Howard County Regional Partnership

HSCRC Transformation Implementation Program

Howard County General Hospital

December 21, 2015

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Introduction

The Maryland All-Payer Model provides a glide-path for change to realize health system transformation. The timeline to realize such significant change is short, however, and hospitals and their community partners feel the strong sense of urgency to create a health care delivery system that is not only highly reliable, efficient, and patient-centered, but also equipped to achieve health care's triple aim of improved outcomes, lower costs and an excellent patient experience.

Howard County is unique in that it has one hospital within its geographic borders. Howard County General Hospital (HCGH) is truly the community's hospital; a majority of residents utilize the hospital for acute care needs. The county is also in a unique position to be a leader in the delivery of a community centered, population health management strategy that reduces costs and improves health outcomes. From prevention activities and improved access to care to interventions to decrease health disparities, essentially all current efforts to improve the health and wellness of residents have been the result of public-private funding partnerships and interagency collaboration with community stakeholders. Our Local Health Improvement Coalition (LHIC) is the nucleus of the community health strategy for the entire Howard County region.

This unprecedented level of coordination and collaboration, combined with an entrepreneurial spirit to test proof of concept and rapidly scale based on success, is a primary reason that the majority of HCRP interventions are shovel ready. We have created an infrastructure to deliver a comprehensive and effective program that addresses the needs of our target population and positions the Regional Partnership to contribute to improving overall health and wellbeing for all county residents. Simply put, we know how to work together to achieve ambitious health goals.

1. Target Population

Scope

The geographic scope of the model comprises one county – Howard County, MD. It is one of the larger counties in the state, with 309,284 residents.[1] Zip codes in Howard County include: 20701; 20723; 20759; 20763; 20777; 20794; 20833; 21029; 21036; 21042; 21043; 21044; 21045; 21046; 21075; 21076; 21104; 21163; 21723; 21737; 21738; 21771; 21784; 21794; 21797. Cities that fall in these zip codes include: Annapolis Junction; Columbia; Laurel; Fulton; Savage; Highland; Jessup; Brookeville; Clarksville; Dayton; Ellicott City; Elkridge; Hanover; Marriotsville; Woodstock; Cooksville; Glenelg; Glenwood; Mount Airy; Sykesville; West Friendship; Woodbine; Simpsonville; and Lisbon. This is also the community benefit service area (CBSA) for Howard County General Hospital (HCGH).

Howard is a growing and graying county. Between 2010 and 2035, the overall population is estimated to increase by 26.6%. During the same time period, those ages 50 and older will increase by 60.7%, which is more than double the growth rate for the total county population. An estimated 38% of county residents will be 50 or older by 2035.[2] This will be of particular importance as this population will be more likely to develop chronic diseases and potentially consume more health dollars. Howard County is also a diverse community, with higher rates of foreign born residents as compared to the state overall (18.2% compared to 14%) and higher rates of languages other than English spoken in the home as

[1] US Census 2014. Retrieved April 13th, 2015 from Census.gov

[2] Maryland Department of Planning population projections, 2013.

compared to the rest of Maryland (22.5% versus 16%). The 2014 racial/ethnic distribution in Howard County is 61.4% White, 18.4% Black, 16.2% Asian, and 6.3% Hispanic.[3]

Health Need

There is a significant burden of chronic disease in Howard County. The leading cause of death is chronic disease (e.g. heart disease, stroke, cancer, chronic obstructive pulmonary disease (COPD), and diabetes), accounting for 60% of all deaths.[4] Based on 2009 data from the Maryland Behavioral Risk Factor Surveillance Survey (BRFSS), cancer is the most prevalent chronic disease among Howard County residents, followed by diabetes, angina, heart attack, and stroke. Data from the 2014 Howard County Community Health Assessment showed that one quarter of residents have been told by a doctor that they have high blood pressure, 33% of the county population is overweight, 23% of the population is obese, and 35% have been advised by a doctor to lose weight.[5] In addition, 3% of respondents reported that someone living with them requires in home care.[6] The Health Assessment data shows areas of significant opportunity for improving the health and wellbeing of the population in Howard County by lowering risk factors and conditions that lead to chronic conditions and cancer later in life, treating conditions before they progress to a more serious level of disease, and managing conditions that have already progressed to ensure the best possible health outcomes.[7]

Target Population

Given the growing burden of disease in the aging population of Howard County and the high costs associated with chronic conditions in this population, the Howard County Regional Partnership (HCRP)[8] will initially focus its efforts on Medicare high utilizers living in Howard County. Focusing on high cost, high need Medicare beneficiaries aligns with the goals of Maryland's All-Payer Model. The Regional Partnership decided to define a Medicare "high utilizer" as someone with at least two hospital encounters at Howard County General Hospital in the past 365 days[9] who lives in the Howard County target zip codes. Individuals who are dually eligible for Medicare and Medicaid are included in the target population. A summary of inclusion criteria for the target population appears in Table 1 below.

Table 1: Target Population Inclusion Criteria

Insurance coverage through Medicare or dually eligible for Medicare and Medicaid
Howard County resident
Two or more hospital encounters in the past year at HCGH. Encounter includes ED visit, inpatient and observation stays.
At least 18 years old

Each of HCRP's selected interventions applies additional eligibility criteria in order to better target and tailor programs to subgroups from the larger target population. Intervention-specific eligibility criteria are outlined in the descriptions of proposed interventions in Section 2.

[3] US Census 2014.
[4] Howard County General Hospital Community Benefits Narrative, Fiscal Year 2014.
[5] Howard County Health Assessment Survey, Report of Findings, 2014.
[6] Howard County Health Assessment Survey, Report of Findings, 2014.
[7] Howard County Health Assessment Survey, Report of Findings, 2014.
[8] The Howard County Regional Partnership will be referred to as either HCRP or the Regional Partnership throughout this proposal.
[9] A hospital encounter is defined as an admission, observation stay, or emergency department visit.

While initial efforts will focus on a segment of county residents, HCRP is designed to work collaboratively with community partners, in particular our Local Health Improvement Coalition (LHIC), to ultimately improve the overall health and wellbeing of our entire Howard County population. The Regional Partnership builds on the strength and level of engagement of the LHIC's member organizations, and the long and productive history of collaboration among HCGH, Howard County Health Department (HCHD), and the Horizon Foundation to advance the health of the community.

As outlined in our interim report, HCRP reviewed a broad range of data from diverse sources during the planning process in order to better understand Medicare high utilizers in Howard County. Ultimately, the decision was made to work with Berkley Research Group (BRG) to define and describe the target population, due to limitations with available CRISP and HSCRC reports. Using Case Mix data from HCGH and applying the high risk criteria found in Table 1, 7,280 patients (all payer) were identified by BRG as high utilizers. Among this group, 1,940 were Medicare beneficiaries and 670 were dually eligible, which together comprised 36% of the total high utilizer population in Howard County.

In total, 2,610 patients met the target population criteria. Seventy-four percent (1,926) of high utilizers are clustered in one of five zip codes – 21044, 21045, 21043, 21042 and 21075. During FY2015, this population accounted for 3,579 inpatient visits, 196 observation stays greater than or equal to 24 hours, 243 observation stays less than 24 hours, and 3,859 emergency room visits. Total charges for this population were $43,300,000. While the target population makes up 36% of the total high utilizer population (all payer), they account for 56% of the total charges and 59% of the inpatient visits in this population. Major conditions in this population include hypertension, diabetes, coronary artery disease (CAD), chronic obstructive pulmonary disease (COPD), congestive heart failure (CHF), chronic kidney disease, pneumonia, septicemia, obesity and hepatitis. Over half of the target population (53%) had a mental health or substance abuse diagnosis documented on an encounter. Of the 2,610 patients in the target population, the majority (1,710) had at between two and six chronic conditions. Please see Appendix A for a complete summary of the BRG analysis.

Eighty percent (2,090) of the target population are 65 years or older. It is noteworthy that 51% of those individuals are 80 years of age or older. Research has shown that, at 80 years of age and older, risk for disease and disability increased dramatically and individuals need significantly more help with both activities of daily living such as feeding and bathing as well as instrumental activities of daily living such as transportation, taking medication, money management.[10]

2. Proposed Interventions

HCRP will serve as the primary vehicle to coordinate and deploy specific strategies to drive this transformation, where the result is a health care delivery system that is not only highly reliable, efficient, and patient-centered, but also equipped to achieve health care's triple aim of improved outcomes, lower costs and an excellent patient experience.

Through the HSCRC's Planning Grant for Health System Transformation, HCGH brought together providers from the acute, post-acute and primary care settings and a broad range of community partners including a number of patient and caregiver representatives to identify and discuss common problems and barriers for our target population both in and outside of the health care system, develop a common vision of an "ideal state," and then devise real-world, evidence-based solutions and specific actions plans that would help address the identified problems. From this collaborative process came the

[10] National Institute on Aging. *Older Americans with a Disability: 2008-2012*.National Institutes of Health, 2014.

Howard County Regional Partnership and an intervention framework designed to deliver effective care coordination with a focus on social determinants for our target population. The following are the major HCRP interventions to be implemented or expanded in CY 2016.

1) Community Care Team (CCT)

CCT is based on the Camden Coalition model developed by Dr. Jeffrey Brenner. It is an existing community-based care coordination intervention operated by Healthy Howard, Inc., a local non-profit organization. CCT is an up-to-90-day intervention that provides home-based care coordination services. Continuation is assessed every 30 days based on care plan goals. Experience to date suggests that greater social resource needs (e.g. transportation, housing) directly impacts time spent in the program. A multidisciplinary team of clinical and non-clinical providers delivers services including health education, disease-specific management, medication reconciliation, connection to and coordination with health care providers and equipment as needed, care plan development and extensive social support and advocacy. The team can serve patients with a broad range of behavioral health problems with the support of a full-time licensed clinical social worker. Please refer to Appendix B for a depiction of the intervention timeline, CCT team members' roles and responsibilities, and caseload estimates.

CCT sets criteria regarding chronic conditions and excludes individuals with a terminal illness. Table 2 below outlines the inclusion and exclusion criteria that will be used to identify patients from the target population for CCT intervention. Eligible patients will be identified in the acute, post-acute and primary care settings.

Table 2: Inclusion/Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
Howard County Resident	Member of Johns Hopkins Medicine Alliance for Patients (JMAP) Accountable Care Organization (ACO)*
Medicare or Dual Eligible	Patient's primary care provider (PCP) not part of Advanced Primary Care Collaborative OR not located in Howard County**
At least 2 hospital encounters in past 365 days	Terminal illness, defined as hospice eligible***
2 or more chronic conditions	

*If identified as a candidate for CCT during inpatient admission, patients will be offered a 30-day version of the CCT program and then transitioned to JMAP care management.

**Not an automatic exclusion. It will be handled on a case-by-case basis due to the fact that the intervention involves close communication and coordination with the PCP and CCT will need to assess its capacity to build new practice relationships.

***HCRP is working with Gilchrist Services to set up a referral pathway for patients to their Transitions Program and Care Choices program.

In 2016, HCRP will leverage CCT's model and positive reputation in the community and expand the size and scope of the program in order to address the needs of the Medicare high utilizer population. Currently, CCT identifies potential clients from HCGH inpatient units. Working with CCT and our community stakeholders and providers, HCRP has developed plans to expand CCT's referral streams beyond the inpatient floors to reach primary care practices, skilled nursing facilities (SNFs), home care agencies, the emergency department, and eventually assisted living facilities. We will streamline the

process of identifying and connecting eligible patients in HCGH inpatient units and go live with new referral pathways to CCT from the following care settings:

- HCGH Emergency Department (ED)
- Primary Care Practices – (Six practices in 2016 and three in 2017)
- Skilled Nursing Facilities – (Three facilities in Howard County run by Lorien Health Systems, starting with the largest facility in located in Columbia)

2) Acute Care Interventions

Acute Referral Pathway to CCT

On-site home care coordinators from Johns Hopkins Home Care Group (JHHCG) will identify patients eligible for CCT and drive referrals so that a warm handoff to CCT and enrollment in the program occurs prior to discharge from an inpatient unit. The home care coordinator will receive a daily readmissions report from the hospital's EMR. In addition, the Early Screening for Discharge Planning (ESDP) tool is administered to all patients upon admission. ESDP is a validated assessment that generates a score from 0 to 24 based on the patient's age, prior living status, disability score, and self-rated walking limitation. Patients who score a 10 or higher are considered to be high risk for a complex discharge and, when combined with other information regarding chronic conditions and prior hospital utilization, it can indicate individuals who might be at risk for readmission. The screen is administered by nursing staff in the inpatient units and the score is recorded in the EMR. A score of 10 or greater is noted when patients are discussed during daily multi-disciplinary rounds. The ESDP score, readmission report, review of patient record and qualitative data shared during multidisciplinary rounds are used to identify patients that are eligible for CCT. The home care coordinator is responsible for determining that the patient meets all CCT criteria, introducing the CCT program to the patient and then providing a warm handoff.

Care Coordination from the Emergency Department

Starting in the first quarter of 2016, the hospital's Innovation and Continuous Improvement facilitators (also referred to as the Lean team) will work with the ED to design and implement a process for early identification of patients requiring support to address barriers to care upon discharge, especially for those in our target population. This process will pull from EMR and CRISP data and potentially involve the use of a short assessment tool. We intend to embed a community health worker (CHW) in the ED to work alongside social work and case management staff. The CHW will identify patients eligible for CCT and make the referral; this position will also coordinate real-time referrals and connections to community-based resources and services, especially for those without a usual source of care.

Rapid Access Program (RAP)

RAP is a new approach to coordinating care for an at-risk population where access to services is quite limited. This pilot program is designed to provide access to urgent, outpatient, crisis stabilization services within 24-48 hours of referral for Howard County adults in need of immediate access to short term, psychiatric, problem-focused intervention, regardless of ability to pay. This service is intended to prevent further emotional distress and decompensation which otherwise would result in accessing more acute levels of care. Social workers conduct the screening in the ED and on inpatient units in order to assess eligibility and coordinate the referral.

Services are provided through Way Station's Outpatient Community Mental Health Clinic (OMHC) in Columbia. Once connected, the patient takes part in an "episode of care" that includes: one psychiatric evaluation with a Nurse Practitioner with two follow up medication management sessions and an initial clinical evaluation with a therapist with up to six follow up therapy sessions. Way Station then works to transition the patient, if needed, to a permanent community provider after the episode of care. Through

the use of a novel online scheduling system, HCGH is able to make the initial appointment with Way Station prior to when the patient is discharged. This means that the patient leaves with an appointment in hand and all the necessary paperwork is received by Way Station in advance of the visit. If a patient fails to show for the first appointment, HCGH is notified and we work with Way Station to contact the client and reschedule.

The target population for RAP is not limited to Medicare beneficiaries; it is payer agnostic. In the first three months of the program, of the 92 referral made, five patients were dual eligible and six were Medicare beneficiaries. The program has the capacity to serve a total of 780 unique patients during the pilot year, which is defined as September 1, 2015 through August 31, 2016. Throughout the pilot, HCGH and Way Station hold monthly case conferences, to share clinical information and coordinate care of referred clients, review logistics and workflow of the referral process, and examine program results in order to make adjustments as necessary to ensure clients receive the most efficient and effective care possible.

3) Post-Acute Care Interventions

Transfers from skill nursing facilities involve highly complex patients and, in many cases, are potentially avoidable admission or readmissions. In October 2015, HCGH entered into a collaboration with Lorien Health Systems and Gilchrist Services[11] to better manage patients who utilize both the hospital and Lorien's skilled nursing facilities. The group committed to the interventions outlined below.

Standardized Discharge Process from HCGH to Skilled Nursing Facilities

The planning grant process identified opportunities to improve transitions between care settings. One such transition is from the hospital to the skilled nursing facility. HCGH, working with Lorien, initiated work this Fall to develop a standardized process for patients discharged from the hospital to Lorien facilities. During the first quarter of 2016, we will focus on the creation and deployment of a discharge checklist to be completed on all patients going to a Lorien facility, develop educational materials to help patients and their families understand Medicare rules and requirements regarding qualifying SNF placement and deploy pharmacy technicians in the Emergency Department to perform medication reconciliation for patients prior to arriving on an inpatient floor.

