information and visuals are included in Appendix A. The prototypes include site location, care program, facility plan, and a business model. A brief description of these suggested prototypes are given below.

- General site locations were identified within each of the Health Investment Zones, but specific locations are not being recommended with this report. The site location will be determined as the Primary Healthcare Strategic Plan moves to implementation and will depend upon several factors, including what space is available for medical practices and progress on planned developments.
- Program was based upon best practices for patient-centered primary care, modified to fit with the population demographics, community characteristics, and market conditions.
- Facility was based upon architectural design principles that support the patient-centered primary care model. These designs support a team-based approach to care; maximize patient time with providers throughout visit; eliminate physical barriers between patient and staff; allow for variations in demographics, practice methodologies, and future technologies; use natural lighting and other features to create inviting space; and provide sufficient square footage. The proposed facilities would be built to meet environmental standards and to accommodate people with disabilities.
- Business model was developed to support a financially viable primary care practice through start-up and for ongoing operations.



Map 3: Suggested Prototypes for Primary Care Practices in Health Investment Zones

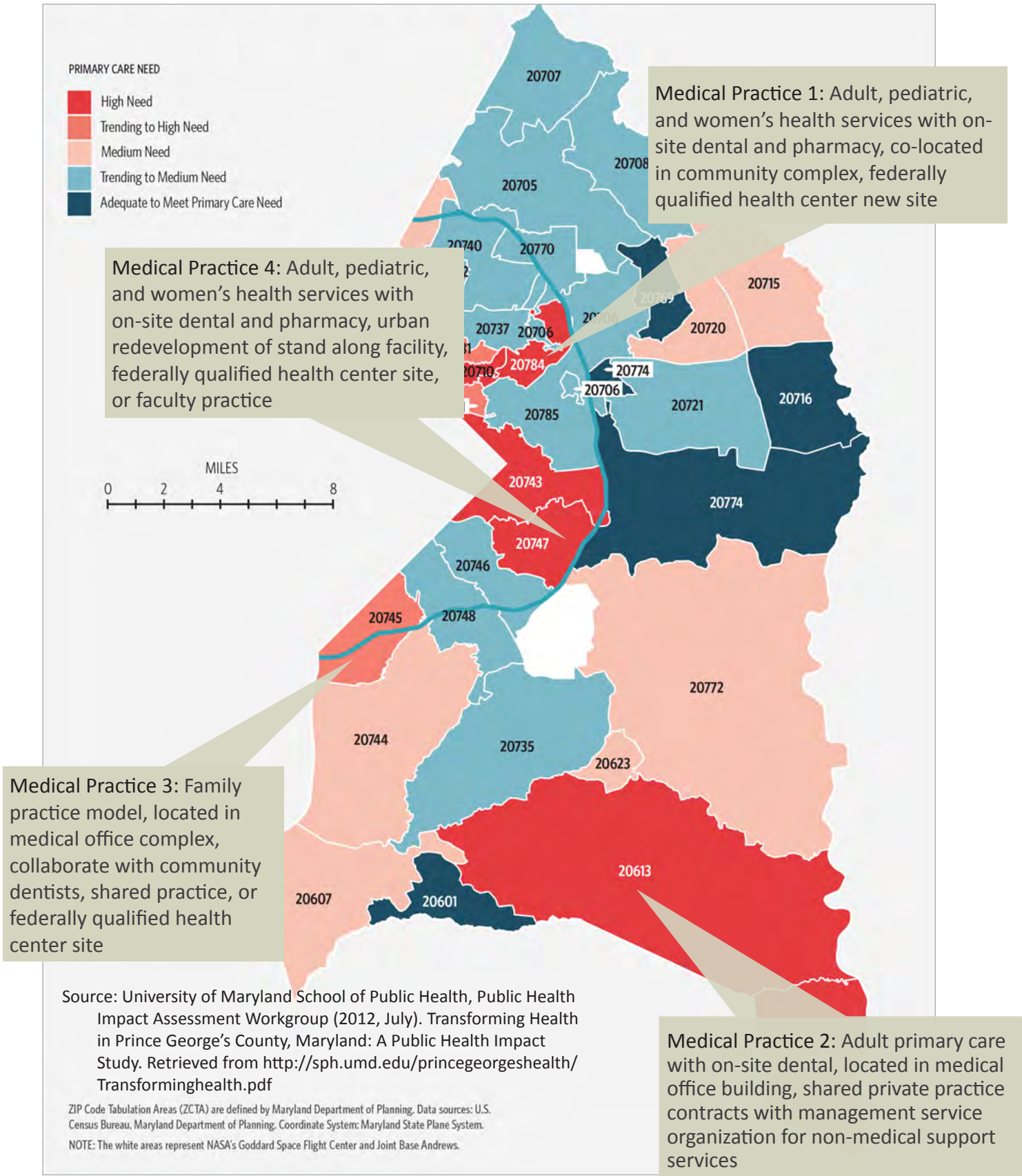


Table 1. Summary Table of Primary Care Practice Prototypes in Health Investment Zones

PROTOTYPE	COMMUNITY DESCRIPTION	PROGRAM	FACILITY	BUSINESS MODEL
1—Health Center in Community Complex	<ul style="list-style-type: none"> • Encompasses Riverdale/ New Carrollton/ Langley Park • High density • Largely low-income and uninsured • Culturally, ethnically diverse • Health professional shortage area 	<ul style="list-style-type: none"> • Primary care with family practice, internal medicine, pediatrics, and women’s health • Seven full-time equivalent physicians and midlevel providers • Same day appointments, extended hours • On-site dental and pharmacy • Residency program, specialty clinic rotation 	12,500 sq. ft. located within community-based complex	Federally qualified health center site
2—Shared practice in medical office building	<ul style="list-style-type: none"> • Encompasses Brandywine, southern region of County • Rural area, low density • Largely high-income, African-American • Health professional shortage area 	<ul style="list-style-type: none"> • Adult medicine primary care practice • Six full-time equivalent physicians and midlevel providers • Same day appointments • Collaboration with independent or hospital-based urgent care center for after-hours care • On-site adult dental 	7,800 sq. ft. located within medical office building	Health organization affiliated or independent practice association with management service organization-provided support services
3—Family practice in medical office building	<ul style="list-style-type: none"> • Encompasses Oxon Hill • Largely low-to-moderate income • Culturally, ethnically diverse • Underserved population 	<ul style="list-style-type: none"> • Family practice • Four full-time equivalent physician and midlevel providers • Same day appointments • Collaboration with independent or hospital-based urgent care center for after-hours care • Collaboration with community dentists 	6,800 sq. ft. located within medical office building	Health organization affiliated or federally qualified health center site
4—Health center in redevelopment area, near Regional Medical Center at Largo Town Center	<ul style="list-style-type: none"> • Encompasses Capitol Heights, District Heights • Concentration of low-income and uninsured • Predominantly African-American • Health professional shortage area 	<ul style="list-style-type: none"> • Primary care with family practice, internal medicine, pediatrics, and women’s health • Seven full-time equivalent physicians and midlevel providers • Same day appointments, extended hours • On-site dental and pharmacy • Residency program, specialty clinic rotation 	15,800 sq. ft. stand-alone facility, new construction on redeveloped site	Federally qualified health center or Regional Medical Center faculty practice



Recruitment and Retention of Primary Care Physicians for Prince George's County

This section provides an overview of quantifying the needs for primary care physicians in the County, barriers to physician recruitment and retention, as well as strategies to overcome those barriers. Based on needs and these best practices, recommendations specific to Prince George's County are outlined.

Need for Primary Care Physicians in Health Investment Zones

The University of Maryland School of Public Health conducted a rigorous analysis to quantify the number of primary care physicians needed for Prince George's County by geographically using the Public Use Microdata Area geographic units. The study indicated that a total of 61 primary care physicians and 31 dentists were needed to meet the primary care needs within the County, which are concentrated in the inner Beltway and southern part of the County. (The University of Maryland School of Public Health's methodology and results are included in the Public Health Impact Study.)

John Snow, Inc. used available sources of information (stakeholder interviews, web sites, etc.) to update its understanding of projected need. The information gathered indicated that healthcare organizations had moved into or expanded their services within the County's high-need areas, reducing the shortage by 13 primary care physicians. It should be noted that there are several limitations to the exactness of the University of Maryland School of Public Health's original estimate and to John Snow, Inc.'s updates, as well as the federal guidelines for physician-to-population ratios. Taking these limitations into account, the estimated number of physicians needed in the County should be used as a guide to the magnitude of need.

Based upon the information available, it is estimated that the remaining need for primary care physicians in the Health Investment Zones would range from 24 (assuming 50 percent outmigration) to 48 (with no outmigration). The proposed primary care practices

would add 15 physicians and 7 midlevel providers or 22 total primary care providers. Proposed practices would increase the number of dental providers by four (two dentists and two dental hygienists). These providers would constitute a critical start to meeting the demonstrated need in Prince George's County.

Analysis of Barriers to Physician Recruitment and Retention

Barriers to physician recruitment and retention were identified primarily through stakeholder meetings, interviews, and a review of market-related documents. Barriers can be grouped under financial security, professional opportunities, quality, and systems support.

Prince George's County has fewer opportunities for employment relative to the surrounding counties and the District of Columbia.

Today, many physicians are looking for financial security and are less interested in the risk that accompanies setting up private practices. Compared to surrounding counties, physicians in Prince George's County have set up more small private practices. In contrast, in the areas surrounding Prince George's County (District of Columbia, Montgomery, Anne Arundel, and Howard Counties) more primary care physicians practice in established and highly recognized healthcare organizations, including academic medical centers that offer teaching and research opportunities.

Prince George's County also has fewer opportunities for residency training, and as stated earlier, physicians often choose to practice where they complete their residency. Opportunities are particularly limited for pediatricians and obstetricians. Dimensions Healthcare System (includes Prince George's Hospital Center and Laurel Regional Hospital), along with MedStar Southern Maryland Hospital Center are the only hospitals in the County that provide obstetrics and pediatric services. Current plans for the new Regional Medical Center will reduce the number of obstetric beds (although obstetrical admissions are projected to



remain constant with reduced lengths of stay) and provide for a small number of pediatric beds.

Prince George's County does not have an established program to reimburse primary care providers for services provided to uninsured or underinsured low-income individuals.

Montgomery County and the District of Columbia have established programs to pay primary care providers for services provided to uninsured, low-income individuals. Primary care providers that practice in low-income communities often serve a disproportionate share of uninsured individuals as well as those who are underinsured (individuals who have health insurance plans with large deductibles or limited benefits). Given the lack of reimbursement for their services, there is little incentive for providers to work in these low-income communities of Prince George's County where, unfortunately, the need is often highest.

Solo/small practice primary care providers in Prince George's County do not have resources to transform into patient-centered medical homes.

There are relatively few primary care practices in Prince George's County that have transformed into patient-centered medical homes, as compared to those in surrounding counties and the District of Columbia. Solo or small practices often do not have the resources to hire staff (such as care coordinators) and implement systems (such as data analytic capabilities) to operate as a patient-centered medical home. In today's healthcare environment, physicians want to work for practices that have received patient-centered medical home recognition from one or more of the nationally recognized accrediting organizations (National Committee for Quality Assurance, The Joint Commission, or Accreditation Association for Ambulatory Health Care, Inc.) that have the operational support to participate in shared savings and quality contracts. Developing primary care practices to function as patient-centered medical homes will be even more important with Maryland's shift to global payment models for hospitals. Under its payment reform initiative, over the next five years

Maryland will shift virtually all of its hospital revenue into global payment models, providing incentives for hospitals to work in partnership with other providers (primary care providers, in particular) and preventing unnecessary hospitalizations and readmissions.

There is a general perception that healthcare services are of lower quality in Prince George's County.

The perception of lower quality adversely affects the ability to recruit and retain physicians. Not only do providers want to work in what is perceived as quality institutions, they are also concerned that, unless the quality of care within Prince George's County improves, the ability to develop a financially viable practice will be compromised.

Communities with high primary care needs often lack medical office space that can support new primary care practices.

Low-income areas often lack an inventory of sufficiently sized (minimum of 6,000 square feet) and affordable space needed to support primary care practices. Without existing space to support primary care practices, providers lack the incentive to even attempt to establish practices in these high-need areas.

Effective Strategies for Physician Recruitment and Retention

Effective strategies for recruiting and retaining physicians are those that offer opportunities for financial security and achievement of professional goals. Today, these strategies must respond to the increased demand for primary care providers and the accompanying responsibilities placed on them to support population health management.

The following strategies for physician recruitment and retention are based upon best practices considered most relevant to Prince George's County. Strategies specific to Health Investment Zones are also included:

- Recruit primary care providers into established organizations that provide reliable income and the infrastructure to support patient-centered



care. For example, a federally qualified health center located in Maine has grown by merging existing private physicians (solo practitioners and small groups) into the center. These physicians have exchanged autonomy for financial security (salary plus quality bonuses) and support from an organization (quality management, care coordination, and other support services).

- Recruit new physicians from residency training programs. Many organizations see participation in residency programs as crucial to their recruitment strategy. Physicians coming from residency programs already share in a panel of patients and have assimilated into the practice operations and culture. Federally qualified health centers and larger private practices that can serve as a residency practice site have an advantage for recruitment.
- Offer loan repayment and other incentives for physicians that agree to practice in a designated health professional shortage area. Medical school loans present a large financial burden to physicians; their ability to participate in federal and state loan repayment programs can be a major help. The most effective recruitment strategies offer loan repayment as part of a comprehensive package rather than the sole strategy.
- Create a “package deal” for recruitment. By necessity, rural health centers have developed physician recruitment and retention strategies that offer a package—great place to live, low cost of living, employment opportunity for working spouse, good schools for the children, and the opportunity to become an esteemed member of a small community. Prince George’s County can similarly be promoted as a diverse and historically rich community that offers a high quality of life for young professionals, growing families, and active seniors.

Health Investment Zone Incentives

Healthcare delivery overall and recruitment of primary care physicians, in particular, are shifting as

more and more physicians are employed by larger healthcare organizations that are part of integrated delivery systems. This major shift is attributed to the complexities of healthcare reform that require primary care physicians to operate as patient-centered medical homes and engage in population health management. Increasingly, physicians want the security and support of working with larger organizations that are better equipped to handle the new, complex, day-to-day operations of a practice.

Many see solo practitioners as a thing of the past. As there continues to be physician shortages, particularly in primary care medicine, the County must take measures to keep pace. The following recommended incentives enhance the County’s capabilities to recruit and retain primary care physicians.

- Establish and operate a program to reimburse primary care providers for services to low-income patients who are uninsured or underinsured (referred to as Prince George’s HealthAssure).

The County would develop and operate the program in collaboration with key stakeholders. Following successful models, including Montgomery Cares and the DC Alliance Program, the program would be funded through a combination of private and public sources.

Federally qualified health centers would also use some of their federal grant funds to subsidize the cost of services provided to uninsured patients, but the amount would not cover all costs. The recommended reimbursement per primary care encounter is \$85.00, an amount consistent with the amount paid by Montgomery Cares and Medicare reimbursement for a comprehensive primary care visit.

- Develop a plan that will provide adequately sized and affordable medical office space that will qualify as a patient-centered medical home and includes primary care practices making reduced lease payments.



- Build out medical office space in the Health Investment Zones that supports patient-centered medical home care models, for example shared space for care teams and talking rooms for behavioral health consultations. (See Section IV on page 19.) Funding would come primarily from negotiated cost secured by the County from private developers. Additional funding could come through grants for federally funded health centers and capital campaigns sponsored by nonprofit organizations. Estimated costs to build out medical office space within an existing building that supports the patient-centered medical home model averages about \$230 per square foot; estimated cost for ground-up (full facility) construction is \$425 per square foot.
- Secure reduced lease payments for primary care practices in the Health Investment Zones. The County would secure reduced lease payments from private developers and property owners. The proposed subsidy is \$10 per square foot or approximately half of the average lease cost for office space in Prince George's County (excluding utilities and leasehold improvements). In addition, the County would secure a minimum 15-year lease term from property owners.
- Establish a plan to secure federal and state loan repayment to physicians and dentists that choose to practice in Health Investment Zones in Prince George's County.
 - Work with federally qualified health centers and other eligible governmental and private nonprofit healthcare organizations serving the County to secure state and federal loan repayment for medical and dental school graduates who agree to work in sites located in Health Investment Zones.
 - Work with the Mid-Atlantic Association for Community Health Centers (represents Maryland's federally qualified health centers), The Maryland State Medical Society, and other stakeholders to promote the loan repayment program.
- Provide low-cost working capital loans to cover start-up costs such as operating losses during the ramp-up period (12 to 18 months), purchase of equipment such as an electronic medical record system, and income guarantees for physicians and midlevel providers. The Economic Development Corporation may provide the loans at favorable interest rates and have provisions for loan forgiveness for those providers that practice in the Health Investment Zones for the long term (10 to 15 years).
- Enable the ability of primary care practices to operate as patient-centered medical homes by having access to support services through management service organizations. Management services organization(s) would be developed and operated as a private organization, for example a joint venture among health plans serving Prince George's County or services offered through The Maryland State Medical Society. The management service organization could charge service fees for primary care practices to cover operating costs. Services could be provided to primary care practices operating in a Health Investment Zone at reduced rates with the goal being that the management service organization operates at break-even (or above).
- Develop a program to subsidize physician income for primary care practices that agree to serve as residency practice sites in Health Investment Zones. The subsidy would offset lost productivity for physicians serving as preceptors for medical and dental residents. Funding for income guarantees to preceptors would come from private sources and/or the residency program.
- Establish a plan to subsidize malpractice costs for primary care practices. The County would promote the hiring of primary care physicians and midlevel providers by federally qualified health centers, and/or primary care providers employed by federally qualified health centers usually have their malpractice costs covered.



Recommendations for Recruitment and Retention of Primary Care Physicians for Prince George's County

Based on effective strategies tailored to meet the goals of the Primary Healthcare Strategic Plan and evolving market conditions, the following recommendations developed through the Physician Recruitment and Retention Workgroup are proposed for Prince George's County.

Recommendation 1: *Provide financial incentives.*

Time Frame: Short- to Medium-Term

- Offer incentives to: (1) private physicians who are culturally competent, have desire to serve low-income or rural populations, and are willing to practice in sites located in Health Investment Zones; and (2) federally qualified health centers that are willing to expand capacity through opening new sites in Health Investment Zones.
- Offer low-cost working capital loans and two-year income guarantees to private primary care physicians who commit to establishing and maintaining practices in Health Investment Zones in Prince George's County.
- Establish an adequately funded program, such as Prince George's HealthAssure, to pay qualified providers for patient-centered primary care services to low-income uninsured and underinsured individuals. The program would apply to federally qualified health centers and to certain other primary care providers (as funding allows) in Prince George's County, including those practicing outside of the Health Investment Zones.

Recommendation 2: *Provide operational support.*

Time Frame: Short- to Medium-Term

Physicians should be recruited into an integrated system that includes medical, behavioral, and social services. Physicians need to believe they do not have to "do it alone." Systems include those inside the practice, such as staff that are trained in data analytics to support population health management and behavioral health providers, and those outside

the practice such as public health nurses and other community-based social service organizations. There are multiple approaches to building operational support for primary care practices. They are not mutually exclusive and, further, can be implemented over time.

- Encourage the development of a private management service organization that would offer services to primary care practices, in particular to solo practitioners and small practices. The management service organization would provide support services, including general administration, electronic health record implementation and maintenance, credentialing, contracting, population health management (quality analytics, care coordination), and legal services as well as technical assistance on transformation to patient-centered medical homes. There are various ways to structure and fund the management service organization. Given the resource requirements and needed expertise, it would be advantageous to work in collaboration with others that provide support to primary care practices, including but not limited to The Maryland State Medical Society, the Mid-Atlantic Association of Community Health Centers, and the Maryland Health Care Commission Management Service Organization Advisory Panel.
- Implement an infrastructure that can support the patient-centered medical home model for solo practitioners and small practices, in particular those operating in more rural parts of the County. One possible model is an Independent Physician Association. In this association, Physicians could practice in a shared model that purchases services through the management service organization. Physicians also could enter into joint contracts with health plans as well as form alliances with hospitals, home health agencies, urgent care centers, and other community-based organizations to improve transitional care and after-hours care. The Independent Physician Associations of a sufficient size could form an



accountable care organization that would enter into contracts with health plans.

- Expand opportunities for residency and employment in established healthcare organizations.
 - Establish opportunities for residency training (medical and dental) in Prince George's County provider organizations, and aggressively recruit within regional residency training programs to use practice sites within Prince George's County.
 - Support expansion of federally qualified health centers that offer employment, malpractice coverage, and organizational supports for physicians and midlevel providers that want to serve low-income and culturally diverse populations.
 - Support development of hospital-based integrated delivery systems, including the new Regional Medical Center.
 - Build strong collaboration between primary care sites in Health Investment Zones with the recently developed Family Practice Residency Program sponsored by Dimensions Health Systems.

Recommendation 3: Market Prince George's County as a "package deal."

Time Frame: Medium- to Long-Term

Recruit primary care physicians by offering Prince George's County as a package deal—a great place to live and work. The package includes employment for the physician (and his/her spouse if both are physicians) into a supportive and high-quality

healthcare system, employment opportunities for the spouse, access to good public schools, and ability to be part of the community. Implementation of this recommendation would require collaboration at local, County, and state levels, and includes:

- Making the necessary investments needed to build excellent healthcare at the Regional Medical Center. One tactic is to recruit a high-profile cluster of established, academically oriented specialists to the Regional Medical Center. Their arrival would reflect the County's commitment to improved quality, fulfill the original Memorandum of Understanding promise of a health sciences center and, most importantly, instill confidence within the medical community as well as with Prince George's County residents.
- Partnering with an academic institution to set up and pay for medical, dental, and allied health profession residency sites. Work with the state to implement the necessary policy changes that give priority to Maryland higher education institutions for residency and practicum slots.
- Working with State education officials, Prince George's County Public Schools, private schools, colleges, and universities located within the County to ensure quality education is provided in all schools.
- Working with businesses to find employment positions for physicians' spouses, including ones within medical practices and medical centers for spouses who are also physicians.
- Implementing the marketing and branding campaign to recruit primary care providers as outlined in Targeted Marketing Goal #1 on page 48.



Recommendation 4: Advance health promotion and disease prevention.

Time Frame: Medium- to Long-Term

The social-ecological model on which the Primary Healthcare Strategic Plan is based recognizes that much of healthcare takes place outside of physicians' offices. To further increase primary care capacity, efforts should focus on expanding resources for health promotion and disease prevention outside of the primary care setting. Thus, while other recommendations in this section have focused on bringing in and retaining new providers to the County, this recommendation takes a different approach to reducing demand for primary care medical services. Improving health and reducing disease prevalence will reduce pressure on the demand for primary care. The following recommendations support that trend:

- Continue to include health promotion as part of community development (for example, building more sidewalks and providing incentives to service and retail establishments that support healthy eating and exercising). Prince George's County, through The Maryland-National Capital Park and Planning Commission and the Health Department, has already implemented programs to support the development of healthy communities. Continuing these efforts in parallel with implementation of the Primary Healthcare Strategic Plan will advance the goal of improving the health of all County residents.
- Implement the health promotion campaign included as part of the marketing and branding plan, outlined in Section V on page 47.
- Provide adequate funding for the Health Department to conduct health needs assessment, and implement health promotion and disease prevention programs as indicated.
- Encourage health plans and employers to offer incentives to health plan enrollees and employees who engage in health promotion and disease prevention activities.

