



**Community  
Needs  
Assessment**

**April, 2007**

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## **I. Executive Summary**

Our Call to Action is clear...Health Care That Works, Health Care That is Safe, and Health Care That Leaves No One Behind. The cornerstone of this mission is providing access to quality healthcare for all.

Beginning in 1862, and continuing over the last 144 years, St. Agnes Hospital has been providing for the health care needs of the communities of Southwest Baltimore. The 2006 Community Needs Assessment will be a valuable tool to provide focus and direction to our Call to Action.

This assessment is about improving health - the health of individuals, families, and communities. The objective of the assessment is to evaluate the health status of the people residing in the communities surrounding St. Agnes Hospital and to identify the geographic regions and populations within the service area that have higher needs for service improvements. The assessment will be completed through four steps, updating community needs, identifying priorities, establishing goals and funding requirements, and finally integrating goals and requirements into the Integrated Strategic Financial Plan.

The assessment is driven by quantitative review of data in relation to the communities' demographic trends, socioeconomic status, and health status indicators that include chronic disease, maternal and infant health, major disease prevalence, and health resource utilization/needs. The analysis uses readily available data sets across 41 indicators and a comparative methodology to evaluate community performance in relation to the Central Maryland average. Central Maryland, defined as Harford, Baltimore, Carroll, Howard, and Anne Arundel Counties, as well as Baltimore City, is compared against the communities within the St. Agnes service area.

In addition to identifying the communities of the service area with the greatest health needs, the study also illustrates the relationship between socioeconomic status and health status. This finding highlights the persistent and challenging barriers to health care that go beyond traditional definition of access and include financial, cultural, and environmental factors. These major social issues will likely represent the greatest challenge to health care providers. There are insufficient resources within the health care system to address these issues. Yet, the health care system itself will continue to be impacted as these conditions further erode the health of the individuals and communities that we serve. To address the complex array of influences that determine health, St. Agnes will need to invest its time and talent in health care issues as well as acting as a catalyst for community advocacy and partnerships to provide:

**Health Care That Works,  
Health Care That is Safe,  
Health Care That Leaves No One Behind**

## II. Introduction & Background

Beginning in 1862, and continuing over the last 144 years, St. Agnes, through the sponsorship of the Daughters of Charity, has been providing for the health care needs of the communities in Southwest Baltimore. For the Daughters of Charity, the mission in Baltimore is a continuation on their centuries-old ministry of health care begun by St. Vincent de Paul and St. Louise de Marillac in Paris, France. The first Catholic hospital in Baltimore, St. Agnes was originally created to provide nursing care for the poor. Over the course of its history, the hospital has adapted itself to meet the health needs of the communities served. While initially formed as an acute care hospital, for a brief period St. Agnes was reorganized as a sanitarium, and then reverted back to a full-service hospital in 1906. Originally located on Lanvale Street in Baltimore City, St. Agnes moved to its present location in 1876. A replacement facility was planned and constructed in the late 1950's and opened in 1961.

Throughout its history, regardless of location or organizational model, the essential element of St. Agnes has been its dedication to addressing the health needs of the communities served, especially for the sick poor. This core focus echoes in the Mission Statement adopted by the Board of Directors in 2000.

*We, St. Agnes Healthcare, commit ourselves to spiritually-centered health care which is rooted in the healing ministry of Jesus.*

*In the spirit of St. Elizabeth Ann Seton, and in collaboration with others, we continually reach out to all persons in our community with a special concern for those who are poor and vulnerable.*

*As a Catholic healthcare ministry and member of Ascension Health, we are dedicated to the art of healing to sustain and improve the lives of the individuals and communities we serve. We are also called to advocate for a just society.*

*Through our words and deeds, our ministry is provided in an atmosphere of deep respect, love and compassion.*

The objective of the 2006 Community Needs Assessment is to evaluate the health status of the people residing in the communities surrounding St. Agnes Hospital and to identify the geographic regions and populations within the service area that have higher needs for health care services.

The 2006 Community Needs Assessment will be completed through four steps. The first step, or assessment phase, includes a review of health status indicators from readily available data sources to establish overall need of the communities that comprise St.

Agnes's primary and secondary service area. This report represents the completion of the health assessment phase. The Community Needs Committee will use this report to identify and prioritize community health needs, and then establish community benefit goals and resource requirements, which represent the second and third steps. The final step involves integrating goals, outcomes and funding requirements into the FY08-FY12 Integrated Strategic Financial Plan (ISFP).

St. Agnes Hospital serves a wide variety of communities within its service area. These communities range from those that are completely urban, to those that are largely rural; as well as those that are very affluent to those that are extremely poor. This varying population, along with rising costs of healthcare and insurance, creates an environment where health care is more accessible to some than others. It is important, however, not to generalize the needs of each community as many of them are made up of diverse populations themselves. As a result, there are varying levels of health care needs within communities as well.

The existence of disparities is a common trend in health care throughout the country. These disparities refer in general to the higher rates of chronic illness as well as the barriers to health care experienced by minority populations. The different socioeconomic and environmental backgrounds among different populations, creates variations in access to health care. The inclusion of racial disparities in this assessment provides a more accurate picture of which factors are driving high levels of need within each community. Furthermore, this allows the comparison of similar populations from one community to another, highlighting the influence of socioeconomic factors on health care needs. To accomplish this, indicators throughout this study are divided into white and nonwhite, allowing the rates of hospitalization to be relative to the total white and nonwhite population of each community.

As noted in the St. Agnes HealthCare Mission Statement, our goal is, "*the art of healing to sustain and improve the lives of the individuals and communities we serve.*"

However, the actions of St. Agnes alone will not improve the health of the service area.

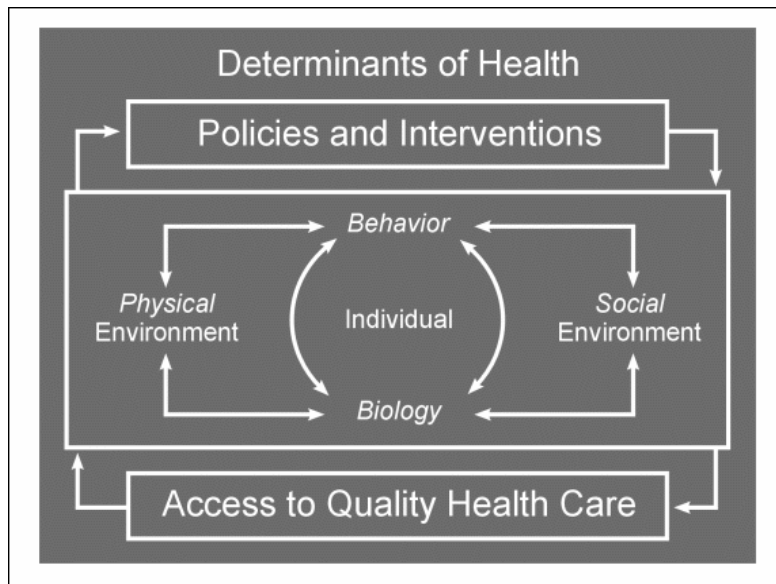
Rather, St. Agnes must recognize themselves as part of a larger, systematic approach to health improvement. Through this assessment process, St. Agnes must serve as a catalyst to encourage health care providers, local government, voluntary agencies, business leaders, and the community leaders of Southwest Baltimore to join in coordinated efforts to achieve measurable community health status improvements. Collectively, this report should inspire efforts that promote healthy behaviors, create healthy environments, and increase access to health care services.

### **III. Assessment Methodology**

Similar to the 2003 Community Needs Assessment, this assessment is driven by a quantitative review of data in terms of the communities' demographic trends, socioeconomic status, health status indicators that include chronic disease, maternal

and infant health, major disease prevalence, and health resource utilization/needs. Also, as in the 2003 study, the focus of this assessment is directed to health indicators. While it is recognized that issues beyond the traditional boundaries of health, such as crime rates and other environmental factors, are important to the overall health status of a community, the inclusion of these factors tends to “muddy” the waters and diminishes the overall effectiveness of our actions. As a large regional health provider, St. Agnes is best suited to address and respond directly to health care needs as opposed to addressing larger social issues that impact health status. For the social issues, the assessment highlights where St. Agnes should focus its future advocacy initiatives as well as those areas where it could be a catalyst for broader community action.

To understand the health status of a population, it is essential to evaluate the consequences of the determinants of health. Seventy percent of all premature deaths are a factor of individuals’ behaviors and environmental factors. Individual biology and behaviors influence health through their interaction with each other and with the individuals’ social and physical environments (Healthy People 2010.) This interaction is displayed in the Figure 1.



**Figure 1** – Source: *Healthy People 2010*

The health status of a community can be measured by a variety of methods. These include birth and death rates, life expectancy, quality of life, morbidity, health insurance coverage, health resources availability, and population data. To the extent possible, this assessment seeks to consider many of these areas.