Care Pathways at Skilled Nursing Facilities

HCRP will develop and implement disease-specific care pathways, using evidence-based practices, for the top two causes of readmissions from Lorien facilities – septicemia and congestive heart failure. This work will be further supported by regular rounding of an infectious disease physician and cardiologist, starting first with Lorien's Columbia location.

Skilled Nursing Facility Referral Pathway to CCT

The Regional Partnership will work with Lorien, CCT and JHHCG to implement a standardized referral process from the SNFs to CCT in order to support patients transitioning from SNF to home. The same CCT eligibility criteria will apply.

Telemedicine

Based on the early success of Lorien Health System's telemedicine project in Harford County, HCRP will explore the feasibility of using telemedicine to support HCGH provider consultation with Lorien patients without having to transfer the patient to HCGH. This type of care delivery support is intended to reduce

[11] Gilchrist Services provides medical directorship and attending services to Lorien properties in Howard County.

emergency room visits, inpatient admissions and readmissions between Lorien's skilled nursing facilities and HCGH. Using telemedicine, Lorien has experienced reductions in all of those utilization measures, as well as positive patient and family satisfaction and feedback. HCRP will assess this opportunity and make a decision in 2016 regarding the potential to implement in 2017.

Monthly Case Review Meetings

One of HCGH's hospitalist physicians, who is also a geriatrician, will serve as the physician liaison between HCGH, Lorien Health Systems and Gilchrist Services on all collaborative efforts between the three organizations. Part of the physician liaison's effort to champion and monitor lead a monthly case review of patients (unplanned and planned transfers between acute and post-acute settings) to identify new areas for improvement, communication and collaboration. This is a model that has worked well for Lorien in other parts of the state and we are eager to implement it here in Howard County.

4) Primary Care Interventions

Primary Care Referral Pathway to CCT

The Howard County Advanced Primary Care Collaborative (APCC) serves as the vehicle to develop active provider referral pathways to CCT. It is a learning collaborative started by HCHD and the Horizon Foundation that also offers technical assistance to groups working on practice transformation. APCC is comprised of nine practices and together, their patients represent more than one-third of the county's adult population. Table 3 lists APCC members.

Table 3: Howard County Advanced Primary Care Collaborative

Centennial Medical Group	Columbia Medical Practice
Chase Brexton Health Care	Evergreen Health Care
Johns Hopkins Community Physicians	Maryland Primary Care Physicians
MedPeds LLC	Personal Physician Care
Wellbeing Medical Care	

Three practices (Centennial, Columbia Medical Practice, Johns Hopkins Community Physicians) will begin an active referral pathway to CCT in January 2016; with three additional practices (Maryland Primary Care Physicians, Personal Physician Care, Chase Brexton) launching in June. The final three practices will come online in January of 2017. CCT's embedded care coordinator is responsible for working with practices in order to support the screening process and other steps needed to identify and enroll patients in CCT. This position will have direct access to the referring physicians and practice electronic medical records (EMRs). Furthermore, each practice will identify a provider to serve as the HCRP lead physician to provide oversight and direction of care coordination efforts. HCRP will cover administrative time for the lead physician to engage in this work. Payment is based on an hourly rate and will be handled via contracts between HCGH and credentialed community physicians. We believe that covering administrative time will incentivize physician champions to engage in HCRP work.

While developing the primary care referral pathway during the planning process, a decision was made to exclude patients who are members of the Johns Hopkins Medicine Alliance for Patient (JMAP), which is a Medicare Shared Savings Program ACO. Two of our pilot primary care practices are JMAP sites, meaning that JMAP operates to serve all Medicare FFS beneficiaries in those practices, whether they are actively in JMAP case management or not. Because of the overlap of our target population with that of JMAP, it was decided that a 30-day CCT intervention would be offered as an option to JMAP patients if they are identified as eligible during an inpatient hospital stay and not yet connected to care coordination

services through the ACO. CCT would then provide a warm handoff back to JMAP for longer-term case management. Providers and patient representatives felt that this was the best way to ensure patients receive timely support during a critical transition period from hospital to home without interfering with an established relationship and care plan goals.

Provider Alignment

The APCC also offers a starting point for future provider alignment. In addition to, yet currently separate from the APCC, HCGH operates two other groups involving primary care practices – the Primary Care Operations Council and the Physician Advisory Council. All three groups work on similar issues and member rosters overlap. With provider alignment as one of the goals of the hospital's strategic transformation plan, during the first six months of 2016, the hospital will work with representatives from each of these three groups to create one committee tied to the Regional Partnership[12] and develop a strategic plan to guide its work for fiscal year 2017.

5) Patient Engagement Training (PET)

HCRP plans to utilize the patient engagement training for providers and front line staff developed by Johns Hopkins HealthCare for the Johns Hopkins Community Partnership (J-CHiP) and JMAP. The training helps providers and organizations realize the goals of patient-centered care by changing the behavior of health care teams to enable patients to become active partners in their care. It uses evidence-based principles and tools of motivational interviewing to offers training in combination with support and maintenance activities (e.g. PET champion meetings, "PET Tip-of-the-Month" emails, monthly newsletters). The program consists of a structured curriculum that is co-led by a patient engagement expert and physician or staff champion. As a complement to the trainings CCT staff already receive on motivational interviewing techniques and their participation in the Institute for Public Health Innovation's community health working training program, CCT staff will complete PET in February 2016. Providers and other frontline staff will receive training starting in July. Some of the primary care providers in the community have already had exposure to PET due to their involvement in JMAP.

6) Specialized Care Coordination

While CCT is considered the primary intervention for care coordination, HCRP will connect patients to specialized programs offered through Gilchrist Services and the faith community.

Support Our Elders

Gilchrist Services has received funding from the Horizon Foundation to conduct a proof of concept pilot program in Howard County to provide in-home medical care for homebound, frail elderly patients with multiple chronic conditions who are unable to travel to the doctor's office to receive care and are at risk for ED visits and repeated hospitalizations. The program deploys a nurse practitioner (NP) and a nurse case manager (CM) to serve as primary care provider for patients who meet specific medical criteria. The goals of care for the program are to improve patient comfort, manage chronic diseases and reduce unnecessary hospital admissions or ED visits. The CM will provide follow-up care by phone to assist with identifying community resources. An additional goal of the program is to increase the number of people in Howard County who have completed and Advance Directive/MOLST form by clarifying end of life goals and assisting all patients with completing the necessary paperwork.

[12] Section 6 outlines HCRP's governance structure including the subcommittees to be established. One such subcommittee will focus on provider alignment and network development and will include representatives from primary care and specialty practices.

Care Choices

Gilchrist Services was recently selected to participate in a five-year Medicare innovations grant called the Medicare Care Choices Model, which provides beneficiaries who quality for the Medicare Hospice Benefit the option to elect to receive hospice services while continuing to receive curative services at the same time. In addition, patients must have advanced cancer, chronic obstructive pulmonary disease, congestive heart failure or HIV/AIDS to be eligible to participate. The goal is to give the benefits of hospice services to terminally ill patients who are not yet ready to stop curative treatment. Beginning January 2016, patients will be provided in-home and telephonic nursing case management, hospice aid, social work, spiritual care and volunteer support, as well as full hospice home care services. It is expected to serve 50 patients in CY16.

Transitions

Transitions is a no-cost service that offers case management and volunteer support for individuals who have been discharged from hospice care because their health has stabilized or improved and for those seriously-ill individuals who are either not yet eligible for hospice care but in need of support or who are terminally ill but not ready to accept end of life care and services. The program, run by Gilchrist Services, offers care coordination, respite care for caregivers, assistance with household chores or errands as well as connection to community resources. It is expected to serve 100 patients in CY16.

Journey to Better Health

Healthy Howard has launched a new faith-based health initiative called Journey to Better Health to create a support system for vulnerable members of our community. This effort is based on the Congregational Health Network from Memphis, TN. After a covenant is signed, two volunteer Community Companions are appointed by leadership from each congregation to work one on one with congregants and neighbors of the congregation. Companions will work with individuals with short term health needs (e.g. recovering from broken bone) as well as those who require longer term support. For patients enrolled in CCT, a companion might be called upon to be part of the care team. Once a patient graduates from CCT, the Community Companion takes over as a primary support and can assist with lower-level social needs such as providing companionship, meals, transportation or shopping assistance.

Assisted Living Facility Partnership

The development of a formal partnership and care coordination intervention for residents of assisted living facilities in the county was identified as critical project during our planning grant process but was ultimately determined to be out of scope for HCRP's first year of operations. As noted in the intervention timeline, the Regional Partnership will begin planning work in the fourth quarter of 2016 in order to be able to move forward with an assisted living collaborative and intervention in 2017.

7) Support Tools for Care Coordination

To enable and enhance care coordination both in and out of Regional Partnership interventions, HCRP will deploy programs and technologies that support coordination management of and communication with patients, as well as coordination between providers.

Remote Patient Monitoring

HCGH has begun working with JHHCG to deploy a remote patient monitoring program for a small number of complex patients with congestive heart failure. Remote patient monitoring supports patients in taking regular measurements (e.g. weight, blood pressure, pulse oximetry) and medications and the results are monitored remotely by a nurse case manager. This type of program identifies important changes in patient status and improves clinical decision making and overall condition management in a

way that can be integrated into the patient's daily life. HCRP will fund the expansion of this program to a larger number of patients in 2016.

Caregiver Support

With Howard County's Office on Aging (OOA), the Regional Partnership will provide support to the caregivers of patients in our target population through Powerful Tools for Caregivers, which is based on the chronic disease self-management program developed by Lorig et al from Stanford University. The Administration for Community Living/Administration on Aging under the U.S. Department of Health and Human Services found that this program met the highest level criteria for evidence-based disease prevention and health promotion programs. It is a six week class that has been shown to have a positive impact on caregiver health; it improves self-care behaviors, management of emotions (reduced guilt, anger and depression), self-efficacy (increased confidence in coping with demands) and increased ability to access and utilize community services. We will begin first by building a referral pathway from CCT. As CCT staff interact with caregivers, they will identify individuals likely to benefit from this program. They will provide information about the program to both the patient and his/her caregiver and offer to connect the caregiver to an OOA program coordinator to identify a class and complete enrollment. The first set of classes is due to start between April and June of 2016.

The Office on Aging is working to expand its resources and offerings for caregivers as part of the County's efforts to plan for the growth of the older adult population and create an age friendly community. HCRP will work closely with OOA as it finalizes its strategic plan and related tactics in this space and will define more formal and standard processes for collaboration and potentially shared programming. For example, the Regional Partnership is interested in partnering with OOA to select and implement across social service agencies and health care settings a standard caregiver assessment tool to examine the needs/situations of family/caregivers to aid in care planning and resource connection.

Community Resources Management System

The Health Department will soon release an RFP to purchase a web-based management tool that can be used by community partners, including the Regional Partnership, to uniformly assess clients for social support needs, recommend local community resources, track referrals and provide data analytics regarding the success of community referrals. Such a tool will provide the capability to more accurately assess the community's need for services, determine whether existing community resources are sufficient, identify gaps, better inform funding decisions and determine whether vulnerable individuals are in fact receiving the necessary resources. The totality of this will not only enhance care coordination capabilities but also contribute to improved population health. Conversations during the planning grant process identified a community resources management system as a key piece of an "ideal state" for care coordination across the continuum. We are grateful to the Health Department for pursuing a solution.

CRISP

Although CRISP is neither an intervention in and of itself nor an asset specific to Howard County, the Integrated Care Network (ICN) infrastructure is critical to HCRP's success. Community provider connectivity, encounter notifications, care profiles, and sharing of care plans and other important data all serve to better inform and connect providers to one another and to patient information to support care coordination across care settings. In addition, the potential availability of a HIPAA compliant secure texting solution for care teams is of great interest to the Regional Partnership. As part of the planning grant process, we dedicated significant time to solicit patient and provider input on provider-to-provider communication standards and strategies, which resulted in decisions to revise certain standard documents such as the hospital's after visit summary, share care plans, implement primary care

provider and CCT developed care alerts through CRISP, and optimize work flows to support both asynchronous and direct methods of communication. Several providers across care settings mentioned the need for a communications support tool.

Infrastructure and Workforce

The Regional Partnership is made up of representatives from the hospital, primary care and specialty care providers, skilled nursing facilities, home care services, behavior health providers and community-based organizations. Several key community-based organizations include HCHD, the Department of Citizen Services and its Office on Aging, as well as member organizations of the Local Health Improvement Coalition (LHIC). Please refer to Appendix C for a list of all participants.

The hospital's Board of Trustees approved the creation of a new committee of the board to provide general governance for the HCRP. Section 6 describes the governance structure and decision making processes of this committee, referred to as the HCRP Steering Committee, as well as set of subcommittees that will perform critical planning and monitoring functions. The members of the HCRP Steering Committee appear in Appendix D.

A leadership team will be formed to run HCRP's day-to-day operations. This team will be hired by HCGH and report to the Senior Director for Population Health and Community Relations. Table 4 below outlines team roles and responsibilities.

Table 4: Leadership Team

Position	Description
Program Administrator	Oversees daily operations, budget and committee management.
Interventions and Analytics Manager	Manages intervention implementation, directs operations of the Population Health Analytics Team, and guides the use of data for real-time decision support for intervention delivery.
Project Manager	Provides project management and coordination and manages communication between partners.
Lead Data Analyst	Provides data analytics and develops dashboards and reports used to monitor HCRP performance.

Population Health

Over the years, Howard County has prioritized the health of its residents and invested in programs to improve the health and wellness of those who live, work, learn, and worship here. It is important to note that none of the initiatives or programs – from the Healthy Howard Health Plan and the Door to Heath Care to telemedicine in schools and mental health crisis beds – would have been possible without the strong partnerships and collaborative nature of the county's public health, health care, and social services organizations. Across the risk continuum from prevention activities to complex case management for high-need patients, our efforts to improve population health have been the result of public-private funding partnerships and interagency collaboration with community stakeholders. For example, the Health Department, Horizon Foundation, Columbia Association and hospital came together to fund the biennial Howard County Health Assessment Survey. This survey, combined with the State Health Improvement Process framework, serves as the foundation for prioritization of community needs and shared goal setting.

Moving from data to action, the prioritization and goal setting work and action plan development happens with our Local Health Improvement Coalition. The LHIC is the nucleus of the community health strategy for the entire Howard County region. Its work is focused on the following four population health priority areas:

1) Increase access to health care
2) Enable people of all ages to achieve and maintain a healthy weight
3) Expand access to behavioral health services and reduce behavioral health emergencies
4) Enable healthy aging in the community

Just as our planning grant steering committee reported up to the LHIC, so too will the Regional Partnership be hardwired to the LHIC. While HCRP is initially focused on care coordination for a small segment of the population with complex health and social needs, over time it will work with the LHIC to address other priority areas for the health of the community. Advancing overall population health requires HCRP and LHIC to be coordinated and truly connected regarding priorities, strategies and action plans.

HCRP's Community Health Integration and Social Determinants subcommittee is one example of the explicit link to the LHIC. This group will work to ensure integration and will assess patterns and trends in social needs identified through HCRP interventions to recommend programmatic and policy action. Another area ripe for collaboration is the connection of data across sectors to improve health outcomes.

Alignment with Hospital Strategic Transformation Plan

The activities outlined in the hospital's strategic transformation plan are aligned with the work of the Regional Partnership. Building on infrastructure investments made to date, HCGH has committed to the following four goals:

1) *Care Coordination* – Improve care coordination to ensure seamless transitions between care settings and better manage patients' complex needs. HCGH will utilize infrastructure funds to support the protected time of the hospitalist geriatrician to lead the SNF collaboration. The incremental funding needed to increase onsite home care coordinators to manage the acute care referral pathway to CCT will also be supported by the hospital.
2) *Population Health Analytics* – HCGH will develop a Population Health Analytics Team that will perform the various analytic capabilities needed for HCRP. This team will create the necessary infrastructure to aggregate data from different sources, including accessing available CRISP reports and CCT's care management system, TrackVia, to produce the dashboards and any ongoing reports that the Steering Committee and subcommittees need to monitor, evaluate and report out on Regional Partnership performance.
3) *Provider Alignment* – During the first six months of 2016, the hospital will merge three existing primary care provider groups that have overlapping membership and work on similar issues into one committee tied to the Regional Partnership's Provider Alignment and Network Development subcommittee. Infrastructure funding will be used to provide operational support for this planning effort and then for the going committee work. During this 6 month period of transition, the hospital will also fund learning network functions and practice transformation support that the Advanced Primary Care Collaborative had planned to offer to member practices.
4) *Behavioral Health* – The hospital co-funds the Rapid Access Program pilot with the Horizon Foundation in an effort to improve access to urgent care mental health services.