Developing a Work Force to Support Expanded Patient-Centered Primary Care in Prince George's County

Work Force Development under Healthcare Reform

The profession of primary healthcare is transforming into a new work force. The patient-centered medical home model of care demands dramatically different skills and staffing and requires collaborative teams of health professionals. Given that context, the work force recommendations for Prince George's County are to adapt the health professional work force to support a patient-centered medical home for every resident in the County.

With the expansion of healthcare coverage under the Patient Protection and Affordable Care Act, there is a need for expanded work force capacity to meet the needs of the newly insured and to fill gaps in access for existing insured residents. Under the Patient Protection and Affordable Care Act, federal funding for the National Health Service Corps, which has existed since 1971 to provide scholarship and loan repayment to providers who serve in areas with a provider shortage, has been expanded. The funding is available for physicians, nurse practitioners, physician assistants, nurse midwives, mental and behavioral health providers, and dentists.

New and existing primary care providers must be trained to build capacity of this new work force to align with the patient-centered medical home model. The new primary care work force will be composed of a range of health professionals who work together as a team to deliver high-quality primary care. Physicians cannot do it alone; clinical and non-clinical staff members ensure patients have support in many ways, such as helping them gain access to high-quality food, education on how to live a healthy lifestyle, and support to take medications. More and more, there is recognition that training on developing effective relationships among all members of the care team is needed, as well as training on practice-based population health. Practice-based population health



uses information on a group of patients within a practice or a group of practices to improve the care and health outcomes of those patients.

Analysis of Work Force Needs for Prince George's County

John Snow, Inc. analyzed work force needs in Prince George's County in two phases. During the first phase, an inventory of current training resources at local educational institutions, their capacity, and available degree programs was developed and is included in Appendix B. During the second phase, John Snow, Inc. reviewed best practices for delivering high-quality primary care, and based on these, a list of high-priority health professionals was developed (see Table 2).

Table 2. High-Priority Health Professionals for Patient-Centered Primary Care

MEDICAL	Physicians, nurse practitioners (family medicine, pediatric), physician assistants, pharmacists, medical assistants, nurses, advanced practice nurses, certified nurse midwives.
BEHAVIORAL HEALTH	Psychiatrists, psychologists, licensed clinical social workers, licensed alcohol and drug counselors, psychiatric nurse practitioners, family and health counselors.
OTHER HEALTH PROFESSIONAL STAFF	Community health workers, care coordination staff, reception staff, information technology specialists, advanced public health nurses, interpreters and translators, social workers.
DENTAL	Dentists, dental hygienists, dental assistants.

Table 2 demonstrates that there is a need for staff with qualifications in team management, data management, and information technology. This is in addition to the traditional medical staff usually thought of in a professional health work force. By having more members on a care team, a patient-centered medical home practice must manage more staff than a traditional practice. The need for information technology and data management staff is increasing, as providers move to electronic health records, and practices take a population health approach by actively managing their patients' preventive health needs.

Best Practices in Work Force Development

A work force that supports population health is diverse, involving not just physicians but a range of allied health professionals. While a comprehensive care team is a recognized requirement for patient-centered services, there is currently no single model, in terms of staffing configuration, to provide these supportive services. By prioritizing and investing in work force development, Prince George's County will be at the forefront of primary care. The work force

best practices to support a patient-centered medical home transformation and population health are discussed below.

- Encourage diversity of both clinical and non-clinical staff. By definition, the primary care work force to support patient-centered care is diverse. The work force to support population health and patient-centered medical homes includes individuals that have significant roles in care coordination, health education, and community outreach. The staff in these roles vary in their educational backgrounds and include nurses, public health nurses, social workers, licensed clinical social workers, pharmacists, and community health workers. Historically, these staff have been limited in their availability, because the current healthcare payment system has not paid directly for their services. With payment reform of both primary care and hospital systems, there are new financial incentives and mechanisms that encourage and allow for payment of these types of staff. The patient-centered medical home model increases



the ratio of staff per physician provider, and one study estimates this increase to be as much as 59 percent.

- Ensure all staff are working at the top of their license. Team-based care supports allied health professionals to work with physicians. This provides two benefits: better value and better access to patients. Delegation of tasks from physicians to other staff extends the available time of providers. A more diverse staff enhances the referral and supportive services available.
- Adjust staffing model for each practice. Since no single model exists for staffing, patterns will need to adjust to the individual practice based on practice size, patient population age and illness severity, and resources available in the community. For example, care coordination and health education staff are provided by the Health Department and/or the health plans in some communities. Health plans offer these services to providers as a way to support them, but each health plan does it differently. While there is agreement on the need for care coordination and health education staff, there is variation in how they are managed, paid for, and work as a team with other healthcare providers.

In the absence of consensus on the best staffing model for the ideal organization, there are excellent examples that can serve as models for others. One such example is Robert Wood Johnson Foundation's program to identify, support, and disseminate best practices in the primary care work force called LEAP (Learning from Effective Ambulatory Practices). This program is studying 30 high-functioning primary care practices nationwide. Among those is Unity Health Care, a federally qualified health center in Washington, D.C.

The LEAP project found that primary care roles are shifting. Non-physician providers are taking more responsibility over patient health as part of a comprehensive care team. The LEAP project identified the following shifts in primary care roles:

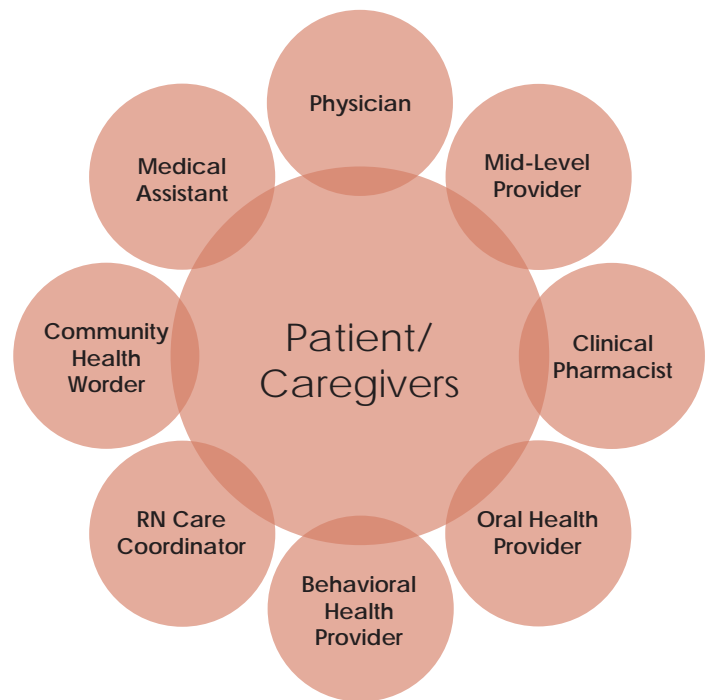


Figure 3. Patient-Centered Care Model: Example of Care Team within a Patient-Centered Medical Home

- The medical assistant's role is being elevated to include reviewing patient records prior to visits and ordering and administering immunizations based on protocols, making outreach calls, and coaching patients to set self-management goals.
- The nurse's role is shifting from triage to a focus on chronic care management and hospital-to-home transitions.
- Behavioral health workers include licensed, clinical social workers who are now co-located within primary care practices.
- Physicians may share a patient panel with team members who are empowered to provide portions of chronic and preventive care.

Figure 3 represents a care team with a patient-centered medical home model practice, highlighting that patients and their caregivers are a part of the team. Some team members may not be employed by the practice. For example, clinical pharmacists may be employed by a local pharmacy but participate in



the development of the care plan and attend team meetings when needed, or RN care coordinators may be employed by a management service organization contracted to provide services to a network of primary care providers.

To support the development of these best-practice care teams within Prince George's County, the University of Maryland, Baltimore, has introduced an interprofessional team-based care pilot program with a focus on chronic disease management in Prince George's County and Southern Maryland. The planning phase of the pilot will determine the chronic diseases of focus, determine the team-based care model, identify patient engagement strategies, identify sites for implementation, determine the appropriate payment model, and outline evaluation metrics and plan. The pilot program was designed to complement the ongoing work of the Prince George's Health Enterprise Zone and the Primary Healthcare Strategic Planning project. The University of Maryland, Baltimore, will work in collaboration with Prince George's County as the pilot program moves forward.

Work Force to Support Population Health

With increased focus on care coordination and team-based care, training will be essential for both new and existing providers. Training should focus on how to be part of an integrated team of providers and how to instruct all providers to deliver services at their highest level of training and license. Enhancing local training opportunities in Prince George's County has several benefits beyond simply increasing the number of providers. The County is developing a professional career ladder for those who enter the health professions, supporting those who want to live and work in the County with a dynamic, flexible, and rewarding career path.

Customer Service Training

Customer service training was identified, through the community meetings, as crucial to health professional work force development. Patient

experience of their healthcare, along with perception of quality of care, is very much informed by patients' interactions with all levels of staff at a healthcare organization. The caring touch and humane interactions were considered to be almost as important as having well-trained providers with excellent credentials.

The healthcare industry has lagged behind other service providers, such as grocery stores, hotels, and retailers, in providing the superb customer service that consumers have come to expect. In the healthcare world, people are often viewed more as patients than customers. In reality, consumers of healthcare are both customers and patients. As patients have choices in healthcare, they are also customers. However, healthcare choices are not the same as other retail ones as they are often made when consumers are vulnerable, and they may need input from providers and/or family members. Prince George's County is located in an extremely competitive healthcare environment where consumers can choose where to receive services in neighboring counties as well as the District of Columbia. Regardless of services available, poor customer service discourages patients from seeking out the preventive care and chronic disease management they need. The quality of customer experience is what will make some primary care options stand out for consumers and, in turn, make them loyal to those County providers who do prioritize customer service. Poor customer service turns patients away, regardless of the physicians', nurses', and other clinical staff's expertise.

Patients demand and deserve high-quality customer service; the establishment of such a service, which is provided by the Health Science Collegian Center at Prince George's County Community College, would ultimately contribute to residents opting to stay in the County for their care. We provide some specific recommendations for how to embed customer service training into the Primary Healthcare Strategic Plan.



Recommendations for Work Force Development for Prince George's County

The following recommendations were developed through the Work Force Development Workgroup.

Recommendation 1: *Convene stakeholders with a shared mission of increasing and improving work force capacity.*

Time Frame: Short-Term

As mentioned above, there is no consensus yet on the ideal staffing pattern or defined roles for the patient-centered medical home model. Thus, a learning community across the County on this work force topic would support dissemination of best practices. Convene stakeholders, including providers, health plans, the Health Department, County agencies such as the Economic Development Corporation, social service agencies, and educational institutions to discuss the topic of care coordination, health education, and community outreach.

Coordinate activities in developing and training the work force to serve these functions, share what is learned, and develop a joint plan for building capacity and financing these types of services. A state group focused on training community health workers and the Health Enterprise Zones are two initiatives that have potential for informing stakeholders. This topic requires ongoing coordination and collaboration.

Recommendation 2: *Develop a systematic work force development plan.*

Time Frame: Short- to Medium-Term

Develop a systematic work force development plan for the County designed to meet the needs and demands of the patient-centered medical home concept and the “ideal” primary care practice provides top-quality primary care. All primary care practices in the County should work toward achieving the components and functionality of a medical home for the purposes of providing high-quality and cost-effective care. Recommended actions are:

- Support practices with educational resources on how to transition to a patient-centered medical

home and train their staff/work force to meet the needs of an “ideal” primary care practice. This would include both the establishment of learning collaboratives across practices and the provision of technical assistance.

- Facilitate connections and collaborations with stakeholders, such as the Maryland Health Care Commission, that have resources and expertise.
- Ensure that the work force plan takes into consideration the broad spectrum of health professionals needed to link patients from primary care to the community and across the continuum of care (including ambulatory, inpatient, long-term care etc.).
- Recommend that all primary care practices in the County have the components of a patient-centered medical home that is currently tied to payment incentives.
- Engage a variety of stakeholders to invest in the work force. Hospitals could invest in or support partners to transform their work force, scope of service and/or operations through their community benefit plans. Health plans can support their network providers in various ways.

Recommendation 3: *Give priority consideration to residents and County educational resources to meet the recommended work force objectives.*

Time Frame: Short- to Medium-Term

Prince George's County has a number of healthcare organizations that can provide clinical training and act as preceptors in partnership with academic and vocational institutions. However, clinical placements are limited and highly competitive. Recent experience of the health profession programs in the County shows that many clinical placements are being given to students from programs outside of the County. Collaboration between educational institutions and other stakeholders, such as primary care providers and clinical training sites, is needed to align program needs with the County work force needs. High schools are important for preparing and leading students to careers in the health professions. In addition to health work force development at the



secondary, collegiate, and graduate levels, career ladders and continuing education are also needed.

- Expand clinical training opportunities within the County to accommodate academic training sites for the proposed work force. Support a stakeholder group to discuss clinical placements in the County that would include educational institutions, state representatives, and healthcare provider organizations.
- Include continuing education for existing professionals and programs to support a career ladder for those in health professions. Include current health professionals (private practices) in the discussion of competencies needed in the work force and how to train new professionals most effectively.
- Encourage the leadership of healthcare institutions to prioritize clinical placements for Prince George's County health profession programs.

Recommendation 4: *Prioritize quality customer service.*

Time Frame: Short-Term

Prioritize improving the quality of customer service of existing healthcare staff in the County and in all training of future clinical, public health, and administrative support staff. Utilize the best practices of customer service, both those in healthcare and in other industries, to set a new standard of patient experience in Prince George's County. Best practices in cultural competence are also critical for good quality customer service. Specific recommendations to help promote quality customer service follow:

- Develop a branding campaign to promote quality customer service in healthcare in collaboration with other County branding initiatives.
- Institutionalize high-quality customer service in all areas of operations. Quality customer service should be embedded in the performance reviews of all employees. An annual in-service training on customer service and cultural sensitivity is highly recommended as a requirement. Encourage

all organizations to monitor customer service through secret shopping and "spot checking" employee performance (secret shopping is the practice of marketing research where someone "poses" as a customer for research purposes).

- Identify resources to support practices investing in and training staff on customer service. Ensure that healthcare providers understand the importance of such training for their patients and for their business. The Small Business Administration, the Mid-Atlantic Association of Community Health Centers, and local medical society offer training on customer service return on investment that healthcare staff would benefit from attending.
- Work toward customer service training being part of the curricula for all health profession degrees provided in the County.
- Engage partners to pursue excellence in customer service. The Economic Development Corporation could partner with healthcare and educational institutions to fund customer service training and partner with private businesses in Prince George's County to be role models of excellent customer service.

Collaborating on Hospital Community Benefit Programs

In order to strengthen its primary healthcare system, the County needs to expand access to services as well as coordinate and collaborate on broader community health and population-based activities. These community health efforts are critical to promoting a deeper awareness of health and wellness issues, along with the associated risk factors. More importantly, these efforts target those residents most at risk.

This section provides an overview of community benefit programs under the Patient Protection and Affordable Care Act. It highlights the new requirements and best practices for conducting collaborative community health needs assessment. Recommendations for implementing collaborative



community health needs assessment and setting priorities based on community health needs assessment results in Prince George's County are also presented.

Hospital Community Benefit Programs under Healthcare Reform

Community Health Needs Assessment and Community Health Improvement Program

The Patient Protection and Affordable Care Act has many components that promote primary care strengthening and population-based health activities. One is the new Internal Revenue Service Schedule H regulations requiring that all hospitals work in collaboration with County Health Departments and other community health stakeholders to conduct both a community health needs assessment and develop an associated community health improvement program every three years. The process for the community health needs assessment and community health improvement program is designed to identify common priorities, encourage collective action, and maximize community impact. These new community health needs assessment and community health improvement program requirements present a significant opportunity for collaboration, not only among hospitals but also across the full breadth of other public and community health partners. They also align with the patient-centered primary care and social-ecological models presented earlier in this report.

Community benefit was identified as a natural source of collaboration among hospitals operating within Prince George's County and the Health Department and as one that would advance the goals of the strategic plan. A Community Benefits Workgroup was formed to explore the possibility of developing a collaborative, countywide community benefits strategy and how that would be carried out. First, the workgroup reviewed the hospitals' existing needs assessment reports and associated planning documents in order to understand the extent to which these earlier efforts had identified similar priorities and proposed common strategic

activities. Next, the workgroup assessed the desire and feasibility for collaboration with respect to an initial set of core priorities and action steps that members had conceived. Finally, the workgroup evaluated the prospect of creating a countywide structure for ongoing coordination and collaboration on community benefit program planning and implementation.

John Snow, Inc.'s review of existing plans indicated that there was substantial consistency across the hospitals' and the County Health Department's community health needs assessment. The Public Health Impact Study was a common source of data for the community health needs assessment. Overall, the workgroup concurred that significant opportunities exist for collaborating on future community benefit planning and programs and that future needs assessment will require that updated data be collected at both the County and community levels.

Best Practices for Hospital Community Benefit Programs

As mentioned above, new regulations require that nonprofit hospitals work in collaboration with the County Health Department and other community health stakeholders to conduct a community health needs assessment and to develop an associated community health improvement program every three years. Health departments are also being encouraged by the Centers for Disease Control and Prevention and other agencies to become fully accredited by the National Association of County and City Health Officials. This accreditation process requires that Health Departments engage in periodic needs assessment and planning activities in collaboration with their community health partners. Furthermore, health and social service agencies of all types are regularly involved in their own collaborative assessment and planning processes as part of their usual course of doing business. As a result, there is increasing interest and motivation to collaborate or at least coordinate with respect to community assessment and planning.



Hospital Community Benefit Program

Nonprofit hospitals have always played an important role in increasing access to healthcare. They provide “community benefit” in the form of health services for vulnerable or underserved populations, financial assistance or donations for public health programs, free health education programs to help individuals manage their health, and screenings and preventive services. Yet, in the past there has been variation in how and how much community benefit hospitals provide to their communities with little transparency regarding their practices.

In the U.S., 60 percent of hospitals—approximately 2,900—are nonprofit. They provide an estimated \$12.6 billion in community benefit each year (Robert Wood Johnson Foundation, 2012). According to the Maryland Hospital Association, Maryland hospitals provided \$1.5 billion in community benefit in 2013.

How Has the Hospital Community Benefit Program Changed under the Patient Protection and Affordable Care Act ?

As part of the Patient Protection and Affordable Care Act, nonprofit hospitals must now meet new standards to qualify for federal tax exemption.

They must:

- **Conduct a community health needs assessment** and develop an implementation plan every three years. They must use local data and meet with local community and public health experts to prioritize public health needs.
- **Adopt and publicize a financial assistance policy.** Limit charges, billing, and collections for individuals eligible for financial assistance under the financial assistance policy.

Why Do These Changes Matter?

Requiring hospitals to lead a community health needs assessment will ensure that care is targeted where the need is most. This means that resources will be used as efficiently as possible, with an overall result of improved quality of care at reduced cost. The regulations also promote transparency by requiring hospitals to adopt and publicize their financial policies.

Sources:

Maryland Hospital Association. Community Benefits. <http://www.mhaonline.org/community/community-benefits>

Robert Wood Johnson Foundation. What's New with Community Benefit. October 2012

<http://www.rwjf.org/en/research-publications/find-rwjf-research/2012/10/what-s-new-with-community-benefit-.html>

Somerville M, Nelson G, Mueller C. Hospital Community Benefits after the Patient Protection and Affordable Care Act: The State Law Landscape. The Hilltop Institute. Issue Brief March 2013.



There is considerable variation in the form of this coordination or collaboration, but typically it falls into three categories.

- **Data Sharing:** Leading community health stakeholders may opt to develop systems that make sure that each has easy access to the same quality, quantitative information that will drive their assessment and planning efforts to ease the data collection burden. A central agency, usually the Health Department, academic institution, or private foundation develops a data warehouse of health-related information and makes it readily available to community agencies. Once data are made available, individual agencies are then responsible for engaging their relevant partners and integrating consumer (qualitative) information.
- **Commission of Third Party Assessor:** Leading stakeholders or a lead public agency may opt to commission a third party to conduct comprehensive needs assessment and priority setting. They allow organizations to leverage resources and conduct a more rigorous assessment and lead to a series of recommendations for addressing the identified priorities.
- **Complete Integration of the Community Health Needs Assessment and the Community Health Improvement Program Process:** Leading health and social service providers may fully integrate their assessments and planning processes and pledge to develop one common community health needs assessment and community health improvement program. This is often accomplished through an existing collaborative structure such as a community health task force. It may also be accomplished as a separate collaborative effort. The goal is to collaborate on implementation of the community health needs assessment and creation of a short-, medium-, and long-term action plan that each entity pledges to incorporate into its organizational plan.

There are an increasing number of regions, counties, or municipalities that have built collaborative organizations responsible for conducting health needs assessment and planning activities as well as implementing joint community health programs. Typically, these organizations are funded by an array of public and private participants, including Health Departments, service providers, and philanthropic organizations. The Primary Care Coalition of Montgomery County, Maryland; Maine Quality Counts; the Community Health Partnership of Sarasota County, Florida; and San Diego Community Health Partners, Inc. are examples of such collaborations. They conduct needs assessment, establish a set of core and secondary regional priorities, develop a range of community programs, and are supported by all participating stakeholders who, in turn, implement detailed action plans that address community health issues and promote overall health and wellness. Often these collaborations have their own staff that conduct the work but may use the resources of their participating organizations. Typically, these efforts also need ongoing collaborative assessment, quality assurance, performance improvement, and reporting systems.

Recommendations for Hospital Community Benefit Programs for Prince George's County

Collaboration on community needs assessment and chronic disease program

The first recommendation supports more immediate collaboration using the hospitals' and Health Departments' current community benefit plans. Hospital community benefit plans are developed consistent with their fiscal years and, therefore, are in different places relative to planning and implementation. Longer-term collaboration (as outlined further in this section) will align planning and implementation processes.