For the purposes of this assessment, health status indicators have been selected in four key areas: demographics, socioeconomic status, health status, and health resource utilization/physician manpower needs. To support the analysis, readily available data

was gathered utilizing the 2000 U.S. Census, Maryland discharge databases for inpatient and emergency services, and population forecast.

The health status indicators included in the assessment include:

1. Demographics
  - Population Density
  - Population Age  $\leq 5$
  - Population Age  $\geq 65$
  - Female Population Age 15-44
  - Female Population Growth Age 15-44
  - Population Growth Age  $\geq 75$
  - Minority Population
  
2. Socioeconomic Status
  - Percent of Households (HH) in Poverty
  - Children Living in Poverty
  - Average HH Income
  - Population of Uninsured
  - Population Age 18-24 without High School Diploma
  - Total Population without High School Diploma
  - Population with Disabilities
  - Unemployed Civilian Labor Force
  - Level of Rental Housing
  - Level of Vacant Housing
  
3. Health Status
  - Ambulatory Sensitive Hospitalizations
    - Asthma
    - Congestive Heart Failure (CHF)
    - Chronic Obstructive Pulmonary Disease (COPD)
    - Diabetes
    - Hypertension
    - Pneumonia
  - Maternal and Infant Health
    - Level of Births to Teens Moms
    - Level of Low Birth Weight Infants ( $< 2,500$  grams)
    - Level of Birth Defects
    - Level of Infant Mortality
    - Level of Births with Insufficient Prenatal Care
  - Major Disease Prevalence
    - Cancer Discharges per 1,000 Population
    - Cardiovascular Discharges per 1,000 Population
    - Stroke Discharges per 1,000 Population

- Lifestyle Behaviors (Inpatient & Emergency Discharges)
  - Obesity
  - Mental Health
  - Substance Abuse
  - Tobacco Use
  - HIV
  
- 4. Health Resource Utilization and Physician Manpower Need
  - Acute Care Discharges per 1,000 Population
  - Acute Care Inpatient Days per 1,000 Population
  - Outpatient Emergency Visits per 1,000 Population
  - Primary Care Physician Need
  - Specialty Care Physician Need

This assessment provides a comparative analysis of the communities that comprise St. Agnes's service area. The primary methodology utilized is a ranking of the community scores for each indicator against the Central Maryland average. An index is created where 1.0 is the average of Central Maryland. In the analysis, any score above 1.0 is worse than the average and anything below 1.0 is better than average. Composite scores are developed for each of the four major assessment areas and these are then summarized to generate a composite "overall need" index. This methodology is modeled after the approach formerly utilized by the Maryland Department of Health and Mental Hygiene for the statewide Primary Care Access Plan.

#### **IV. Study Area Community Profiles**

The areas surrounding St. Agnes have a diverse socioeconomic composition with a mix of urban and suburban communities that are consistent with the range of communities found in any large metropolitan region. For St. Agnes, the challenge of serving these communities lies in meeting the different needs associated between some of the poorest and most affluent neighborhoods in Central Maryland all located within a 3-mile radius of the Caton and Wilkens campus. A further challenge is the rapidly changing composition of the neighborhoods located most immediate to St. Agnes. Over the last five years, these communities have experienced degrees of urban blight reminiscent of Baltimore's inner city prior to its renaissance of the 1970s and 1980s.

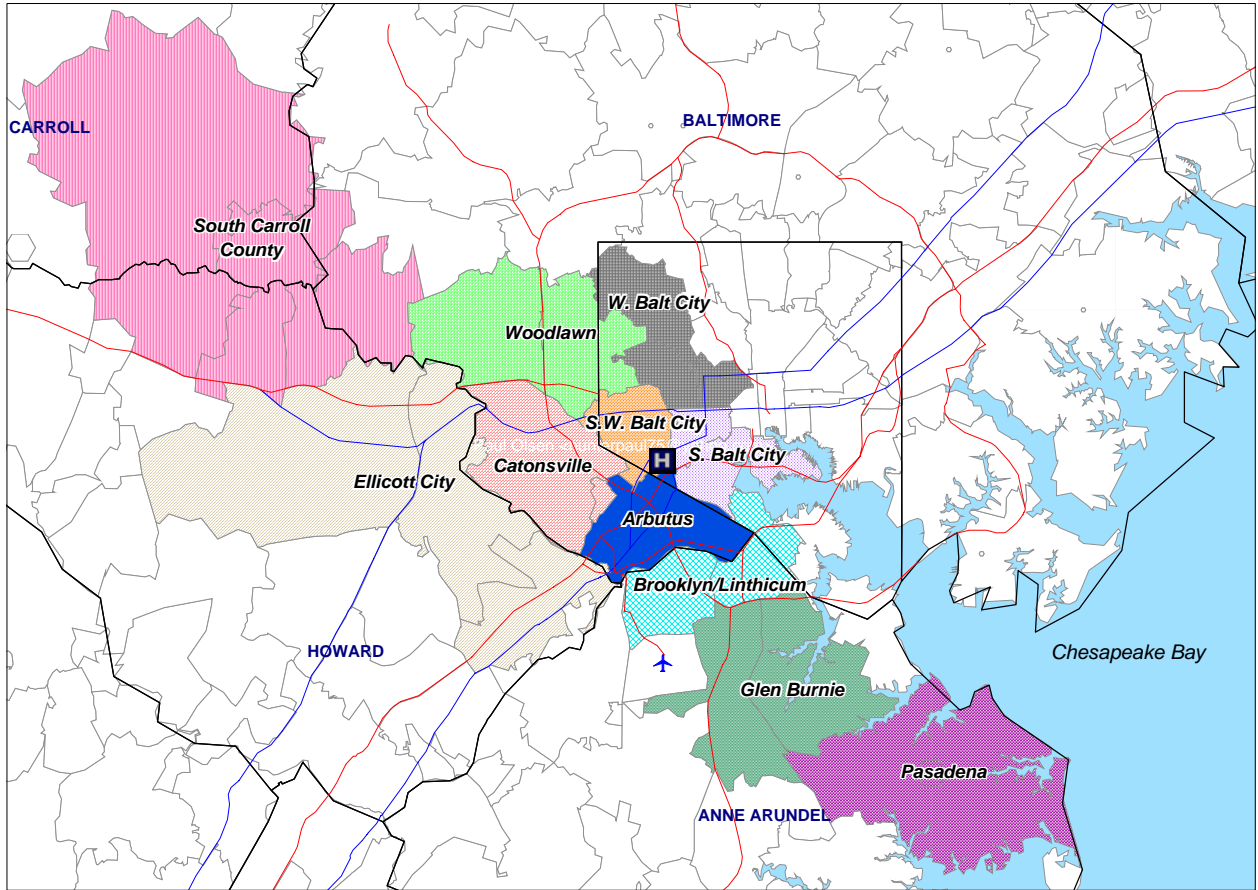
For the purpose of this assessment the zip codes that comprise the St. Agnes service area have been grouped to create homogeneous populations. The grouping resulted in 11 communities identified. These are shown in the Table 1A and 1B as well as on the map located on page 8.



**Community Needs Assessment  
Study Area - Definition  
Table 1A**

<b>Community Name</b>	<b>Zip Code(s)</b>	<b>County</b>
Arbutus	21227	Baltimore
Brooklyn/Linthicum	21225, 21090	Anne Arundel & Baltimore City
Catonsville	21228, 21250	Baltimore
Ellicott City	21042, 21043, 21075	Howard
Glen Burnie	21060, 21061	Anne Arundel
South Carroll	21104, 21163, 21784	Baltimore, Carroll, and Howard
Pasadena	21122	Anne Arundel
South Baltimore City	21223, 21230	Baltimore City
Southwest Baltimore City	21229	Baltimore City
West Baltimore City	21215, 21216, 21217	Baltimore City
Woodlawn	21207, 21244	Baltimore & Baltimore City

COMMUNITY NEEDS ASSESSMENT: HEALTH SERVICE AREA



**Community Needs Assessment  
Study Area Community Profiles  
Table 1B**

Community	Zip Codes	Description
Arbutus	21227	Older suburban community of 10.7 square miles with visible signs of urban decay located just south of Caton & Wilkens campus. Traditional blue collar with lower-middle to middle income; average education level; minimal minority population; greater concentration of seniors; declining population growth for females 15-44 and mildly growing total population.
Brooklyn/ Linthicum	21225 21090	Urban/older suburban community of 13.3 square miles located southeast of the Caton & Wilkens campus. Traditionally, largely an industrial area blue collar community has transition to much poorer community with higher than average levels of HHs below 200% of poverty level; higher than average uninsured; lower education levels; higher than average concentration of seniors; minimal minority population; flat population growth and significant population declines for females 15-44.
Catonsville	21228 21250	Older suburban community of 16.8 square miles located just west of the Caton & Wilkens campus. Traditionally, a white collar community has undergone a suburban renaissance as housing stock is rehab'd by new families; very significant senior population due to presence of Charlestown; lower than average minority population; higher than average education level; projected with better than average total population growth and stable population of females 15-44.
Ellicott City	21042 21043 21075	Suburban community of 68.4 square miles located west-southwest of the Caton & Wilkens campus. Largely a white collar bedroom community for Baltimore-Washington DC region has experienced significant population increases over last decade; minimal minority and senior populations; upper-middle to upper income levels; above average education levels; rapid growth projected across most population cohorts.
Glen Burnie	21060 21061	Older suburban community of 25.7 square miles located to the southeast of the Caton & Wilkens campus. Traditionally a blue collar community, Glen Burnie has been challenged with aging suburban infrastructure. Lower concentration of seniors; minimal minority population; average education level; average income level; better than average projected population growth.