3. Measurement and Outcome

The Regional Partnership's desired outcome is to deliver an effective, community-based and financially sustainable model of care that improves health, achieves cost savings and offers an enhanced patient experience, initially for high-risk Medicare and dually eligible beneficiaries, and longer term for the larger population of Howard County residents. Given the large number of interventions planned to meet these goals, HCRP created a high level metrics dashboard that represents the key interventions proposed, key quality and patient satisfaction measures, and key outcome measures to be monitored. Internally, more extensive monitoring of each intervention will be done for ongoing operational and quality improvement purposes.

Appendix E features the metrics dashboard template with the process, quality, and utilization and cost metrics to be used to measure the HCRP's performance on these goals. The list of measures in the dashboard is not final and will be revised as we continue to work with our partners. For example, HCRP needs to finalize measures specific to the interventions that will be deployed in the post-acute setting. Also, while we will use HCAHPS measures to assess patient satisfaction at the hospital level, the Regional Partnership is looking into using CG CAHPS for patient satisfaction specifically in ambulatory care settings. In addition, we will collect, monitor and report on many more intervention-specific measures, which will be used for internal analysis and program evaluation. For example, the RAP program to provide urgent mental health care services has a set of metrics that will be used for internal purposes, detailed in Appendix F.

All HCRP metrics, whether reported to the HSCRC or used only for internal monitoring, are derived from evidence-based measures and practices. The majority of our selected metrics are already being collected through well-established initiatives such as the State Health Improvement Plan, Meaningful Use, Patient Centered Medical Home, the National Quality Forum, the CMS Physician Quality Reporting System, and the Johns Hopkins Alliance for Patients (JMAP) Accountable Care Organization (ACO). The Regional Partnership feels that alignment of measures with other population health improvement initiatives is essential not only to leverage evidence-based approaches, but also to streamline the measurement and analysis of progress and goals, simplify data collection processes and documentation needed from providers, and maximize our mutual understanding of how health outcomes change as a result of our interventions.

HCRP has engaged the Ambulatory Quality and Transformation Team from Johns Hopkins Community Physicians to perform continuous quality improvement (CQI) functions for our partner primary care practices. This team (Quality Improvement Nurse Facilitator and Performance Improvement Analyst) will produce internal operational dashboards for quality improvement purposes for each of the practices and use this information to identify opportunities for improvement and then guide practice-level performance improvement efforts. The Regional Partnership's Interventions and Analytics Manager and Lead Data Analyst will perform CQI functions for the acute and post-acute care settings, in coordination with existing internal hospital efforts as well as those in place for Lorien facilities.

Target Population Baseline Performance

We have been in a planning phase to develop the Regional Partnership and therefore do not yet have a data infrastructure in place to capture current performance. Certain cost and utilization measures, however, can be determined using the analysis of HCGH data conducted by BRG. Baseline utilization and charge data for individuals (all payer) who met high risk criteria of 2 or more encounters at HCGH and who had residence in associated zip codes in CY2014 are available in Table 5 below. Focusing more narrowly on the target population of high utilizers who were insured by Medicare or who were dually

eligible, baseline data for our target population showed that there were 2,610 individuals who met target population criteria, with an average charge of $16,590 per person. The average number of total visits was 3.02 per person, with an average hospitalization and observation rate of 1.61 per person and an average ED visit rate of 1.48 per person. Readmissions accounted for 21% (781) and prevention quality indicator (PQI) related hospitalizations accounted for 19% (734) of the 3,775 inpatient and observation cases (greater than or equal to 24 hours) in the target population. See Appendix A for more information on the target population, including a table of HSCRC baseline data by zip code provided by BRG for the Regional Partnership. Baseline numbers and targets for the process measures, quality measures, and patient satisfaction measures will be determined once implementation begins, as there is currently no way to calculate these for our target population. The Regional Partnership would like to collect the total cost of care per person as soon as the data to do so becomes available.

Table 5: Baseline Measures for All High Utilizers (2+ encounters at HCGH) in Target Zip Code Area

	Total Hospital	All Payer High Utilizers	Medicare Only	Dual Eligible	Medicaid Only	Other
Unique Patients	59,663	7,280	1,940	670	1,508	3,162
Total Charges	$226.8 M	$77.3 M	$33.4 M	$10.0 M	$11.7 M	$22.2 M
Total Visits	80,259	20,176	5,522	2,355	4,460	7,839
IP Visits	20,026	6,085	2,776	803	895	1,611
OBV Visits >24hrs	1,415	524	143	53	153	175
OBV Visits <24hrs	1,625	506	176	67	90	173
ED Visits	57,193	13,061	2,427	1,432	3,322	5,880
Avg. Charge/Patient	$3.8 K	$10.6 K	$17.2 K	$14.9 K	$7.8 K	$7.0 K
Avg. Visits/Patient	1.3	2.8	2.8	3.5	3	2.5
(IP+OBV>24)/Patient	0.4	0.9	1.5	1.3	0.7	0.6
ED/Patient	1	1.8	1.3	2.1	2.2	1.9

4. Return on Investment

The work of the Regional Partnership will help the state meet the goals and objectives of the All-Payer Model. The expected return on investment (ROI) for calendars years 2016 through 2019 are outlined in Table 6 below.

Table 6: Expected Return on Investment

Howard County Regional Partnership	CY16	CY17	CY18	CY19
A. Number of Patients	3,640	5,460	7,280	7,280
B. Number of Medicare and Dual Eligible	1,305	1,958	2,610	2,610
C. Annual Intervention Cost/Patient	$789	$796	$609	$621
D. Annual Intervention Cost (B x C)	$1,030,197	$1,558,504	$1,589,674	$1,621,468
E. Annual Charges (Baseline)	$21,650,000	$32,475,000	$43,300,000	$43,300,000
F. Annual Gross Savings (XX% x E)	$1,082,500	$3,247,500	$6,495,000	$6,495,000
G. Variable Savings (F x 50%)	$541,250	$1,623,750	$3,247,500	$3,247,500
H. Annual Net Savings (G-D)	($488,947)	$65,246	$1,657,826	$1,626,032
Return on Investment	**0.53**	**1.04**	**2.04**	**2.00**

HCRP anticipates a 5% savings on the annual charges associated with the target population engaged in CY16. The savings rate increases to 10% in CY17 as initiatives continue to positively impact the patients engaged. Finally, by years three and four of the projection period, the savings rate stabilizes at 15% as the initiatives are fully productive and successful. Savings are recognized through the reduction of readmissions, the avoidance of hospitalization encounters and the reduction in the length of stay for those patients who ultimately require acute care services.

The ROI projections anticipate that HCRP will reach 100% of the target population in year three (CY18). This also represents 36% of all-payer high utilizers. For CY16, 25% of the target population will be engaged in Regional Partnership interventions; 75% will be reached in CY17. The projections are based primarily on CCT, the Rapid Access Program and Gilchrist initiatives. Other initiatives such as physician alignment and provider education, the development of a SNF collaborative and other community partnerships should enhance the ability to appropriately reduce acute care utilization, achieve greater savings and improve the ROI outcomes.

As HCRP achieves ROI, funds will be reinvested to support the program infrastructure. Interventions that have shown the greatest success and impact on outcomes will be prioritized for reinvestment and expansion. As we make progress towards our goals of improving overall health outcomes and reducing avoidable utilization, payers will benefit through lower healthcare costs, primarily among Medicare beneficiaries.

5. Scalability and Sustainability

Scalability

HCRP interventions are scalable over time. Our intervention timeline, while aggressive, is sound in its staged rollout and affords for ramp up time as well as a period of stabilization and assessment. Real-time evaluation of Regional Partnership efforts will be critical to our success. For example, we have made initial caseload decisions for CCT CHW staff based on assumptions regarding the percentage of

patients who will remain in CCT for 30, 60, or 90 days (see Appendix B for details). HCRP and CCT will need to determine whether the real world experience validates the assumptions and will also need to identify opportunities for improved efficiencies. The Partnership Performance Subcommittee of HCRP's Steering Committee will be tasked with ongoing performance monitoring and rapid cycle feedback in order to enable any necessary mid-course changes.

Sustainability

A principal goal of the Regional Partnership and its interventions is the reduction of readmissions and other potentially avoidable utilization. Commensurate with a reduction in avoidable utilization and good expense management, the Global Budget Revenue (GBR) should serve as one source of sustainable funding for components of care coordination and other HCRP activities. As certain initiatives might favorably impact variable costs of care (e.g. pharmaceutical, medical support and staffing costs in the acute setting) a reduction in variable costs under the GRB model would contribute to increased margins that could be reinvested.

HCRP is exploring opportunities to use a portion of Medicare reimbursement for transitional care management (TCM) and complex care management (CCM) to support care coordination interventions. We are currently working with one of our partner primary care practices to develop a model where CCT would be paid by the provider for certain coordination and appointment preparation activities that enable a TCM visit to occur within seven days post discharge. The payment would come from a portion of the provider's reimbursement. In the case of CCM, providers have not taken advantage of these payments because of the administrative burden on the practice and the financial burden of a co-pay for the patient. HCRP will work with practices, other regional partnerships and the state medical society (MedChi) to reduce barriers to practice adoption and continue to explore opportunities to address patient cost sharing for those without supplemental coverage.

Hospital infrastructure and implementation (if awarded) funding is not sufficient to sustain the health system transformation work to be performed by the Regional Partnership over the long term. Just as we will work with the HSCRC and the payer community to identify new funding opportunities, HCRP will also look to its community partners. Across care settings, efforts to improve the health and wellbeing of county residents have been the result of public-private funding partnerships and interagency collaboration with community stakeholders. The same will hold true for the Regional Partnership. Several HCRP interventions are primarily or partially funded by community partners, including the specialized care coordination programs through Healthy Howard and Gilchrist Services, the community resources management system and the Rapid Access Program.

6. Participating Partners and Decision-Making Process

Please refer to Appendix C for a list of HCRP participating entities.

Howard County is unique in that it has one hospital within its geographic borders. HCGH is truly the community's hospital; a majority of residents utilize the hospital for acute care needs. Therefore, in thinking through governance structure options, it seemed appropriate to begin with a structure that is tied to the hospital's Board of Trustees. This means that population health and the work of the Regional Partnership are top priorities for HCGH and its board members. A board committee is a flexible structure that allows for the Regional Partnership to begin immediately with implementation upon receipt of implementation funding. It does not preclude the creation of a more formalized structure should partners decide that is needed in the future.

In October 2015, the Board approved the creation of a new board committee – the HCRP Steering Committee. Appendix D includes a list of members, as well their titles and affiliated organizations. The Steering Committee will, in turn, establish subcommittees to perform planning and monitoring functions for key aspects of HCRP and appoint members to these working groups. The subcommittees will also offer programmatic recommendations for consideration by the HCRP Steering Committee. Although the HCRP Steering Committee has not yet met to formalize the subcommittees, we expect the following groups to be created:

- Partnership Performance
- Finance and Sustainability
- Provider Alignment and Network Development
- Consumer and Family/Caregiver Engagement
- Community Health Integration and Social Determinants

The HCRP Steering Committee will have quarterly in-person meetings and communicate offline as needed via email or through a secure information sharing and group management platform such as Basecamp. Once the subcommittees are defined and members identified, charters will be developed and decisions will be made regarding meeting frequency. Depending on the subject matter, certain subcommittees may need to come together more often than others.

The types of decisions to be made by the HCRP Steering Committee include the following:

- Sets strategic direction and priorities
- Identifies participants for subcommittees
- Makes decisions regarding target population
- Approves changes to interventions
- Solicits and reviews proposals and recommendations from the subcommittees
- Determines changes to the governing structure (e.g. if a more formal governing body is needed)

The following types of decisions will be made by the subcommittees:

- *Partnership Performance*
    - Oversees all HCRP interventions
    - Monitors key performance and outcome metrics
    - Oversees quality metrics and continuous quality improvement activities
    - Evaluates current programs and proposes new interventions using evidence-based models and best practices as well as recommendations from other subcommittees
- *Finance and Sustainability*
    - Develops and proposes an annual budget to the Steering Committee for approval
    - Oversees financial operations and investments
    - Evaluates and recommends opportunities and mechanisms of funding HCRP infrastructure and interventions
    - Reviews legal contracts and agreements as needed
    - Guides and monitors allocation of financial and non-financial resources, such as staff and equipment
    - Evaluates financial sustainability of existing and proposed programs
- *Provider Alignment and Network Development*[13]

[13] The work of this subcommittee is linked to other efforts to harmonize the activities of hospital and community-based committees focused on primary care issues.

- Plans, implements and oversees provider training and education efforts
- Evaluates value-based payment models and physician alignment strategies
- Develops key elements of service level agreements to link primary care with specialty care providers

- *Consumer and Family/Caregiver Engagement*
  - Identifies opportunities for patient and family engagement strategies
  - Reviews intervention models, protocols and processes to ensure that patient and family preferences are kept front of mind
  - Makes recommendations regarding caregiver support
  - Recommends, and in some cases, helps to develop patient education information and materials
  - Evaluates provider and staff training as it relates those areas
- *Community Health Integration and Social Determinants*
  - Work to ensure integration with the Local Health Improvement coalition
  - Assess patterns and trends in social needs identified through HCRP interventions to recommend programmatic and policy action

7. Implementation Work Plan

Please note that this work plan does not have a section dedicated to the CCT intervention because it is an established intervention and efforts to expand referral pathways to CCT are reflected throughout the work plan.

IMPLEMENTATION WORK PLAN	
HCRP LEADERSHIP The leadership team includes an Administrator, Interventions and Analytics Manager, Program Manager and Lead Data Analyst. This team will run day-to-day HCRP operations and is responsible for meeting the action steps of the implementation work plan.	
Year 1	**Action Steps**
Q1	• Recruit and hire Program Administrator and Project Manager.[14] • Convene the first quarterly meeting of the HCRP Steering Committee. Approve committee charter, finalize subcommittees' membership and charter, and review budget and intervention timeline. • Convene initial subcommittee meetings. • Revise existing and create new Business Associate Agreements and contracts with community partners as needed. • Schedule all 2016 recurring meetings for Steering, subcommittees and planning meetings for intervention deployment • Deploy interventions scheduled for Q1. • Conduct planning meetings scheduled for Q1.
Q2	• Convene Steering and Subcommittee meetings. • Deploy interventions scheduled for Q2. • Conduct planning meetings scheduling for Q2.
Q3	• Convene Steering and Subcommittee meetings. • Deploy interventions scheduled for Q3.

[14] Interventions and Analytics Manager is already onboard but currently works as part of the hospital's Innovation and Continuous Improvement Team.