Recommendation 1: *Work collectively to reduce the prevalence and burden of chronic disease.*

Time Frame: Immediate- to Short-Term

Work collectively to reduce the prevalence and burden of chronic disease with a particular emphasis on diabetes and hypertension by promoting general wellness and behavioral change, promoting appropriate engagement in primary care, and increasing the number of adults with diabetes/hypertension who receive evidence-based counseling, coaching, and treatment. The following are some specific activities that were considered as part of this recommendation:

- Develop, expand, or support evidenced-based programs that educate the public about health risk factors, health promotion, and basic wellness (e.g., obesity, fitness, physical activity, and healthy eating).
- Develop, expand, or support community screening events that identify and screen residents for diabetes, pre-diabetes, and hypertension with the goal of linking those with new or uncontrolled cases of diabetes and hypertension to appropriate education, behavior change, primary care, and/or specialty care services.
- Collaborate with community partners to develop targeted, evidence-based diabetes and hypertension education, health promotion, behavior change, care management, and treatment programs for those who are most at risk.
- Encourage collaboration between hospitals and other community partners to implement emergency department-based initiatives aimed at reducing inappropriate (preventable/avoidable) emergency department utilizations and promoting greater chronic disease management.
- Encourage hospitals and other community partners to implement care transition initiatives aimed at promoting better follow-up and care coordination for those with chronic disease.

- Work collectively to measure impact and ensure that measures are aligned with the Maryland State Health Improvement Process/Local Health Improvement Coalitions.

Creating Prince George's County Community Health Benefit Partnership

The following recommendations are intended for longer-term time frames and create an overarching community benefits planning infrastructure referred to as the Prince George's County Community Health Benefit Partnership. Future community benefit programs would be developed and implemented collaboratively through the Prince George's County Community Health Benefit Partnership. The following recommendations would be implemented over the next one to three years.

Recommendation 2: *Create the Prince George's County Community Health Benefit Partnership.*

Time Frame: Medium-Term

Create the Prince George's County Community Health Benefit Partnership made up of representatives from the five County hospitals and the Health Department. The Prince George's County Community Health Benefit Partnership could be a partnership with a Memorandum of Agreement or a nonprofit corporation. Some activities to form the Prince George's County Community Health Benefit Partnership are included here.

- Convene the County's five hospitals and Health Department in 2015, and agree on how to proceed in the short- and long-term with the assumption that the group will operate as the Prince George's County Community Health Benefit Partnership.
- Facilitate agreement on a series of short-, medium-, and long-term strategic community health initiatives on which the Prince George's County Community Health Benefit Partnership would agree to collaborate. Specific focus should be on identifying one or two initiatives that will be the focal points of the partnership.



- Coordinate the County's community benefits program activities, and over time the partners would implement a more collaborative agenda of activities that would be operated by the formal Prince George's County Community Health Benefit Partnership.
- Ensure that the activities that are implemented are aligned with best practices, and develop an evaluation plan that tracks the progress and impact of the collective community health activities.
- Promote awareness of the partnership's efforts, and work to build broader collective action among other stakeholders.

Recommendation 3: *Work collaboratively to conduct a Prince George's County community health needs assessment.*

Time Frame: Medium-Term

Prince George's County's five hospitals, in partnership with the County's Health Department, should work collaboratively to conduct a Prince George's County community health needs assessment and then work collectively to implement community health benefit activities. This process should start no later than 2016 so as to comply with the Internal Revenue Service requirements. Below are some specific activities that were considered as part of this recommendation.

- Create a broadly representative community health needs assessment steering committee to develop and implement a centralized community health needs assessment approach that collects quantitative and qualitative data on community need, service system capacity, barriers to care, possible strategic responses, and other relevant information.
- Engage residents and health and social service providers through surveys, interviews, community meetings, and/or focus groups.
- Facilitate a strategic planning process that identifies leading healthcare priorities, along with a series of agreed-upon community

health strategies addressing priority issues that community partners will strive to implement.

- Develop a centralized, countywide community health needs assessment report and community health improvement program that summarizes needs, priorities, and high-level strategic goals.

Recommendation 4: *Develop a shared measurement system.*

Time Frame: Short-Term

Develop a shared measurement system that facilitates program alignment, tracks progress and impact, and helps to hold programs accountable. There should be a series of measures established to track the core set of activities on which the Prince George's County Community Health Benefit Partnership has agreed. The County Health Department, hospitals, and other community stakeholders should first track a series of measures related to their community health strategies and, to the extent possible, ensure that measures are aligned with Maryland's community health improvement program. Once measures are defined or have an agreement, participants need to track and report data to a central entity (or individual) for aggregation and analysis.

Recommendation 5: *Work collectively to promote access to primary care within community benefit programs.*

Time Frame: Short-Term

Work collectively to promote access to primary care and ensure appropriate primary care engagement among County residents, particularly those most at risk. Specifically, hospitals should partner with the County Health Department, primary care providers, and other County partners to:

- Expand access to primary care in certain geographic areas and for low-income, Medicaid insured and uninsured residents more generally.
- Expand implementation of emergency department diversion programs.



- Facilitate appropriate, timely, primary care follow-up after discharge from the hospital so as to reduce inappropriate hospital readmission.
- Increase use of Chesapeake Regional Information System for our Patients data to identify “hot spots” for emergency department diversion, hospital-to-home transitional care, and patient engagement into primary care.

Building a Sustainable Primary Healthcare System

A Prince George’s County Primary Healthcare Alliance (Primary Healthcare Alliance) should be developed to ensure successful implementation of the Primary Healthcare Strategic Plan. This section provides an overview of a recommended structure for the Primary Healthcare Alliance, with examples drawn from two successful models. Recommendations for implementation of the Primary Healthcare Alliance have been informed by best practice models but are designed for Prince George’s County.

Primary Healthcare Alliance

Mission, Governance, and Operational Structure

The proposed structure for the Primary Healthcare Alliance is based upon industry best practices for community-based improvement initiatives and revolves around collaboration, engagement, and accountability. Throughout the planning process, project leaders, advisors, and stakeholders stressed the importance of moving from planning to action and establishing a structure to ensure sustainability. The Primary Healthcare Alliance would achieve that objective.

- **Mission:** To transform health and healthcare in Prince George’s County by leading, collaborating, and aligning efforts to improve primary care delivery. The initial priority for the Primary Healthcare Alliance would be to implement the Primary Healthcare Strategic Plan for Prince George’s County.

- **Governance:** Governed by an independent, volunteer Board of Directors and formed under the following guiding principles.
 - Board members should represent the wide range of key stakeholders, including consumers. Some members would be appointed to ensure appropriate representation and collaboration with key partners such as the Health Department.
 - Board members should reflect the socioeconomic diversity of the County.
 - The Board should operate independently and be able to authorize collaborations or partnerships with other entities that would help to fulfill its goals, carry out special projects, and/or improve healthcare in the County.
 - The Board should be of a manageable size but sufficient to have broad-based representation and carry out functions. Smaller subcommittees could be used to focus on specific areas.
 - The Board should be self-perpetuating with rules for nominations, elections, and appointments defined in the by-laws.
- **Organizational Structure:** The Primary Healthcare Alliance would be housed within the Office of the County Executive and would be appropriately and adequately staffed to carry out its functions. Initial funding would be needed for start-up, but the goal would be for the Primary Healthcare Alliance to be financially self-sustaining through public and private grants and contracts for services. Start-up funding would come through County appropriation and contributions from stakeholder organizations. The Primary Healthcare Alliance would be managed by an executive director who would report to the Board of Directors and be responsible for carrying out operations.



Primary Healthcare Alliance Initiatives

Several initiatives identified as part of the Primary Healthcare Strategic Plan would be managed through the Primary Healthcare Alliance. These initiatives would range from one-time efforts such as convening a task force on care coordination collaboration to ongoing functions such as administration of the Prince George's HealthAssure Program.

Best Practice Models for Sustainability of a Primary Healthcare Alliance

In reviewing models for sustainable health improvement initiatives, John Snow, Inc. found the following two organizations that have demonstrated success and that could serve as models for the Prince George's County Primary Healthcare Alliance.

1. The Primary Care Coalition of Montgomery County works with clinics, hospitals, healthcare providers, and other community partners to coordinate health services. Its mission is to be the catalyst for developing and coordinating a community-based healthcare system that strives for universal access and health equity for underserved community members. The Primary Care Coalition is a 501(c)(3) nonprofit organization. An all-volunteer Board of Directors governs the Primary Care Coalition, overseeing its business, affairs, funds, and property. The Board holds and exercises all power and authority of the Primary Care Coalition and consists of up to 24 elected members, each of whom is a voting director. The Primary Care Coalition's president and chief executive officer serve as ex officio members of the board.
2. Maine Quality Counts is an independent healthcare collaborative committed to improving the health and healthcare for the citizens of Maine by leading, collaborating, and aligning improvement efforts. Formed in 2003 and incorporated in 2006, Quality Counts provides leadership, advocacy, support for improving care, and has defined the following current strategic priorities: (1) further increase system alignment to transform health and healthcare; (2) promote a sustainable system of quality

improvement assistance to all providers in Maine; (3) foster meaningful consumer engagement in transforming health and healthcare; (4) promote integration of behavioral and physical health; and (5) assure the organizational success and sustainability of Quality Counts needed to meet its mission.

Quality Counts works through a diverse group of stakeholders to coordinate disparate efforts for supporting local, patient-centered care. Through an impartial forum, stakeholders in health and healthcare can view and exchange ideas.

Recommendations for Prince George's Primary Healthcare Alliance

Recommendation 1: *Convene the initial Board of Directors to serve as the governing body of the Primary Healthcare Alliance.*

Time Frame: Initial Steps and Ongoing

Develop board structure and by-laws consistent with guiding principles as outlined (see models for Primary Healthcare Authorities).

Recommendation 2: *Create the Primary Healthcare Alliance.*

Time Frame: Short-Term

Under the direction of the Board of Directors, establish the mission and organizational structure. Hire the executive director and launch operations.

Monitoring and Evaluation

Monitoring and evaluating is one of the key steps in any improvement process, such as the one being undertaken through the Primary Healthcare Strategic Plan. Figure 4 (see page 43), developed by Robert Wood Johnson Foundation, shows evaluation is the first step after taking action. Monitoring and evaluation activities are distinctly different. Monitoring is the ongoing review of data to inform whether a project, program, or initiative is on track. Evaluation is a point-in-time activity that asks questions about whether the initiative is having the intended impact and achieving desired goals.





Figure 4. Take Action Model for Improvement

Image: University of Wisconsin, Population Health Institute, County Health Rankings & Roadmaps 2014. countyhealthrankings.org

Need for Monitoring and Evaluation

Monitoring and evaluating the progress of the Primary Healthcare Strategic Plan's implementation is beneficial for many reasons. Community-level change is long-term and requires continued engagement of stakeholders and commitment of resources. The progress and success of the Primary Healthcare Strategic Plan should be measured using both process and outcome metrics. Process metrics track which components of the plan are being implemented and their progress. Outcome metrics show if the plan's goals are being achieved and would include those measuring access to patient-centered primary care, improvement in health outcomes, and contribution to the County's economic growth. Results of monitoring and evaluation are placed into the planning process so that changes can be made to the strategy, implementation of the strategy, or both.

Monitoring and evaluation is also a way to continue engagement and momentum with the community and stakeholders. Transparency and tracking increase the accountability of stakeholders and partners

to the community and to one another. This may motivate the community by raising awareness and engagement.

Best Practices in Effective Monitoring and Evaluation

Three general best practices for effective monitoring and evaluation include tracking community engagement, using available metrics, and creating a way to share results with the community.

- **Track Community Engagement:** Monitoring the progress at the community level could happen in a number of different ways. For example, Robert Wood Johnson Foundation developed a tool that could be used as a self-assessment of a community's readiness to build a healthy community. This tool was developed out of Robert Wood Johnson Foundation's Building a Culture of Health initiative and County Health Rankings. The Primary Healthcare Alliance, having been given the responsibility of monitoring and evaluation, could use a similar assessment tool to track community engagement and progress toward achieving the Primary Healthcare Strategic Plan goals.
- **Use Metrics That Are Readily Available:** Evaluation and monitoring can be costly and are time-intensive activities. For this reason, it is recommended that, to the extent possible, existing monitoring and evaluation metrics be used, since there is no additional cost to develop and collect primary data. For example, the monitoring and evaluation plan would use the Chesapeake Regional Information System for Our Patients data to measure improvement in emergency department utilization at the community and County levels.
- **Create a Report Card as a Way to Share Results with Stakeholders and the Community:** One best practice in monitoring is to create a tool that is easily understood. The sharing of results can be done through a report card format (see page 44).



Monitoring and Evaluation Report Card Example



Healthy Aging

Colorado's older adults perform relatively well according to the measures used in this Report Card and compared to their peers in other states. Following national trends, Colorado's older adults are living longer and healthier lives. They have the highest rate of physical activity compared to older adults in other states, and are less likely to report poor physical health than seniors in all but four other states. Even though Colorado ranked fifth for flu and pneumonia vaccinations, a little more than half of older adults in the state were adequately vaccinated.

Health Indicator	Rank among states
94.0 percent of older adults had one (or more) person(s) they thought of as their personal doctor or health care provider	34 th
53.6 percent of older adults had a flu shot during the past 12 months and had a pneumonia vaccination	5 th
77.6 percent of older adults participated in any physical activity in the past 30 days	1 st
16.9 percent of older adults reported that their physical health was not good eight or more days in the past month	5 th
8.0 percent of older adults reported that their mental health was not good eight or more days in the past month	12 th
20.8 percent of older adults reported eight or more days of limited activity in the past month due to poor physical or mental health	6 th
Average Rank	10.5

Images: Courtesy of the Colorado Health Foundation
www.coloradohealth.org/report_card.aspx



Why Use a Report Card?

- People understand it. Most of us have experience with report cards. The language of grades communicates to a broad base of people.
- Selection of a few key issues or categories helps focus attention on problem solving.
- Report cards effectively communicate a general message, yet allow for more detail to be expressed.

Monitoring and Evaluation for County Health Rankings on page 46.)

Data collection and analysis for the monitoring and evaluation of the Primary Healthcare Strategic Plan would be coordinated with other initiatives. For example, data collected would also be used to develop the community health needs assessment and community health improvement program.

Metrics

Recommended metrics are outlined in Table 3 on page 46. Several of the metrics were drawn from Robert Wood Johnson Foundation's County Health Rankings for two reasons. First, County Health Rankings is consistent with the social-ecological model of health promotion used in developing the Primary Healthcare Strategic Plan for Prince George's County. Secondly, County Health Rankings provides comparative data for surrounding counties, the State of Maryland, and top performers around the nation. Although County Health Rankings is at the County level, it is recommended that measurement also happen at the local level. Local-area data are needed to evaluate the impact of the plan on specific communities to ensure that all residents benefit from the improvements. Recommended metrics from County Health Rankings, along with baseline measures for Prince George's County and sources used by County Health Rankings, are included in Table 3 on page 46. Following the table are additional metrics recommended for comprehensive monitoring and evaluation.

The monitoring and evaluation plan would also include metrics specific to implementation of the Primary Healthcare Strategic Plan. These metrics (and corresponding sources of data) are listed below:

- Number of primary care providers recruited to establish practices in Health Investment Zones (Primary Healthcare Alliance).
- Number of primary care practices in Prince George's County that have achieved patient-centered medical home recognition or accreditation (survey of primary care practices,

Recommended Monitoring and Evaluation Plan for Prince George's County

Data Collection, Analysis, and Reporting

Data collection, analysis, and reporting for the Primary Healthcare Strategic Plan would be consolidated under the Primary Healthcare Alliance. The monitoring and evaluation plan would include the following:

- **Process Monitoring:** Monitors which components of the strategic plan are being implemented, how successfully they are being implemented, and any changes that are needed for successful implementation. Progress of implementation would be monitored against a detailed implementation plan.
- **Outcome Monitoring:** Monitors the plan's achievement of the desired outcomes, including access to patient-centered primary care, improvement in health outcomes, and contribution to economic development. Further, outcome monitoring would happen at two levels: County and local area (defined community or zip code level). The monitoring and evaluation plan would define the metrics used for evaluation, data sources and collection process, baseline or target measures, and reporting format (report card). (See Table 3. Recommended Metrics for



- data request from accrediting organizations and state agencies).
- Consumer satisfaction (focus groups and/or patient satisfaction surveys).
- Percentage of residents that leave the County for healthcare services (Maryland Hospital Association and Maryland Health Care Commission patient origin/destination studies, consumer surveys).
- Number of graduates from educational and training programs for advance practice public health nurses, community health workers, and other patient-centered medical home-related occupations (reported by Prince George's County Community College, University of Maryland, and Bowie State).

- Economic growth attributed to healthcare and life science industries (Economic Development Corporation).

Performance based upon selected metrics would be reported annually on a Primary Healthcare Strategic Plan report card, produced by the Primary Healthcare Alliance, and shared publicly.

Time Frame: Monitoring and evaluation plan developed in the first year. Monitoring of the implementation of the plan would begin upon start of implementation and continue through completion. Report cards would be produced annually.

Table 3. Recommended Metrics for Monitoring and Evaluation for County Health Rankings

METRIC	BASELINE FOR PRINCE GEORGE'S COUNTY (2014)	DATA SOURCES USED BY COUNTY HEALTH RANKINGS
Primary Care Access		
Primary Care Providers	1,804: 1	Health Resource and Services Administration Area Resource File ¹
Dentists	1,762: 1	Health Resource and Services Administration Area Resource File
Mental Health Providers	1,483: 1	Centers for Medicare & Medicaid Services, National Provider Identification
Clinical Care Quality		
Preventable Hospital Stays	52 per 1,000 Medicare enrollees	Medicare/ Dartmouth Institute
Diabetic Screening	80%	Medicare/ Dartmouth Institute
Mammography Screening	61%	Medicare/ Dartmouth Institute
Health Behaviors		
Adult Smoking	14%	Behavioral Risk Factor Surveillance System
Adult Obesity	34%	National Center for Chronic Disease Prevention and Health Promotion
Excessive Drinking	10%	Behavioral Risk Factor Surveillance System

¹ Information from the Health Resource and Services Administration will not align with the University of Maryland report as it comes from a different source. Recommend this source as it would be updated and available on an annual basis.



V. PRINCE GEORGE'S COUNTY MARKETING AND BRANDING STRATEGY

Introduction

The Primary Healthcare Strategic Plan was created in part to assist the County in improving the health outcomes of its residents by building high-quality primary healthcare capacity (including mental/behavioral and dental services) within the County to enhance access and quality of our primary care services. The branding and marketing efforts will contribute to the creation of impactful communications that influence and motivate residents to take positive actions that drive healthy outcomes and improve the quality of their lives.

The branding and marketing strategies provide a road map that outlines the vision, audience, initial branding strategies, and focused campaign for the Primary Healthcare Strategic Plan. These strategies are intended to provide a focused approach to help facilitate changes in the knowledge and perception around the quality of, and access to, healthcare in the County. They are also intended to help reduce communications complexity among the diverse targeted communities and audiences.

The diversity of the communities within Prince George's County requires targeted messages that speak to a variety of cultures and circumstances. It is important to develop a customized marketing strategy that is rooted in acknowledging and respecting this diversity. There are two primary groups the marketing strategy is designed to reach:

- Community residents and patients.
- Physicians, dentists, mental health/behavioral, and other healthcare providers.

Within these two groups are subgroups for whom individual messages should be designed and targeted. For example, the messages that we communicate to providers who live in Prince George's County, but work elsewhere, may be different from those messages we develop for providers who neither live nor work in the community. Similarly,

among the patient and community residents, unique messages will be needed for different subgroups. For example, messages that resonate with individuals who were born and raised in Prince George's County may be different from messages geared toward young families setting up households in newly developed communities or for recent immigrants. With that in mind, the core audiences for this branding and marketing strategy are:

Community Residents and Patients

- Residents currently receiving their healthcare in the County.
- Residents currently receiving their healthcare outside the County.
- Recent immigrants.
- Young families with a single or dual professional parent(s).
- Older adults who have lived in the County 20 years or more.

Physicians, Dentists, Mental Health/Behavioral, and Other Healthcare Providers

- Healthcare providers who live in the County but work outside the County.
- Healthcare providers who live outside the County that we wish to encourage to live and work in the County.

Vision and Goals

The vision of the Primary Healthcare Strategic Plan is that the healthcare delivery system in Prince George's County will be noted for its commitment to ensuring the delivery of primary care is patient-centered; everyone has the opportunity to thrive by living a healthy lifestyle; good health is valued by all residents within our communities, whether medical, social, behavioral, and/or environmental; and insuring that our healthcare workers are well-trained



and customer-focused in order to meet the demands of the future.

The goals of the marketing strategy are to:

- Convey that good health matters and that quality primary and preventative healthcare is accessible in all communities of the County.
- Differentiate the messaging to accommodate the diversity and cultures.
- Monitor outcomes and adjust communication tactics accordingly.

Marketing and Branding Strategies

Changing community behaviors and social norms is more of a marathon than a sprint. Within any given population, individual members are at different stages regarding their readiness and/or willingness to adopt new behaviors. The marketing strategy explains the specific goals and desired outcomes of the marketing campaign. The branding strategy, which is one component of the marketing strategy creates a solid, consistent brand for healthcare in Prince George's County. It requires the development of a strong, positive, and emotional connection between Prince George's residents and the healthcare services available in the County.

Marketing Strategy

While the overall marketing strategy is to foster a positive change in the perception of healthcare in the County, it is imperative that we make substantive and essential improvements in the provision of our primary care providers and other essential healthcare workers. The increased access to primary care services will encourage residents to use these services in the County.

Two targeted marketing goals are recommended: one directed at healthcare providers and the other at County residents.

Targeted Marketing Goal #1: *Recruit and retain primary care physicians, dentists, and other healthcare providers.*

This goal is intended to encourage providers to work and live in Prince George's County. Marketing efforts will focus on investing in the community in which you live, opportunities for professional growth, and making a positive difference in the health outcomes provided to residents in Prince George's County. In addition, the marketing efforts will support and promote the financial assistance available to physicians who provide healthcare to patients in the Health Investment Zones.

The following messages will be targeted specifically for healthcare and allied health professionals:

- Affordable cost of living, housing, and a high quality of life with parks and recreation in the County and nearby beaches.
- Opportunities for professional growth and career advancement.
- Potential to make a positive impact in the community where you live and work.
- Economic opportunity commensurate with surrounding counties and the District of Columbia.
- Financial assistance in establishing practices within the County's Health Investment Zones.

Targeted Marketing Goal #2: *Recapture patients and reduce outmigration of residents seeking healthcare services.*

Many Prince George's County residents choose to receive care outside of the County for a variety of reasons including, but not limited to, a perception of poor-quality healthcare, inaccessible primary care services, inconvenience, and lack of available transportation. Messages should be designed to encourage patients to receive their primary and preventative healthcare services in the County.



The message should inform the consumers that Prince George's County provides patient-centered primary healthcare and preventative services that are accessible and customer focused; physicians and other healthcare professionals have the highest character, education, and skills; and our healthcare support staff are well trained with a focus that the patient is first!

The marketing strategy must include messages that speak to the various audience segments. Prince George's County residents are diverse socially, culturally, and economically. As noted by a participant at one of the four community meetings, "We talk about Prince George's County, but I feel there are two Prince George's Counties."