**Community Needs Assessment  
Study Area Community Profiles  
Table 1B**

Community	Zip Codes	Description
South Carroll	21104 21163 21784	Suburban community of 93.6 square miles located to the northwest that is geographically the farthest from the Caton & Wilkens campus. Traditionally a very rural community, over the past decade has increasingly transition to a bedroom community for Baltimore-Washington DC region; above average income and education levels; minimal population of seniors or minorities; projected for continued significant growth across all populations.
Pasadena	21122	Suburban community of 30.8 square miles that is geographically the farthest community southeast of the Caton & Wilkens campus. Largely a bedroom community with substantial growth over the past decade; minimal population of seniors or minorities; upper-middle income, above average education level; significant population growth forecasted.
South Baltimore City	21223 21230	Older inner city area of 8.6 square miles located east-southeast of Caton & Wilkens campus. Largely, low income community with higher than average concentration of HHs living in poverty and uninsured; higher than area average population of minorities; lower than area average senior population; lower education level; significant projected population declines, especially for females 15-44.
Southwest Baltimore City	21229	Older suburban community of 6.1 square miles that is home of Caton & Wilkens campus and rapidly transitioning to a more urban character; many neighborhoods struggling with urban decay; significant senior and minority populations above area average; significant portion of HHs living in poverty; high concentration of uninsured; lower education levels; moderate decreases projected across most population cohorts.
West Baltimore City	21215 21216 21217	Older inner city area of 12.3 miles located northeast of the Caton & Wilkens campus. Largely an African-American community, challenged with all the social issues of an urban inner city area. Significant senior population; greater than half of HHs live in poverty; large concentration of uninsured; lower education levels; significant decreases projected across all population cohorts, especially females 15-44.
Woodlawn	21207 21244	Suburban community of 23.6 square miles located northwest of the Caton & Wilkens campus which experienced significant housing expansion over the last decade. Largely an African-American community; lower than area average senior population; middle income level; better than average education levels; stable population of females 15-44; moderate population

Community Needs Assessment Study Area Community Profiles Table 1B		
Community	Zip Codes	Description
		growth projected.

As shown in Table Two, based on FY 06 data, the study area generates 81% of total discharges for St. Agnes. The communities of Arbutus and Catonsville rely heavily upon St. Agnes for their inpatient health care needs, at 47% and 53% respectively. The next greatest level of community reliance is from Southwest Baltimore City (21229) at just over 41%. However, examining discharge trends from FY 03 to FY 06, St. Agnes has

Community Needs Assessment SAHC Study Area Volume Profile Table 2					
Community	FY06 SAH Cases	SAH Market Share	Mkt Shr % Point Chg FY03-06	SAH Dependence	SAH Chg Dependence FY03-FY06
Arbutus	2,694	47.2%	-3.0%	11.4%	-1.2%
Brooklyn/Linthicum	691	7.4%	-0.4%	2.9%	-0.2%
Catonsville	3,945	53.2%	-3.1%	16.6%	-1.3%
Ellicott City	1,360	15.7%	0.9%	5.7%	0.2%
Glen Burnie	553	4.1%	-0.2%	2.3%	-0.6%
South Carroll	304	5.6%	1.6%	1.3%	0.2%
Pasadena	324	4.0%	0.4%	1.4%	-0.2%
South Baltimore City	2,215	14.6%	0.0%	9.3%	-1.1%
Southwest Baltimore City	3,975	41.2%	0.0%	16.8%	-0.7%
West Baltimore City	1,645	5.1%	1.5%	6.9%	0.8%
Woodlawn	1,443	11.1%	0.6%	6.1%	-0.1%
Total	19,193	15.0%	0.1%	80.9%	-4.1%

experienced an increasing reliance from nearly all communities in the study area, most notably, South Carroll and West Baltimore City. However, there was a decrease of market share in St. Agnes's two most reliant communities, Arbutus and Catonsville. This shift in community reliance has significant clinical service mix and financial implications.

St. Agnes is dependent upon four communities for 55% of its total discharges:

Catonsville (16.6%), Southwest Baltimore City (16.8%), Arbutus (11.4%), and South Baltimore City (9.3%). Although market share in key communities has decreased, overall market share remains stable. As dependence on these key communities is reduced, it is stabilized by the higher percentage of volume seen from Howard County. Of all St. Agnes cases, 8.4% now come from Howard County, increased from 6.6% in 2003. The increased dependence may be partially due to the addition of the OB-GYN group based in Howard County.

## V. Community Health Indicators

### *Demographic Characteristics*

The demographic characteristics of the communities (Table 3) were explored to obtain a perspective of the population total and composition. Special populations such as young children, women of childbearing age, seniors, and the elderly were included so that the populations that typically have the highest utilization of health care services could be highlighted. Included as well is racial diversity, represented by the percent of diversity

Table 3

Health Service Area	2005 Population									
	Total Population	Index	Pop Density (P/SqMi)	Index	Age < 5	Index	Age >=65	Index	Females 15-44	Index
Arbutus	32,569	0.01	3,027	2.62	2,223	0.01	4,092	0.01	7,283	0.01
Brooklyn/Linthicum	40,350	0.02	3,025	2.62	2,905	0.02	5,744	0.02	8,421	0.02
Catonsville	48,707	0.02	2,899	2.51	2,555	0.02	8,876	0.03	10,077	0.02
Ellicott City	98,400	0.04	1,438	1.25	6,854	0.04	8,747	0.03	21,104	0.04
Glen Burnie	75,774	0.03	2,954	2.56	4,901	0.03	9,163	0.03	16,621	0.03
South Carroll	51,055	0.02	544	0.47	3,193	0.02	5,293	0.02	10,298	0.02
Pasadena	59,882	0.02	1,946	1.68	3,917	0.02	5,896	0.02	71,641	0.13
S Balt City	58,859	0.02	6,858	5.94	4,313	0.03	6,952	0.02	13,474	0.02
SW Balt City	47,133	0.02	7,776	6.73	3,425	0.02	6,664	0.02	10,309	0.02
W Balt City	132,712	0.05	10,831	9.38	9,706	0.06	19,816	0.06	28,438	0.05
Woodlawn	81,618	0.03	3,461	3.00	5,801	0.04	8,689	0.03	18,881	0.03

Total H.S.A.	727,059	0.28	2,345	2.03	49,793	0.30	89,932	0.29	157,576	0.28
Central MD	2,583,746	1.00	1,155	1.00	165,227	1.00	314,862	1.00	554,037	1.00

Health Service Area	Projected Population Growth 2010								
	Females 15-44	Index	Age >= 75	Index	All Ages	Index	% Racial Diversity	Index	Avg Demographic Index
Arbutus	-6.9%	2.24	1.8%	0.26	-2.2%	(0.64)	21.2%	0.63	0.64
Brooklyn/Linthicum	-6.3%	2.05	0.9%	0.13	-0.5%	(0.16)	33.0%	0.98	0.71
Catonsville	-4.7%	1.52	0.3%	0.04	0.5%	0.15	29.6%	0.88	0.65
Ellicott City	3.1%	(1.01)	19.5%	2.75	11.0%	3.25	24.3%	0.72	0.88
Glen Burnie	-7.7%	2.50	9.9%	1.40	0.0%	0.00	22.6%	0.67	0.90
South Carroll	7.9%	(2.56)	19.2%	2.70	15.4%	4.56	10.0%	0.30	0.69
Pasadena	-3.1%	1.01	15.9%	2.24	4.6%	1.36	7.8%	0.23	0.84
S Balt City	-12.6%	4.10	-6.3%	(0.89)	-7.8%	(2.29)	53.3%	1.59	1.06
SW Balt City	-11.3%	3.68	-4.3%	(0.60)	-6.2%	(1.82)	77.9%	2.32	1.30
W Balt City	-11.6%	3.77	-7.4%	(1.04)	-8.4%	(2.48)	88.9%	2.65	1.56
Woodlawn	-3.0%	0.98	3.4%	0.48	2.0%	0.58	85.6%	2.55	0.96

Total H.S.A.	-5.4%	1.74	2.6%	0.36	5.2%	1.55	47.0%	1.40	0.99
Central MD	-3.1%	1.00	7.1%	1.00	3.4%	1.00	33.6%	1.00	1.00

compared to the total population. Current health information about the biologic and genetic characteristics of varying racial and ethnic populations does not explain the health disparities experienced by these groups compared to Caucasian counterparts. Rather, the differences in health status are most likely the result of the complex interaction among genetics, environmental factors and specific health behaviors.