	• Conduct planning meetings scheduling for Q3.
Q4	• Convene Steering and Subcommittee meetings. • Deploy interventions scheduled for Q4. • Conduct planning meetings scheduling for Q4. • Define CY17 strategic priorities, goals, tactics and budget.
HCRP OPERATIONS Key operational elements of the Regional Partnership include building analytics capacity, rolling out CQI and engaging physicians in this process, and planning for and collecting data for evaluation.	
Analytics	
Year 1	**Action Steps**
Q1	• Work with BRG and CRISP to utilize existing data sources for identification of target population and plan for future data needs. • Recruit and hire Data Analyst. • Finalize plan for data collection, analysis and reporting of quarterly dashboard. • Finalize internal monitoring plans for all interventions being deployed and determine reporting responsibilities and frequency of these reports. • Identify and implement any necessary changes to data collection systems and processes (e.g. TrackVia and electronic medical records) in order to combine data sources needed to produce measures for the quarterly dashboards • Work with IT and Compliance experts to identify data storage, transfer, and other appropriate data protocols to ensure maximum data security for all data utilized to create the dashboards.
Q2	• Present performance dashboard to Steering Committee for review and approval. • Begin populating and disseminating dashboards with baseline data. • Identify any challenges to data collection or reporting that need addressing.
Q3	• Address any data collection or reporting challenges identified in Q2. • Continue to distribute dashboards for review by the Steering Committee and relevant subcommittees.
Q4	• Continue to distribute dashboards for review by the Steering Committee and relevant subcommittees. • Present preliminary data on year 1 performance to leadership.
Continuous Quality Improvement (CQI)	
Year 1	**Action Steps**
Q1	• Begin working with select primary practices in addition to key stakeholders at HCGH to introduce CQI processes, identify CQI champions, and develop useful CQI measures. • Identify data needed for CQI. • Develop CQI dashboards for use in quality improvement activities at the primary care level, HCGH and post-acute care.
Q2	• Present CQI dashboards and Steering Committee and Partnership Performance Subcommittee for review and approval. • Conduct CQI initial assessment with Centennial Medical Group (assessment already completed with other two pilot practices). • Conduct CQI initial assessments of acute and post-acute intervention sites. • Work with physician champions and CQI teams to review CQI dashboards regularly and develop improvement plans.
Q3	• Conduct quality analytics assessments of the second set of three primary care practices.

	• Work with physician champions and CQI teams to review CQI dashboards regularly and develop improvement plans. • Work with acute and post-acute intervention sites to review dashboards and develop improvement plans.
Q4	• Work with physician champions and CQI teams to review CQI dashboards regularly, develop improvement plans and report findings to Partnership Performance Subcommittee. • Analyze outcomes across partners to identify regional strengths and opportunities, and provide recommendations for CQI priorities to leadership. • Conduct quality analytics assessments of the third set of three primary care practices, which will onboard in 2017.
Evaluation	
Year 1	**Action Steps**
Q1	• Engage stakeholders, including target population of patients, providers, and those involved with program operations to inform and choose evaluation questions. • Describe the program: o Describe the interventions and their components, including workforce, protocols, and trainings. o Describe the target and enrolled populations. • Design the evaluation using an appropriate comparison group and methods, and addressing the concerns of the stakeholders.
Q2	• Gather data using available data sources, including CRISP, hospital electronic records, CMS claims, participant surveys, process metrics, and qualitative data.
Q3	• Gather data using available data sources, including CRISP, hospital electronic records, CMS claims, participant surveys, process metrics, and qualitative data.
Q4	• Conduct analyses according to pre-specified design and analytic plan. • Share and disseminate the findings to inform the Learning Health System. • Adapt and modify the intervention to target it and enhance its impact.
ACUTE INTERVENTIONS HCRP is focused on identifying Medicare high utilizers and providing a warm handoff to CCT. In addition to expanding the existing referral pathway from inpatient units, we will expand to include work in Emergency Department. Also, we will continue our efforts to address a critical gap in the behavioral health services care continuum through the Rapid Access Program.	
Year 1	**Action Steps**
Acute Referral Pathway to CCT	
Q1	• JHHCG Home Care Coordinators will begin coordinating the referral process and providing warm handoffs from HCGH inpatient floors to CCT.
Q2	• Continue to refer eligible patients • Convene regular team meetings with HCCs and CCT staff to discuss referral, identify areas for improvement and evaluate performance.
Q3	• Continue to refer eligible patients • Convene regular team meetings with HCCs and CCT staff to discuss referral, identify areas for improvement and evaluate performance.
Q4	• Continue to refer eligible patients • Convene regular team meetings with HCCs and CCT staff to discuss referral, identify areas for improvement and evaluate performance.

Care Coordination from the Emergency Department (ED)	
Q1	• HCGH Innovation and Continuous Improvement facilitators will work with ED to design a process for early identification of patients requiring support to address barriers to care upon discharge with a focus on target population.
Q2	• Test process for early identification of patients needing referral to CCT or connection to community resources and services. • Post and hire for community health worker (CHW) position in the ED to coordinate referrals to CCT and community resources.
Q3	• CHW starts in ED. • Go live with early patient identification and referral process to CCT and community resources.
Q4	• Continue to refer eligible patients and evaluate performance.
Rapid Access Program (RAP)	
Q1	• Continue to refer eligible patients, hold monthly case conferences, and evaluate performance. (RAP went live in September 2015)
Q2	• Continue to refer eligible patients, hold monthly case conferences, and evaluate performance.
Q3	• Continue to refer eligible patients, hold monthly case conferences, and evaluate performance. • Analyze data on year 1 performance and opportunity for expansion and present recommendations to leadership.
Q4	• Continued activity depends on decision made at end of Q3.
POST-ACUTE INTERVENTIONS The work in the post-acute setting focuses on a new collaborative partnership between HCGH, Lorien Health Systems and Gilchrist Services. Interventions seek to reduce readmissions and potentially avoidable utilization by our target population residing in Lorien skilled nursing facilities located in Howard County. Based on readmission data and the patient acuity level, efforts begin with Lorien's Columbia location.	
Year 1	**Action Steps**
Skilled Nursing Facility Referral Pathway to CCT	
Q1	• Convene CCT, JHHCG and Lorien to design a standardized process at Lorien facilities to determine eligibility for CCT, refer patients, and provide a warm handoff to CCT to support the transition from SNF to home.
Q2	• Go live with SNF referral pathway to CCT at Lorien's Columbia facility.
Q3	• Continue referring eligible patients to CCT. • Reconvene staff to define referral process and accountabilities at Lorien's Elkridge facility.
Q4	• Go live with SNF referral pathway to CCT at Lorien's Elkridge facility. • Assess patient profile at Lorien's Encore facility to determine if CCT referral pathway is needed.
Standardized Discharge Process from HCGH to Skilled Nursing Facilities	
Q1	• Develop a standard checklist of steps in the discharge process that must be completed for all patients going to a facility to help guide providers and staff in discharge planning. • Embed pharmacy technicians in the ED to perform medication reconciliation for patients before they are transferred to inpatient floors.
Q2	• Train staff and providers on use of checklist.

	• Implement standard checklist for discharge to facility. • Work with HCGH Patient and Family Advisory Council (PFAC) and HCRP Consumer Engagement subcommittee to develop educational materials to help patients and their families understand Medicare rules and requirements regarding qualifying SNF placement.
Q3	• Begin distributing patient educational materials. • Continue to monitor discharge process and identify areas for improvement.
Q4	• Continue to monitor discharge process and identify areas for improvement.
Care Pathways at Skilled Nursing Facilities	
Q1	• Summarize existing evidence-based best practices to use in developing care pathways for sepsis and congestive heart failure. • Facilitate planning meetings to finalize care pathways with members of SNF collaborative.
Q2	• Execute contracts with specialists (infectious disease and cardiology) to round on patients at Lorien to support care pathway deployment. • Complete staff training tied to care pathways. • Go live with sepsis and CHF pathways at Lorien's Columbia facility.
Q3	• Convene regular meetings to touch base on implementation of care pathways and monitor performance. • Revisit SNF-to-HCGH readmission data to identify next condition for care pathway development.
Q4	• Convene regular meetings to touch base on implementation of care pathways and monitor performance. • Research evidenced-based best practices for selected 3rd care pathway. • Facilitate planning meetings to develop 3rd care pathway and develop staff training and implementation timeline.
Telemedicine	
Q1	• N/A
Q2	• Assess feasibility and need for use of telemedicine to manage patients at the SNF instead of transferring to hospital.
Q3	• Reach a decision regarding utility of telemedicine collaborative.
Q4	• Based on decision made in Q3, action steps in Q4 might involve securing funding and planning for implementation of telemedicine program.
Monthly Case Review Meetings	
Q1	• Develop charter outlining participants, roles, responsibilities and expectations of monthly case review meetings. • Finalize draft of dashboard to drive discussion and monitor performance. • Facilitate first care review meeting - approve charter and dashboard. • Schedule subsequent meetings for CY16.
Q2	• Continue monthly meetings. • As opportunities for improvement are identified – determine new work plans and facilitate rapid improvement events and/or trainings as needed. (For example, hospitalists may require trainings to address issues in documentation.)
Q3	• Continue monthly meetings and related improvement efforts.
Q4	• Continue monthly meetings and related improvement efforts.
PRIMARY CARE INTERVENTIONS	

The Howard County Advanced Primary Care Collaborative (APCC) serves as the vehicle to develop active provider referral pathways to CCT. This work reinforces the medical home concept that participating practices have embraced as a model of primary care that is patient centered, comprehensive, coordinated, accessible, and committed to quality and safety.	
Year 1	**Action Steps**
Primary Care Referral Pathway to CCT	
Q1	• Pilot practices – Centennial Medical Group, JHCP, and Columbia Medical Practice – identify HCRP physician leads. • HCGH will finalize contracts between HCGH and practices to cover administrative time for physician leads. • Pilot practices to go live with referral pathway. • CCT Embedded Care Coordinator will work with practices and begin standardized process of using CRISP data and engaging with providers to identify eligible patients and make referrals and warm handoffs to CCT. • Begin sharing CCT care plan with practices by fax and uploading them to electronic medical records. • Begin monthly meetings with physician champions at pilot sites. • Implement coordination processes between CCT and JMAP case managers for patients at the two JMAP-affiliated practices who are identified as eligible for CCT.
Q2	• 2nd set of practices – Maryland Primary Care Physicians, Chase Brexton, Personal Physician Care – identify HCRP physician leads. • HCGH will finalize contracts between HCGH and practices to cover administrative time for physician leads. • Convene planning meetings with 2nd set to develop workflows and processes for referral pathway. • Continue monthly check-ins with physician leads at pilot sites.
Q3	• Go live with referrals to CCT at the second set of three practices. • Continue monthly check-ins with physician leads.
Q4	• Assess workload and capacity of Embedded Care Coordinator to determine need for additional staffing. • 3rd set of practices to identify HCRP physician leads. • HCGH will finalize contracts between HCGH and practices to cover administrative time for physician leads. • Convene planning meetings with 3rd to develop workflows and processes for referral pathway. • Continue monthly check-ins with physician leads.
Provider Alignment	
Q1	• Convene representatives from the existing three primary care forums to begin planning for alignment of the forums into a single committee tied to HCRP Provider Alignment and Network Development Subcommittee.
Q2	• Hold two additional planning meetings and finalize strategic plan for provider alignment work.
Q3	• HCRP Provider Alignment and Network Development Committee to approve strategic plan. • Begin project work tied to strategic plan.
Q4	• Continue efforts tied to strategic plan.

PATIENT ENGAGEMENT TRAINING (PET)	
PET helps providers and organizations realize the goals of patient-centered care by changing the behavior of health care teams to enable patients to become active partners their care. It uses evidence-based principles and tools of motivational interviewing to offers training in combination with support and maintenance activities.	
Year 1	**Action Steps**
Q1	• Provide PET to all CCT staff through Johns Hopkins HealthCare's existing training program.
Q2	• Identify PET champions at in acute and post-acute settings and in primary care practices. • Work with PET Team and PET champions to develop training plan. • Schedule training events and PET champion meetings to take place in Q3 and Q4.
Q3	• Identify providers and staff in acute, post-acute and primary care settings for trainings. • Conduct training events. • Convene quarterly meeting with PET champions.
Q4	• Develop metrics and evaluation plan to measure success of PET and maintenance activities. • Conduct training events. • Deploy skill maintenance activities. • Convene quarterly meeting with PET champions.
SPECIALIZED CARE COORDINATION	
While CCT is considered the primary intervention for care coordination, HCRP will connect patients to specialized programs offered through Gilchrist Services and the faith community. In addition we will work to establish a collaborative with assisted living facilities.	
Year 1	**Action Steps**
Gilchrist Services *(Support Our Elders; Care Choices; Gilchrist Transitions)*	
Q1	• Convene planning meetings to design referral pathways from HCGH, Lorien, JHHCG, CCT and select specialists (e.g. oncology, cardiology) to Gilchrist's specialized care coordination programs. • Develop process and outcome measures.
Q2	• Go live with referral pathways to Gilchrist programs.
Q3	• Continue to refer eligible patients and evaluate performance.
Q4	• Continue to refer eligible patients and evaluate performance.
Journey to Better Health	
Q1	• N/A
Q2	• Facilitate planning meetings to design referral pathways from HCRP interventions to Journey to Better Health. • Develop process and outcome measures. • Go live with referral pathways from CCT and primary care practices to Journey to Better Health.
Q3	• Continue to refer eligible patients and evaluate performance.
Q4	• Continue to refer eligible patients and evaluate performance.
Assisted Living Facility Partnership	
Q1	N/A
Q2	N/A
Q3	N/A
Q4	• Engage with assisted living facilities in Howard County to better manage the care of

	residential patients. • Assess the current state of care and patient outcomes and identify opportunities for interventions such as CCT to begin working with residential patients in 2017.
SUPPORT TOOLS FOR CARE COORDINATION To enhance coordination and communication with patients and between providers, HCRP will deploy various support tools. Remote Patient Monitoring will enable real-time management of high risk patients in their homes, caregiver support will be made available to those caring for the patients in our target population, and a community resources management system will assess individuals' social needs and facilitate and track referrals to community-based services such as food banks or educational classes. CRISP's ICN and plans for a secure texting system will also support care coordination.	
Year 1	**Action Steps**
Remote Patient Monitoring	
Q1	• Facilitate a planning meeting to operationalize expansion of HCGH referrals to JHHCG's remote patient monitoring program. • Determine prioritized eligibility criteria for referrals (current budget allows for 50 patients in CY16). • JHHCG to work with CCT to map out process for how RPM will work with CCT clients how RPM will work with CCT clients.
Q2	• Go live with expanded referral processes. • Schedule and convene regular case conferences.
Q3	• Continue to refer patients and evaluate performance.
Q4	• Continue to refer patients and evaluate performance. • Assess need in patient population to inform CY17 budget planning.
Caregiver Support	
Q1	• Convene meeting with Howard County's Office on Aging (OOA) to develop a referral pathway for caregivers from CCT to the OOA program coordinator to help enroll individuals in a Powerful Tools for Caregivers class.
Q2	• Go live with CCT referrals to OOA. First class expected to launch in April.
Q3	• Work with OOA to develop expanded service offerings for caregivers.
Q4	• Work with OOA to develop expanded service offerings for caregivers.
Community Resources Management System	
Q1	• Howard County Health Department will release RFP for a community resources management system.
Q2	• HCHD review committee will review and score proposals, invite top applicants to provide demonstrations.
Q3	• System to be selected. Development timeline to be created. • Requirements and design work to begin.
Q4	• Further activity depends on development timeline.
CRISP	
Year 1	**Action Steps**
Q1	• Identify CRISP training needs in all care settings and provide training accordingly. • CRISP will coordinate demonstrations of the highest scoring secure texting vendors that responded to the Request for Proposal. • Select final vendor for secure texting solution. • Pilot secure texting solution.

	• Expose CCT information loaded into CRISP through the Care Profile. • Engage subscribed providers to enhance their current patient panels to indicate associated PCP name and contact information.
Q2	• Transition from sharing CCT care plan with primary care practices by fax to sharing it through CRISP. • Pilot the inclusion of basic ambulatory data in the Patient Total Health (PaTH) Report to support analytic views of care across the continuum. • Pilot enhancements to CRISP connectivity with SNFs.
Q3	• Care alerts Pilot provider access to the Care Profile. • Pilot the use of Care Alerts.
Q4	• Expand secure texting pilot to additional providers.