Five of the 10 most affluent African-American communities across the United States are located within Prince George's County. The average household income in these communities exceeds \$100,000. On the other end of the spectrum are the communities primarily located inside the Beltway. The average household income in these areas is less than \$60,000. Inside the Beltway, between 15 percent and almost 50 percent of the population is defined as low income (live in households below 200 percent of the federal poverty level). The lower-income geographic areas within Prince George's County are predominantly African-American and include Hispanics/Latinos, Caucasians, and, to a lesser extent, Africans and Asians. Market segmentation will be needed when developing campaigns to ensure that the marketing approaches and campaigns are effective in reaching the intended audience and successful in creating the desired response.

The marketing strategy includes the search for additional input from diverse audiences in order to ensure that the marketing efforts are appropriately tailored to all County residents. For example, 67 percent of residents attending the community meetings have lived in Prince George's County for more than 20 years. From the stakeholder interviews, we learned that families with young children are less

likely to attend the community meetings because of time commitments and conflicts with school and sporting activities. In addition, a small number of residents attending the community meetings indicated that they reside in the more affluent communities of Prince George's County. Despite outreach efforts with Hispanic/Latino, African, and Asian populations, their presence at the community meetings was minimal. Additional research will be required to develop an effective marketing campaign to recapture patients within these population groups.

Brand Strategy

Branding is one of the most important aspects of the marketing strategy for the primary healthcare system in Prince George's County. The brand is what the primary healthcare system stands for. It is a promise to the residents of the County that they will be provided with customer-focused, quality, primary healthcare and preventative services. It is a promise to ensure that healthcare professionals and support staff are highly trained and customer focused and that the patient is our first priority.

Everyone should be aware of Prince George's County's commitment to provide patient-centered primary healthcare and preventative services to community residents. This message should be applied to all written communication using the same logo, color scheme, and consistent look and feel throughout.

The brand is Prince George's County's promise to the community residents that provisions will be made to ensure that everyone has access to a quality healthcare system. The recommended brand is "**Prince George's County, Our Health Matters!**"

Clear, consistent visuals, tone, and messaging will support this brand and create a culture, expectation, and realization that good health is valued by all residents within our communities, whether medical, social, behavioral, or environmental—each is important!



Marketing Communication Campaign

The marketing campaign will utilize a range of communication channels. Selected communication channels will reflect findings from the formative research (though additional research is required to further segment the target audiences). The communication channels include print material disseminated through community organizations (i.e., churches, schools, and health fairs) and providers, digital media, outdoor advertising, and radio.

Creating multiple entry points for seeing and/or interacting with Prince George's County's marketing efforts allows increased opportunity for an individual to see the intended message. There are a number of benefits to this approach. First, it often takes multiple viewings for individuals to take the desired action. Second, from a community perspective, availability across various channels increases the overall probability that a message will be viewed by the broadest spectrum of people. Lastly, presenting the desired message in diverse locations creates the perception of the desired social norm before the behavior itself is routinely established.

Brand Community Campaign

The Brand Experience

The tone of the brand will be supportive, confident, proud, warm, and caring. It will emphasize the emotional benefits of receiving good healthcare in Prince George's County. Residents should come away with the feeling that the community cares about them and that they are proud to receive healthcare in Prince George's County.

The benefits of the brand and understanding from the targeted audiences include, but are not limited to:

- **Emotional Benefits**—Patients feeling respected, feeling cared for by their providers, and feeling comforted knowing their providers are well trained and have the expertise to care for them.

- **Structural or Institutional Benefits**—Providers having access to opportunities for professional growth and development, loan repayment, and provisions made for business support services.

Brand Positioning Statement

A brand positioning statement captures the essence of the brand—who we are, what we do, and for whom we do it, along with a key differentiator, which is our brand promise.

The goal of the Prince George's County brand strategy is to communicate the simple, singular idea that **we are committed to high-quality healthcare in Prince George's County.**

Visual Identity

By defining the key elements of our visual branding—**relevance** (do the visuals support our defined brand strategy and promise?), **quality** (are the visuals professionally designed with high-quality aesthetics?), and **consistency** (are the visuals consistent at all market touch points?)—we will ensure that our visuals reinforce our positioning and brand experience. *(See photos on page 52 for examples of the brand on billboards, in grocery stores, and in schools.)*

Brand Requirements

To ensure that we provide a consistent brand experience, we must guarantee that every interaction with our audience supports our brand strategy. Part of that results from exposure to the brand through consistent visual imagery, tone, placement, and message saturation. The patient experience, exposure to the messages, and interactions with healthcare staff providing the services reinforces the branding experience. It is critical that all staff who work directly with the patient, or on behalf of the patient, support the brand promise of Prince George's County. The brand will be displayed in how we greet and speak with the patient, how we share and discuss health concerns with the patient and their family (whether in person or on the telephone), and how we speak with each other regarding the



patient's private health concerns. Work force training in all aspects of customer service must be provided for all staff in Prince George's County. Reinforcement of good customer service to support the brand may occur during employee orientations, employee performance reviews, and staff meetings.

Monitoring and Evaluation of Marketing and Branding Campaigns

Initial evaluation activities will focus on tracking outputs and assessing short-term outcomes of the first phase of the branding strategy. The initial evaluation will determine if our branding and marketing efforts have helped facilitate changes in knowledge and perception of the access and quality of healthcare in Prince George's County.

The steps for evaluating the marketing efforts include:

- **Collect process data** such as the number of materials distributed, media buys, and/or people attending an event.
- **Conduct surveys** that assess the engagement, awareness, attitude, and behavior of our audiences for each of the target campaigns.
 - **Intercept Surveys:** Intercept surveys in the community may serve as a source to measure brand recognition and the potential reach of specific communication channels. Evaluators may conduct an intercept survey using a convenience sample of respondents from the target audiences recruited from sites where branding and marketing materials were placed and/or events were held. Evaluators may administer a short questionnaire to assess brand awareness, recall, client satisfaction, and whether the marketing effort triggered a decision to take any action (e.g., seek care in Prince George's County or explore career opportunities).
 - **Community Partner Survey:** In addition to tracking the number of materials distributed to community partners, evaluators can send

a follow-up survey to community partners who received materials and/or participated in events. The survey will collect quantitative information about distribution activities, as well as qualitative information about target audiences' responses to the materials.

- **Obtain data** to evaluate the desired outcomes of the Primary Healthcare Strategic Plan; for example, has the percentage of residents seeking care within Prince George's County increased, has outmigration decreased, and what is the actual customer experience. *(See page 54 for examples of questions and sources used for data collection.)*

Summary and Next Steps

Once the overall marketing and branding strategies have been determined, next steps for implementing the proposed marketing efforts will likely include the following:

- Finalize a time line for developing materials and the marketing plan.
- Finalize a time line for disseminating materials and implementing the marketing plan.
- Develop potential marketing messages and materials.
- Pilot messages and materials with members of the target audiences.
- Identify existing community meetings and events.
- Reach out to potential primary and secondary partners regarding marketing campaign venues and materials.
- Finalize messages and materials.
- Disseminate materials.
- Begin monitoring and evaluation activities.
- Refine marketing efforts based on evaluation of findings and resources.

It is anticipated that the evaluation of marketing activities will be an iterative process and that



refinements will be needed, working with available resources.

In summary, the branding and marketing efforts set forth in this strategy will help contribute to the community's perception of the value of good health and the quality of healthcare resources in their community. These prospective marketing efforts include a menu of options focused on incremental

changes that build on each other and ultimately change environmental and cultural norms in Prince George's County. While the marketing and branding strategies will not, in and of themselves, change the quality of healthcare, they are one piece of a larger primary healthcare program that aims to provide quality healthcare in Prince George's County.





Marketing and Branding Strategy: Sample Evaluation Questions, Metrics, and Sources

EVALUATION QUESTIONS	POTENTIAL INDICATORS	DATA SOURCES
What was distributed, how much was distributed, to whom was it distributed, and where was it distributed?	<ul style="list-style-type: none"> • Number of materials distributed • Number of placements and potential impressions • Number of photos shared on Instagram, Facebook posts, tweets, etc. 	<ul style="list-style-type: none"> • Printing records • Distribution mailing list • Media placements • Community Partner • Survey
Were our target audiences aware of the branding/marketing effort(s)?	<ul style="list-style-type: none"> • Percent of those surveyed who report having seen marketing materials 	<ul style="list-style-type: none"> • Intercept surveys
Did members of the target audiences who were exposed seek care in Prince George's County? Did providers seek career opportunities?	<ul style="list-style-type: none"> • Percent of those surveyed who report seeking healthcare services as a result of the marketing effort 	<ul style="list-style-type: none"> • Intercept surveys • Intake forms



VI. PHASING PLAN FOR STRATEGY IMPLEMENTATION

Implementing the Primary Healthcare Strategic Plan will be done in phases to balance resource requirements and align with supporting initiatives. Preferably, one of the first steps would be to establish the Primary Healthcare Alliance. The Primary Healthcare Alliance will facilitate implementation of the Primary Healthcare Strategic Plan and guide

additional decisions that are needed to work out details and achieve successful implementation. Detailed implementation plans would be developed for each of the major components of the plan. A broad implementation phasing plan is outlined below.

Initial Steps and Ongoing

- Establish Primary Healthcare Alliance.
- Maintain collaboration between the Primary Healthcare Strategic Plan implementation and The Maryland-National Capital Park and Planning Commission on development of land use plans that support building of healthy communities (walkable communities, planned medical office space, etc.).

Short- to Medium-Term (3 to 5 Years)

- Continue recruitment in Health Investment Zones.
- Develop private Management Service Organization.
- Expand participation of Prince George's County healthcare organization in medical and dental residency programs.
- Expand primary care networks connected with all hospitals providing services within Prince George's County.

Short-Term (0 to 3 Years)

- Recruit primary care providers in Health Investment Zones.
- Establish program of funding for low-income uninsured and underinsured, referred to as Prince George's HealthAssure.
- Focus on customer service and clinical quality through training and quality improvement processes.
- Establish the Prince George's County Community Health Benefits Partnership.
- Establish task force on care coordination.
- Carry out work force development.
- Roll out marketing campaigns.
- Develop, implement, and maintain monitoring and evaluation plan.

Medium- to Long-Term (5+ Years)

- Recruit and retain primary care physicians by promoting Prince George's County.
- Develop and promote Largo Town Center Life Sciences Center as "one-stop shopping for health"—medical care, social services, pharmacy, fitness centers, healthy food options, and other health-supporting products/services.





APPENDIX A

SUGGESTED PROTOTYPES: PRIMARY CARE PRACTICES IN HEALTH INVESTMENT ZONES

This Appendix Includes:

- Summary Table—Location/Criteria for Selection, Facility, Program and Business Model for Each Prototype
- Suggested Prototype Architectural Design Principles, Space Plans, and Examples of Best Practices





Summary Table—Location/Criteria for Selection, Facility Prototype/Space Plan, Primary Healthcare Program, Primary Healthcare Program, Business Model

LOCATION/ CRITERIA FOR SELECTION	FACILITY PROTOTYPE/ SPACE PLAN	PRIMARY HEALTH CARE PROGRAM	BUSINESS MODEL
Suggested Prototype #1 – Federally Qualified Health Center Site, Riverdale			
<p>Health center co-located with health and social service related entities in a community complex.</p> <p>High primary care needs area</p> <p>Health professional shortage area — Medical (6)</p> <p>Public and private transportation access</p> <p>Buses from Riverdale MARC, Purple Line (future)</p> <p>East West Highway (MD 410) Kenilworth Ave (MD 201), Baltimore (Route 1)</p> <p>East Riverdale/Bladensburg Transforming Neighborhood Initiative)</p> <p>Community-oriented</p> <p>Diverse population, including recent immigrants</p>	<p>Urban redevelopment, health center space co-located in facility with complementary services, including fitness center, social service agencies, education, and cultural arts.</p> <p>Access to health center through common lobby area with access from street, Purple Line, and on-site parking</p> <p>Clinical/Support: Pods/team space</p> <p>Exam rooms (designed to accommodate patients of all ages, allow space for caregiver/family, and physically disabled) plus shared treatment room</p> <p>Behavioral health talking rooms included in pod, shared office space</p> <p>Laboratory (specimen collection, on-site labs)</p>	<p>Team-based, patient-centered primary care practice with family medicine, adult medicine, pediatrics, and women’s health, with co-located and integrated behavioral health and oral health. Medical specialists that support primary care rotate on a regular schedule and are part of the care team.</p> <p>Providers include physicians and midlevel providers.</p> <p>Urgent care provided through same-day appointments and extended hours with additional midlevel providers.</p> <p>On-site pharmacy that serves patients and local community. Pharmacists provide medication therapy management visits and are part of the care team.</p> <p>Teaching site supports medical residency program with up to six medical residents.</p>	<p>Federally qualified health center site within a larger federally qualified health center organization.</p> <p>Federally qualified health center reimbursement rates for Medicaid and Medicare.</p> <p>Participate in 340B pharmacy program.</p> <p>Providers covered under federal tort reform for professional liability.</p> <p>Physicians (medical) eligible for federal and state loan repayment programs.</p>





Summary Table—Location/Criteria for Selection, Facility Prototype/Space Plan, Primary Healthcare Program, Business Model

LOCATION/ CRITERIA FOR SELECTION	FACILITY PROTOTYPE/ SPACE PLAN	PRIMARY HEALTH CARE PROGRAM	BUSINESS MODEL
Suggested Prototype #1 – Federally Qualified Health Center Site, Riverdale (cont'd)			
	<ul style="list-style-type: none"> • Group visit room. • On-site pharmacy. • Health education (secure connection to larger community space with separate entrance). <ul style="list-style-type: none"> ◦ Classroom/learning space. ◦ Teaching kitchen with flow space around island. ◦ WIC consult rooms and offices. • Entryway, soft divide between adult and child area with sick child subwaiting area. • Back-to-back reception/call center and check out. <p>Building Support: Not required, space within facility.</p> <p>Total Square Feet: 12,500</p>		

Summary Table—Location/Criteria for Selection, Facility Prototype/Space Plan, Primary Healthcare Program, Business Model

LOCATION/ CRITERIA FOR SELECTION	FACILITY PROTOTYPE/ SPACE PLAN	PRIMARY HEALTH CARE PROGRAM	BUSINESS MODEL
<p>Suggested Prototype #2—Shared Practice, Brandywine/Southern Prince George's County</p> <p>Located in existing or planned medical office building with space available for build out/lease in close proximity to town center.</p> <ul style="list-style-type: none"> • High primary care needs area. • Health Professional Shortage Area (health professional shortage area)—Medical (11). • Medically underserved area. • Accessible by private transportation (Route 301). • Greatest shortage in adult providers. Area not seen as growth area in general, including for young families. 	<p>Build out primary care suite within new medical office building located within shopping complex that provides on-site parking.</p> <p>Individual providers with shared space and resources.</p> <p>Clinical/Support:</p> <ul style="list-style-type: none"> • Pods/team space. • Exam rooms (designed to accommodate patients of all ages, allow space for care giver/family, and physically disabled), plus shared treatment room. • Behavioral health talking rooms included in pod, shared office space. • Laboratory (specimen collection area, in office labs). • Group visit room. • Shared reception/check out. <p>Building Support: Not required—build-out clinical space within existing facility.</p> <p>Total Square Feet: 7,800</p>	<p>Polyclinic with coordinated and integrated care.</p> <p>Adult medicine providers (MD and mid-level providers) with half-time MDs; equate to six full-time equivalent providers.</p> <p>MD/midlevel work in team with shared panel.</p> <p>Shared reception, clinical support, and care coordination.</p> <p>Co-located and integrated behavioral health providers support primary care medical providers.</p> <p>Co-located adult dental or collaboration with community-based dental practice.</p> <p>Specialty providers support primary care medical providers and rotate through the practice.</p> <p>Providers and clinical support staff share patient information through a common medical record system or data exchange utility.</p> <p>Urgent care provided through same day appointments and collaborative agreements with urgent care centers located in area, for example, Patient First.</p>	<p>Healthcare organization (private entity, hospital) lease space, hire non-physician staff (including midlevel providers) and manage on-site operations. Healthcare organization contracts with private physicians to provide services.</p> <p>New physicians would be eligible to apply for federal and state loan repayment.</p> <p>Management service organization provides support services.</p> <p>Alternative model—care coordinators, community health workers, data analyst could be employed by the management service organization and costs incorporated into management service organization payment by the practice.</p>





Summary Table—Location/Criteria for Selection, Facility Prototype/Space Plan, Primary Healthcare Program, Business Model

LOCATION/ CRITERIA FOR SELECTION	FACILITY PROTOTYPE/ SPACE PLAN	PRIMARY HEALTH CARE PROGRAM	BUSINESS MODEL
Suggested Prototype # 3—Family Practice, Oxon Hill			
<p>Shared practice or health center site located in existing office buildings with medical space available for lease in office complex.</p> <ul style="list-style-type: none"> • High primary care needs area. • Not located in health professional shortage area but ½ mile from geo-health professional shortage area. • Medically underserved area. • Located across from community shopping area. • Public and private transportation access. <ul style="list-style-type: none"> ◦ On bus route. ◦ On Rt 414, close proximity to I-495 exchange. ◦ On-site free parking. 	<p>Build out primary care suite within existing office building.</p> <p>Clinical/Support:</p> <ul style="list-style-type: none"> • Shared space for care teams. • Exam rooms (designed to accommodate patients of all ages, allow space for care giver/family, and physically disabled), plus shared treatment room. • Behavioral health talking rooms included in pod, shared office space. • Laboratory (specimen collection area, in office labs). • Group visit room. • Access from main building lobby. • Waiting area soft divide between adult and child area with sick child subwaiting area. • Back-to-back reception/call center and check out. <p>Building Support: Not required—build out clinical space in existing facility.</p> <p>Total Square Feet: 6,800</p>	<p>Family practice group, team-based, patient-centered primary care practice, with co-located and integrated behavioral health.</p> <p>Four providers include family practice physicians and midlevel providers at a ratio of 3:1. Work in teams around adult care, women’s health, and pediatric care.</p> <p>Urgent care provided by same day appointments and extended hours as determined by patient needs.</p> <p>Medical specialists that support primary care rotate on a regular schedule and are part of the care team.</p> <p>Care coordinators provide linkages with area pharmacies and dental services.</p>	<p>Private or hospital-based group practice. Management service organization provides support services. Alternative to model-care coordinators, community health workers, and data analyst could be employed by the management service organization and the costs incorporated into management service organization payment by the practice.</p> <p>Alternative business model is a federally qualified health center practice site.</p>

Summary Table—Location/Criteria for Selection, Facility Prototype/Space Plan, Primary Healthcare Program, Primary Healthcare Program, Business Model

LOCATION/ CRITERIA FOR SELECTION	FACILITY PROTOTYPE/ SPACE PLAN	PRIMARY HEALTH CARE PROGRAM	BUSINESS MODEL
Suggested Prototype # 4 (Medium-Term 3 to 5+ Years)— Federally Qualified Health Center, Capitol Heights			
<p>Central Avenue, shopping center with potential for redevelopment, near I-95/495 exchange.</p> <ul style="list-style-type: none"> • High primary care needs area. • Health Enterprise Zone. • Prince George’s County Health Corridor (Central Avenue). • Health professional shortage area—Medical (10). • Accessible by public and private transportation. <ul style="list-style-type: none"> ◦ MARC connecting to Largo Town Center/future Regional Medical Center. ◦ Central Avenue (MD 214). ◦ I-95/495 Beltway. 	<p>Clinical support space same as Prototype #1, except facility would be new construction on grey-field site and space needed for building support.</p> <p>Total Square Feet: 15,800</p>	<p>Same as Prototype #1</p>	<p>Same as Prototype #1</p>



Patient Centered Primary Care: The Medical Home Model



Harvard Vanguard Medical Associates, Concord, MA Level 3 Patient Centered Medical Home

- Supports team-based approach to care.
- Maximizes patient time with providers throughout visit.
- Eliminates physical barriers between patient and staff.
- Creates flexible spaces to allow for variations in demographics, practice methodologies, and future technologies.
- Uses natural lighting and other features to create friendly and inviting space.

Source: Steffian Bradley Architects



Principles of a Patient-Centered Medical Home

- **Personal Provider:** Each patient has an ongoing relationship with a personal primary care provider trained to provide first contact and continuous and comprehensive care.
- **Provider Directed Medical Practice:** The primary care provider leads a team of individuals at the practice level who collectively take responsibility for the ongoing care of patients.
- **Whole Person Orientation:** The primary care provider is responsible for all the patient's healthcare needs or taking responsibility for appropriately arranging care with other qualified professionals. This includes care for all stages of life, acute care, chronic care, preventive services, and end of life care.
- **Coordinated Care:** Care is coordinated and/or integrated across all elements of the complex healthcare system (e.g., subspecialty care, hospitals, home health agencies, nursing homes) and the patient's community (e.g., family, public, and private community-based services).
- **Quality and Safety:** Providers practice evidence-based medicine and utilize technology-based clinical decision support tools. Patients actively engaged in decision-making regarding their treatment and care. Patient, families/caregivers, and staff participate in quality improvement activities.
- **Enhanced Access to Care:** Through systems such as open scheduling, expanded hours.

Source: Steffian Bradley Architects



Planning a Medical Home



Health First Family Care Center, Fall River, MA

The planning process should serve as a way to support your commitment to team-based care, patient-centered design, and provide optimal opportunities for staff and patient communication in a flexible design.