The demographics of St. Agnes's service area average out to be the same as Central Maryland overall. However, independently each indicator varies substantially from Central Maryland. Diversity, as well as population density are much higher in the service area, however a lower population as well as a low projected growth rate for seniors balance the two average indices. The most populous community and the one with the greatest density is West Baltimore City with a total population of just over 130,000 persons. The population has declined by 10,000 since last reported in 2003. The least populous community is Arbutus with a population of slightly less than 33,000 persons. Catonsville had the highest concentration of people age 65 and older at 18.2%. The service area average was 12.4%. Seniors have greater health care needs and generally experience higher rates of chronic disease such as diabetes, lung disease and heart disease. The greatest level of racial and ethnic diversity is in the communities that comprise the Southwest corner of Baltimore City and Baltimore County, where nearly 90% of the population in West Baltimore City represents non-white racial or ethnic groups. Overall, service area racial diversity is slightly less than 50%, or one in two persons are non-white. Despite significant population decrease in urban areas, as compared to the 2003 study, the ratios of seniors as well as diverse populations remain relatively stable in each community.

Typical of an urban environment, each community located in Baltimore City is projected to experience a population decline through 2010. The greatest level of decline is forecasted in South Baltimore City and West Baltimore City at nearly 8% in both communities. This exceeds the rates reported as of 2003, at 6% each. These areas will experience the greatest population decreases in women of childbearing ages at nearly 12%. The greatest population growth rate is forecasted for South Carroll at 15%, significantly faster than 10% growth as of 2003. The growth rate for Howard County was reported as the highest in the previous study, at 16%, however the rate has slowed to 11% making it the second highest currently.

West Baltimore City, as in 2003, continues to have the most needy demographic characteristics with a demographic index of 1.39, while Arbutus and Catonsville have the least needy demographic indices.



## Socioeconomic Status

Lower socioeconomic status is highly correlated with poor health outcomes, decreased access to health services, and unhealthy lifestyles. Tables 4A and 4B provide a detailed breakdown of these indicators for each community. Aside from direct health status, on a deeper level, the indicators in this section speak to the long-term vibrancy and viability of communities and the overall quality of life for the residents.

Table 4A

INCOME CHARACTERISTICS	Total Pop	Low Income		Low Income Children			Household Income		Uninsured	
		% HH	Index	Population <=17	Est % Poor	Index	Average HH	Index	Rate	Index
Arbutus	32,569	35%	1.17	7,169	35%	1.17	\$ 57,191	1.46	15%	0.95
Brooklyn/Linthicum	40,350	46%	1.52	9,381	46%	1.52	\$ 60,013	1.39	30%	1.92
Catonsville	48,707	26%	0.85	9,071	26%	0.85	\$ 74,213	1.13	12%	0.80
Ellicott City	98,400	14%	0.48	26,992	14%	0.48	\$ 101,620	0.82	6%	0.40
Glen Burnie	75,774	31%	1.02	16,477	31%	1.02	\$ 59,010	1.42	14%	0.93
South Carroll	51,055	15%	0.49	13,787	15%	0.49	\$ 100,042	0.84	6%	0.36
Pasadena	59,882	15%	0.50	14,308	15%	0.50	\$ 82,309	1.02	7%	0.44
S Balt City	58,859	52%	1.74	12,585	52%	1.74	\$ 47,202	1.77	36%	2.32
SW Balt City	47,133	48%	1.60	10,349	48%	1.60	\$ 46,593	1.79	28%	1.82
W Balt City	132,712	59%	1.96	28,887	59%	1.96	\$ 39,014	2.14	39%	2.54
Woodlawn	81,618	35%	1.16	19,994	35%	1.16	\$ 56,789	1.47	15%	0.99
Total H.S.A.	727,059	40%	1.33	169,000	40%	1.33	\$ 68,017	1.23	20%	1.30
Central MD	2,583,746	30%	1.00	588,115	30%	1.00	\$ 83,587	1.00	16%	1.00

A total of nine socioeconomic indicators are included in the assessment. West Baltimore City has the least favorable index in eight of the total nine indicators. Similarly, South Baltimore has the second least favorable index on seven of the nine. Southwest Baltimore and Brooklyn/Linthicum areas received unfavorable indices as well. These four communities had the highest concentration of low-income households, the greatest level of uninsured and unemployed, the greatest percentage of young people with less than a high school diploma, and the greatest percentage of vacant housing. These findings correlate well with the level of urban deterioration that is apparent in these areas. Collectively, these four communities produce 36% of St. Agnes acute care discharges.

Overall, the St. Agnes service area is marked by a less favorable socioeconomic status than that of Central Maryland as a whole. Indices are divided as urban communities are less favorable and suburban are more favorable than the Central Maryland average.

West Baltimore City had the worst socioeconomic status index at 2.07, followed closely by South Baltimore City at 1.95. Both of these communities are areas where St. Agnes is either the leading resource for health care services, or has a growing influence. The most favorable socioeconomic conditions were noted in Ellicott City with an index of 0.51, followed by South Carroll and Pasadena with indices of 0.52 and 0.61, respectively.

Table 4B

SOCIAL & ECONOMIC CHARACTERISTICS	Education: Less than High School Diploma					Disability Index	Unemployment	
	Age 18-24		Age >= 25				% of Civilian Labor Force <sup>1</sup>	Index
	Population	% Less than High School Diploma <sup>1</sup>	Population	% Less than High School Diploma <sup>1</sup>	Index			
Arbutus	2,973	21.1%	22,032	25.2%	1.38	1.08	5.2%	0.86
Brooklyn/Linthicum	3,619	36.0%	26,391	30.0%	1.65	1.35	7.1%	1.17
Catonsville	5,940	8.9%	33,305	12.7%	0.70	0.76	4.5%	0.74
Ellicott City	7,398	17.6%	51,394	7.1%	0.39	0.56	2.2%	0.36
Glen Burnie	6,766	22.8%	51,394	20.8%	1.14	1.01	3.3%	0.55
South Carroll	4,588	18.3%	27,756	11.6%	0.64	0.58	3.5%	0.58
Pasadena	5,085	17.7%	37,976	16.5%	0.91	0.79	3.3%	0.55
S Balt City	5,057	38.1%	41,731	41.0%	2.25	1.67	11.7%	1.94
SW Balt City	4,168	23.9%	32,310	28.1%	1.54	1.39	10.6%	1.75
W Balt City	13,889	33.8%	92,018	34.1%	1.87	1.77	13.6%	2.25
Woodlawn	7,004	21.8%	50,974	17.5%	0.96	1.26	6.1%	1.01
Total H.S.A.	66,487	25.2%	472,807	22.9%	1.26	1.34	6.7%	1.11
Central MD	242,686		1,663,062	18.2%	1.00	1.00	6.0%	1.00

HOUSEING CHARACTERISTICS	Total Housing Units	% Rented	Index	% Vacant	Index	Average SES Index
Arbutus	13,523	34%	1.12	4%	0.52	1.08
Brooklyn/Linthicum	17,097	34%	1.10	8%	1.14	1.43
Catonsville	19,309	26%	0.86	3%	0.42	0.79
Ellicott City	32,261	21%	0.70	3%	0.44	0.51
Glen Burnie	31,797	38%	1.24	4%	0.59	0.99
South Carroll	14,423	12%	0.37	3%	0.38	0.52
Pasadena	21,097	13%	0.41	4%	0.58	0.61
S Balt City	30,668	39%	1.28	18%	2.57	1.95
SW Balt City	20,816	39%	1.27	7%	0.95	1.54
W Balt City	66,922	45%	1.46	17%	2.37	2.07
Woodlawn	32,641	41%	1.34	6%	0.84	1.12
Total H.S.A.	300,554	34%	1.11	9%	1.23	1.24
Central MD	1,031,372	31%	1.00	7%	1.00	1.00

Sources: U.S. Census Bureau 2005 American Factfinder; Solucient; 2005, 2010 Zip Code estimates.

<sup>1</sup> Data represents 2000 Census statistics, 2005 unavailable.

Income and education attainment can be causal factors for many health disparities in the community. Higher education attainment provides greater potential for higher income, which enables increased access to medical care, better housing, access to safer neighborhoods, and increased likelihood of developing healthier lifestyle behaviors. These indicators directly correlate to health and echo the quality of life for residents within each community.

## ***Health Status***

This section of the assessment, similar to that of 2003, covers 19 of the 41 indicators included in the study as a whole. The indicators have been grouped into the following four categories: Ambulatory Sensitive Hospitalizations, Maternal and Infant Health, Major Disease Prevalence, and Lifestyle Behavior Impacts. These indicators were selected to demonstrate the breadth of health care resources that could be required, such as improved access to primary care, acute care needs, education, prevention and screening initiatives, and special clinical program development for target populations or diseases. Unlike the previous study, this assessment adds an additional dimension as indicators are divided into white and nonwhite populations. This division highlights the racial disparities present within each community and the influence on health status and hospitalization rates.