8. Budget and Expenditures

Hospital/Applicant:	Howard County General Hospital/ Howard County Regional Partnership
Number of Interventions:	7
Total Budget Requested:	$1,533,945

The budget table (Table 7) below outlines the Regional Partnership's Costs. Upon review, please note the following:

- The "Total Amount" column is the cost for an entire calendar year.
- The "CY16 Request" column reflects the prorated costs for 2016 based on the implementation timeline and other sources of funding, both one-time and expected ongoing investments. Section 9 offers additional detail regarding other sources of funding.
- Staff salaries are inclusive of benefit costs.
- Items in italics are expenses tied to HCRP but funded through other sources and therefore excluded from the total expenses calculations.
- To parallel the discussion in previous sections, costs are grouped into eight categories – 1) HCRP Leadership, 2) HCRP Operations (Analytics, CQI and Evaluation); 3) CCT; 4) Acute Interventions; 5) Post-Acute Interventions; 6) Primary Care Interventions; 7) Patient Engagement Training; 8) Specialized Care Coordination and 9) Support Tools for Care Coordination.

Table 7: Budget Template

BUDGET CATEGORY 1: HCRP Leadership*				
Position or Expenditure Type and Description	**Salary or Other Costs**	**% Effort (Months)**	**Total Amount**	**CY16 Request**
Program Administrator Oversee daily operations, budget and committee management.	$125,000	100% (10)	$125,000	$104,167
Intervention and Analytics Manager Manage intervention implementation and direct analytics. (0.5 FTE funded by Implementation, 0.5 FTE funded by HCGH Infrastructure.)	$66,250	50% (12)	$66,250	$66,250

Project Manager Provide project management, coordinate and manage communication between partners, including maintenance of Basecamp.	$78,750	100% (10)	$78,750	$65,625
Non-salary Computer, phone, office supplies, travel, meeting costs for Steering and Subcommittees, and Basecamp.	$9,588	-	$9,588	$9,588
Leadership Subtotal			**$279,588**	**$245,630**
BUDGET CATEGORY 2: HCRP Operations (Analytics, CQI and Evaluation)				
Position or Expenditure Type and Description	**Salary or Other Costs**	**% Effort (Months)**	**Total Amount**	**CY16 Request**
Analytics				
Lead Data Analyst *Funding from infrastructure funds.*	*$100,000*	*100% (11)*	-	-
Expand HCAHPS survey sample $0.65/patient for 2,610 patients in target population.	$1,696	-	$1,696	$1,696
Administer CG CAHPS in primary care $2,000/practice for 4 sites (excluding 2 JMAP sites). 7 sites by CY17.	$14,000	-	$14,000	$8,000
SAS licenses $55/year for 2 licenses.	$110	-	$110	$110
Subtotal			**$15,806**	**$9,806**
CQI				
Quality Improvement RN	$31,680	50% (6)	$31,680	$31,680
Quality Improvement data analyst	$17,424	50% (6)	$17,424	$17,424
Indirect costs for JHCP Ambulatory Quality and Transformation Team (15%)	$7,365.60	-	$7,365.60	$7,365.60
Subtotal			**$56,470**	**$56,470**
Evaluation				
Welch Center faculty and staff from Schools of Medicine and Public Health Project leadership and management, faculty advisors and economist, data management and analysis, biostatistician, cost savings analyst.	$65,577	Multiple staff involved (9)	$65,577	$65,577
Subtotal			**$65,577**	**$65,577**
Operations Subtotal			**$137,853**	**$131,853**

BUDGET CATEGORY 3: CCT				
Position or Expenditure Type and Description	**Salary or Other Costs**	**% Effort (Months)**	**Total Amount**	**CY16 Request**
Staffing**				
Nurse Program Manager	$76,700	100% (12)	$76,700	$36,725
Admin Coordinator	$41,300	100% (12)	$41,300	$19,775
CHN (2)	$146,320	100% (12)	$146,320	$70,060
CHW Lead	$53,100	100% (12)	$53,100	$25,425
CHW (5)	$247,800	100% (12)	$247,800	$170,310
CSW	$70,800	100% (12)	$70,800	$33,900
Embedded Care Coordinator	$51,920	100% (12)	$51,920	$24,860
Travel	$22,000	-	$22,000	$13,600
Non salary – Insurance, phones, laptops, office supplies	$15,952	-	$15,952	$11,100
Subtotal			**$725,892**	**$405,755**
Technical Assistance, Training, and CM Software				
Camden Coalition Technical Assistance	$5,000	-	$5,000	$5,000
CCT Staff Training CPR, CHW training, Healthy Homes, Medicare 101/102, county caregiver conference, motivational interviewing	$500	-	$500	$500
TrackVia License and Technical Support	$4,020	-	$4,020	$1,440
Box Licenses	$3,360	-	$3,360	$1,680
Subtotal			**$12,880**	**$8,620**
Patient Support				
Patient education materials	$5,000	-	$5,000	$5,000
Pill boxes	$4,320	-	$4,320	$2,880
Emergency transportation vouchers	$1,250	-	$1,250	$1,250
Emergency food gift cards	$2,500	-	$2,500	$2,500
Subtotal			**$13,070**	**$11,630**
CCT Indirect Costs (10%)	$75,184	-	$75,184	$42,600.50
CCT Subtotal			**$827,026**	**$466,494**

BUDGET CATEGORY 4: Acute Interventions				
Position or Expenditure Type and Description	**Salary or Other Costs**	**% Effort (Months)**	**Total Amount**	**CY16 Request**
Embedded CHW	$56,250	100% (6)	$56,250	$28,125
JHHCG Home Care Coordinators *Incremental cost to expand to manage CCT referrals. Funded by HCGH Infrastructure.*	*$50,943*	12 months	-	-
Rapid Access Program *HCGH and Horizon funding.*	*$125,000*	-	-	-
Acute Subtotal			**$56,250**	**$28,125**

BUDGET CATEGORY 5: Post-Acute Interventions				
Position or Expenditure Type and Description	**Salary or Other Costs**	**% Effort (Months)**	**Total Amount**	**CY16 Request**
Hospitalist geriatrician *Protected time to manage SNF collaborative. Includes $10,000 in administrative support. Funded by Infrastructure.*	*$43,660*	*20% (12)*	-	-
Infectious Disease Specialist Rounding at Lorien facilities to support sepsis care pathway.	$60,000	9 months	$60,000	$45,000
Cardiology Specialist Rounding at Lorien facilities to support CHF care pathway.	$60,000	9 months	$60,000	$45,000
Post-Acute Subtotal			**$120,000**	**$90,000**
BUDGET CATEGORY 6: Primary Care Interventions				
Position or Expenditure Type and Description	**Salary or Other Costs**	**% Effort (Months)**	**Total Amount**	**CY16 Request**
HCRP Physician Lead 1 lead per practice, 9 practices. $125/hr., up to 5 hours/month for total of $625 per practice/month. Per implementation timeline - 3 practices will be on board for 12 months ($7500 per practice/year) and 3 practices for 6 months ($3750 per practice/year). Final 3 practices in CY17.	$67,500		$67,500	$33,750
Primary Care Subtotal			**$67,500**	**$33,750**
BUDGET CATEGORY 7: Patient Engagement Training				
Position or Expenditure Type and Description	**Salary or Other Costs**	**% Effort (Months)**	**Total Amount**	**CY16 Request**
PET Faculty Leaders	$19,028	7% (6)	$19,028	$9,514
Supplies	$2,200	-	$2,200	$1,100
PET Subtotal			**$21,228**	**$10,614**
BUDGET CATEGORY 8: Specialized Care Coordination				
Position or Expenditure Type and Description	**Salary or Other Costs**	**% Effort (Months)**	**Total Amount**	**CY16 Request**
Support Our Elders *Operated by Gilchrist Services, funded by Horizon Foundation.*	*$150,000*	-	-	-
Care Choices *Operated by Gilchrist Services, funded by CMMI grant.*	*$45,000*	-	-	-
Transitions *Operated and funded by Gilchrist Services.*	*$32,500*	-	-	-

Journey To Better Health *Operated by Healthy Howard, funded by Health Department and Horizon Foundation.*	*$382,308*	-	-	-
Specialized Care Coordination Subtotal			**$0**	**$0**
BUDGET CATEGORY 9: Support Tools for Care Coordination				
Position or Expenditure Type and Description	**Salary or Other Costs**	**% Effort (Months)**	**Total Amount**	**CY16 Request**
Remote Patient Monitoring $245/patient/month with average time in program of 47 days. Funding for 50 patients for 2 months of monitoring each in CY16.	$24,500	-	$24,500	$24,500
Caregiver Support *Staff time, licensing fee, course materials, and a book provided to caregivers.*	*$5,000*	-	-	-
Support Tools for Care Coordination Subtotal			**$24,500**	**$24,500**
GRAND TOTAL			**$1,533,945**	**$1,033,077**

*The Lead Data analyst is listed as part of the leadership team in Section 2, Table 4 but is included in the budget under Operations.

**Appendix B describes the roles and responsibilities of each CCT staff member.

9. Budget and Expenditures Narrative

Section 8 provides a line item budget with expenditures' descriptions. The total annual cost for HCRP is $1,533,945. The prorated cost for 2016 is $1,033,077. As noted above, partnership activities are supported by other sources of funding, both one-time and expected ongoing investments. Table 8 summarizes the additional investments made to support the Regional Partnership. Costs are for CY 2016. The investments from partner organizations total more than $1.7 million, excluding in-kind support. The table below highlights the strong community partnership and collaboration that exists to improve the health and wellbeing of county residents. The Regional Partnership will not be successful in reaching its goals without this continued level of engagement and support.

Table 8: External Funding Sources Supporting Regional Partnership Interventions

Community Partner	Activity Description	CY16 Funding
HCGH	1. Intervention and Analytics Manager (0.5 FTE Jan-Jun 2016, 1.0 FTE for FY17) 2. Lead Data Analyst (1 FTE) 3. Hospitalist geriatrician – 20% protected time and administrative support to lead SNF collaborative 4. JHHCG Home Care Coordinators – incremental cost to increase staffing to manage acute care referrals to CCT 5. Rapid Access Program pilot ($75,000 from Sept 15- Aug 16)	1. $132,500 2. $100,000 3. $43,660 4. $50,945 5. $50,000

	6. Advanced Primary Care Collaborative support (Jan-Jun 2016) 7. Initial planning work to align 3 primary care working groups under Regional Partnership and then provide ongoing operational oversight and administrative support **Subtotal**	6. $20,000 7. $20,000 **$417,105**
Health Department	1. CCT program funding (3 year grant ends in Jun 2016) 2. Community Resources Management Platform 3. Journey to Better Health ($145,845 Jan to Jun 2016, if FY17 budget is approved, $145,845 July to Dec 2016) 4. Advanced Primary Care Collaborative 5. Local Health Improvement Coalition ($191,000 for FY16, if FY17 budget approved, expect level funding) **Subtotal**	1. $242,595 2. $250,000 3. $291,691 4. $22,250 5. $191,000 **$997,536**
Horizon Foundation	1. Rapid Access Program pilot ($50,000 from 9/1/15-8/31/16) 2. Support our Elders program offered by Gilchrist Services 3. Volunteer Coordinator for Journey to Better Health **Subtotal**	1. $33,333 2. $150,000 3. $90,617 **$273,950**
Office on Aging	1. Training staff to deliver Powerful Tools for Caregivers Course **Subtotal**	 **$5,000**
Gilchrist Services	1. Transitions program 2. Medicare Care Choices program **Subtotal**	1. $32,500 2. $45,000 **$77,500**
	GRAND TOTAL	**$1,771,091**

10. Proposal Summary

Hospital/Applicant:	Howard County General Hospital (HCGH)/Howard County Regional Partnership (HCRP)
Date of Submission:	December 21, 2015
Health System Affiliation:	Johns Hopkins Health System
Number of Interventions:	7
Total Budget Request:	$1,533,945

Target Patient Population
Given Howard County's growing aging population and the high costs associated with chronic conditions in the older population, HCRP will initially focus its efforts on county residents who are Medicare high utilizers. Concentrating on high cost, complex Medicare beneficiaries aligns with the goals of Maryland's All-Payer Model. The Regional Partnership defines a Medicare "high utilizer" as a Howard County resident with at least two hospital encounters (inpatient, observation and ER visit) at HCGH in the past year, including individuals who are dually eligible for Medicare and Medicaid. Using FY15 case mix data from HCGH, 7,280 patients (all payer) were identified as high utilizers. Among this group, 1,940 were Medicare beneficiaries and 670 were dually eligible, which together comprised 36% of the total high utilizer population in Howard County. The target population (2,610) accounted for 3,579 inpatient visits, 196 observation stays greater than or equal to 24 hours, 243 observation stays less than 24 hours, and 3,859 ED visits. Of the 2,610 patients in the target population, the majority (1,710) had between 2 and 6 chronic conditions. Eighty percent (2,090) of the target population is 65 years or older; 51% of those individuals are 80 years or older.
Summary of program or model for each program intervention to be implemented.
HCRP will deploy specific strategies that result in a highly reliable, efficient, and patient-centered health care delivery system. Interventions to be implemented or expanded in 2016 include: **1) Community Care Team (CCT)** – Existing care coordination intervention, based on Camden Coalition model. Referral pathway from acute setting will be expanded and two new pathways implemented from the post-acute and primary care settings. **2) Acute Interventions** – Embed a community health worker in the ED to coordinate real-time referrals to community-based services. Continue existing Rapid Access Program to address urgent mental health care needs. **3) Post-Acute Interventions** – Implement final phase of standardized discharge process from HCGH to Lorien's three skilled nursing facilities (SNFs). Implement care pathways for sepsis and congestive heart failure (CHF), the two leading causes of readmissions from SNFs. Establish referral pathway to CCT from SNF. Monthly case conferences to review discharges, planned and unplanned transfers and identify areas for improvement. **4) Primary Care Interventions** – Implement referral pathway to CCT in six practices. Continue existing practice transformation efforts. Align Advanced Primary Care Collaborative with HCRP. **5) Patient Engagement Training (PET)** – Training program for CCT, providers and staff in each care setting to realize goals of person-centered care. **6) Specialized Care Coordination** – Through partnership with Gilchrist Services, implement 1) in-home medical care program for home-bound frail elderly; 2) care choices program for hospice eligible cancer, COPD, CHF and HIV/AIDS patients; and 3) care coordination program for those discharged from hospice. Expand connection points to faith-based initiative - Journey to Better Health - for those needing ongoing community support. **7) Support Tools for Care Coordination** – Expand remote patient monitoring program for CHF patients. Implement "Powerful Tools for Caregivers" program through County Office on Aging. Develop Community Resources Management System with County Health Department.