Source: Steffian Bradley Architects



Design Principles for a Patient-Centered Medical Home

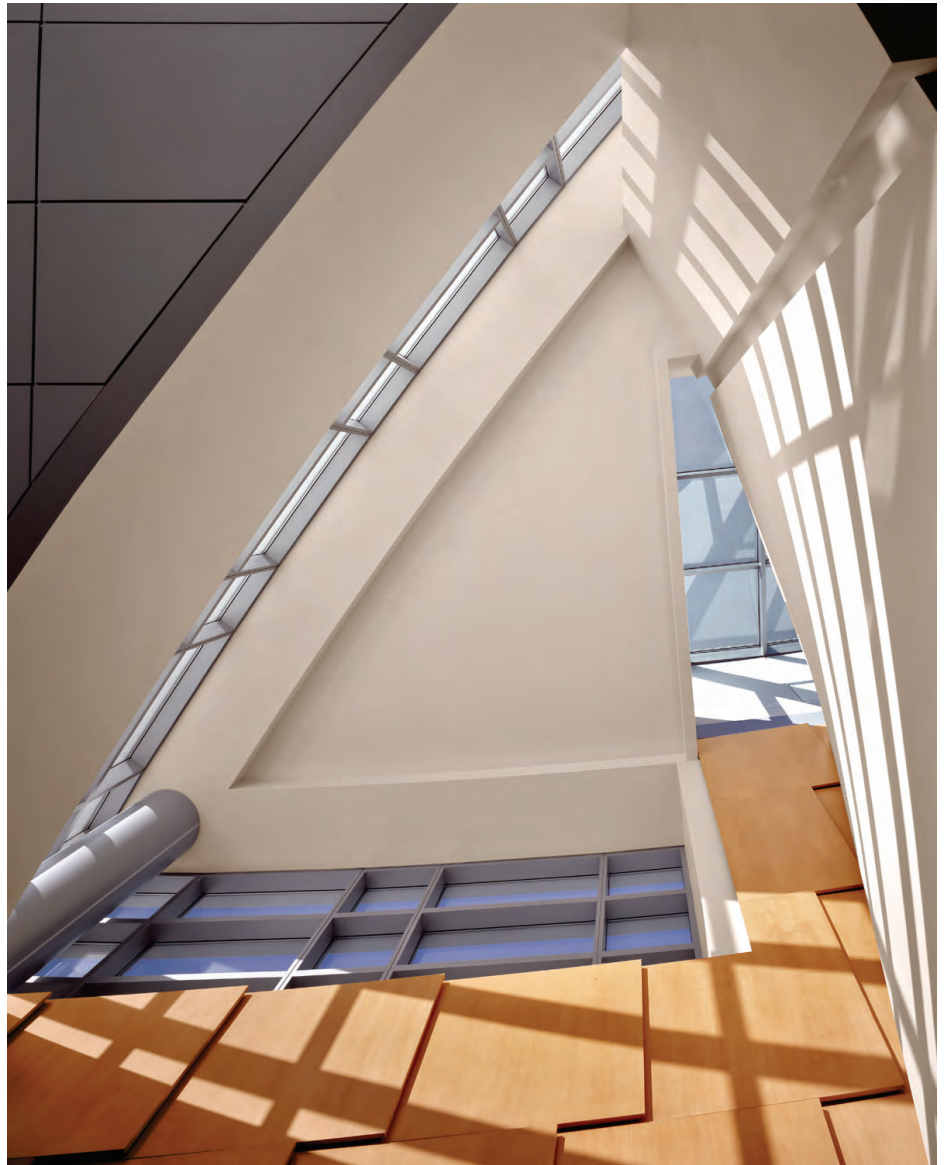
- Protect patient privacy throughout visit.
- Minimize travel time for the maximum number of patients through careful placement of departments, exam rooms, and auxiliary services.
- Minimize movement of patient when in clinical setting.
- Maximize patient's time with the provider through appropriate use of staff at each point in patient encounter.
- Maximize provider's time with patient through efficient support team and services.
- Create opportunities for staff communication both formal and informal settings.
- Create flexible spaces to allow for changes in demographics, practice methodologies, and future technologies.

Source: Steffian Bradley Architects



Creating the Patient Experience

- A connection to nature and a feeling of comfort.
- Access to natural lighting for patients and staff.
- Separation between front and back-of-house (on-stage/off-stage).
- A friendly and inviting interior.
- Variety in the interior environment.
- Areas of social and personal interaction.
- Eliminating/reducing visual clutter.
- Elimination of barriers such as glass windows between patients and staff.



Generic photo to show lighting aesthetics.

Source: Steffian Bradley Architects



Team-Based Care



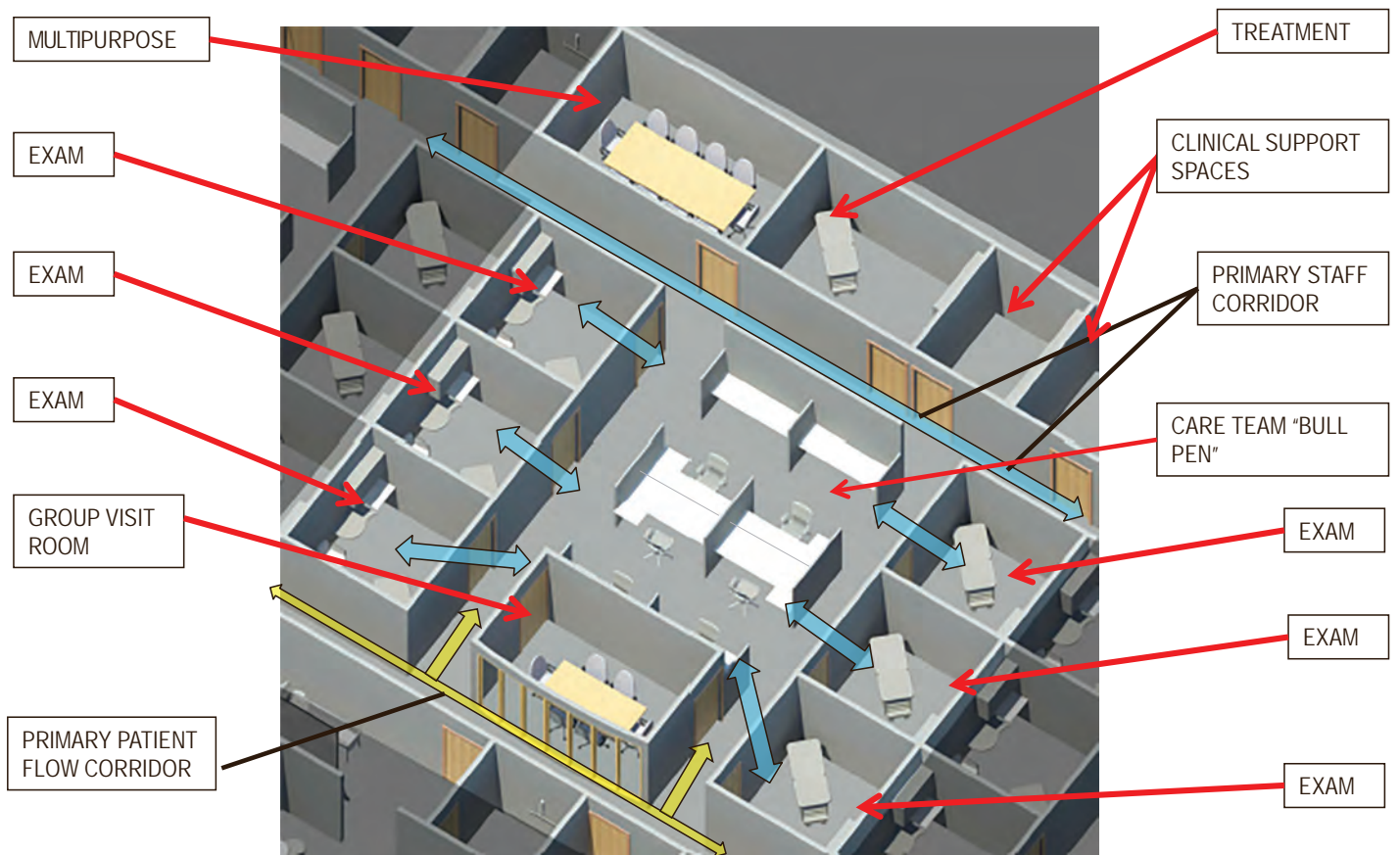
Mattapan Community Health Center, Boston, MA

	DESCRIPTION	CONSIDERATIONS
'Hub' Exam Room Structure	Exam rooms dedicated to single team of providers located in same location.	Assess care process stages to maximize throughput between pre-visit, visit, post-visit.
Cubicle Bullpen	Care team clinician desks clustered together in center of larger room.	Centrally located care team enables faster team communication; centralization may increase noise levels; optimally located close to hub of exam rooms to reduce wasted movement; team may conduct huddles in bullpen area; line of sight with reception area can positively deflect throughput.

Source: Steffian Bradley Architects



Team-Based Care Pod



Source: Steffian Bradley Architects



New Visit Types



D'Amour Cancer Center, Baystate Medical Center, Springfield, MA

"Talking Room"

Space dedicated to longer, more personable conversations with patients

- Less clinical setting for visits that do not require exam tables
- Space may reduce anxiety of being in clinical settings; increase comfort with clinical discussions
- Side-by-side consults that promote greater family participation
- Private clinician-clinician interactions
- Patient-clinician phone calls
- Accommodate waiting families

Source: Steffian Bradley Architects



New Visit Types

“Group Visit Room”

Larger room can be used for group visits, conferences, education opportunities, care team huddles.

Potential for splitting when not used for groups; consider close or co-location of private exam rooms for individual attention during group visits.

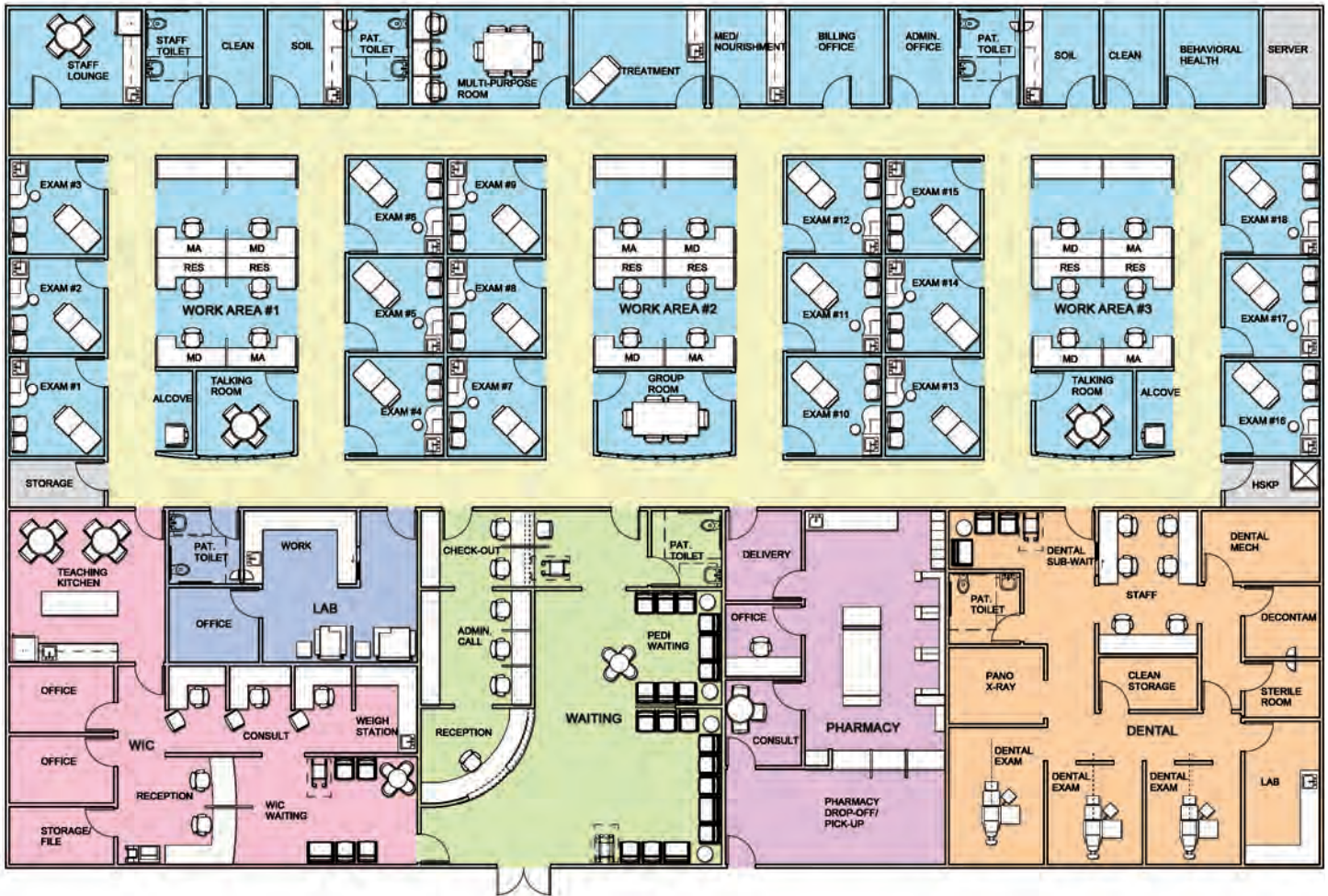


Harvard Vanguard Medical Associates, Concord, MA

Source: Steffian Bradley Architects



Prototype 1



Source: Steffian Bradley Architects



Waiting/Reception/Check-Out



Health First Family Care Center, Fall River, MA



Harvard Vanguard Medical Associates, Concord, MA



Health First Family Care Center, Fall River, MA

Source: Steffian Bradley Architects



Talking Room



D'Amour Cancer Center, Baystate Medical Center, Springfield, MA

Source: Steffian Bradley Architects



Dental Health



Fenway Community Health Center, Boston, MA

Source: Steffian Bradley Architects



Training Kitchen



Mattapan Community Health Center, Boston, MA



Source: Steffian Bradley Architects



Exam Rooms



D'Amour Cancer Center, Baystate Medical Center, Springfield, MA

Source: Steffian Bradley Architects



Pharmacy



Harvard Vanguard Medical Associates, Concord, MA

Source: Steffian Bradley Architects



Prototype 2



Source: Steffian Bradley Architects



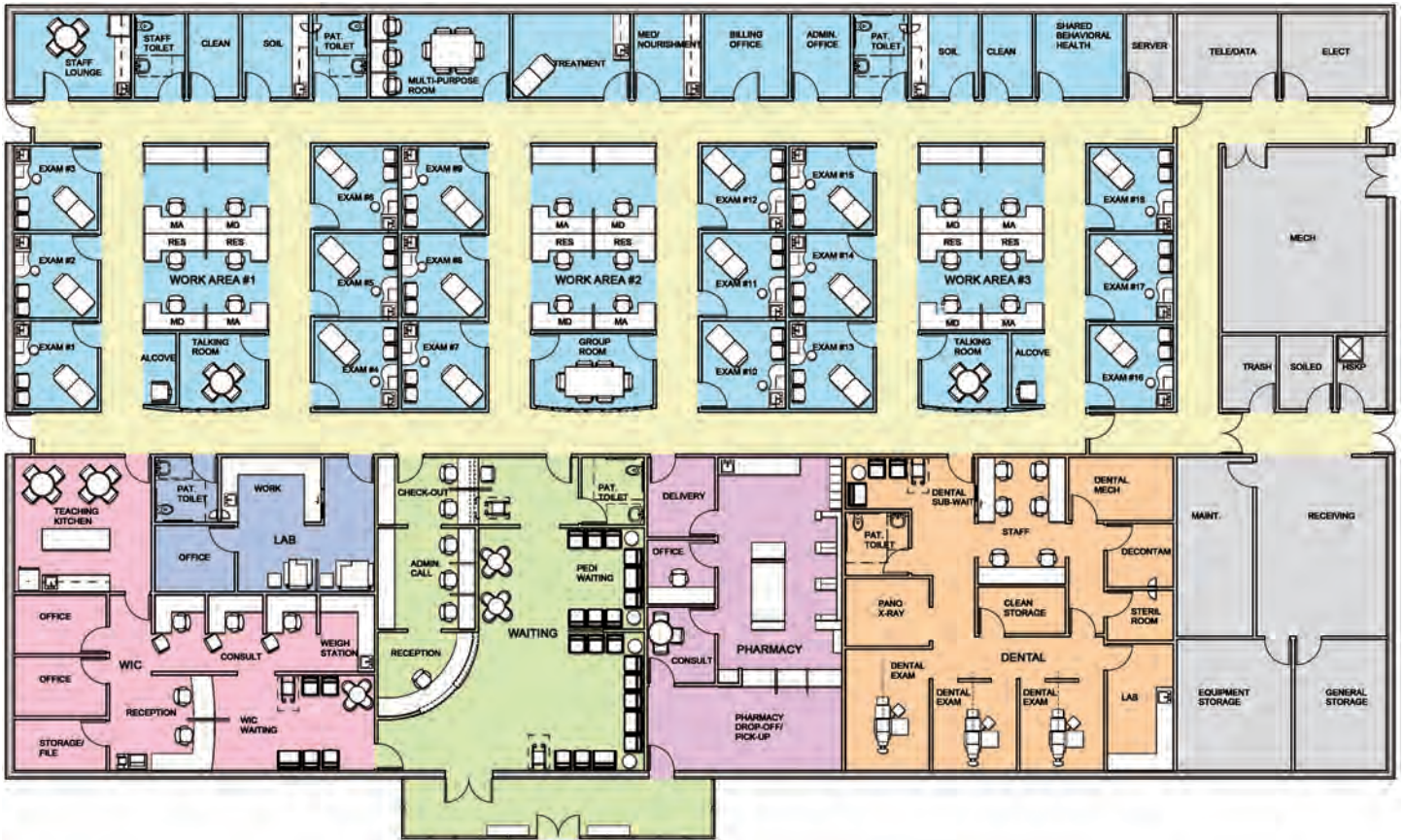
Prototype 3



Source: Steffian Bradley Architects



Prototype 4



Source: Steffian Bradley Architects



Grey Field Construction “Shopping Center”



After

Health First Family
Care Center, Fall
River, MA



Before

Source: Steffian Bradley Architects



Brownfield Construction: Urban Development/Mixed Use



Mattapan Community Health Center, Boston, MA

After



Before

Source: Steffian Bradley Architects



Grey field Construction: Urban Development/Renovation

Holyoke Health Center, Holyoke, MA



After



Before

Source: Steffian Bradley Architects





APPENDIX B

INDEX OF RESOURCES

This Appendix Includes:

1. Bibliography
2. Stakeholder Interviews
3. Data Sources and Supplemental Materials
 - Data Sources
 - Primary Healthcare Defined Services
 - Prince George's County Health Professional Programs





BIBLIOGRAPHY

Primary

Lurie N., Harris K.M., Shih R.A., Ruder T., Price A., Martin L.G., Acosta J., & Blanchard J.C. (2009) Assessing Health and Health Care in Prince George's County. Prepared for the Prince George's County Council, by RAND Corporation

University of Maryland School of Public Health. (2012) Transforming Health in Prince George's County, Maryland: A Public Health Impact Study. Retrieved from <http://sph.umd.edu/sites/default/files/files/TransformingHealth.pdf>

Literature Review

Locating Primary Care Sites

Pollack C.E., & Armstrong K. (2009) The Geographic Accessibility of Retail Clinics for Underserved Populations. *Archives of Internal Medicine*, 169(10), 945-9

Rubin M.H. (2008) Building A Medical Home for the Underserved in New York City: Lessons Learned from a Private Practice. *Journal of Health Care for the Poor and Underserved*, 19(2), 343-351

Rudavsky R., & Mehrotra A. (2010) The SocioDemographic Characteristics of the Communities Served by Retail Clinics. *Journal of the American Board of Family Medicine*, 23(1), 42-8

Consumer Engagement

Abraham J., Sick B., Anderson J., Berg A., Dehmer C., & Tufano A. (2011) Selecting a Provider: What Factors Influence Patients' Decision Making? *Journal of Healthcare Management*, 56(3), 99-115

Cheng S.H., & Song H.Y. (2004) Physician performance information and consumer choice: a survey of subjects with the freedom to choose between doctors. *Quality & Safety in Health Care*, 13(2), 98-101

Christianson J.B., Volmar K.M., Alexander J., & Scanlon D.P. (2010) A Report Card on Provider Report Cards: Current Status of the Health Care Transparency Movement. *Journal of General Internal Medicine*, 25(11), 1235-41

Chu-Weininger M.Y.L., & Balkrishnan R. (2006) Consumer satisfaction with primary care provider choice and associated trust. *BMC Health Services Research*, 23(6), 139

Fanjiang G., von Glahn T., Chang H., Rogers W., & Gelb Safran D. (2007) Providing Patients Web-based Data to Inform Physician Choice: If You Build It, Will They Come? *Journal of General Internal Medicine*, 22(10), 1463-6

Forrest C.B., Shi L., von Schrader S., & Mg J. (2002) Managed Care, Primary Care, and the Patient-practitioner Relationship. *Journal of General Internal Medicine*, 17(4):270-277

Fung C.H., Elliot M.N., Hays R.D., Kahn K.L., Kanouse D.E., McGlynn E.A., Spranca M.D., & Shekelle P.G. (2005) Patients' Preferences for Technical versus Interpersonal Quality When Selecting a Primary Care Physician. *HSR: Health Services Research*, 40(4), 957-977

Harris K.M. (2003) How Do Patients Choose Physicians? Evidence from a National Survey of Enrollees in Employment-Related Health Plans. *HSR: Health Services Research*, 38(2), 711-731

Martinco S.C., Kanouse D.E., Elliot M.N., Teleki S.S., & Hays R.D. (2012) A Field Experiment on the Impact of Physician-Level Performance Data on Consumers' Choice of Physician. *Medical Care*, 50, S65-S73

Sinaiko A.D. (2011) How Do Quality Information and Cost Affect Patient Choice of Provider in a Tiered Network Setting? Results from a Survey. *HSR: Health Services Research*, 46(2), 437-456



Other Published Material

Altschuler J., Margolius D., Bodenheimer T., & Grumbach K. (2012) Estimating a Reasonable Patient Panel Size for Primary Care Physicians with Team-Based Task Delegation. *Annals of Family Medicine*, 10(5), 396-400

American Academy of Family Physicians, American Academy of Pediatrics, American College of Physicians, American Osteopathic Association. (2007) Joint Principles of the Patient-Centered Medical Home. Retrieved from http://www.aafp.org/dam/AAFP/documents/practice_management/pcmh/initiatives/PCMHJoint.pdf

Cigna Health and Life Insurance Company. (2014) Case Study: Loudoun County Government. Retrieved from http://icma.org/en/Article/104974/Cigna_Case_Study_Loudoun_County_Government

Institute for Healthcare improvement. (2000) Idealized Design of Clinical Office Practices. Retrieved from <http://www.ihl.org/Engage/Initiatives/Completed/IDCOP/Pages/default.aspx>

Ladden M., Bodenheimer T., Fishman N.W., Hsu C., Wagner E.H. (2013). The emerging primary care work force: preliminary observations from the primary care team: learning from effective ambulatory practices project. *Academic Medicine*. 88(12):1830-4

Peikes D.N., Reid R.J., Cornwall D.D., Dale S.B., Baron R.J., Brown R.S., Shapiro R.J. (2014). Staffing Patterns of Primary Care Practices in the Comprehensive Primary Care Initiative. *Annals of Family Medicine*, 12(2), 142-149

Patel M.S., Arron M.J., Sinsky T.A., Green E.H., Baker D.W., Bowen J.L., Day S. (2013). Estimating the Staffing Infrastructure for a Patient-Centered Medical Home. *American Journal of Managed Care*.