### ***Ambulatory Sensitive Hospitalizations***

Ambulatory Sensitive Hospitalizations are acute care hospital admissions that potentially could have been prevented through better overall patient management, primarily through primary care systems. As cited in the *1997 DHMH Primary Care Access Plan*, the publication, *Primary Care: America's Health in a New Era*, the Institute of Medicine concludes from a review of several studies that "communities in which residents report lower access to medical care (largely, primary care) had higher rates of preventable admissions for chronic medical conditions." Table 5 includes indicators included in this analysis: asthma, congestive heart failure, COPD, diabetes, hypertension, and pneumonia. The data included is based on FY 2006 discharges defined by the identified ICD-9 diagnosis codes. For each chronic illness, the rate calculates the number of white discharges per 100 people in the white population, as well as nonwhite discharges per 100 people in the nonwhite population.

Similar to the socioeconomic trend, the overall least favorable indices are present in South Baltimore, Brooklyn/Linthicum, Southwest Baltimore, as well as West Baltimore. The average rate of hospitalization in South Baltimore is 2.13 times higher than that of Central Maryland. Conversely, with the lowest average rate of hospitalizations per 100 people, Ellicott City's average is less than 50% of the Central Maryland average, and 20% of the South Baltimore average.

In the comparison of the racial disparities, the rate of hospitalization in the St. Agnes service area proves to be influenced by socioeconomic factors more so than race. In less affluent communities, the nonwhite population had a higher rate of hospitalization than the white population of the same community. However, the inverse is true in affluent communities where the nonwhite population has a lower admission rate than their white counterparts. As an example, in Woodlawn, which is a more affluent community with over 80% diversity, the rate of hospitalization for the white population is higher than the nonwhite population across all diseases. In West Baltimore, where the community is marked by poverty and there is a similar level of diversity, the rate is

higher for the nonwhite population.

Overall, the service area has higher rates of admission across all diseases in the study when compared to the Central Maryland average, resulting in less favorable indices.

The findings in this analysis highlight the need for improved access to primary care services, improved coordination and management of chronic disease, as well as systems which address the underlying lifestyle behaviors which impact the occurrence of these conditions such as diet, exercise and smoking. It is equally important to note the existence of barriers to care involving financial, socio-cultural, and geographic factors. These concepts should be further explored during the priority setting and recommendation phase.

Table 5  
FY06 AMBULATORY CARE SENSITIVE HOSPITALIZATIONS - DISCHARGES PER 100 POP

HEALTH SERVICE AREA	ASTHMA				CHF				COPD			
	White		Non-White		White		Non-White		White		Non-White	
	RATE	INDEX	RATE	INDEX	RATE	INDEX	RATE	INDEX	RATE	INDEX	RATE	INDEX
Arbutus	1.51	1.44	1.65	0.80	2.45	1.42	0.81	0.41	2.67	1.44	0.66	0.56
Brooklyn/Linthicum	1.74	1.66	3.68	1.77	2.95	1.71	3.06	1.55	3.10	1.68	1.64	1.38
Catonsville	0.86	0.82	0.99	0.47	2.27	1.31	2.17	1.10	2.16	1.17	1.15	0.97
Ellicott City	0.58	0.56	0.61	0.29	0.79	0.46	0.44	0.22	0.87	0.47	0.22	0.19
Glen Burnie	1.46	1.40	1.53	0.74	2.51	1.45	1.50	0.76	2.83	1.53	0.98	0.82
South Carroll	0.80	0.76	1.13	0.54	1.08	0.62	1.13	0.57	1.13	0.61	0.50	0.42
Pasadena	0.98	0.94	1.64	0.79	1.70	0.99	1.47	0.74	1.72	0.93	0.82	0.69
S Balt City	2.23	2.14	3.64	1.75	2.66	1.54	3.27	1.66	3.59	1.94	2.39	2.02
SW Balt City	1.38	1.33	2.34	1.12	3.27	1.89	2.97	1.50	3.25	1.76	1.60	1.35
W Balt City	1.38	1.32	3.11	1.50	2.80	1.62	3.19	1.61	1.92	1.04	1.88	1.59
Woodlawn	1.74	1.66	1.54	0.74	3.48	2.02	1.57	0.80	2.58	1.40	0.80	0.67
Total H.S.A.	1.17	1.12	2.34	1.13	1.97	1.14	2.40	1.21	2.06	1.12	1.41	1.19
Central MD	1.04	1.00	2.08	1.00	1.73	1.00	1.98	1.00	1.85	1.00	1.19	1.00

HEALTH SERVICE AREA	DIABETES				HYPERTENSION				PNEUMONIA				AVG INDEX
	White		Non-White		White		Non-White		White		Non-White		
	RATE	INDEX	RATE	INDEX	RATE	INDEX	RATE	INDEX	RATE	INDEX	RATE	INDEX	
Arbutus	3.70	1.47	2.28	0.61	8.10	1.35	4.17	0.55	1.30	1.51	0.77	2.30	1.18
Brooklyn/Linthicum	4.06	1.61	4.88	1.31	9.34	1.56	9.76	1.29	1.76	2.04	1.86	5.56	1.64
Catonsville	2.75	1.09	3.93	1.05	7.10	1.19	7.59	1.01	1.17	1.37	1.05	3.14	1.06
Ellicott City	1.23	0.49	1.03	0.28	3.33	0.56	2.17	0.29	0.61	0.71	0.37	1.10	0.44
Glen Burnie	3.82	1.52	2.87	0.77	8.27	1.38	5.67	0.75	1.23	1.43	0.85	2.53	1.22
South Carroll	1.63	0.65	2.31	0.62	4.03	0.67	4.04	0.54	0.59	0.69	0.63	1.88	0.61
Pasadena	2.47	0.98	2.38	0.64	5.49	0.92	5.16	0.68	0.79	0.92	0.74	2.22	0.86
S Balt City	4.05	1.61	5.46	1.46	8.47	1.41	11.60	1.54	1.84	2.14	2.12	6.33	1.86
SW Balt City	3.82	1.52	4.76	1.28	8.41	1.40	9.56	1.27	1.91	2.22	1.61	4.82	1.56
W Balt City	3.96	1.57	5.69	1.53	9.27	1.55	11.76	1.56	1.23	1.43	1.67	5.01	1.78
Woodlawn	4.48	1.78	3.33	0.89	9.88	1.65	6.74	0.89	1.66	1.93	0.79	2.35	1.01
Total H.S.A.	2.82	1.12	4.32	1.16	6.48	1.08	8.84	1.17	1.08	1.26	1.32	3.95	1.20
Central MD	2.52	1.00	3.73	1.00	5.98	1.00	7.54	1.00	0.86	1.00	0.33	1.00	1.00

Source: Market Share Analyst, FY06 ICD-9 Inpatient Disease Estimates, All Ages, Levels 1-15

### ***Maternal and Infant Health***

One of the most potentially vulnerable populations in the service area is women and their children, especially for those living in poverty. The socioeconomic analysis revealed that an estimated 40% of children in the service area are living in poverty, with the urban areas experiencing rates of greater than 50%. The quality of life and health status of women and children has far reaching implications. Teen pregnancy,

lack of adequate prenatal care, low birth weight, and birth defects generate increased demands for future health care needs and impact not just this generation, but subsequent generations as the cycle of poverty is continued. Findings of the Maternal and Infant Health indicators are illustrated in Table 6.

As in previous analyzes, the most unfavorable conditions for women and infants are found in South Baltimore City and West Baltimore City, where the overall indices are nearly twice as unfavorable as the Central Maryland average. Southern Carroll County receives the most favorable index overall, followed closely by the other suburban communities including Ellicott City and Pasadena. Unlike ambulatory hospitalization, the nonwhite populations have substantially higher rates of births to teen mothers,

Table 6

Health Service Area	% Births to Teen Moms				% Low Birth Weight				% Birth Defects			
	White	Index	Non-White	Index	White	Index	Non-White	Index	White	Index	Non-White	Index
Arbutus	5.3%	3.21	2.8%	0.53	11.7%	1.16	14.9%	1.02	14.7%	1.67	22.3%	1.40
Brooklyn/Linthicum	4.2%	2.54	10.5%	1.95	14.5%	1.43	16.8%	1.15	6.6%	0.75	13.0%	0.81
Catonsville	2.7%	1.62	3.9%	0.73	8.7%	0.86	13.2%	0.90	14.3%	1.62	26.4%	1.66
Ellicott City	0.9%	0.56	0.5%	0.09	7.3%	0.72	10.0%	0.69	12.8%	1.45	17.6%	1.10
Glen Burnie	1.8%	1.07	4.4%	0.82	9.3%	0.92	16.5%	1.13	8.0%	0.91	10.9%	0.68
South Carroll	0.7%	0.42	0.0%	0.00	6.2%	0.62	13.6%	0.93	9.4%	1.06	12.1%	0.76
Pasadena	3.5%	2.10	3.8%	0.70	10.2%	1.01	4.8%	0.33	6.0%	0.68	8.4%	0.53
S Balt City	3.6%	2.20	10.8%	2.00	10.5%	1.03	16.9%	1.16	15.1%	1.70	21.3%	1.33
SW Balt City	0.8%	0.51	7.2%	1.33	12.1%	1.19	17.6%	1.20	15.5%	1.76	19.1%	1.20
W Balt City	0.5%	0.33	9.5%	1.76	8.3%	0.82	16.0%	1.10	7.8%	0.88	15.2%	0.95
Woodlawn	1.8%	1.09	3.9%	0.72	10.3%	1.02	14.4%	0.99	10.3%	1.17	15.2%	0.96