Measurement and Outcomes Goals
HCRP's initial focus is on Medicare high utilizers but ultimately looks to address the needs of all Howard County residents. To measure these outcomes and progress, HCRP created a high level metrics dashboard that represents the key interventions proposed, key quality and patient satisfaction measures, and key outcome measures to be monitored. Internally, more extensive monitoring of each intervention will be done for ongoing operational and quality improvement purposes. The Ambulatory Quality and Transformation Team from Johns Hopkins Community Physicians will perform continuous quality improvement (CQI) functions for our partner primary care practices. The population health analytics team established by HCGH, will perform CQI functions for the acute and post-acute settings, in coordination with existing internal hospital efforts as well as those in place for Lorien facilities. HCRP's Partnership Performance subcommittee will monitor performance and outcome metrics, oversee quality improvement activities and, if needed, propose changes to programs. Based on an analysis of FY15 case mix data, there are 2,610 individuals in our target population. The average total hospitals charges is $16,590 per person. The average number of total visits was 3.02 per person, with an average hospitalization and observation rate of 1.61 per person and an average ER visit rate of 1.48 per person. The readmission rate for the target group was 21% (781) and potentially avoidable utilization (based on prevention quality indicator categories) accounted for 19% (734) of the 3,775 inpatient and observation cases (greater than or equal to 24 hours) in the target population.
Return on Investment and Total Cost of Care Savings
HCRP anticipates a 5% savings on the annual charges associated with the target population engaged in CY16. The savings rate increases to 10% in CY17 as initiatives continue to positively impact the patients engaged. Finally, by years three and four of the projection period, the savings rate stabilizes at 15% as the initiatives are fully productive and successful. Savings are recognized through the reduction of readmissions, the avoidance of hospitalization encounters and the reduction in the length of stay for those patients who ultimately require acute care services. The ROI projections anticipate that HCRP will reach 100% of the target population in year three (CY18). This also represents 36% of all-payer high utilizers. For CY16, 25% of the target population will be engaged in Regional Partnership interventions; 75% will be reached in CY17. The projections are based primarily on CCT, the Rapid Access Program and Gilchrist initiatives. Other initiatives such as physician alignment and provider education, the development of a SNF collaborative and other community partnerships should enhance the ability to appropriately reduce acute care utilization, achieve greater savings and improve the ROI outcomes.
Scalability and Sustainability Plan
HCRP interventions are scalable over time. Our intervention timeline, while aggressive, is sound in its staged rollout and affords for ramp up time as well as a period of stabilization and assessment. Real-time evaluation of Regional Partnership efforts will be critical to our success. The Partnership Performance subcommittee of HCRP's Steering Committee will be tasked with ongoing performance monitoring and rapid cycle feedback to enable any necessary mid-course changes. A principal goal of the interventions is the reduction of readmissions and other potentially avoidable utilization. Commensurate with a reduction in avoidable utilization and good expense management, the global revenue model (GBR) should serve as one source of sustainable funding for components of care coordination and other HCRP activities. Just as we will work with the HSCRC and the payer community to identify new funding opportunities, HCRP will also look to its community partners. Several HCRP interventions are already funded in part by community partners, including the specialized care coordination programs, the community resources management system and RAP. In addition, HCRP is working with primary care practices to explore opportunities to use a portion of Medicare reimbursement for TCM and CCM to support care coordination interventions.
Participating Partners and Decision-making Process
The Regional Partnership is made up of representatives from the hospital, primary care and specialty care

providers, skilled nursing facilities, home care services, behavior health providers and community-based organizations. Several key community-based organizations include the Health Department, the Department of Citizen Services and its Office on Aging, as well as member organizations of the Local Health Improvement Coalition (LHIC). During the planning grant process, we actively engaged with patients, family and caregivers and will continue to keep the voice of the patient and family at the center of HCRP efforts moving forward. Howard County is unique in that it has one hospital within its geographic borders. HCGH is truly the community's hospital; a majority of residents utilize the hospital for acute care needs. The HCGH Board approved the creation of a new board committee – the HCRP Steering Committee. This committee sets strategic direction and priorities**;** makes decisions regarding target population, budget and reinvestment of savings; and approves changes to interventions. Subcommittees will be established to perform planning and monitoring functions for key aspects of HCRP: Partnership Performance, Finance and Sustainability; Provide Alignment and Network Development; Consumer and Family/Caregiver Engagement; and Community Health Integration and Social Determinants.

Implementation Plan

The Maryland All-Payer Model provides a glide-path for change to realize health system transformation. HCRP will serve as the primary vehicle to coordinate and deploy specific strategies to drive this transformation. As outlined above in the summary of the program, our work centers around seven categories of interventions – 1) Community Care Team; 2) Acute Care; 3) Post-Acute Care; 4) Primary Care; 5) Patient Engagement Training; 6) Specialized Care Coordination; and 7) Support Tools for Care Coordination. Detailed project plans have been developed for each intervention category. In addition, the Regional Partnership has mapped out a plan for standing up HCRP leadership and operations (including analytics, CQI and evaluation). We have prioritized shovel-ready programs, and therefore much of the work in CY16 will focus on the expansion of existing initiatives such our principal care coordination intervention – CCT. HCRP will fully leverage existing programs of community partners including Gilchrist Services, Healthy Howard's Journey to Better Health, and the County's Office on Aging. We are also breaking new ground with our SNF collaborative and with new programs in our primary and acute care settings to address the needs of our target population of Medicare high utilizers.

Budget and Expenditures: Include budget for each intervention.

The total annual cost for HCRP is $1,533,945. The prorated costs for 2016 is $1,033,077 and is based on the implementation timeline and other sources of funding, both one-time and expected ongoing investments. For example, the CCT has funding through June from the Health Department as well as a grant from the Department of Health and Mental Hygiene. In addition, the hospital's strategic transformation plan is aligned with the work of the Regional Partnership. Building on infrastructure investments made to date, HCGH has committed to funding efforts in the areas of care coordination, population health analytics, behavioral health and provider alignment. The following table lists the budget (both total annual cost and prorated 2016 cost) for leadership, operations, and interventions. Interventions that fall under Specialized Care Coordination are not included as the costs at this time are covered by partner organizations.

Budget Category	**Total Annual Cost**	**Prorated CY16 Request**
HCRP Leadership	$279,588	$245,630
HCRP Operations (Analytics, CQI, Evaluation)	$137,853	$131,853
CCT	$827,026	$468,606
Acute Interventions	$56,250	$28,125
Post-Acute Interventions	$120,000	$90,000
Primary Care Interventions	$67,500	$33,750
Patient Engagement Training	$21,228	$10,614
Support Tools for Care Coordination	$24,500	$24,500
Total:	**$1,533,945**	**$1,033,077**

Appendices: Table of Contents

BRG Healthcare

complex problems.
EXPERT ADVICE.

Howard County General Hospital: High Utilizer Strategy

December 17, 2015

High Utilizer Definition

- High Utilizer Definition:
  - Data period: Fiscal Year 2015
  - ≥ 2 encounters of any kind (Inpatient/Observation/ER) in the year
  - Exclusions:
    - Age 0-17
    - Mortalities
  - Limited to patients residing in 25 distinct Howard County Area Zip Codes:
    - 20701, 20723, 20759, 20763, 20777, 20794, 20833, 21029, 21036, 21042, 21043, 21044, 21045, 21046, 21075, 21076, 21104, 21163, 21723, 21737, 21738, 21771, 21784, 21794, 21797
  - Medicare Payor Focus:
    - Medicare FFS, Medicare MCO, Dual Eligibles

High Utilizer Definition

- 7,280 patients are identified as All Payor High Utilizers
- High Utilizers are then split into cohorts by payor, with focus on the Medicare and Dual Eligible populations

	Total Hospital	All Payor High Utilizers	Medicare Only	Dual Eligible	Medicaid Only	Other
Unique Patients	59,663	7,280	1,940	670	1,508	3,162
Total Charges	$226.8 M	$77.3 M	$33.4 M	$10.0 M	$11.7 M	$22.2 M
Total Visits	80,259	20,176	5,522	2,355	4,460	7,839
IP Visits	20,026	6,085	2,776	803	895	1,611
OBV Visits ≥24hrs	1,415	524	143	53	153	175
OBV Visits <24hrs	1,625	506	176	67	90	173
ER Visits	57,193	13,061	2,427	1,432	3,322	5,880
Avg Charge/Patient	$3.8 K	$10.6 K	$17.2 K	$14.9 K	$7.8 K	$7.0 K
Avg Visits/Patient	1.3	2.8	2.8	3.5	3.0	2.5
(IP+OBV≥24)/Patient	0.4	0.9	1.5	1.3	0.7	0.6
ER/Patient	1.0	1.8	1.3	2.1	2.2	1.9

Target Population:

MEDICARE AND DUAL ELIGIBLE

Target High Utilizers

- 2,610 patients (36% of high utilizers) are Medicare or Dual Eligible patients
  - Medicare payor includes FFS and MCO
- 27% of total hospital Medicare/Dual patients are high utilizers, accounting for 49% of total HCGH Medicare and Dual charges.

	Target High Utilizers	Total Medicare/ Dual Patients	Target HU % of Total Medicare/ Dual	Total All Payor High Utilizers	Target HU % of Total High Utilizers
Unique Patients	2,610	9,565	27%	7,280	36%
Total Charges	$43.3 M	$89.1 M	49%	$77.3 M	56%
Total Visits	7,877	15,952	49%	20,176	39%
IP Visits	3,579	6,878	52%	6,085	59%
OBV Visits ≥24hrs	196	374	52%	524	37%
OBV Visits <24hrs	243	539	45%	506	48%
ER Visits	3,859	8,161	47%	13,061	30%

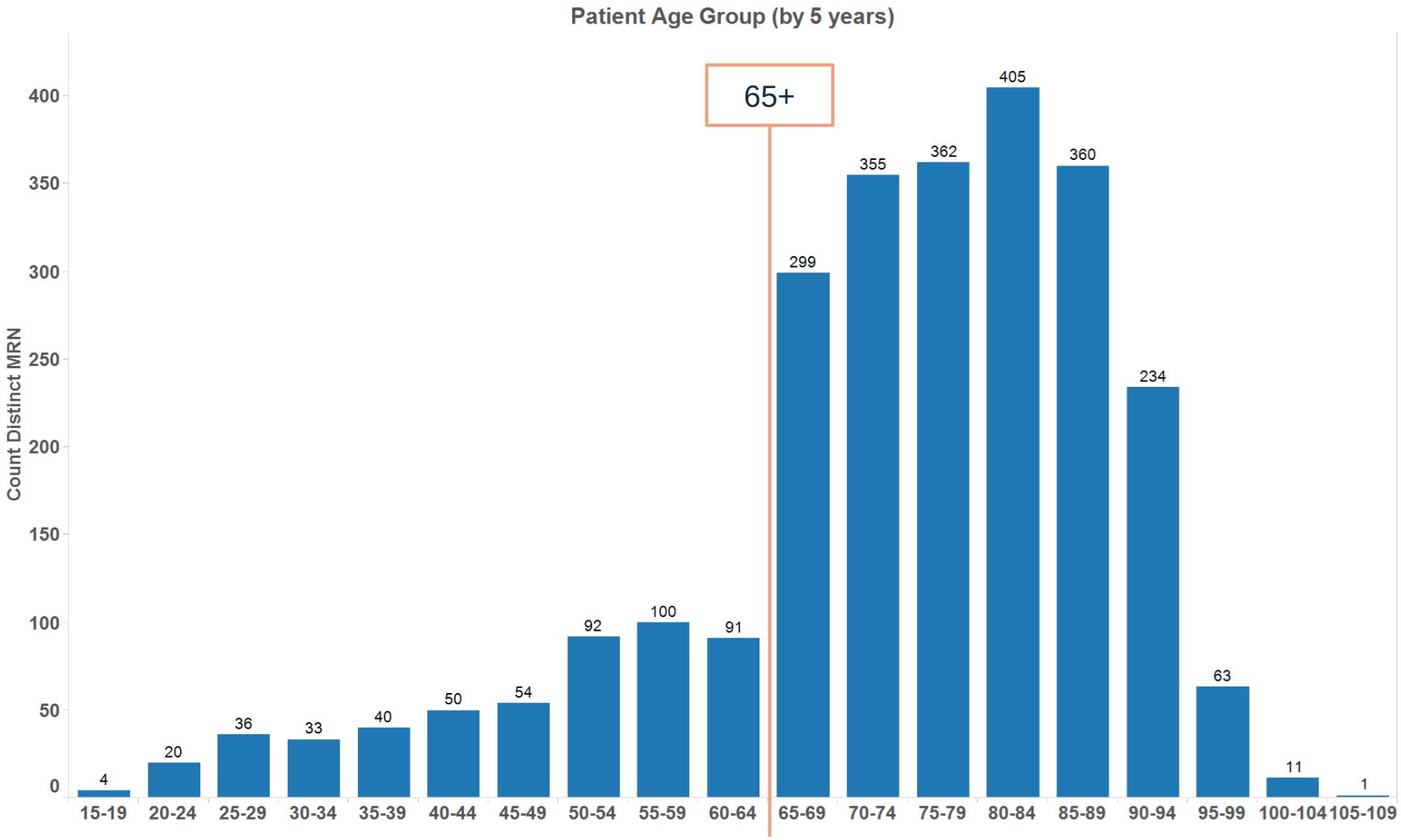
Target High Utilizers

- Limited to the 2,610 Medicare/Dual High Utilizers
- 46% of Medicare High Utilizers have 2+ bedded care encounters, while only 35% of Dual Eligible High Utilizers have 2+ bedded care encounters
- Patient Count by type of encounters:

	Medicare Patients	Dual Patients	Total High Utilizers	% of Total
2+ Bedded Care (Inpatient/OBV≥24 hrs)	892	232	1,124	43%
1 Bedded Care & 1+ ER/OBV<24 hrs	600	186	786	30%
2+ ER/OBV<24 hrs Only	448	252	700	27%
Total	**1,940**	**670**	**2,610**	**100%**

Target High Utilizers: Age Distribution

- Limited to the 2,610 Medicare/Dual High Utilizers



Target High Utilizers: By Primary Diagnosis

- Limited to the 2,610 Medicare/Dual High Utilizers

ICD-9	Primary Diagnosis	Patients	IP Cases	OBV Cases	ER Cases	Total Cases	Total Charges	Avg. Charge per Case
0389	Unspecified septicemia	237	285	1	1	287	$4,223,834	$14,717
486	Pneumonia, organism unspecified	135	115	1	29	145	1,158,560	7,990
51884	Acute and chronic respiratory failure	70	89	-	-	89	1,154,068	12,967
5990	Urinary tract infection, site not specified	238	145	5	134	284	1,077,007	3,792
51881	Acute respiratory failure	73	79	1	-	80	1,033,200	12,915
43491	Cerebral artery occlusion, unspecified with cerebral infarction	99	99	2	5	106	1,008,239	9,512
5849	Acute kidney failure, unspecified	104	110	2	6	118	949,289	8,045
4280	Congestive heart failure, unspecified	100	103	2	15	120	821,911	6,849
5070	Pneumonitis due to inhalation of food or vomitus	41	51	-	-	51	726,083	14,237
49121	Obstructive chronic bronchitis with (acute) exacerbation	72	63	2	24	89	616,566	6,928
42731	Atrial fibrillation	79	73	9	20	102	509,069	4,991
99664	Infection and inflammatory reaction due to indwelling urinary catheter	27	33	-	1	34	442,877	13,026
6826	Cellulitis and abscess of leg, except foot	57	45	2	22	69	409,179	5,930
8208	Closed fracture of unspecified part of neck of femur	20	21	-	-	21	378,507	18,024
29574	Schizoaffective disorder, chronic with acute exacerbation	17	27	-	1	28	366,433	13,087
78650	Chest pain, unspecified	152	7	60	126	193	361,680	1,874
99932	Bloodstream infection due to central venous catheter	9	14	-	-	14	359,878	25,706
82021	Closed fracture of intertrochanteric section of neck of femur	22	23	-	-	23	341,716	14,857
4359	Unspecified transient cerebral ischemia	66	39	23	10	72	335,112	4,654
7802	Syncope and collapse	101	37	31	42	110	328,417	2,986
	Subtotal		1,458	141	436	2,035	$16,601,625	$8,158
	All Other		2,121	298	3,423	5,842	26,711,471	4,572
	Total	**2,610**	**3,579**	**439**	**3,859**	**7,877**	**$43,313,096**	**$5,499**

Notes:

[1] Patient count by diagnosis will not sum to total high utilizer patients due to patients being counted for the primary diagnosis on each case.

[2] Table sorted on total charges.

Target High Utilizers: Prevention Quality Indicator (PQI) Summary

- Limited to the 2,610 Medicare/Dual High Utilizers
- 734 (19%) of 3,775 High Utilizer Inpatient + Observation cases ≥24 hours are for a PQI diagnosis

	PQI	Unique Patients	Inpatient Cases	Observation cases ≥24 hrs	Total PQI Cases	Total Charges
	Cardiac PQIs	**174**	**216**	**5**	**221**	**$1,765,394**
PQI 08	Heart Failure	154	196	3	199	1,609,450
PQI 07	Hypertension	14	14	2	16	124,533
PQI 13	Angina w/o Procedure	6	6	0	6	31,411
	Diabetes	**59**	**66**	**14**	**80**	**$712,285**
PQI 03	Diabetes: Long-Term Complications	33	40	11	51	403,475
PQI 01	Diabetes: Short-Term Complications	15	16	1	17	153,473
PQI 16	Diabetes: Lower-Extremity Amputation	6	6	0	6	129,749
PQI 14	Uncontrolled Diabetes	5	4	2	6	25,588
	Infections	**238**	**260**	**2**	**262**	**$2,080,368**
PQI 11	Bacterial Pneumonia	101	107	0	107	1,050,710
PQI 12	Urinary Tract Infection	137	153	2	155	1,029,658
	Asthma and COPD	**91**	**108**	**1**	**109**	**$993,974**
PQI 05	COPD or Asthma in Older Adults	90	107	1	108	988,404
PQI 15	Asthma in Younger Adults	1	1	0	1	5,570
PQI 10	**Dehydration**	**61**	**57**	**5**	**62**	**$407,729**
	Total	**563**	**707**	**27**	**734**	**$5,959,750**

Notes: [1] PQI cases include Inpatient and Observation cases ≥24 hours.
[2] Unique patients by PQI type will not sum to total because patients who fall into more than one PQI category will be counted in each category.