Prince George's County Health Department Office of the Health Officer. (2014) Health Report 2014. Retrieved from <http://www.princegeorgescountymd.gov/sites/Health/ContactUs/Publications/>

[Documents/2014%20health%20report%20v4-08-14%20no%20blank%20pages.pdf](http://www.princegeorgescountymd.gov/sites/Health/ContactUs/Publications/Documents/2014%20health%20report%20v4-08-14%20no%20blank%20pages.pdf)

The Maryland-National Capital Park and Planning Commission. Prince George's County Planning Department. (2013) Economic Drivers and Catalysts: A Targeted Economic Development Strategy for Prince George's County, Maryland. Retrieved from <http://www.pgplanning.org/assets/planning/countywide+planning/research/teds-full.pdf>

McCarthy D., Mueller K., & Wrenn J. (2009) Kaiser Permanente: Bridging the Quality Divide with Integrated Practice, Group Accountability, and Health Information Technology. Case Study, Organized Healthcare Delivery System. The Commonwealth Fund. Retrieved from <http://www.commonwealthfund.org/publications/case-studies/2009/jun/kaiser-permanente>

McGinnis T., Crawford M., & Somers A. (2014) A State Policy Framework for Integrating Health and Social Services. Commonwealth Fund. Retrieved from <http://www.commonwealthfund.org/publications/issue-briefs/2014/jul/state-policy-framework-health-social-services>

Pollack C.E., Gidengil C., & Mehrotra A. (2010) The Growth Of Retail Clinics And The Medical Home: Two Trends In Concert Or In Conflict? *Health Affairs*, 29(5), 998-1003

Prince George's County Health Department. (2012) Prince George's County Health Enterprise Zone: Primary Care-Public Health Integrated Services Model. Retrieved from <http://dhmh.maryland.gov/healthenterprisezones/Documents/Prince%20Georges%20County%20HEZ%20Application%20-%20Redacted%20Version.pdf>

Silow-Carroll S. & Lamphere J. (2013) State Innovation Models: Early Experiences and Challenges of an Initiative to Advance Broad Health System Reform. The Commonwealth Fund. Retrieved from <http://www.commonwealthfund.org/publications/issue-briefs/2013/sep/state-innovation-models>



Somerville M.H., Nelson G.D., Mueller C.H., & Boddie-Willis C.L. (2013) Hospital Community Benefits after the Patient Protection and Affordable Care Act : Present Posture, Future Challenges. The Hilltop Institute. Retrieved from http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2013/rwjf408710

Somerville M.H., Nelson G.D., Mueller C.H., Boddie-Willis C.L., & Folkemer D.C. (2012) Hospital Community Benefits after the Patient Protection and Affordable Care Act : Community Building and the Root Causes of Poor Health. The Hilltop Institute. Retrieved from <http://www.hilltopinstitute.org/publications/hospitalcommunitybenefitsaftertheaca-schedulehissuebrief5-october2012.pdf>

Academic Publishing

Anderson G.D., & Grey E.B. Anderson. (2013) The management service organization's Prognosis After the Patient Protection and Affordable Care Act : A Viable Integration Tool? Physicians and Physician Organizations Law Institute

Carbaugh W. & Lang M. (2013) Medical Professionals in Prince George's County

Dimensions Healthcare System. (2011) Dimensions Healthcare Committee to County Executive Rushern Baker, III

Glover K.E., Wilson D.E., Brown S.D., Leahy-Fuchek A., Himler T.M., Saheed K.J., & Wright J.L. (2010) Prince George's County Hospital Authority Final Report and Recommendations. Retrieved from http://www.princegeorgescountymd.gov/sites/CountyCouncil/Services/BoardHealth/Documents/FINAL%20REPORT%20FINAL%20FOR%20DISTRIBUTION_1.pdf

Ladden M. (2013) Primary Care on the Front Lines of Innovation. September 23, 2013. Robert Wood Johnson Foundation. Retrieved from http://www.rwjf.org/en/blogs/human-capital-blog/2013/09/primary_care_on_the.html

Prince George's Community College. (2010) Conversation on Building an Integrated Community-oriented Healthcare System in Prince George's County

Prince George's County Health Department Office of the Health Officer. (2014) Building a Healthier Prince George's County: County Health Improvement Update Overview. Retrieved from <http://www.princegeorgescountymd.gov/sites/CountyCouncil/Resources/Documents/HealthUpdate.pdf>

Robert Wood Johnson Foundation. (2012) Robert Wood Johnson Foundation Announces New Program to Help Primary Care Practices Use Their Work Force More Effectively: Goal is to Identify, Share Work force Practices that Make Primary Care Accessible and Effective for More Patients." Retrieved from <http://www.rwjf.org/en/about-rwjf/newsroom/newsroom-content/2012/03/robert-wood-johnson-foundation-announces-new-program-to-help-pri.html>

Tobey R., Maxwell J., Bateman C., Barron C. (2014) Opportunities for Whole-Person Care in California. Prepared by John Snow, Inc., in collaboration with the California Association of Public Hospitals and Health Systems, and the California Health Care Safety Net Institute.

Unity Health Care. (2013) Unity Health Care's Upper Cardozo Health Center Recognized as a National Model of Innovative Primary Care Practice. Retrieved from <http://www.unityhealthcare.org/PDF/LEAPPressRelease.pdf>

University of Maryland School of Public Health. (2010) New UM Initiative Aims to Eliminate Md. Health Disparities. Retrieved from http://www.stategov.umd.edu/newslink/issues/july_10.html

Wright J. (2014) County Health Rankings: "A Rising Tide Lifts All Boats" Impacting and Improving Health in Prince George's County.

Web Sites

Community Care of North Carolina. <http://www.communitycarenc.com/about-us/>



DC Health Professional Loan Repayment Program.
<http://doh.dc.gov/service/dc-health-professional-loan-repayment-program-hplrp>

Maine Quality Counts. <http://www.mainequalitycounts.org/articles/54-134/what-is-community-care-team/2>

Maryland Multi-Payor Patient Centered Medical Home Program. <http://mhcc.maryland.gov/pcmh/>

Mount Auburn Cambridge Independent Practice Association. <http://www.macipa.com/macipawp/>

National Health Service Corps Loan Repayment Program. <http://nhsc.hrsa.gov/loanrepayment/nhscloanrepayment/index.html>

National Committee for Quality Insurance Patient-Centered Medical Homes. <http://www.ncqa.org/Programs/Recognition/PatientCenteredMedicalHomePCMH.aspx>

STAKEHOLDER INTERVIEWS

Amerigroup

Ken Satrom, Vice President, Provider Relations
Dr. Lelin Chao, Medical Director
Raquel Samson, Quality Management Program Manager
Michelle Gourdine, Consultant to Amerigroup

CareFirst BlueCross BlueShield

Dr. Malcolm Joseph III, Medical Director

Children's National Health System

Dr. Joseph Wright, Senior Vice President, Child Health Institute (currently Chair of the Department of Pediatrics at Howard University)
Dr. Marci White, Director, Children's Health Center at THEARC
Tina Lewis, Executive Director, Advocacy and Community Affairs

CIGNA Healthcare

Julia Huggins, President
Dr. Frank Brown, Market Medical Executive

Lee Malley-Lowe, Vice President, Provider Contracting
Beth Truffer, Vice President, Government & Education Segment

Community Clinic, Inc.

Kathleen Knoloff, Chief Executive Officer
Dr. Bill Flynt, former Chief Executive Officer

Community Representatives

Claudia Smith, Community/Public Health Nursing Educator and Consultant
Lisa Butler McDougal, SEED, Inc.
Madelein Golde, Progressive Cheverly
Margaret White

Dimensions Healthcare System

Dr. Carnell Cooper, Chief Medical Officer

Doctors Community Hospital

Paul Grenaldo, Executive Vice President and Chief Operating Officer

Greater Baden Medical Services

Colenthia Malloy, Chief Executive Officer

Health Services for Children with Special Needs, Inc.

Dr. Rhonique Harris, Chief Medical Officer

Kaiser Permanente/Mid-Atlantic Permanente Medical Group

Dr. Richard McCarthy, Physician-in-Chief
Dr. Shital Desai, Physician Site Lead, Kaiser Permanente Largo

Mary's Center

Maria Gomez, President

Maryland Department of Health and Mental Hygiene

Dr. Laura Herrera, Deputy Secretary for Public Health Services
Raquel Samson, Deputy Director Health Systems & Infrastructure Administration (currently



Maryland Economic Development Association

David Iannucci, Chief Administrative Officer for Economic Development and Public Infrastructure
Prince George's County

The Maryland State Medical Society

Gene Ransom III, Chief Executive Officer
Dr. Jagdeep Singh, President, Prince George's County Medical Society
Dr. George Bone, President of the Center for a Healthy Maryland

MedStar Southern Maryland Hospital Center

Richard Ardery, Vice President, Marketing and Community Relations

Nexus Health; Fort Washington Hospital

Verna Meacham, President and Chief Executive Officer (former)

Primary Care Coalition of Montgomery County

Steve Galen, Chief Executive Officer

Prince George's Community College

Charlene Dukes, Ph.D., President
Angela Anderson, Dean, Center for Health Studies

Prince George's County Health Department

Pam Creekmur, Health Officer
Dr. Ernest Carter, Deputy Health Officer

United Health Care Maryland

Richard Reeves, President and Chief Executive Officer

University of Maryland, School of Public Health

Dr. Dushanka Klienman, Associate Dean of Research and Academic Affairs

DATA SOURCES AND SUPPLEMENTAL MATERIALS

Data Sources

Robert Wood Johnson Foundation. (2014) County Health Rankings. Accessible at <http://www.countyhealthrankings.org/>

Quinn S.C., Thomas S.B., Passmore S. (2012) Random Household Health Survey. Technical Report of the University of Maryland School of Public Health Transforming Health in Prince George's County, Maryland: A Public Health Impact Study. Retrieved from <http://sph.umd.edu/sites/default/files/files/TransformingHealth.pdf>

Ting Lee M.L & Cruz-Cano R. (2012) Physician Count and Categorization and Characteristics of Physicians in the State of Maryland and Prince George's County. Technical Report of the University of Maryland School of Public Health Transforming Health in Prince George's County, Maryland: A Public Health Impact Study. Retrieved from <http://sph.umd.edu/sites/default/files/files/TransformingHealth.pdf>

Wang M.Q. (2012) Identification of Geographic Areas of Need for Primary Care: An Assessment of the Geographic Distribution of Selection Health Care Resources. Technical Report of the University of Maryland School of Public Health Transforming Health in Prince George's County, Maryland: A Public Health Impact Study. Retrieved from <http://sph.umd.edu/sites/default/files/files/TransformingHealth.pdf>

United States Census Bureau. 2007-2011 American Community Survey. U.S. Census Bureau's American Community Survey Office. Accessible at <http://ftp2.census.gov>

United States Census Bureau / American FactFinder. 2010 Census. Accessible at <http://factfinder2.census.gov>

National Committee for Quality Assurance. (February 2013). Report of the National Committee for Quality Assurance-Certified Primary Care Practices by Zip Code for all Zip Codes in Prince George's County. Provided by Chris Carrier, Director, Information Product through data request.

Health Resources and Services Administration. Find Shortage Areas: Health professional shortage area by State & County. Accessible at <http://hpsafind.hrsa.gov/>



American Academy of Family Physicians. Uniform Data System Mapper. Accessible at <http://www.udsmapper.org/>

Maryland Department of Health and Mental Hygiene. (2013). Managed Care Organizations Enrollment Data 2010-2012

HealthQuest Publishers. (2014). Accountable Care Directory 2014: Organizational Directory and Executive Profiles for Accountable Care Organizations

Medicare Geographic Cost Price Indices Localities for 2014. <http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeeSched/PFS-Relative-Value-Files-Items/RVU14A.html?DLPage=1&DLSort=0&DLSortDir=descending>

Primary Healthcare Defined Services

PRIMARY CARE SERVICE	ON-SITE/DIRECT	OFF-SITE BY REFERRAL/COLLABORATION
Wellness, Disease Prevention, and Chronic Disease Management		
Primary Prevention: Health Promotion	Health educators, nutritionists, community health workers, acupuncturists, herbalists, other health and wellness providers	Health department, public health nurses, community based providers and organizations (YMCA, yoga instructors, etc.) community health workers, schools
Secondary Prevention: Screening and Patient Engagement	Clinical team, health educators, nutritionist, licensed behavioralist	Health department
Tertiary: Chronic Disease Management	Clinical team, licensed behavioralist	Board certified specialists as part of care management team
Medical Services		
Adult Care	Board certified internists, family practitioners, general practitioners, pharmacists, advance practice nurses (nurse practitioners, clinical nurse specialists), physician assistants, providers able to serve adults with developmental disabilities	
Elder Care	Same as adult care plus board-certified gerontologists	Certified PACE programs
Pediatric Care	Board certified pediatricians, family practitioners, general practitioners, advance practice nurses, physician assistants, providers able to serve children with developmental disabilities	
Obstetrical Care (prenatal care, labor and delivery, perinatal)	Board certified obstetricians, advanced practice nurses (clinical nurse midwives, nurse practitioners)	



PRIMARY CARE SERVICE	ON-SITE/DIRECT	OFF-SITE BY REFERRAL/COLLABORATION
Urgent Care	Board certified primary care physicians, nurse practitioners, physician assistants through extended hours/on call services	Community-based urgent care centers, pharmacy-based providers
Integrated Behavioral Health		
Mental Healthcare	Board certified psychiatrist, licensed psychologist, clinical social worker, other licensed mental healthcare providers	Community-based mental health providers
Substance Abuse Services	Clinical team, substance abuse counselors	Community-based substance abuse counselors
Chronic Disease Management	Pharmacists, licensed behavioralists, counselors	Board certified specialists as part of care management team
Oral Health		
Preventive and Restorative Dental Services	Dentists, dental hygienist	Community-based dental providers
Care Coordination/Enabling Services		
Care Coordination and Patient Engagement	Clinical team, care coordinators, note takers/scribes	Health plan care coordinators
Transitional Care	Clinical team, care coordinators	Home care providers
Outreach and Enrollment	Front desk staff, financial counselors, community health workers	Community health workers

Prince George's County Health Professional Programs

Prince George's Community College
(Source: http://www.pgcc.edu/Programs_and_Courses/Credit_Offerings.aspx)

Dietetics—Associate of Arts and Certificate

Health Care Management—Letter of Recognition

Health Education—Associate of Arts

Health Information Management

- Health Information Management, Associate of Applied Science
- Medical Coder/Billing Specialist
- Medical Assisting—Associate of Applied Science

Nursing

- LPN—Certificate
- RN—Associate of Science
 - Paramedic to Registered Nursing Transition Option—Associate of Science
 - LPN—RN Transition, Associate of Science

Paramedic—Associate of Applied Science and Certificate

Radiography—Associate of Applied Science

Respiratory Therapy—Associate of Applied Science

Nuclear Medicine—Associate of Applied Science and Certificate



University of Maryland

(Note: health professions are on the Baltimore campus)
(Source: <http://www.umd.edu/>)

Nursing

- BSN
- RN-BSN
- Clinical Nurse Leader
- Community/Public Health Nursing
- Health Services Leadership and Management
- Nursing Informatics
- RN-MS
- Ph.D.
- DNP

Pharmacy

- Ph.D.
- MS

Social Work

- MSW
- Ph.D.

Medicine

Dental

Masters in Public Health

Bowie State University

(Source: <http://www.bowiestate.edu/academics-research/departments/>)

Nursing

- BS
- RN to BS
- Masters of Science in Nursing
- Traditional BS Nursing Program

Bachelor of Social Work

Psychotherapy

Family Counseling Certificate



APPENDIX C

WEB SITES

This Appendix Includes:

Links for the Primary Healthcare Strategic Plan documents located on the Prince George's County Planning Department web site.





Documents Posted on the Web Page www.pgplanning.org/PHCSP.htm

DOCUMENTS
Community Benefits Program Committee Recommendations
Physicians Recruitment and Retention Committee Recommendations
Work Force Development Workgroup Recommendations
Findings from a series of local community meetings held this spring to gather input for the <i>Prince George's County Primary Healthcare Strategic Plan</i>
March 1, 2014, Community Meeting Summary
Responses to the Prince George's County Residents—March 1, 2014





APPENDIX D

GLOSSARY OF KEY TERMS





340B DRUG PROGRAM: A federal program that allows federally qualified health centers and other eligible organizations to purchase drugs at reduced prices.

ACCOUNTABLE CARE ORGANIZATION: A group of physicians, hospitals, and other healthcare providers that come together to give coordinated high-quality care to their Medicare patients, ensuring that they get the right care at the right time.

AMBULATORY CARE: Healthcare services offered on an outpatient basis.

AMBULATORY CARE-SENSITIVE CONDITIONS: Conditions that are preventable and treatable in a primary care setting and, when addressed, should prevent/avoid hospitalization.

BASELINE DATA: Data collected to establish and understand the existing conditions before any kind of intervention or experimental manipulation begins.

BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM: Ongoing telephone health survey system conducted by the U.S. Centers for Disease Control and Prevention.

BUNDLED PAYMENT: A single payment to a provider, or a group of providers, for multiple healthcare services associated with a defined episode of care.

CENTERS FOR MEDICARE AND MEDICAID SERVICES: A federal agency within the U.S. Department of Health and Human Services that administers the Medicare program and works in partnership with state governments to administer Medicaid, the State Children's Health Insurance Program, and health insurance portability standards.

COMMUNITY HEALTH NEEDS ASSESSMENT/COMMUNITY HEALTH IMPROVEMENT PLAN: The Patient Protection and Affordable Care Act requires that all hospitals conduct a community health needs assessment every three years and develop an improvement plan in order to maintain their tax-exempt status and to inform community benefits programs.

COMMUNITY BENEFIT: Investments to improve community health outcomes required of certain nonprofit hospitals (defined in the Internal Revenue Code) to maintain tax exempt status.

CHESAPEAKE REGIONAL INFORMATION SYSTEM FOR OUR PATIENTS: Maryland's statewide health information exchange.

DATA EXCHANGE UTILITY: Software that allows healthcare providers/organizations to share patient-level data securely, using standard data exchange protocols.

EVIDENCE-BASED PROTOCOLS (OR EVIDENCE-BASED HEALTH CARE): Conscientious use of current best evidence in making decisions about the care of individual patients or delivery of health services to a population. Current best evidence is up-to-date information from relevant, valid research about the effects of healthcare and health promotion efforts.

FEDERALLY QUALIFIED HEALTH CENTER: A healthcare organization that offers primary care and preventive health services to all patients regardless of their ability to pay. A federally qualified health center is a public or private nonprofit organization that has been reviewed by the federal government and meets specific criteria to receive government funding. It must serve a medically underserved area or population.

FEDERALLY QUALIFIED HEALTH CENTER LOOK-ALIKE: A healthcare organization that meets federally qualified health center requirements but does not receive community health center grant funding.

FEE FOR SERVICE: A payment model where services are unbundled and paid for separately.

GENERAL AND ADMINISTRATIVE: Operating costs that include such areas as general accounting, human resources administration, claims processing, and patient accounts management.

GLOBAL PAYMENT: A fixed payment to providers for all or most of the care that their patients may require over a contract period, such as a month or a year, adjusted for severity of illness.



GROUP VISIT ROOM: A room within a primary care facility used to provide medical consultations to a group of patients with common clinical conditions.

HEALTH DISPARITIES: Differences in the presence of disease, health outcomes, or access to healthcare that are closely linked with social, economic and/or environmental disadvantage based on race and ethnicity, religion, socioeconomic status, gender, age, mental health, disability (cognitive, sensory, or physical), sexual orientation or gender identity, geographic location, or other characteristics historically linked to discrimination or exclusion.

HEALTH ENTERPRISE ZONE: State-funded program to reduce health disparities through investment in primary care. Prince George's County was one of the first five Health Enterprise Zone initiatives funded in Maryland, and grant funds are being used to provide grant support to primary care practices in Capitol Heights.

HOSPITAL EVENTS: Several terms are used in this report to define hospital events:

A hospital discharge is the process by which a patient is released from the hospital at the time inpatient care is no longer needed. Discharges or hospital admissions can be defined by the specific conditions that stimulate them. If these conditions are related to ambulatory care-sensitive conditions (see D-3), then these can reflect adequacy of the primary care network.

Hospital readmissions are used to describe hospitalizations that result 7 to 30 days after a patient has been released from a hospital. Hospital readmissions reflect on the quality of the hospital discharge process and on the capacity of the primary care network.

HEALTH EQUITY: The state of achieving the highest level of health for all people. This requires valuing everyone equally with focused and ongoing societal efforts to address avoidable inequalities, historical and contemporary injustices, and eliminate health and healthcare disparities.

HEALTH INFORMATION TECHNOLOGY: The area of information technology that involves the design, development, creation, use, and maintenance of information systems for the healthcare industry.

HEALTH LITERACY: The degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions. Health literacy is enhanced when providers give patients accurate and actionable health information in plain language and when health facilities include design and system changes that improve health information, communication, informed decision-making, and access to health services.

HEALTH OUTCOME: A measure of a health condition, such as disease status or death.

HEALTH RESOURCES AND SERVICES

ADMINISTRATION: An agency of the U.S. Department of Health and Human Services and the primary federal agency for improving access to healthcare services for people who are uninsured, isolated, or medically vulnerable.

HEALTH PROFESSIONAL SHORTAGE AREA: Designation developed by the Health Resources and Services Administration with separate designations for medical, dental, and behavioral health, based upon desired provider-to-population ratios.

HEALTH PROMOTION: The process of enabling people to increase control over and to improve their health. Health promotion not only strengthens the skills and capabilities of individuals but also involves changing social, environmental, and economic conditions that impede public and individual health.

LOCAL HEALTH IMPROVEMENT COALITION: Led by local health officers, these coalitions provide a forum for County Health Departments, nonprofit hospitals, and community-based organizations to analyze and prioritize community health needs.

MANAGEMENT SERVICE ORGANIZATION: An organization that provides management services to physician practices for a fee. Services provided



vary but usually include third party contracting and contract management, health information support services, and data analytics. Services can also include care coordination and care management.

MEDICALLY UNDERSERVED AREA/MEDICALLY UNDERSERVED POPULATION: Designated by Health Resource and Services Administration based on the Index of Medical Underservice. The Index of Medical Underservice involves four variables: ratio of primary medical care physicians per 1,000 population, infant mortality rate, percentage of the population with incomes below the poverty level, and percentage of the population age 65 or over.

MID-ATLANTIC ASSOCIATION OF COMMUNITY HEALTH CENTERS: The federally designated primary care association for Delaware and Maryland Health Centers, representing federally qualified health centers.

MIDLEVEL PROVIDERS: Licensed non-physician providers of primary care services that include advance practice nurses, nurse practitioners, clinical nurse midwives, and physician assistants.

NATIONAL COMMITTEE FOR QUALITY ASSURANCE: A nonprofit organization dedicated to improving healthcare quality. National Committee for Quality Assurance accredits and certifies a range of healthcare organizations, including patient-centered medical homes.

PATIENT PROTECTION AND AFFORDABLE CARE ACT: National healthcare reform law passed by the U.S. Congress in 2010.

PATIENT-CENTERED MEDICAL HOME: A team-based healthcare delivery model led by a physician that integrates patients as active participants and provides comprehensive and continuous preventive, acute, and chronic care to patients with the goal of obtaining the best health outcomes.

PHYSICIAN-TO-POPULATION RATIO: A measure used to determine the capacity of the number of providers available in a geographic region to serve the population size.