Total H.S.A.	2.4%	1.44	6.8%	1.27	9.5%	0.94	15.3%	1.04	10.5%	1.18	16.4%	1.03
Central MD	1.6%	1.00	5.4%	1.00	10.1%	1.00	14.6%	1.00	8.8%	1.00	15.9%	1.00

Health Service Area	Infant Mortality				% Insufficient Prenatal Care				Avg Maternal/Infant Health Index
	White	Index	Non-White	Index	White	Index	Non-White	Index	
Arbutus	0.3%	0.91	0.0%	0.00	2.8%	1.82	7.1%	0.85	1.04
Brooklyn/Linthicum	0.3%	0.94	0.9%	1.37	5.8%	3.76	11.7%	1.41	1.52
Catonsville	0.6%	1.73	1.3%	1.95	1.2%	0.77	5.9%	0.71	1.10
Ellicott City	0.5%	1.36	0.5%	0.73	0.9%	0.60	3.7%	0.45	0.71
Glen Burnie	0.5%	1.59	0.7%	1.00	0.7%	0.44	7.1%	0.85	0.84
South Carroll	0.2%	0.68	1.7%	2.47	0.7%	0.45	3.3%	0.40	0.53
Pasadena	0.5%	1.52	0.0%	0.00	0.7%	0.45	2.5%	0.30	0.70
S Balt City	1.0%	3.02	0.2%	0.29	4.1%	2.68	12.5%	1.51	1.76
SW Balt City	0.0%	0.00	0.8%	1.15	1.7%	1.09	8.2%	0.98	1.51
W Balt City	0.0%	0.00	0.7%	1.05	3.8%	2.47	12.9%	1.55	1.80
Woodlawn	0.0%	0.00	0.6%	0.89	2.7%	1.75	7.8%	0.94	1.24

Total H.S.A.	0.5%	1.33	0.6%	0.94	1.8%	1.20	9.6%	1.16	1.24
Central MD	0.3%	1.00	0.7%	1.00	1.5%	1.00	8.3%	1.00	1.00

Low Birth Weight defined as: Birth Weight <2,500g.

Source: Market Share Analyst FY06: Birth defects (ICD-9 740-759.9), Insufficient Prenatal Care (ICD-9 V23.7), Infant Mortality (ICD-9 656.4)

infants with low birth weight, infants with birth defects, as well as births with insufficient prenatal care in all communities.

### ***Major Disease Prevalence***

Traditionally, mortality data is utilized to evaluate the impact of leading causes of disease and illness in the community. However, vital statistic data is not readily available at the zip code level. As a proxy to evaluating the impact from the leading causes of mortality such as cancer and cardiovascular, this assessment utilized acute care discharges per 1,000 people. Appropriate ICD-9 or DRG codes were identified for cancer, cardiovascular, and stroke. It is recognized that all patients diagnosed with these diseases may not necessarily experience an acute care admission, therefore, these rates do not represent disease incidence rates. Rather, the value in this analysis is the ability to access patterns of illness across a number of indicators and communities. The presence of these diseases in the community may indicate a high incidence of “at risk” behaviors such as smoking, poor diets, or lack of adequate exercise, with which they are associated. Further, their presence may indicate insufficiencies in the education, prevention and screening programs related to these conditions. Also, based on the methodology employed, higher rates would be expected in communities where a larger percentage of the population is over the age of 65, since these diseases increasingly manifest themselves within these age cohorts.

The results of this analysis are shown in Table 7. As in previous tables, the population of each community is divided into white and nonwhite for all three diseases. As expected, this division provided varying results as to the least favorable community for each major disease. For the white population, the Brooklyn/Linthicum community had the highest admission ratio for Cancer as well as Cardiovascular, as Southwest Baltimore had the least favorable ratio of stroke admissions. West Baltimore, on the other hand, had the highest ratio of admissions for all three diseases within the

Table 7  
FY06 MAJOR DISEASE PREVALENCE - ADMISSIONS PER 1,000 POP

HEALTH SERVICE AREA	CANCER				CARDIOVASCULAR				STROKE				AVG INDEX
	White		Non-White		White		Non-White		White		Non-White		
	RATE	INDEX	RATE	INDEX	RATE	INDEX	RATE	INDEX	RATE	INDEX	RATE	INDEX	
Arbutus	14.78	1.26	5.34	0.52	32.73	1.30	12.24	0.44	13.33	1.47	5.21	0.49	1.13
Brooklyn/Linthicum	16.32	1.39	10.04	0.99	38.43	1.52	35.91	1.30	13.84	1.52	13.75	1.30	1.39
Catonsville	13.36	1.14	9.23	0.91	27.24	1.08	27.30	0.99	14.00	1.54	14.68	1.38	1.19
Ellicott City	8.97	0.76	4.85	0.48	11.96	0.47	7.15	0.26	4.98	0.55	3.42	0.32	0.53
Glen Burnie	14.05	1.20	7.26	0.71	33.55	1.33	18.37	0.67	13.78	1.52	8.35	0.79	1.17
South Carroll	8.20	0.70	9.86	0.97	18.80	0.74	17.58	0.64	6.40	0.70	8.79	0.83	0.72
Pasadena	10.62	0.91	8.57	0.84	23.72	0.94	19.23	0.70	8.61	0.95	7.05	0.66	0.90
S Balt City	14.07	1.20	14.33	1.41	35.51	1.41	40.07	1.46	13.50	1.49	15.77	1.49	1.46
SW Balt City	15.98	1.36	13.02	1.28	32.64	1.29	34.29	1.25	14.91	1.64	16.03	1.51	1.42
W Balt City	16.01	1.36	15.31	1.50	33.56	1.33	40.55	1.47	14.35	1.58	17.08	1.61	1.60
Woodlawn	15.60	1.33	9.69	0.95	43.07	1.70	25.06	0.91	14.11	1.55	8.36	0.79	0.99

Total H.S.A.	12.20	1.04	11.78	1.16	26.35	1.04	31.08	1.13	10.49	1.16	12.87	1.21	1.14
Central MD	11.73	1.00	10.17	1.00	25.27	1.00	27.52	1.00	9.08	1.00	10.60	1.00	1.00

Source: Market Share Analyst, FY06 admissions.

nonwhite population. Continuing the trend, the urban areas of West Baltimore, South Baltimore, Southwest Baltimore and Brooklyn/Linthicum, have the least favorable indices for these major diseases overall.

### ***Lifestyle Behaviors***

Healthy People 2010 identified 10 Leading Health Indicators, which include physical activity, obesity, tobacco use, substance abuse, sexual behavior, mental health, violence, environmental quality, immunizations, and access to health care. These indicators illustrate individual behaviors that have been identified as having the greatest impact on individual health status. It is important to recall that a significant underlying factor in these indicators is the significant influence of income and education.

As mentioned earlier, previous community needs assessments have relied upon qualitative analysis, particularly for the lifestyle risk analysis. However, utilizing a more quantitative approach, proxy indicators were developed based upon readily available acute care and emergency room visit discharge databases. Using ICD-9 diagnosis coding, utilization rates per 1,000 population were identified for obesity, mental health, HIV, substance abuse, and tobacco use, for both white and nonwhite populations. As in all the previous tables, index levels were determined and then averaged across all indicators to produce a composite index. While these utilization rates are not indicative of total incidence rates of these behaviors in the communities, the value is in the ability to examine patterns across different populations. In large part, the validity of this data is highly dependent upon the coding accuracy of the various health care providers that deliver health care services to the residents of the study area communities. Inpatient results are found in Table 8A and emergency results in Table 8B.

As in all of the previous analyzes, the highest index scores are found in the urban-based communities. Least favorable overall, South Baltimore City was found to have a composite inpatient index of 2.78, and an emergency index of 2.52, primarily due to high utilization rates for mental health, HIV, and Emergency Room substance abuse visits. Also, among the top four highest inpatient index scores was West Baltimore City at 2.16, Brooklyn/Linthicum at 1.73 and Southwest Baltimore City at 1.58. Racial disparities are evident in urban areas, where the rate of admission for the nonwhite population is significantly higher than that of the white population, especially in the cases of obesity, HIV, and tobacco use. The lowest composite index scores were noted in Ellicott City and South Carroll, which were nearly 100% below their urban community counterparts. An interesting finding was the high ER index score in Glen Burnie for obesity, tobacco use and substance abuse.