Target High Utilizers: Readmission Summary

- Limited to the 2,610 Medicare/Dual High Utilizers
- 781 (21%) of 3,775 High Utilizer Inpatient + Observation cases ≥24 hours are Readmission cases

Unique Patients	Inpatient Readmissions	Observation ≥24 hrs Readmissions	Total Readmissions	Total Charges
540	737	44	781	$8.8 M

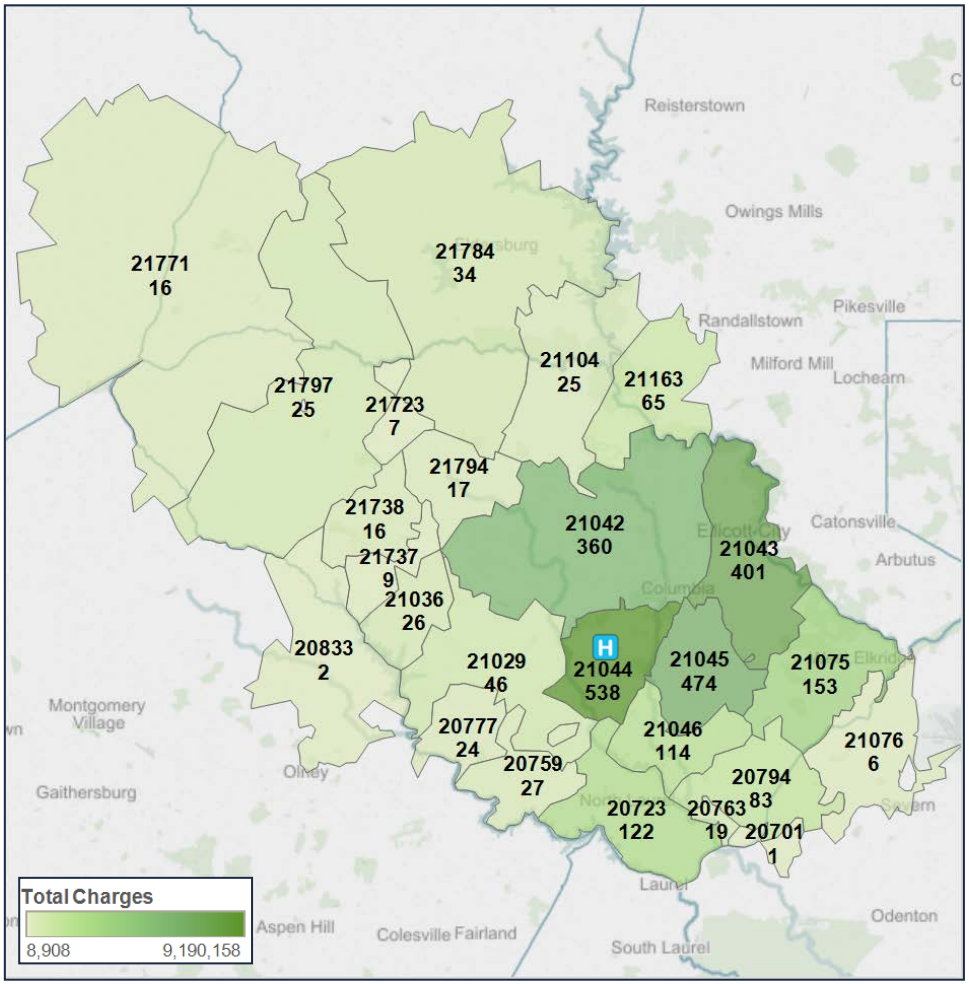
Top 5 Primary Diagnoses based on Initial Visit:

Initial Visit ICD-9 Primary Diagnosis		Total Initial Visit Cases	Total Initial Visit Charges
0389	Unspecified septicemia	63	$852,843
4280	Congestive heart failure, unspecified	26	$220,942
486	Pneumonia, organism unspecified	26	$244,558
51881	Acute respiratory failure	26	$399,690
5990	Urinary tract infection, site not specified	26	$177,785

Notes: [1] Readmissions must be within 30 days of an Initial Visit. Readmission cases include Inpatient and Observation cases ≥24 hours.

Target High Utilizers: By Zip Code

Unique Patients by Zip Code



Zip Code	Unique Patients	Total Visits[1]	Total Charges
21044	538	1,587	$9.2 M
21045	474	1,585	6.5 M
21043	401	1,214	7.5 M
21042	360	1,010	5.7 M
21075	153	461	3.1 M
20723	122	387	2.4 M
21046	114	359	1.9 M
20794	83	259	1.3 M
21163	65	172	0.9 M
21029	46	135	0.7 M
21784	34	87	0.5 M
20759	27	76	0.4 M
21036	26	82	0.5 M
21104	25	60	0.3 M
21797	25	77	0.5 M
20777	24	70	0.2 M
20763	19	56	0.5 M
21794	17	52	0.3 M
21738	16	41	0.4 M
21771	16	37	0.2 M
21737	9	24	0.1 M
21723	7	18	0.1 M
21076	6	19	0.1 M
20833	2	6	0.0 M
20701	1	3	0.0 M
Total	**2,610**	**7,877**	**$43.3 M**

Notes: [1] Visits include Inpatient, Observation, and ER encounters

Target High Utilizers: By Chronic Condition

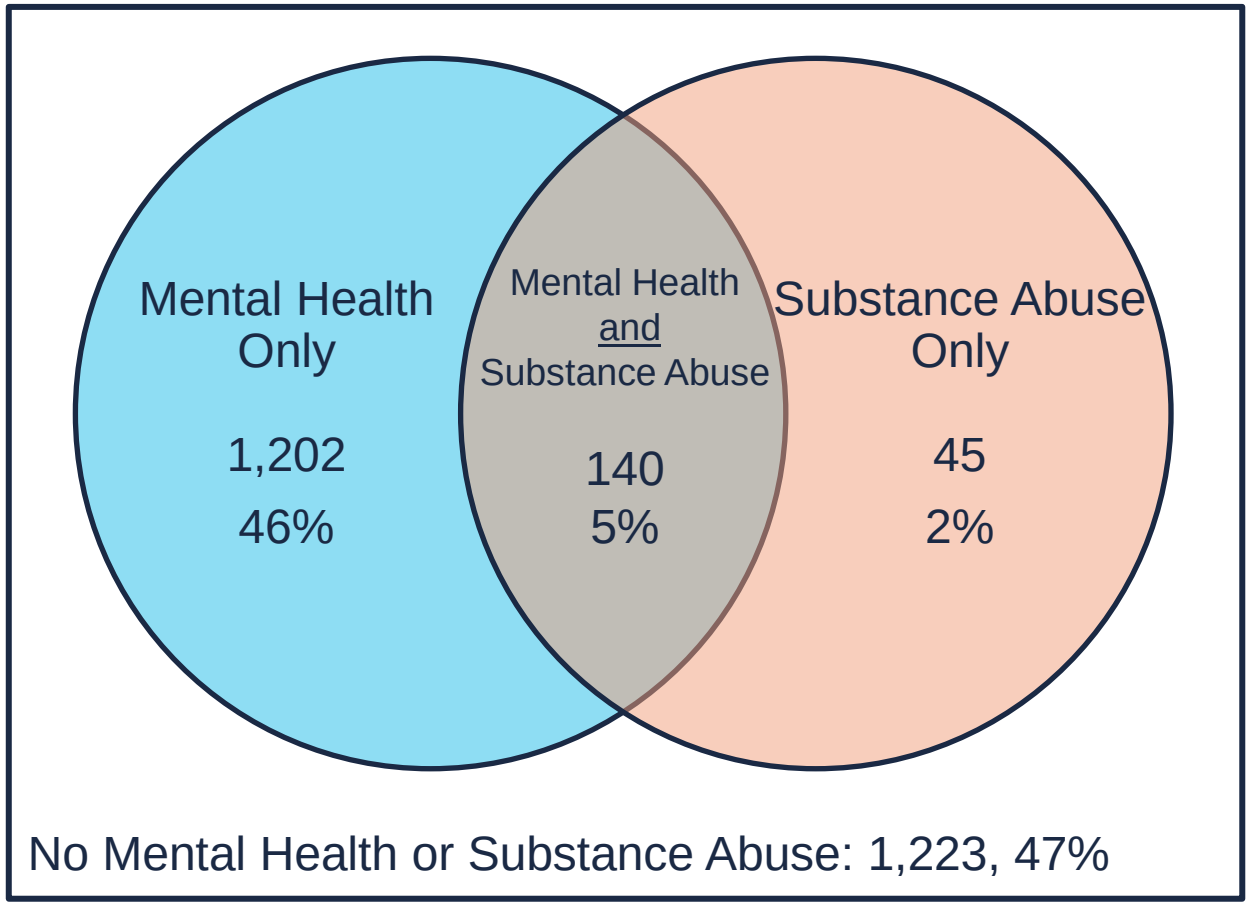
- Limited to the 2,610 Medicare/Dual High Utilizers
- 1,603 (42%) of 3,775 High Utilizer "bedded care" cases (IP/OBV≥24hrs) have a Chronic or Potentially Avoidable Condition as the primary diagnosis.

	Primary Diagnosis				Across All Diagnoses			
Chronic Condition[1]	Unique Patients	IP/OBV ≥24Hr Cases	ER/OBV <24Hr Cases	Total Cases	Unique Patients	IP/OBV ≥24Hr Encounters	ER/OBV <24Hr Encounters	Total Encounters[2]
Hypertension	75	31	55	86	2,072	3,070	2,552	5,622
Diabetes	86	82	51	133	922	1,575	1,073	2,648
Coronary Artery Disease (CAD)	17	16	3	19	856	2,410	1,243	3,653
Chronic Obstructive Pulmonary Disease (COPD)	197	147	123	270	793	1,264	836	2,100
Congestive Heart Failure (CHF)	178	220	18	238	704	1,725	340	2,065
Chronic Kidney Disease	4	4	0	4	536	1,113	378	1,491
Pneumonia	145	128	30	158	442	551	45	596
Septicemia	282	345	2	347	352	872	4	876
Obesity	1	1	0	1	320	755	113	868
Hepatitis	6	6	0	6	51	81	68	149
Chronic Condition Total	**846**	**980**	**282**	**1,262**	**2,378**			
Mental Health	229	181	204	385	1,334	3,072	2,229	5,301
Substance Abuse	47	32	40	72	180	362	178	540
Chronic + Mental Health / Sub Abuse Total	**1,074**	**1,193**	**526**	**1,719**	**2,513**			
Potentially Avoidable Circulatory Conditions	416	192	326	518	1,484	2,555	1,374	3,929
Potentially Avoidable Endocrine System Conditions	136	82	68	150	1,299	2,980	386	3,366
Tobacco Use	0	0	0	0	1,152	1,571	987	2,558
Potentially Avoidable Digestive Conditions	154	107	82	189	949	1,467	347	1,814
Potentially Avoidable Infectious Diseases	58	26	52	78	762	1,215	272	1,487
Potentially Avoidable Respiratory Conditions	66	3	70	73	247	155	153	308
Grand Total	**1,571**	**1,603**	**1,124**	**2,727**	**2,576**			

Notes: [1] Conditions identified are based on AHRQ CCS level 3 classification. CCS Codes used to identify Chronic Conditions can be found in the Appendix.
[2] Encounters is a count of diagnosis codes across all 30 positions for each patient. Therefore, encounters will be much higher than the count of total visits.
Table sorted on unique patient count across all diagnoses.

Target High Utilizers: Mental Health / Substance Abuse

- 1,387 of 2,610 High Utilizers **(53%)** have a Mental Health or Substance Abuse diagnosis on an encounter in any position



Target High Utilizers: Multiple Chronic Conditions

- Limited to the 2,610 Medicare/Dual High Utilizers
- Focus on 10 Chronic Conditions: Hypertension, Diabetes, CAD, CHF, Chronic Kidney Disease, Obesity, COPD, Septicemia, Pneumonia, and Hepatitis
- Looking across all diagnosis code positions to identify patients with overlapping Chronic Conditions, as well as Mental Health or Substance Abuse
- Includes Inpatient, Observation, and ER data

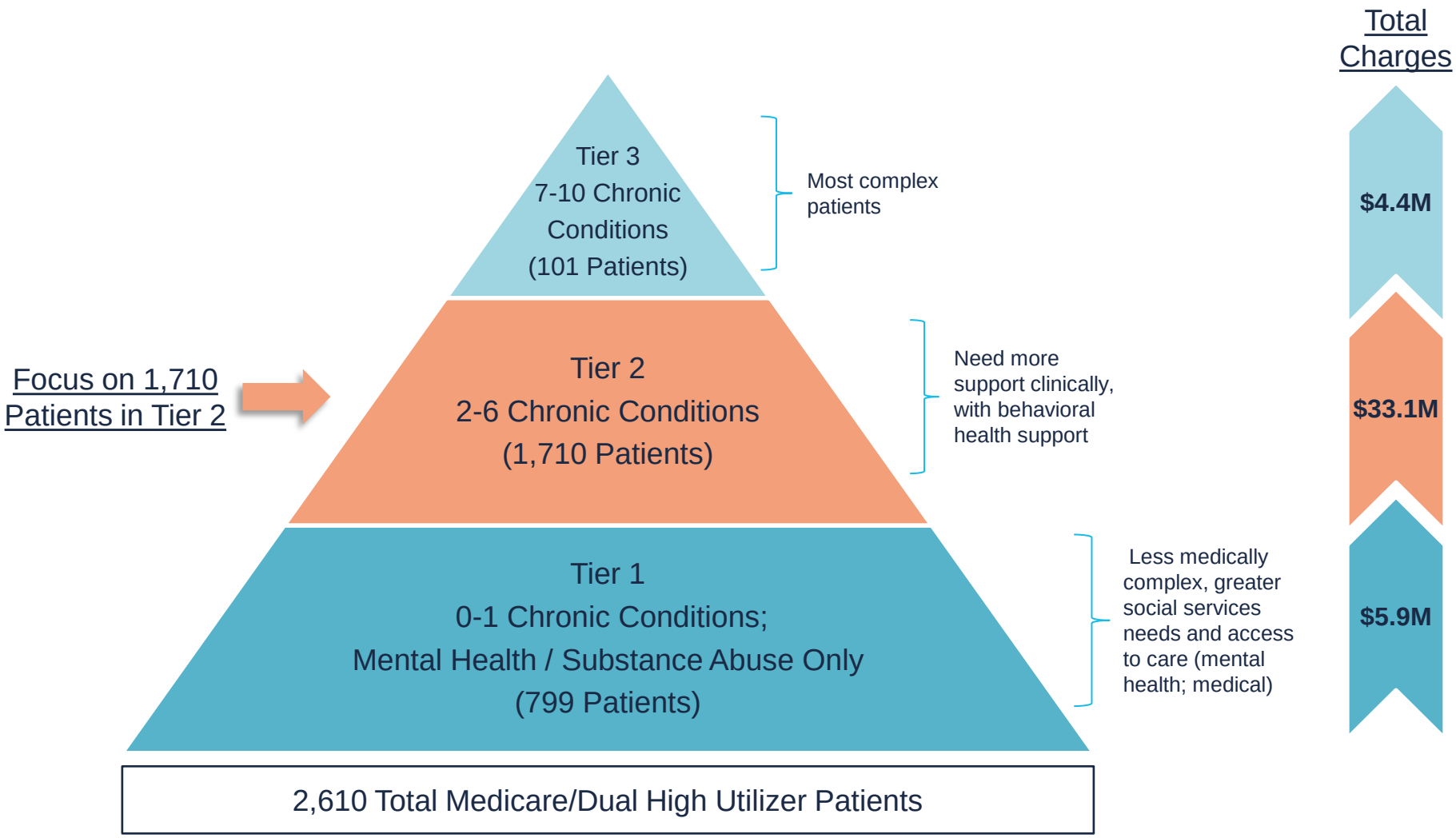
# of Chronic Conditions for Patient	Unique Patients	Chronic Cases	Charges on Chronic Cases	Average Charge per Patient		Chronic + MH/SA Patients
10	0	0	$0	$0		0
9	5	22	$282,319	$56,464		2
8	26	97	$1,109,368	$42,668		18
7	70	308	$2,979,670	$42,567		48
6	153	563	$5,126,728	$33,508		86
5	235	768	$6,253,623	$26,611		129
4	316	1,082	$7,830,789	$24,781		184
3	432	1,311	$6,879,293	$15,924		227
2	574	1,613	$6,991,227	$12,180		285
1	572	1,532	$4,481,885	$7,835		278
Chronic Subtotal	**2,383**	**7,296**	**$41,934,902**	**$17,598**		**1,257**
MH/SA Only	130	351	$1,015,027	$7,808		
Total	**2,513**	**7,647**	**$42,949,929**	**$17,091**		**1,387**