PODS: Physical configuration of primary care facility that allows team-based care.

POLYCLINIC (SHARED PRACTICE): A place where a wide range of healthcare services (including diagnostics) can be obtained without the need for an overnight stay.

POPULATION HEALTH: The health outcomes of a group of individuals, including the distribution of such outcomes within the group. The goal of population health is to reduce inequities and improve the entire population's health.

PRIMARY CARE: General healthcare services provided by clinicians who are accountable for addressing a large majority of personal healthcare needs. These clinicians are often the first point of contact for patients, will develop sustained partnership with patients, and will practice in the context of family and community.

PRIMARY CARE PHYSICIANS: A category of physicians that includes specialists in the general practice of family medicine, internal medicine, pediatrics, and obstetrics and gynecology.

PRIMARY PREVENTION: Efforts to keep diseases from occurring among susceptible people by reducing exposures or eliminating risk factors. These generally include health promotion and health education activities provided through public health, primary care, and community programs.

PUBLIC HEALTH: The art and science of protecting and improving the health of communities.

PUBLIC USE MICRODATA AREA: Areas containing approximately 100,000 people, as defined by the U.S. Census Bureau records. Public Use Microdata Areas are redefined every 10 years in conjunction with the decennial census.

SECONDARY PREVENTION: Efforts focused on detecting disease early and stopping its progression. These include screening, periodic health examinations, and reduction of risk factors through primary care and public health sectors.



STATE HEALTH IMPROVEMENT PROCESS:

This process's goal is to provide a framework for accountability, local action, and public engagement in order to advance the health of Maryland residents. The Maryland State Health Improvement Process's measures for improvement are aligned with the Healthy People 2020 objectives established by the Department of Health and Human Services.

STATE INNOVATION MODEL INITIATIVE: Initiative from the Center for Medicare and Medicaid Services provides support to states for development and testing of state-based models for multipayer payment and healthcare delivery system transformation with the aim of improving health-system performance for residents of participating states.

TALKING ROOM: Room within primary care facility used for patient-centered communication between patient and primary care provider or other member of care team. Room is shared among providers and care team members.

ZIP CODE: Mail delivery area used by U.S. Postal Service.

ZIP CODE TABULATION AREA: Geographic area used by the U.S. Census Bureau.



ACKNOWLEDGMENTS

Prince George's County Executive Office

Rushern L. Baker, III, County Executive

**Betty Hager Francis, Deputy Chief Administrative Officer for Health
and Human Services and Education**

Project Team

Pamela Creekmur, Health Officer and Director
Ernest Carter, MD, Deputy Health Officer
Vanessa C. Akins, Chief, Strategy and Implementation
Glendia Hatton, Project Manager

Project Resource Team

Maria Martin, Planning Supervisor
David Boston, Senior Planner
Yang Chen, Senior Planner
Dan Janousek, Planner Coordinator
Wendy Irminger, Planner Coordinator
William Washburn, Planner Coordinator
Tiffany Williams Jennings, Planner Coordinator
Zunilda Rodriguez, Planner Coordinator
Anika Jackson, Public Affairs Specialist III
Porlan Cummingham, Public Affairs Specialist III
Rae Wallace, Public Health Communication Officer
Kristen Franklin, Intern
Stephanie Williams, Administrative Assistant

Technical Assistance

Susan Kelley, Administrative Manager
M'Balu Abdullah, Senior IT Support Specialist
Mandy Li, Programmer Analyst III
Susan Smith, Publications Specialist
Michael Register, Publications Specialist
Robert Getz, Publications Specialist
Ryan Craun, Senior Visual Media and Imaging Specialist
Ralph Barrett, Supervisor, Office Services Support
Daisy Avelar, Prince George's County Office
of Community Relations
DeWayne Williams, Office Services Support
Loretta Tillery, Special Assistant to the
Deputy Chief Administrative Officer for Health, Human
Services and Education
Misty Milstead, Assistant to the Deputy Chief
Administrative Officer for Health,
Human Services and Education

Consultant Team

Ann M. Keehn, Project Manager
Natalie Truesdell, Project Coordinator
Sarah Genetti, Project Associate
Michelle Samplin-Salgado,
Marketing Lead, Creative Lead
Miguel McInnis, Senior Technical Advisor
Alec McKinney, Senior Technical Advisor
Steve Van Ness, Architectural Design Consultant

Council Members as the Board of Health

District 1: Honorable Mary A. Lehman
District 2: Honorable Deni Taveras
District 2: Honorable Will Campos (Former)
District 3: Honorable Danielle M. Glaros
District 3: Honorable Eric C. Olsen (Former)
District 4: Honorable Todd M. Turner
District 4: Honorable Ingrid Turner (Former)
District 5: Honorable Andrea Harrison
District 6: Honorable Derrick Leon Davis
District 7: Honorable Karen R. Toles
District 8: Honorable Obie Patterson,
District 9: Honorable Mel Franklin, Chair

Special Appreciation to:

County Elected Officials
Prince George's County Health Department
The Maryland-National Capital Park
and Planning Commission
Dimensions Health Care System
University of Maryland Medical System
University of Maryland School of Public Health
Prince George's County Med Chi Chapter
Jericho Christian Academy
St. Margaret's Catholic Church
Prince George's Community College
Volunteers

The Maryland-National Capital Park and Planning Commission

Elizabeth M. Hewlett, Chairman

Fern Piret, Planning Director

A special thanks to The Maryland-National Capital Park and Planning Commission for their assistance with this project.



SPECIAL APPRECIATION TO ADVISORY COMMITTEE

Nicholas A. Majett
Chief Administrative Officer
Office of the County Executive

Betty Hager Francis
Deputy Chief Administrative Officer
for Health, Human Services and Education
Office of the County Executive

David S. Iannucci
Assistant Deputy Chief Administrative Officer
for Economic Development and Public Infrastructure
Office of the County Executive

The Honorable Mel Franklin
Chair, Prince George's County Council

The Honorable Ingrid M. Turner
Prince George's County Council

Pamela B. Creekmur
Health Officer
Prince George's County Department of Health

Senator Joseph D. Tydings
Senior Counsel
Dickstein Shapiro LLP

Carnell Cooper
Chief Medical Officer
Dimensions Healthcare System

Joseph L. Wright
Professor and Chairman
Department of Pediatrics and Child Health
Howard University College of Medicine

Laura Herrera
Deputy Secretary
Public Health Services
Department of Health & Mental Hygiene
State of Maryland

Walter Ettinger, Jr.
Chief Medical Officer
University of Maryland Medical System

Jeff Johnson
Executive Office
Prince George's Hospital Center
Dimensions Healthcare System

John Ashworth
Senior Vice President
Network Development
University of Maryland Medical System

John Spearman
Interim Chief Operating Officer
Dimensions Healthcare System

Neil Moore
President and Chief Executive Officer
Dimensions Healthcare System

Paul R. Grenaldo
Executive Vice President and Chief Operating Officer
Doctors Community Hospital

Peter Gilbert
Vice President for Planning and Accountability
University of Maryland, Baltimore

Richard Ardery
Vice President
Marketing and Community Relations
MED STAR Southern Maryland Hospital Center

Charlene M. Dukes
President
Prince George's Community College

Dushanka Kleinman
Associate Dean for Research, Professor and Chair
Department of Health Services Administration
University of Maryland College of Health and
Human Performance

Natalie Eddington
Dean and Professor, School of Pharmacy
Executive Director, University Regional Partnerships
University of Maryland Baltimore

Verna Meacham
President and Chief Executive Officer
Nexus Health
Fort Washington Medical Center



SPECIAL APPRECIATION TO STAKEHOLDER'S COMMITTEE

Nicholas A. Majett Chief Administrative Officer Office of the County Executive	Tracy Douglas-Wheeler Chief Operating Officer Primary Care Association, State of Maryland
Betty Hager Francis Deputy Chief Administrative Officer for Health, Human Services, and Education Office of the County Executive	Helen Crosskey Cancer Patient Advocate
The Honorable Melony G. Griffith District 25, Prince George's County	Jagdeep Singh Dimensions Healthcare System
Ernest Carter Deputy Health Officer Prince George's County Health Department	Lisa M. Goodlett Chief Financial Officer Dimensions Healthcare System
Gloria Brown Director, Prince George's County Department of Social Services	Jean Drummond President, HCD International
Stacy Reid Swain Assistant Director, Prince George's County Department of Social Services, Child Adult and Family Services	Kathleen Knolhoff Chief Executive Officer Community Clinic, Inc.
Theresa Grant Director, Prince George's County Department of Family Services	Katina Lewis Maison Executive Director Advocacy and Community Affairs Children's National Health System
Gordon Barrow Special Assistant Prince George's County Health Department	Kelly G. Burks President Management Solutions Consulting Group
Gwen McCall President and Chief Executive Officer Prince George's County Economic Development Corporation	Lelin Chao Medical Director, Amerigroup
Pradeep Ganguly Executive Vice President Prince George's County Economic Development Corporation	Lisa Butler McDougal Executive Director, Sowing Empowerment and Economic Development, Inc. (SEED)
Barbara Guest Concerned Citizen, Progressive Cheverly	Malcolm Joseph Medical Director, CareFirst
Beth W. Truffer Vice President Government & Education Segment, Cigna	Maria Tildon Senior Vice President for Public Policy and Community Affairs, CareFirst
Julia Huggins President, Cigna	Marcee White Medical Director, Children's Health Project of DC/ Children's National Health System
Christopher Golson Human Capital Consultant, Simplistic Resources & Associates	Maria Gomez President, Mary's Center
Colenthia Malloy Chief Executive Officer Greater Baden Medical Center	Richard McCarthy Physician and Chief, Kaiser Permanente
Debra Ross Project Manager Prince George's Healthcare Action Coalition	Shital Desai Physician Site Lead, Kaiser Permanente
George Herbert Bone Integral Care	Richard Reeves President and Chief Executive Officer United Health Care Maryland
H. Duane Taylor Chief Executive Officer Primary Care Association, State of Maryland	Marvin Lang Managing Director and Board Chairman Guardian Realty Investors, Inc.
	William Carbaugh Sales and Marketing Manager Guardian Realty Investors, Inc.
	Alicia Wilson Executive Director LA CLÍNICA DEL PUEBLO



SPECIAL APPRECIATION TO STAKEHOLDER'S COMMITTEE (CONT'D)

District 1: Honorable Mary Lehman

District 2: Honorable Will Campos

Penny Mendoza
Chief of Staff
Prince George's County Council

Reverend Louise Malborn-Reddix
Concerned Citizen

District 3: Honorable Eric C. Olsen

Obie Pinckney, Jr.
Board Chair
End Time Harvest Ministries

Karoline Mortensen
Assistant Professor
University of Maryland's School of Public Health

Reverend Gail A. Addison
President and Chief Executive Officer
End Time Harvest Ministries

District 4: Honorable Ingrid Turner

Claudia M. Smith
Community/Public Health
Nursing Educator and Consultant
Retired Assistant Professor
University of Maryland School of Nursing

Jacqueline D. Byrd
Lawyer
Byrd & Byrd, LLC

District 5: Honorable Andrea Harrison

Madeleine Golde
Co-Chair
Progressive Cheverly Health Committee

Paula Davis
Concerned Citizen

District 6: Honorable Derrick Davis, Vice Chair

Bobby G. Henry, Jr.
Managing Attorney
Henry Legal Firm, LLC

Margaret A. White
President
Millwood-Waterford Citizens Association, Inc.

District 7: Honorable Karen Toles

Dwayne Mingo
Chief of Staff

Karen Jefferson
President
Brooke Road, Rollins Avenue
Walker Mill Road Civic Association

District 8: Honorable Obie Patterson

Nicholas B. Gordon

Yvonne Magee, Concerned Citizen

District 9: Honorable Mel Franklin, Chair

Brendon L. Laster
Chief of Staff

Rick Bryson

Glenda Hodges
Chief Executive Officer
Still I Rise, Inc.






Rushern L. Baker, III
County Executive



The Maryland-National Capital Park and Planning Commission
The Prince George's County Planning Department
www.pgplanning.org | 301-952-3594 | TTY: 301-952-4366

 UNIVERSITY of MARYLAND CAPITAL REGION HEALTH		PFS POLICY AND PROCEDURE MANUAL
Title: Financial Assistance		Procedure Number: PFS.FIN.01
Originator: Patient Financial Services	Effective Date: 3/2/2017	Review/Revision Date: 3/2/2017
Approved by: Eileen Pride		
<hr/> A. Supervisor/Manager	<hr/> B. Asst. Department Director	<hr/> C. Sr. Director, Patient Financial Services

POLICY:

UM Capital Region Health is committed to providing financial assistance to persons who have health care needs and are uninsured, underinsured, ineligible for a government program, or otherwise unable to pay, for emergent and medically necessary care based on their individual financial situation.

It is the policy of the UM Capital Region Health Entities to provide Financial Assistance based on indigence or high medical expenses for patients who meet specified financial criteria and request such assistance. The purpose of the following policy statement is to describe how applications for Financial Assistance should be made, the criteria for eligibility, and the steps for processing applications.

DHS Entities will publish the availability of Financial Assistance on a yearly basis in their local newspapers and will post notices of availability at appropriate intake locations as well as the Billing Office. Notice of availability will also be sent to patients with patient bills. Signage in key patient access areas will be made available. A Patient Billing and Financial Assistance Information Sheet will be provided before discharge and will be available to all patients upon request.

Financial Assistance may be extended when a review of a patient's individual financial circumstances has been conducted and documented. This should include a review of the patient's existing medical expenses and obligations (including any accounts having gone to bad debt except those accounts that have gone to lawsuit and a judgment has been obtained) and any projected medical expenses. Financial Assistance Applications may be offered to patients whose accounts are with a collection agency and may apply only to those accounts on which a judgment has not been granted.

DHS retains the right in its sole discretion to determine a patient's ability to pay. All patients presenting for emergency services will be treated regardless of their ability to pay. For emergent/urgent services, applications to the Financial Clearance Program will be completed, received, and evaluated retrospectively and will not delay patients from receiving care.

PROGRAM ELIGIBILITY

Consistent with their mission to deliver compassionate and high quality healthcare services and to advocate for those who do not have the means to pay for medically necessary care, UM Capital Region Health hospitals strive to ensure that the financial capacity of people who need health care services does not prevent them from seeking or receiving care.

Specific exclusions to coverage under the Financial Assistance program include the following:

PROCEDURE, Cont'd

1. Services provided by healthcare providers not affiliated with UM Capital Region Health hospitals (e.g., durable medical equipment, home health services)
2. Patients whose insurance program or policy denies coverage for services by their insurance company (e.g., HMO, PPO, or Workers Compensation), are not eligible for the Financial Assistance Program.
 - a. Generally, the Financial Assistance Program is not available to cover services that are denied by a patient's insurance company; however, exceptions may be made on a case by case basis considering medical and programmatic implications.
3. Unpaid balances resulting from cosmetic or other non-medically necessary services
4. Patient convenience items
5. Patient meals and lodging
6. ***Physician charges related to the date of service are excluded from DHS financial assistance policy. Patients who wish to pursue financial assistance for physician-related bills must contact the physician directly.***

Patients may be ineligible for Financial Assistance for the following reasons:

1. Refusal to provide requested documentation or provide incomplete information.
2. Have insurance coverage through an HMO, PPO, Workers Compensation, Medicaid, or other insurance programs that deny access to the hospital due to insurance plan restrictions/limits.
3. Failure to pay co-payments as required by the Financial Assistance Program.
4. Failure to keep current on existing payment arrangements with DHS.
5. Failure to make appropriate arrangements on past payment obligations owed to UM Capital Region Health (including those patients who were referred to an outside collection agency for a previous debt).
6. Refusal to be screened for other assistance programs prior to submitting an application to the Financial Clearance Program.
7. Refusal to divulge information pertaining to a pending legal liability claim
8. Foreign-nationals traveling to the United States seeking elective, non-emergent medical care

Patients who become ineligible for the program will be required to pay any open balances and may be submitted to a bad debt service if the balance remains unpaid in the agreed upon time periods.

Patients who indicate they are unemployed and have no insurance coverage shall be required to submit a Financial Assistance Application unless they meet Presumptive Financial Assistance Eligibility criteria. If the patient qualifies for COBRA coverage, patient's financial ability to pay COBRA insurance premiums shall be reviewed by the Financial Counselor/Coordinator and recommendations shall be made to Senior Leadership. Individuals with the financial capacity to purchase health insurance shall be encouraged to do so, as a means of assuring access to health care services and for their overall personal health.

Coverage amounts will be calculated based upon 200-500% of income as defined by federal poverty guidelines published each year in the Federal Register. The new guidelines are effective with the first month following publication.

Presumptive Financial Assistance

Patients may also be considered for Presumptive Financial Assistance Eligibility. There are instances when a patient may appear eligible for financial assistance, but there is no financial assistance form on file. There is adequate information provided by the patient or through other sources, which provide sufficient evidence to provide the patient with financial assistance. In the event there is no evidence to support a patient's eligibility for financial assistance, UM Capital Region Health reserves the right to use outside agencies or information in determining estimated income amounts for the basis of determining financial assistance eligibility and potential reduced care rates. Once determined, due to the inherent nature of presumptive circumstances, the only financial assistance that can be granted is a 100% write-off of the account balance. Presumptive Financial Assistance Eligibility shall only cover the patient's specific date of service. Presumptive eligibility may be determined on the basis of individual life circumstances that may include:

PROCEDURE, Cont'd

- a. Active Medical Assistance pharmacy coverage
- b. SLMB coverage
- c. PAC coverage
- d. Homelessness
- e. Medical Assistance and Medicaid Managed Care patients for services provided in the ER beyond the coverage of these programs
- f. Medical Assistance spend down amounts
- g. Eligibility for other state or local assistance programs
- h. Patient is deceased with no known estate
- i. Patients that are determined to meet eligibility criteria established under former State Only Medical Assistance Program
- j. Non-US Citizens deemed non-compliant
- k. Non-Eligible Medical Assistance services for Medical Assistance eligible patients
- l. Unidentified patients (Doe accounts that we have exhausted all efforts to locate and/or ID)
- m. Bankruptcy, by law, as mandated by the federal courts

Specific services or criteria that are ineligible for Presumptive Financial Assistance include:

- a. Purely elective procedures (example – Cosmetic) are not covered under the program.
- b. Uninsured patients seen in the Emergency Department under Emergency Petition will not be considered under the presumptive financial assistance program until the Maryland Medicaid Psych program has been billed.

PROCEDURES

1. There are designated persons who will be responsible for taking Financial Assistance applications. These staff can be Financial Counselors, Patient Financial Receivable Coordinators, Customer Service Representatives, etc.
2. Every possible effort will be made to provide financial clearance prior to date of service. Where possible, designated staff will consult via phone or meet with patients who request Financial Assistance to determine if they meet preliminary criteria for assistance.
 - a. Staff will complete an eligibility check with the Medicaid program for Self-Pay patients to verify whether the patient has current coverage.
 - b. Preliminary data will be entered into a third party data exchange system to determine probable eligibility. To facilitate this process each applicant must provide information about family size and income. To help applicants complete the process, we will provide an application that will let them know what paperwork is required for a final determination of eligibility.
 - c. Applications initiated by the patient will be tracked, worked and eligibility determined within the third party data and workflow tool. A letter of final determination will be submitted to each patient that has formally requested financial assistance. Determination of Probable Eligibility will be provided within two business days following a patient's request for charity care services, application for medical assistance, or both
 - d. Upon receipt of the patient's application, they will have thirty (30) days to submit the required documentation to be considered for eligibility. If no data is received within the 30 days, a denial

PROCEDURE, Cont'd

letter will be sent notifying that the case is now closed for lack of the required documentation. The patient may re-apply to the program and initiate a new case if the original timeline is not adhered to. The Financial Assistance application process will be open up to at least 240 days after the first post-discharge patient bill is sent.

- e. Individual notice regarding the hospital's charity care policy shall be provided at the time of preadmission or admission to each person who seeks services in the hospital.
3. There will be one application process for all UM Capital Region Health facilities. The patient is required to provide a completed Financial Assistance Application orally or in writing. In addition, the following may be required:
- a. A copy of their most recent Federal Income Tax Return (if married and filing separately, then also a copy spouse's tax return); proof of disability income (if applicable), proof of social security income (if applicable). If unemployed, reasonable proof of unemployment such as statement from the Office of Unemployment Insurance, a statement from current source of financial support, etc ...
 - b. A copy of their most recent pay stubs (if employed) or other evidence of income.
 - c. A Medical Assistance Notice of Determination (if applicable).
 - d. Copy of their Mortgage or Rent bill (if applicable), or written documentation of their current living/housing situation.

A written request for missing information will be sent to the patient. Oral submission of needed information will be accepted, where appropriate.

4. A patient can qualify for Financial Assistance either through lack of sufficient insurance or excessive medical expenses. Once a patient has submitted all the required information, the Financial Counselor will review and analyze the application and forward it to the Patient Financial Services Department for final determination of eligibility based on DHS guidelines.
 - a. If the patient's application for Financial Assistance is determined to be complete and appropriate, the Financial Coordinator will recommend the patient's level of eligibility and forward for a second and final approval.
 - i) If the patient does qualify for Financial Assistance, the Financial Coordinator will notify clinical staff who may then schedule the patient for the appropriate hospital-based service.
 - ii) If the patient does not qualify for Financial Assistance, the Financial Coordinator will notify the clinical staff of the determination and the non-emergent/urgent hospital-based services will not be scheduled.
 - (1) A decision that the patient may not be scheduled for hospital-based, non-emergent/urgent services may be reconsidered by the Financial Clearance Executive Committee, upon the request.
 - (2) The Financial Clearance Committee consists of Asst. Director of PFS, Sr Director of Revenue Cycle, DHS Risk Manager, and CFO.
 - (3) The CFO shall sign off on any charity cases greater than \$50,000.
5. Each clinical department has the option to designate certain elective procedures for which no Financial Assistance options will be given.
6. Once a patient is approved for Financial Assistance, Financial Assistance coverage may be effective for the month of determination, up to 3 years prior, and up to six (6) calendar months in to the future. However, there are no limitations on the Financial Assistance eligibility period. Each eligibility period will be determined on a case-by-case basis. If additional healthcare services are provided beyond the approval period, patients must reapply to the program for clearance. In addition, changes to the patient's income, assets, expenses or family status are expected to be communicated to the Financial Assistance Program Department. All Extraordinary Collections Action activities, as defined below, will

PROCEDURE, Cont'd

be terminated once the patient is approved for financial assistance and all the patient responsible balances are paid.

Extraordinary Collection Actions (ECAs) may be taken on accounts that have not been disputed or are not on a payment arrangement. Except in exceptional circumstances, these actions will occur no earlier than 120 days from submission of first bill to the patient and will be preceded by notice 30 days prior to commencement of the ECA action. Availability of financial assistance will be communicated to the patient and a presumptive eligibility review will occur prior to any action being taken.