Table 8A

Health Service Area	Population	Obesity IP				Psychiatric IP				HIV Positive IP			
		White	Index	Non-White	Index	White	Index	Non-White	Index	White	Index	Non-White	Index
Arbutus	32,569	21.69	1.44	11.98	0.59	6.51	1.18	4.30	0.47	0.56	1.36	1.04	0.17
Brooklyn/Linthicum	40,350	28.84	1.92	39.04	1.91	6.47	1.17	7.77	0.84	0.64	1.55	10.33	1.71
Catonsville	48,707	11.20	0.74	13.78	0.67	5.26	0.95	4.93	0.54	0.15	0.37	3.33	0.55
Ellicott City	98,400	7.41	0.49	4.85	0.24	3.64	0.66	2.00	0.22	0.17	0.40	0.42	0.07
Glen Burnie	75,774	24.33	1.62	17.43	0.85	6.09	1.10	4.67	0.51	0.43	1.03	1.76	0.29
South Carroll	51,055	10.72	0.71	13.99	0.68	5.15	0.93	3.77	0.41	0.02	0.05	1.08	0.18
Pasadena	59,882	15.40	1.02	16.95	0.83	3.26	0.59	1.71	0.19	0.20	0.49	0.57	0.09
S Balt City	58,859	22.27	1.48	29.49	1.44	9.92	1.80	17.28	1.87	4.15	10.05	15.77	2.62
SW Balt City	47,133	16.76	1.11	19.56	0.96	8.48	1.54	8.53	0.93	0.49	1.18	7.34	1.22
W Balt City	132,712	19.48	1.29	27.86	1.36	16.68	3.02	16.12	1.75	1.13	2.75	11.55	1.92
Woodlawn	81,618	23.49	1.56	18.33	0.90	11.51	2.09	6.62	0.72	0.74	1.80	3.58	0.59
Total H.S.A.	727,059	16.58	1.10	22.09	1.08	6.01	1.09	10.40	1.13	0.61	1.48	7.60	1.26
Central MD	2,583,746	15.05	1.00	20.45	1.00	5.52	1.00	9.22	1.00	0.41	1.00	6.02	1.00

Health Service Area	Population	Substance Abuse IP				Tobacco Use IP				Avg Lifestyle/ Behavior Index
		White	Index	Non-White	Index	White	Index	Non-White	Index	
Arbutus	32,569	3.61	1.81	2.21	0.62	33.33	1.62	18.23	0.63	0.97
Brooklyn/Linthicum	40,350	4.55	2.28	5.41	1.52	47.83	2.33	54.36	1.87	1.73
Catonsville	48,707	1.03	0.52	1.67	0.47	14.46	0.70	14.42	0.49	0.61
Ellicott City	98,400	0.90	0.45	0.08	0.02	8.39	0.41	4.54	0.16	0.31
Glen Burnie	75,774	2.50	1.25	1.25	0.35	38.54	1.88	21.43	0.74	0.95
South Carroll	51,055	0.59	0.30	0.90	0.25	10.80	0.53	9.15	0.31	0.43
Pasadena	59,882	1.81	0.91	1.71	0.48	23.88	1.16	17.33	0.59	0.63
S Balt City	58,859	6.34	3.17	8.84	2.48	59.32	2.89	63.55	2.18	2.78
SW Balt City	47,133	3.60	1.80	3.99	1.12	33.61	1.64	33.50	1.15	1.58
W Balt City	132,712	2.67	1.34	6.52	1.83	23.22	1.13	49.80	1.71	2.61
Woodlawn	81,618	2.32	1.16	1.87	0.52	25.90	1.26	17.84	0.61	1.02
Total H.S.A.	727,059	2.27	1.14	4.27	1.20	25.95	1.26	34.95	1.20	1.32
Central MD	2,583,746	2.00	1.00	3.57	1.00	20.52	1.00	29.14	1.00	1.00

Rate is Admissions per 1,000 pop.

Source: Market Share Analyst, FY06 Inpatient Database.



Table 8B

Health Service Area	Population	Obesity		Psychiatric		HIV Positive		Substance Abuse		Tobacco Use		Avg Lifestyle/ Behavior Index
		ED RATE	Index	ED RATE	Index	ED RATE	Index	ED RATE	Index	ED RATE	Index	
Arbutus	32,569	2.24	1.77	36.20	1.36	0.68	0.79	13.20	1.38	35.83	1.61	1.38
Brooklyn/Linthicum	40,350	5.20	4.11	50.71	1.91	1.93	2.26	23.32	2.44	66.47	2.98	2.74
Catonsville	48,707	0.53	0.42	21.70	0.82	0.33	0.38	5.05	0.53	9.51	0.43	0.52
Ellicott City	98,400	0.49	0.39	16.11	0.61	0.12	0.14	3.34	0.35	5.93	0.27	0.35
Glen Burnie	75,774	4.21	3.33	47.65	1.80	0.29	0.34	11.47	1.20	57.30	2.57	1.85
South Carroll	51,055	0.37	0.29	11.24	0.42	0.06	0.07	2.66	0.28	1.53	0.07	0.23
Pasadena	59,882	2.27	1.80	30.86	1.16	0.18	0.21	6.65	0.69	32.78	1.47	1.07
S Balt City	58,859	1.19	0.94	42.51	1.60	4.72	5.53	28.42	2.97	35.05	1.57	2.52
SW Balt City	47,133	1.12	0.89	30.47	1.15	2.02	2.36	12.94	1.35	30.83	1.38	1.43
W Balt City	132,712	1.27	1.01	31.17	1.17	3.71	4.35	19.55	2.04	11.53	0.52	1.82
Woodlawn	81,618	0.94	0.75	24.17	0.91	0.81	0.95	6.29	0.66	7.80	0.35	0.72
Total H.S.A.	727,059	1.65	1.30	30.19	1.14	1.51	1.76	12.02	1.26	23.33	1.05	1.30
Central MD	2,583,746	1.26	1.00	26.54	1.00	0.85	1.00	9.57	1.00	22.31	1.00	1.00

Rate is Admissions per 1,000 pop.

Source: Market Share Analyst, FY06 Inpatient Database.

## Overall Health Status

Table 9 displays the results of the Overall Health Status index score, which is an average of the ambulatory sensitive hospitalizations, maternal and infant health, major disease prevalence and lifestyle behavior indices. Consistent with the previous findings, South Baltimore City and West Baltimore City were defined by the highest Health Status index scores overall, 1.96 and 1.95 respectively. Brooklyn/Linthicum and Southwest Baltimore City were among the least favorable as well, with index scores of 1.57 and 1.52 respectively. Ellicott City and South Carroll were noted with the lowest Health Status index scores at 0.50 and 0.57, respectively.

Table 9

Health Service Area	Ambulatory Care Sensitive Hospitalizations Index	Maternal/ Infant Health Index	Disease Prevalence Index	Lifestyle/ Behavior Index	HEALTH STATUS INDEX
Arbutus	1.18	1.04	1.13	0.97	1.08
Brooklyn/Linthicum	1.64	1.52	1.39	1.73	1.57
Catonsville	1.06	1.10	1.19	0.61	0.99
Ellicott City	0.44	0.71	0.53	0.31	0.50
Glen Burnie	1.22	0.84	1.17	0.95	1.05
South Carroll	0.61	0.53	0.72	0.43	0.57
Pasadena	0.86	0.70	0.90	0.63	0.77
S Balt City	1.86	1.76	1.46	2.78	1.96
SW Balt City	1.56	1.51	1.42	1.58	1.52
W Balt City	1.78	1.80	1.60	2.61	1.95
Woodlawn	1.01	1.24	0.99	1.02	1.07
Total H.S.A.	1.20	1.24	1.14	1.32	1.23
Central MD	1.00	1.00	1.00	1.00	1.00

## ***Health Resource Utilization & Physician Manpower Need***

While comprehensive data was not readily available which detailed all the various providers of health care services for each of the zip codes that comprise the study area.

Therefore, using the St. Agnes Medical Staff Development plan, each community in the study was grouped into one of three geographic areas. The need for physicians is determined based on the ratio of admissions per physician in each of the three areas. The manpower need of each community in the study correlates to the broader geographic area in which they are located.

This analysis utilizes acute care admission rates per 1,000 population, acute care days per 1,000 population and Outpatient Emergency Room Visit rates per 1,000 people. The logic underlying these indicators is the fact that communities with high utilization rates have a greater need for health care resources. One could debate the level of resources required, especially given the fact that the indicators are largely inpatient based. However, it is reasonable to assume that current utilization rates are indicative of resource requirements. The next step of the assessment process should include an exploration of the appropriate level and mix of resources to address prioritized needs.

The utilization rate indicators are indexed based on the Central Maryland average, however, a different approach was required to incorporate the physician manpower needs. The study area of the Medical Staff Development project was divided into three areas. The communities in this study correlate well to the three areas in the MSD study, therefore each community was matched to one of the three areas. If an area was determined to have a need for primary care physicians, the community receives a score of 1.0. If there is also a need for specialty care physicians, then the community also receives a score of 1.0. These scores are then averaged with the utilization indexes, which result in composite index score. The results are displayed in Table 10.

Table 10

Health Service Area	Acute Care Adms Rate*	Index	Acute Care Days Rate*	Index	ED Visits Rate*	Index	Physician Manpower Need**			Average Index
							Primary Care	Specialist	Overall Need	
Arbutus	172.9	1.14	480.3	0.88	413.7	1.14	0	0	0	0.79
Brooklyn/Linthicum	218.2	1.44	898.8	1.64	661.9	1.82	1	1	2	1.73
Catonsville	150.5	1.00	431.1	0.79	222.2	0.61	0	0	0	0.60
Ellicott City	84.8	0.56	338.1	0.62	202.2	0.56	0	0	0	0.43
Glen Burnie	170.8	1.13	693.2	1.27	424.5	1.17	1	1	2	1.39
South Carroll	104.7	0.69	384.0	0.70	181.0	0.50	1	1	2	0.97
Pasadena	129.4	0.86	491.8	0.90	277.6	0.76	1	1	2	1.13
S Balt City	239.8	1.59	1,039.6	1.90	726.2	2.00	0	0	0	1.37
SW Balt City	198.6	1.31	885.6	1.62	547.0	1.51	0	0	0	1.11
W Balt City	234.0	1.55	1,049.3	1.92	675.6	1.86	0	0	0	1.33
Woodlawn	155.3	1.03	449.6	0.82	435.5	1.20	0	0	0	0.76
Total H.S.A.	169.7	1.12	669.3	1.22	443.8	1.22	0	0	0	0.89
Central MD	151.1	1.00	547.6	1.00	363.3	1.00				1.00

\*Rate per 1,000 population.

\*\*Physician Manpower Need: 0 = "No Need", 1 = "Need".

Sources: Market Share Analyst FY06 Inpatient Database for Admissions and Days;  
SAH Medical Staff Development Plan: Specialty Physician Need.

As is consistent with the previous studies, Brooklyn/Linthicum, South Baltimore City and West Baltimore City were among the top four communities with the highest index scores at 1.37, 1.33, and 1.73, respectively. Glen Burnie, however, is among the least favorable in this study, with an index of 1.39, as the above average admission rate is coupled with a need for primary care physicians as well as specialists. The proximity of urban areas to major healthcare offices reduce the need for physician manpower, which consequently mitigates the effect of above average admission rates. Ellicott City and Catonsville with lower health care utilization rates and minimal identified physician manpower needs were noted with the lowest index scores at 0.43 and 0.60. South Carroll's index, although low, is marginally higher due to physician manpower needs.

## VI. Needs Assessment Summary

Table 11 provides a summary of the four major components of the needs assessment analysis and the corresponding index scores of the communities for each major indicator. These indices are averaged to provide an overall composite summary need index.

Table 11

HEALTH SERVICE AREA	DEMOGRAPHICS (Table 3)	SES INDEX (Table 4A, 4B)	HEALTH STATUS INDEX (Table 9)	HEALTH RESOURCES INDEX (Table 10)	SUMMARY NEED INDEX
Arbutus	0.64	1.08	1.08	0.79	0.90
Brooklyn/Linthicum	0.71	1.43	1.57	1.73	1.36
Catonsville	0.65	0.79	0.99	0.60	0.76
Ellicott City	0.88	0.51	0.50	0.43	0.58
Glen Burnie	0.90	0.99	1.05	1.39	1.08
South Carroll	0.69	0.52	0.57	0.97	0.69
Pasadena	0.84	0.61	0.77	1.13	0.84
S Balt City	1.06	1.95	1.96	1.37	1.59
SW Balt City	1.30	1.54	1.52	1.11	1.37
W Balt City	1.56	2.07	1.95	1.33	1.73
Woodlawn	0.96	1.12	1.07	0.76	0.98
Total H.S.A.	0.99	1.24	1.23	0.89	1.09
Central MD	1.00	1.00	1.00	1.00	1.00

The communities with the four worst overall scores are West Baltimore City, South Baltimore City, Brooklyn/Linthicum and Southwest Baltimore City. In general, the Baltimore City communities of the study area scored the most unfavorably across all indices included in the analysis, particularly socioeconomic status and health status. These poor results are in spite of the fact that these communities are located more geographically proximal to a wealth of health care resources than other communities. This finding highlights the persistent and challenging barriers to access that include financial, cultural, and environmental factors that must be considered in order to make substantial inroads to improving the health of individuals and the communities.

<b>Figure 2: Study Area Overall Need and Health Status</b>			
<b>Overall need</b>	<b>Low</b>	<b>Medium</b>	<b>High</b>
<b>Health Status</b>			
<b>Poor</b>			S Baltimore City W Baltimore
<b>Fair</b>		SW Baltimore Brooklyn/ Linthicum	
<b>Good</b>	Arbutus Catonsville Ellicott City Glen Burnie Pasadena South Carroll Woodlawn		

Figure 2 examines the relationship between overall need and health status. The communities were stratified across a 3x3 grid where the communities with worst index scores representing the 25<sup>th</sup> percentile and most favorable scores group representing the 75<sup>th</sup> percentile. The resulting chart clearly demonstrates the huge disparity between the suburban communities and the older urban communities. The inner city communities, which are the most geographically proximal to St. Agnes are noted with the highest overall need and poorest health status.

<b>Figure 3: Socioeconomic Status and Health Status</b>			
<b>Socioeconomic</b>	<b>Low</b>	<b>Medium</b>	<b>High</b>
<b>Health Status</b>			
<b>Poor</b>	S Baltimore City W Baltimore		
<b>Fair</b>		SW Baltimore Brooklyn/ Linthicum	
<b>Good</b>			Arbutus Catonsville Ellicott City Glen Burnie Pasadena South Carroll Woodlawn

Figure 3 illustrates the strong correlation between socioeconomic status and health status. The communities in the upper left of the grid demonstrate both low

socioeconomic status and poor health. As mentioned previously, among the urban communities, other factors not used in this analysis such as crime rates, and housing conditions, contribute to the poor quality of life and poor health outcomes. These major social issues will likely represent the greatest challenge to health care providers. Given the significant economic pressures facing the health care industry, there are insufficient resources within the health care system to address these social issues. Yet, the health care system itself will continue to be impacted as these conditions further erode the health of individuals and communities. If we as a society are to truly succeed at leaving no one behind, then we must as a society, come together to collectively address the broad range of challenges that are facing many of the members of our community family.

To guide future organizational planning for community health status improvements, the Board of Directors Planning Committee has identified “directional” recommendations regarding their conclusions from the quantitative assessment. These guidelines provide foundational strategic thinking for the Community Needs Assessment Team in the development of the Care of Persons Who Are Poor, Community Benefits, and Advocacy Plan.

### ***Key Findings***

1. The levels of health care needs within the St. Agnes service area are as diverse as the communities themselves.
2. Overall, the St. Agnes service area has higher demonstrated need across all measures when compared to the Central Maryland region.
3. The overall need for health care is highly correlated with socioeconomic status.
4. Among these four, diversity ranges from as high as 89% down to only 33%, suggesting that racial diversity alone has less of an influence on health care status.
5. As health care costs increase, and economic conditions worsen, barriers to health care arise in communities with poor socioeconomic characteristics, resulting in poorer health status.
6. Within the St. Agnes service area, there has been an increase in services to urban areas identified as high need and erosion from suburban communities.

### **Community Health Improvement Guidelines:**

- † St. Agnes should initiate a leadership role for community health improvement efforts in those communities located geographically proximal to the Caton & Wilkens campus, where SAHC is the dominant provider, and those that represent major access routes to the Caton & Wilkens Campus.
- † St. Agnes should act as a catalyst to bring together other community assets such as local government, community leaders and local industries to form partnerships/networks focused on community health status improvements,

especially for broader socio-economic issues that directly impact health status.

- † St. Agnes should work with Bon Secours Health System and University of Maryland Health System to advance community health improvement agenda, especially to communities of the service area identified as high need.
- † St. Agnes should advance advocacy initiatives on the community health needs assessment and Call to Action for Healthcare That Leaves No One Behind through current resources, particularly through Physician Advocacy Forum, Maryland Physicians Care, and Baltimore Medical System FQHC expansion.
- † St. Agnes should develop an Advisory Board to include community leaders and other appropriate key representatives to become instrumental in discernment of the project.
- † St. Agnes should identify and access alternative funding sources for community outreach efforts via state, federal, charitable organizations, grants, etc.
- † Community health improvement initiatives lead by St. Agnes should focus on healthcare issues, and not attempt to resolve broader social issues that should be addressed within community partnerships/networks.