- i) Garnishments may be applied to these patients if awarded judgment.*
 - ii) A lien may be placed by the Court on primary residences. The facility will not pursue foreclosure of a primary residence but may maintain our position as a secured creditor if a property is otherwise foreclosed upon.*
 - iii) Closed account balances that appear on a credit report or referred for judgment/garnishment may be reopened should the patient contact the facility regarding the balance report. Payment will be expected from the patient to resolve any credit issues, until the facility deems the balance should remain written off.*
 - iv) Extraordinary Collection Actions require the approval of the Financial Clearance Committee.*
7. If a patient is determined to be ineligible, all efforts to collect co-pays, deductibles or a percentage of the expected balance for the service will be made prior to the date of service or may be scheduled for collection on the date of service.
 8. A letter of final determination will be submitted to each patient who has formally submitted an application.
 9. Refund decisions are based on when the patient was determined unable to pay compared to when the patient payments were made. Refunds may be issued back to the patient for credit balances, due to patient payments, resulted from approved financial assistance on considered balance(s). Payments received for care rendered during the financial assistance eligibility window will be refunded, if the amount exceeds the patient's determined responsibility by \$5.00 or more.
 10. Patients who have access to other medical care (e.g., primary and secondary insurance coverage or a required service provider, also known as a carve-out), must utilize and exhaust their network benefits before applying for the Financial Assistance Program.

Financial Hardship

The amount of uninsured medical costs incurred at any UM Capital Region Health facility will be considered in determining a patient's eligibility for the Financial Assistance Program. The following guidelines are outlined as a separate, supplemental determination of Financial Assistance, known as Financial Hardship. Financial Hardship will be offered to all patients who apply for Financial Assistance.

Medical Financial Hardship Assistance is available for patients who otherwise do not qualify for Financial Assistance under the primary guidelines of this policy, but for whom:

- 1) Their medical debt incurred at UM Capital Region Health facilities exceeds 25% of the Family Annual Household Income, which is creating Medical Financial Hardship; and
- 2) who meet the income standards for this level of Assistance.

PROCEDURE, Cont'd

For the patients who are eligible for both the Reduced Cost Care under the primary Financial Assistance criteria and also under the Financial Hardship Assistance criteria, UM Capital Region Health will grant the reduction in charges that are most favorable to the patient for medically necessary treatment by a family household over a twelve (12) month period that exceeds 25% of that family's annual income.

Medical Debt is defined as out of pocket expenses for the facility charges incurred for medically necessary treatment.

Once a patient is approved for Financial Hardship Assistance, coverage will be effective starting the month of the first qualifying date of service and up to the following twelve (12) calendar months from the application evaluation completion date. Each patient will be evaluated on a case-by-case basis for the eligibility time frame according to their spell of illness/episode of care. It will cover the patient and the immediate family members living in the household for the approved reduced cost and eligibility period for medically necessary treatment. Coverage shall not apply to elective or cosmetic procedures. However, the patient or guarantor must notify the hospital of their eligibility at the time of registration or admission. In order to continue in the program after the expiration of each eligibility approval period, each patient must reapply to be reconsidered. In addition, patients who have been approved for the program must inform the hospitals of any changes in income, assets, expenses, or family (household) status within 30 days of such change(s).

All other eligibility, ineligibility, and procedures for the primary Financial Assistance program criteria apply for the Financial Hardship Assistance criteria, unless otherwise stated above.

Appeals

- Patients whose financial assistance applications are denied have the option to appeal the decision.
- Appeals can be initiated verbally or written.
- Patients are encouraged to submit additional supporting documentation justifying why the denial should be overturned.
- Appeals are documented within the third party data and workflow tool. They are then reviewed by the next level of management above the representative who denied the original application.
- If the first level of appeal does not result in the denial being overturned, patients have the option of escalating to the next level of management for additional reconsideration.
- The escalation can progress up to the Chief Financial Officer who will render a final decision.
- A letter of final determination will be submitted to each patient who has formally submitted an appeal.

Judgments

If a patient is later found to be eligible for Financial Assistance after a judgment has been obtained or the debt submitted to a credit reporting agency, UM Capital Region Health shall seek to vacate the judgment and/or strike the adverse credit information.

PROCEDURE, Cont'd

% Of Write Off	100%	100%	70%	60%	50%	25%
Family Size	Income	Income	Income	Income	Income	Income
1	\$12,060	\$24,120	\$27,135	\$30,150	\$36,180	\$60,300
2	\$16,240	\$32,480	\$36,540	\$40,600	\$48,720	\$81,200
3	\$20,420	\$40,840	\$45,945	\$51,050	\$61,260	\$102,100
4	\$24,600	\$49,200	\$55,350	\$61,500	\$73,800	\$123,000
5	\$28,780	\$57,560	\$64,755	\$71,950	\$86,340	\$143,900
6	\$32,960	\$65,920	\$74,160	\$82,400	\$98,880	\$164,800
7	\$37,140	\$74,280	\$83,565	\$92,850	\$111,420	\$185,700
8	\$41,320	\$82,640	\$92,970	\$103,300	\$123,960	\$206,600
For families/households with more than 8 persons, add \$ 4,180 for each additional person.						
% of Income at or above 2017 Poverty Guidelines	100%	200%	225%	250%	300%	500%

Information given will be appropriate to your age, understanding and language. If you have vision, speech, hearing and/or other impairments, you will receive additional aids to ensure your care needs are met.

- Make an advance directive and appoint someone to make healthcare decisions for you, if you are unable. If you do not have an advance directive, we can provide you with information and help you complete one.
- Be involved in your discharge plan. You can expect to be told in a timely manner of your discharge, transfer to another facility or transfer to another level of care. Before your discharge, you can expect to receive information about follow-up care that you may need.
- Receive detailed information about your hospital and physician charges.
- Expect that all communication and records about your care are confidential, unless disclosure is permitted by law.
- See or get a copy of your medical records, request an amendment to your medical record and/or request a list of people to whom your personal health information was disclosed by contacting the medical records department.
- Give or refuse consent for recordings, photographs, films or other images to be produced or used for internal or external purposes other than identification, diagnosis or treatment. You have the right to withdraw consent up until a reasonable time before the item is used.
- Discuss an ethical issue related to your care (see Healthcare Decisions section).
- Spiritual services (see Pastoral Care section).
- Voice your concerns about the care you receive. If you have a problem or complaint, you may talk with your doctor, nurse manager or a department manager (see Complaints/Grievances section).

Your Responsibilities Are to:

- Provide complete and accurate information, including your full name, address, home telephone number, date of birth, Social Security number, insurance carrier and employer when it is required.
- Provide the hospital or your doctor with a copy of your advance directive if you have one.
- Provide complete and accurate information about your health and medical history, including present condition, past illnesses, hospital stays, medicines, vitamins, herbal products and any other matters that pertain to your health, such as perceived safety risks.
- Communicate in a direct and honest manner with doctors, nurses and other hospital staff members about matters or conditions that concern your health.
- Follow instructions regarding your care and treatment. If you leave the hospital against the advice of your doctor, the hospital and doctors will not be responsible for any medical consequences that may occur.
- Inform the staff of your whereabouts and probable return time if you leave the patient unit/ancillary department.
- Ask questions when you do not understand information or instructions. If you believe you cannot follow through with your treatment plan, you are responsible for telling your doctor. You are responsible for outcomes, if you do not follow the care, treatment and service plan.
- Actively participate in your pain management plan and to keep your doctors and nurses informed of the effectiveness of your treatment.
- Leave valuables at home and bring only necessary items for your hospital stay.

- Treat all hospital staff, other patients and visitors with courtesy and respect; abide by all hospital rules and safety regulations; and be mindful of noise levels, privacy and number of visitors/guests.
- Accept accountability for your financial obligations for health care provided and to pay your bills in a timely manner.
- Keep appointments and be on time, and to call your healthcare provider if you are unable to do so.
- ***SPEAK UP™**: Be an active member of your healthcare team and help us make your health care safer.
- Speak-up if you have questions or concerns. If you still don't understand, ask again.
- Pay attention to your care. Always make sure you're getting the right treatments and medicines by the right healthcare professionals. Don't assume anything.
- Educate yourself about your condition. Learn about the medical tests and your treatment plan.
- Ask a trusted family member or friend to be your advocate (advisor or supporter).
- Know what medicines you take and why you take them. Medicine errors are the most common healthcare mistakes.
- Use a facility, clinic, surgery center or healthcare facility that has been carefully checked out.
- Participate in all decisions about your treatment. You are the center of the healthcare team.

*Speak Up is a Joint Commission Patient Safety Program Initiative

Healthcare Decisions

UM Capital Region Health recognizes and respects the rights of patients with decision-making capacity to participate in decisions about their medical treatment. Making healthcare decisions can be very complex and difficult, especially when the patient does not have the capacity to do so on their own. Family members may have difficulty making these healthcare decisions for the patient as well.

The Ethics Committee is available to assist patients, families and facility staff in determining the most appropriate plan of care. A family member, physician or a healthcare team member can request an ethics consultation at UM Prince George's Hospital Center by calling (301) 618-2740 or at UM Laurel Regional Hospital by calling (301) 497-7911.

Advance Directives

Advance directive decisions can include:

- the right to accept or refuse care,
- the right to make oral or written declarations,
- a living will,
- a durable power of attorney for healthcare decisions, and/or
- organ donation wishes.

If you would like information about advance directives, ask any member of the healthcare team.

If you have an advance directive, please give a copy to staff so that all members of the healthcare team will be aware of your wishes. You can review, revise or withdraw your advance directive at any time. Your advance directive will be honored in accordance with the law.

Pastoral Care

Patients and family members often turn to their faith for emotional support in a time of illness or grief. We work with the community faith

system to provide support to patients and family who desire pastoral care. Please ask your caregiver if you would like to request a pastoral care visit.

Chapel/Meditation Room

At UM Laurel Regional Hospital, there is a chapel available to patients and their families for prayer, meditation and reflection. UM Prince George's Hospital Center has a meditation room for this same purpose. These rooms are unattended and provide a quiet place for patients and their families to pray.

Support Groups

We offer a number of support groups. Please visit www.umcapitalregion.org for additional information.

Corporate Compliance

UM Capital Region Health is committed to excellence. Our services are provided in accordance with applicable laws and regulations. Staff is continually educated and practice according to legal and ethical standards while providing quality healthcare services to patients and family members.

If you have any concerns, please contact Corporate Compliance via the Compliance Hotline at (877) 631-0015.

Safety and Security

Everyone has a role in making health care safe. Therefore, every staff member will display picture identification and every patient must wear their ID band until they are discharged.

You, as the patient, play a vital role in making your care safe by becoming an active, involved and informed member of your healthcare team.

We encourage you to notify us if you have concerns about your safety. To report a concern at Laurel Regional Hospital, please call Safety & Security at (301) 497-8752. To report a concern at any other UM Capital Region Health facility, please call the Safety Hotline at (301) 618-6400.

Patient Property and Valuables

For your own protection, you should not bring items of value to the facility and we request that you send any personal property home. Neither UM Capital Region Health nor any of its facilities will accept responsibility for patient property or valuables.

Smoking

To provide a healthy environment, UM Capital Region Health is a smoke-free campus. You must refrain from smoking on all facility property.

If you wish to stop smoking, a free smoking cessation program is offered. The program is four weeks in length (one group session per week for 1½ hours). Day and evening sessions are available. To participate, you must be 18 years old and a Maryland resident. For more information, you can call (301) 618-6363.

Follow-up Phone Call

Upon leaving the hospital, you may receive a follow-up phone call to see how you are doing. It is our goal to be your healthcare provider of choice. Feel free to share your concerns or suggestions with us during this call.

Copy of your Medical Record

If you need a copy of your medical record, you can request a copy by visiting the medical records department.

WHAT YOU SHOULD KNOW AS A PATIENT



UM BOWIE HEALTH CENTER
UM CAPITAL SURGERY CENTER
UM FAMILY HEALTH
UM LAUREL REGIONAL HOSPITAL
UM PRINCE GEORGE'S HOSPITAL CENTER
RACHEL H. PEMBERTON SENIOR HEALTH CENTER

ALL WE DO IS
care.

Access to Care

Each patient has the right to quality care, treatment, service or accommodations that are available or medically necessary without consideration of race, color, religion, sex, national origin, age, handicap or source of payment.

Interpretive Services

A patient and/or his/her companion with hearing, language, speech, vision, or other cognitive impairments, will be offered assistance to ensure effective communication and access to healthcare services at no charge.

If you need assistance or have questions about available accommodations, you may ask any staff member for assistance. If you or a visitor believes you have been unable to use the facility's full array of services, we encourage you to contact a patient representative.

Patient Representative

A patient representative is available to meet with patients and families, who have questions and concerns about their stay, to facilitate problem resolution and to assist with special needs. To contact the patient representative at UM Prince George's Hospital Center, call (301) 618-3857. To contact the patient representative at UM Laurel Regional Hospital, call (240) 456-4764.

Visitors / Patient Guests

Patients and families are welcomed as essential members of the healthcare team, helping to ensure quality and safety. All guests designated by the patient or their "partner in care", when appropriate, will have full and equal visitation privileges that are no more restrictive than those that immediate family members enjoy. Your guests' visitation privileges will be consistent with your preferences and will not be denied on the basis of race, color, national origin, religion, sex, sexual orientation, gender identity or disability.

A patient has the right to withdraw or deny visitation at any time and there may be times that it is necessary to restrict patient visitors, such as in the case of a justified clinical restriction. The decision to restrict or limit the presence of visitors, as well as the reason for the decision, will be explained to the patient and/or their partner in care. UM Capital Region Health's visitation policies are aimed at protecting the health and safety of all patients.

Complaints / Grievances

- **Complaint:** A verbal expression of dissatisfaction or allegation of hospital wrong doing from a patient/patient representative or visitor which can be successfully resolved by staff present at the time of the complaint.
- **Grievance:** Formal or informal written complaint a grievance is also a verbal complaint that is made by a patient/patient representative regarding the patient's care that is not successfully resolved at the time by staff.

UM Capital Region Health endeavors to meet its patients' expectations for care and services in a timely, reasonable and consistent manner. Patients, their immediate family members and/or their representatives have the right to submit a complaint or grievance regarding their experience. Should you have a complaint about your care, please ask to speak with the manager/supervisor of the department or area involved. Our healthcare staff will seek to resolve your issues to your satisfaction as soon as possible. Please note that resolution is defined by the patient/family member and may include a meeting with all involved parties.

If you have a complaint pertaining to the following UM Capital Region Health facilities: **UM Bowie Health Center; UM Capital Surgery Center; Family Health and Wellness Center; UM Prince George's Hospital;** and/or **Rachel H. Pemberton Senior Health Center** that has not been resolved by the healthcare staff at the time of your complaint and you wish to file a grievance, you may do so by telephone, letter or e-mail, at the following:

UM Capital Region Health / UM Prince George's Hospital Center
Attn: Patient Relations
3001 Hospital Drive
Cheverly, MD 20785
Phone: (301) 618-3857
E-mail: complaints@dimensionshealth.org

If you have a complaint pertaining to **UM Laurel Regional Hospital** that has not been resolved by the healthcare staff at the time of your complaint and you wish to file a grievance, you may do so by telephone, letter or in person, at the following:

UM Laurel Regional Hospital
Attn: Patient Relations Department
7300 Van Dusen Road
Laurel, MD 20707
Phone: (240) 456-4764

UM Capital Region Health's complaint/grievance process is as follows:

STEP 1: If, in your judgment as a patient/family member, the issue has not been resolved by the manager or supervisor to your satisfaction, please ask to speak with a patient relations coordinator. After hours, and on weekends and holidays, dial the hospital operator, at "0," and ask to speak with the nursing administrative supervisor, who will seek resolution of your issues. Filing a grievance will not subject you to any form of adverse action or jeopardize your future access to care at any UM Capital Region Health facility. Your grievance will be reviewed and investigated, and you will receive a written response within seven (7) days of receipt of the grievance. Due to the nature and complexity of your grievance, it may take longer in some instances to make a written response. The written response will include steps taken on your behalf to investigate the grievance, results of the grievance process, the date of completion and the appropriate hospital contact person.

Note: Resolution is defined by the patient/family member and may include a meeting with all involved parties.

STEP 2: If you, the patient/family member, remain dissatisfied with the hospital's resolution, the matter will be referred to the hospital's Vice President of Medical Affairs (VPMA), Chief Nursing Officer (CNO) or administrative designee. The VPMA, CNO or designee will further investigate the issue and provide results to you in writing within seven (7) days. If the investigation requires more than seven (7) days, you will be notified for the reason of the delay and when you can expect a response.

If you are dissatisfied with any facility's report or outcome at the conclusion of your complaint/grievance investigation, you may contact one of the following agencies directly:

Maryland Department of Health and Mental Hygiene
Office of Health Care Quality
Spring Grove Hospital
Center Bland Bryant Building
55 Wade Avenue
Catonsville, MD 21228
Phone: (410) 402-8000 or (877) 402-8218
E-mail: ohcq.web@dohmh.state.md.us

OR

The Joint Commission
Office of Quality Monitoring
One Renaissance Boulevard
Oakbrook Terrace, IL 60181
Phone: (800) 994-6610
Fax: (630) 792-5636
E-mail: complaint@jointcommission.org

For Medicare discharge and appeal rights:

KePro
5201 West Kennedy Blvd. Suite 900
Tampa, FL 33609
(844) 455-8708
TTY (855) 843-4776

For mental and behavioral health services:

Maryland Disability Law Center
1500 Union Avenue, Suite 2000
Baltimore, MD 21211
Phone: (800) 233-7201
TTY: (410) 235-5387
Fax: (410) 727-6389
Email: feedback@mdclaw.org

For medication concerns:

Maryland Board of Pharmacy 4201 Patterson Avenue
Baltimore, MD 21215
Phone: (410) 764-4755 or (800) 542-4964
TTY: (800) 735-2258
Fax: (410) 358-6207
Email: DMHM.MDBOP@Maryland.gov

Note: This patient grievance process excludes account and billing issues. These issues should be referred to Patient Financial Services at (301) 618-3100.

Financial Information

Your insurance information will be verified at each visit in order to bill your insurance company for payment on your behalf. Payment of all known deductibles, co-payments and non-covered services will be required at the time service is rendered.

You may receive a bill from UM Capital Region Health for facility fees and from individual physicians for professional fees.

If you are unable to pay your bill, you may call (301) 681-3250 for information about applying for Medical Assistance. If you need financial assistance, you may qualify for UM Capital's Financial Assistance program or arrange a payment plan for your facility fees. You may call (301) 618-3250 for help with applying for financial assistance.

There may be services provided by physicians or other providers that are not covered by the hospital's Financial Assistance. Services provided at one of the UM Capital Region Healths may be considered for Financial Assistance. You may call (301) 618-6979 or (301) 618-2273 if you have any questions.

If you have questions regarding your bill, call the Business Office at (301) 618-3100.

For concerns about payment or lack of payment by your health insurance plan, you may file a complaint directly to:

Maryland Insurance Administration
Attn: Consumer Complaint Investigation
Life and Health / Appeals and Grievances
200 St. Paul Place, Suite 2700
Baltimore, MD 21202
Phone: (410) 468-2000 or (800) 492-6116
TTY: (800) 735-2258
Fax: (410) 468-2270 or (410) 468-2260

Patient Rights and Responsibilities

As a patient at any UM Capital Region Health facility, we encourage you to speak openly with your healthcare team, to take part in your treatment choices and to assist in the safety of your care by being well informed and involved. Since we believe that you are a partner in your care, we want you to know your rights, as well as your responsibilities, during your stay at any of our facilities. We invite you and your family to join us as active members of your care team.

You Have the Right to:

- Receive considerate, respectful and compassionate care in a safe setting regardless of your age, gender, race, national origin, religion, sexual orientation, gender identity or disabilities.
- Receive care in a safe environment free from all forms of abuse, neglect or mistreatment.
- Be called by your proper name and to be in an environment that maintains dignity and adds to a positive self-image.
- Know the names of your doctors, nurses and all healthcare team members directing and/or providing your care.
- Have a family member or person of your choice, as well as your own doctor, notified promptly of your admission to the hospital.
- Have someone remain with you for emotional support during your hospital stay, unless your visitor's presence compromises your or others' rights, safety or health.
- Deny visitation at any time (see Visitors/Patient Guests section for additional information).
- Have your doctor inform you about your diagnosis and possible prognosis, the benefits and risks of treatment, and the expected and unexpected outcomes of treatment. You have the right to give written informed consent before any non-emergency procedure begins.
- Have your pain assessed and to be involved in decisions about treating your pain.
- Be free from restraints and seclusion in any form that is not medically required.
- Expect full consideration of your privacy and confidentiality in care discussions, exams and treatments. You may ask for an escort during any type of exam.
- Access protective and advocacy services in cases of abuse or neglect. The hospital will provide a list of these resources.
- Be free from neglect, exploitation and abuse that could occur while the patient is receiving care, treatment and services.
- Have your family and friends, with your permission, participate in decisions about your care, your treatment and services, including the right to refuse treatment to the extent permitted by law.
- Give or withhold informed consent for care.
- Have your end of life wishes honored to include forgoing or withdrawing life-sustaining treatment, and withholding resuscitative services, in accordance with the law and regulations.
- Agree or refuse to take part in medical research studies. You may withdraw from a study at any time without impacting your quality of care.
- Communication that you can understand. The hospital will provide, at no cost to you, sign language and foreign language interpreters as needed.

PART THREE: AMENDMENTS

Question

(Question 100) In this initiative, one of the needs selected was not checked off in the CHNA section (Question 57). Did you intend to mark “Family Planning” in Question 57 as having been identified in your CHNA?

Answer

“Family Planning” should be unchecked in Question 100. Maternal/Infant Health (as well as others checked) is the appropriate need relevant to this initiative.

Question

(Question 110) Please describe the “Other process/implementation measures” used to evaluate this initiative.

Answer

- Proportion of uninsured patients who are assisted to apply for insurance.
- Proportion of patients who are screened for depression screening.
- Proportion of patients who smoke, who are linked to tobacco cessation services.
- Proportion of patients who receive HIV Testing and counseling
- Proportion of patients who receive recommended preventive- flu vaccines, mammograms, diabetes and hypertension screenings.
- Proportions of patients who receive an annual well woman visits.
- Proportions of patients who are screened for domestic violence
- Proportion of patients with social support needs
- Number of women served
- Proportion of patients referred to dental care
- Proportion of Infants and children receiving well child visits
- Proportion of patients who return for follow-up visits

Question

(Question 138) The description for “Reduce the % of adults who are current smokers” discusses healthy weight and BMI. Please provide a description that relates to smoking.

Answer

UM Capital Region Health operates a Tobacco Use and Cessation Program that uses education, counseling, nicotine replacement therapy and support to guide adults who are current smokers through the quitting process. The tobacco cessation program offers weekly, 90-minute group

sessions led by counselors certified by the American Lung Association and the Maryland Department of Health and Mental Hygiene.