Notes: [1] CCS Codes used to identify Chronic Conditions can be found in the Appendix

Of the 2,610 High Utilizers:

- 91% of patients (2,383) have at least 1 Chronic Condition
- 93% of cases and 97% of charges are associated with Chronic Conditions
- 69% of patients (1,811) have at least 2 different Chronic Conditions
- 53% of patients (1,387) have a Mental Health or Substance Abuse Condition

Target High Utilizers: Tiered Patient Population



Tier 2 Target High Utilizers: By Chronic Condition

- Limited to the 1,710 Tier 2 Medicare/Dual High Utilizers
  - Tier 2 patients are those with 2-6 Chronic Conditions

	Primary Diagnosis				Across All Diagnoses			
Chronic Condition[1]	Unique Patients	IP/OBV ≥24Hr Cases	ER/OBV <24Hr Cases	Total Cases	Unique Patients	IP/OBV ≥24Hr Encounters	ER/OBV <24Hr Encounters	Total Encounters[2]
Hypertension	49	23	32	55	1,576	2,498	1,859	4,357
Diabetes	73	73	43	116	797	1,299	937	2,236
Coronary Artery Disease (CAD)	15	13	3	16	755	2,016	1,108	3,124
Chronic Obstructive Pulmonary Disease (COPD)	159	128	100	228	630	987	649	1,636
Congestive Heart Failure (CHF)	150	184	16	200	605	1,363	309	1,672
Chronic Kidney Disease	3	3	0	3	447	873	319	1,192
Pneumonia	125	107	29	136	359	440	42	482
Septicemia	237	290	2	292	292	719	4	723
Obesity	1	1	0	1	252	525	96	621
Hepatitis	4	4	0	4	37	59	39	98
Chronic Condition Total	**704**	**826**	**225**	**1,051**	**1,710**			
Mental Health	116	94	91	185	884	2,194	1,243	3,437
Substance Abuse	21	20	19	39	105	228	89	317
Chronic + Mental Health / Sub Abuse Total	**810**	**940**	**335**	**1,275**	**1,710**			
Potentially Avoidable Circulatory Conditions	296	148	213	361	1,111	2,015	988	3,003
Potentially Avoidable Endocrine System Conditions	94	56	44	100	985	2,341	266	2,607
Tobacco Use	0	0	0	0	820	1,238	631	1,869
Potentially Avoidable Digestive Conditions	109	84	51	135	709	1,149	225	1,374
Potentially Avoidable Infectious Diseases	39	23	26	49	565	947	177	1,124
Potentially Avoidable Respiratory Conditions	39	2	41	43	179	126	94	220
Grand Total	**1,136**	**1,253**	**710**	**1,963**	**1,710**			

Notes: [1] Conditions identified are based on AHRQ CCS level 3 classification. CCS Codes used to identify Chronic Conditions can be found in the Appendix.
[2] Encounters is a count of diagnosis codes across all 30 positions for each patient. Therefore, encounters will be much higher than the count of total visits.
Table sorted on unique patient count across all diagnoses.

Target High Utilizers: Oncology

- Limited to the 2,610 Medicare/Dual High Utilizers
- 287 High Utilizers (11%) have an Oncology Diagnosis in any of the 30 positions.
- 91 cases (only 1% of total High Utilizer Inpatient/Observation/ER cases) are for an Oncology Primary Diagnosis.

	Primary Diagnosis				Across All Diagnoses			
Oncology Diagnosis	**Unique Patients**	**IP/OBV ≥24Hr Cases**	**ER/OBV <24Hr Cases**	**Total Cases**	**Unique Patients**	**IP/OBV ≥24Hr Encounters**	**ER/OBV <24Hr Encounters**	**Total Encounters[2]**
Cancer Of Bronchus; Lung	17	14	5	19	44	61	19	80
Neoplasms Of Unspecified Nature Or Uncertain Behavior	5	5	0	5	43	53	11	64
Secondary Malignancy Of Liver	3	3	0	3	31	44	6	50
Leukemias	5	3	2	5	30	38	18	56
Other Secondary Malignancy	3	2	1	3	30	37	5	42
Cancer Of Prostate	0	0	0	0	30	29	15	44
Secondary Malignancy Of Bone	4	3	1	4	27	42	6	48
Non-Hodgkins Lymphoma	1	0	1	1	25	36	14	50
Cancer Of Breast	3	3	0	3	24	27	8	35
Cancer Of Colon	12	12	0	12	19	23	4	27
Secondary Malignancy Of Lung	4	4	0	4	18	23	2	25
Multiple Myeloma	1	2	0	2	17	27	12	39
Malignant Neoplasm Without Specification Of Site	0	0	0	0	12	9	3	12
Cancer Of Bladder	3	2	1	3	12	14	5	19
Cancer Of Liver And Intrahepatic Bile Duct	2	2	0	2	10	13	2	15
All Other	**19**	**22**	**3**	**25**	**71**	**108**	**24**	**132**
Grand Total	**80**	**77**	**14**	**91**	**287**			

Notes: [1] Oncology diagnoses are based on AHRQ CCS level 3 classification.
[2] Encounters is a count of diagnosis codes across all 30 positions for each patient. Therefore, encounters will be much higher than the count of total visits.

CCS codes used to identify Chronic and Potentially Avoidable Conditions

- Diseases of the Circulatory System
  - Hypertension
    - 7.1.1 - ESSENTIAL HYPERTENSION [98.]
    - 7.1.2 - HYPERTENSION WITH COMPLICATIONS AND SECONDARY HYPERTENSION [99.]
  - Coronary Artery Disease (CAD)
    - 7.2.4 - CORONARY ATHEROSCLEROSIS AND OTHER HEART DISEASE [101.]
  - Congestive Heart Failure (CHF)
    - 7.2.6 - PULMONARY HEART DISEASE [103.]
    - 7.2.11 - CONGESTIVE HEART FAILURE; NONHYPERTENSIVE [108.]
  - Other Potentially Avoidable Circulatory
    - 7.2.5 - NONSPECIFIC CHEST PAIN [102.]
    - 7.3.4 - TRANSIENT CEREBRAL ISCHEMIA [112.]
    - 7.4.1 - PERIPHERAL AND VISCERAL ATHEROSCLEROSIS [114.]
    - 7.4.2 - AORTIC; PERIPHERAL; AND VISCERAL ARTERY ANEURYSMS [115.]
    - 7.4.3 - AORTIC AND PERIPHERAL ARTERIAL EMBOLISM OR THROMBOSIS [116.]
    - 7.4.4 - OTHER CIRCULATORY DISEASE [117.]
    - 7.5.1 - PHLEBITIS; THROMBOPHLEBITIS AND THROMBOEMBOLISM [118.]
    - 7.5.2 - VARICOSE VEINS OF LOWER EXTREMITY [119.]
    - 7.5.3 - HEMORRHOIDS [120.]
    - 7.5.4 - OTHER DISEASES OF VEINS AND LYMPHATICS [121.]

- Diseases of the Genitourinary System
  - Chronic Kidney Disease
    - 10.1.3 - CHRONIC KIDNEY DISEASE [158.]

- Endocrine; nutritional; and metabolic diseases and immunity disorders
  - Diabetes
    - 3.2 - DIABETES MELLITUS WITHOUT COMPLICATION [49.]
    - 3.3.1 - DIABETES WITH KETOACIDOSIS OR UNCONTROLLED DIABETES
    - 3.3.2 - DIABETES WITH RENAL MANIFESTATIONS
    - 3.3.3 - DIABETES WITH OPHTHALMIC MANIFESTATIONS
    - 3.3.4 - DIABETES WITH NEUROLOGICAL MANIFESTATIONS
    - 3.3.5 - DIABETES WITH CIRCULATORY MANIFESTATIONS
    - 3.3.7 - DIABETES WITH OTHER MANIFESTATIONS
  - Obesity
    - 3.11.2 – OBESITY
  - Other Potentially Avoidable Endocrine
    - 3.5.1 - UNSPECIFIED PROTEIN-CALORIE MALNUTRITION
    - 3.5.2 - OTHER MALNUTRITION
    - 3.7 - GOUT AND OTHER CRYSTAL ARTHROPATHIES [54.]
    - 3.8.1 - HYPOSMOLALITY
    - 3.8.2 - HYPOVOLEMIA
    - 3.8.3 - HYPERPOTASSEMIA
    - 3.8.4 - HYPOPOTASSEMIA
    - 3.8.5 - OTHER FLUID AND ELECTROLYTE DISORDERS
    - 3.11.3 - OTHER AND UNSPECIFIED METABOLIC; NUTRITIONAL; AND ENDOCRINE DISORDERS

- Diseases of the Respiratory System
  - Pneumonia
    - 8.1.1 - PNEUMONIA (EXCEPT THAT CAUSED BY TB OR STD) [122.]
  - Chronic Obstructive Pulmonary Disease (COPD)
    - 8.2.1 - EMPHYSEMA
    - 8.2.2 - CHRONIC AIRWAY OBSTRUCTION; NOT OTHERWISE SPECIFIED
    - 8.2.3 - OBSTRUCTIVE CHRONIC BRONCHITIS
    - 8.2.4 - OTHER CHRONIC PULMONARY DISEASE
    - 8.3.1 - CHRONIC OBSTRUCTIVE ASTHMA
    - 8.3.2 - OTHER AND UNSPECIFIED ASTHMA
  - Other Potentially Avoidable Respiratory
    - 8.1.5 - OTHER UPPER RESPIRATORY INFECTIONS [126.]

- Infectious and Parasitic Diseases
  - Septicemia
    - 1.1.2 - SEPTICEMIA (EXCEPT IN LABOR) [2.]
  - Hepatitis
    - 1.3.2 - HEPATITIS [6.]
  - Other Potentially Avoidable Infectious Disease
    - 1.1.1 - TUBERCULOSIS [1.]
    - 1.1.3 - SEXUALLY TRANSMITTED INFECTIONS (NOT HIV OR HEPATITIS) [9.]
    - 1.1.4 - OTHER BACTERIAL INFECTIONS [3.]
    - 1.2.1 - CANDIDIASIS OF THE MOUTH (THRUSH)
    - 1.2.2 - OTHER MYCOSES
    - 1.3.1 - HIV INFECTION [5.]
    - 1.3.3 - OTHER VIRAL INFECTIONS [7.]
    - 1.4 - OTHER INFECTIONS; INCLUDING PARASITIC [8.]
    - 1.5 - IMMUNIZATIONS AND SCREENING FOR INFECTIOUS DISEASE [10.]

- Diseases of the Digestive System
  - Potentially Avoidable Digestive
    - 9.4.2 - GASTRODUODENAL ULCER (EXCEPT HEMORRHAGE) [139.]
    - 9.6.1 - APPENDICITIS AND OTHER APPENDICEAL CONDITIONS [142.]
    - 9.6.4 - DIVERTICULOSIS AND DIVERTICULITIS [146.]
    - 9.8.2 - OTHER LIVER DISEASES [151.]
    - 9.9.1 - ACUTE PANCREATITIS
    - 9.9.2 - CHRONIC PANCREATITIS
    - 9.9.3 - OTHER PANCREATIC DISORDERS
    - 9.10.1 - HEMORRHAGE FROM GASTROINTESTINAL ULCER
    - 9.12.1 - CONSTIPATION
    - 9.12.2 - DYSPHAGIA

- Mental Health
  - 5.1 - ADJUSTMENT DISORDERS [650]
  - 5.2 - ANXIETY DISORDERS [651]
  - 5.3.1 - CONDUCT DISORDER [6521]
  - 5.3.3 - ATTENTION DEFICIT DISORDER AND ATTENTION DEFICIT HYPERACTIVITY DISORDER [6523]
  - 5.4 - DELIRIUM DEMENTIA AND AMNESTIC AND OTHER COGNITIVE DISORDERS [653]
  - 5.5.1 - COMMUNICATION DISORDERS [6541]
  - 5.5.2 - DEVELOPMENTAL DISABILITIES [6542]
  - 5.5.3 - INTELLECTUAL DISABILITIES [6543]
  - 5.5.4 - LEARNING DISORDERS [6544]
  - 5.6.3 - PERVASIVE DEVELOPMENTAL DISORDERS [6553]
  - 5.7 - IMPULSE CONTROL DISORDERS NOT ELSEWHERE CLASSIFIED [656]
  - 5.8.1 - BIPOLAR DISORDERS [6571]
  - 5.8.2 - DEPRESSIVE DISORDERS [6572]
  - 5.9 - PERSONALITY DISORDERS [658]
  - 5.10 - SCHIZOPHRENIA AND OTHER PSYCHOTIC DISORDERS [659]
  - 5.13 - SUICIDE AND INTENTIONAL SELF-INFLICTED INJURY [662]
  - 5.14.1 - CODES RELATED TO MENTAL HEALTH DISORDERS [6631]
    - *Excluding ICD-9 code V1582 – Personal history of tobacco use*
  - 5.15.2 - EATING DISORDERS [6702]
  - 5.15.3 - FACTITIOUS DISORDERS [6703]
  - 5.15.4 - PSYCHOGENIC DISORDERS [6704]
  - 5.15.5 - SEXUAL AND GENDER IDENTITY DISORDERS [6705]
  - 5.15.7 - SOMATOFORM DISORDERS [6707]
  - 5.15.8 - MENTAL DISORDERS DUE TO GENERAL MEDICAL CONDITIONS NOT ELSEWHERE CLASSIFIED [6708]
  - 5.15.9 - OTHER MISCELLANEOUS MENTAL CONDITIONS [6709]

- Substance Abuse
  - 5.11 - ALCOHOL-RELATED DISORDERS [660]
  - 5.12 - SUBSTANCE-RELATED DISORDERS [661]
  - 5.14.2 - CODES RELATED TO SUBSTANCE-RELATED DISORDERS [6632]

Appendix A: Summary of BRG Analysis and BRG Baseline Data

Table A1

Howard County Hospital - Howard County Regional Partnership Populations by Category

Calendar Year 2014

Howard County HCRP Zip Codes	County	City	All Payer	Medicare FFS	2+ Conditions Medicare FFS	People 3+ IP/Obs>24 All Payer	People 3+ IP/Obs>24 Medicare FFS
20701	Howard	Annapolis Junction	2	1	1	2	1
20723	Howard	Laurel	28,972	1,720	1,720	28,972	1,720
20759	Howard	Fulton	3,355	393	393	3,355	393
20763	Howard	Savage	2,664	177	177	2,664	177
20777	Howard	Highland	3,314	428	428	3,314	428
20794	Howard	Jessup	14,098	896	896	14,098	896
20833	Montgomery	Brookeville	7,735	777	777	7,735	777
21029	Howard	Clarksville	11,333	935	935	11,333	935
21036	Howard	Dayton	2,114	336	336	2,114	336
21042	Howard	Ellicott City	38,076	4,950	4,950	38,076	4,950
21043	Howard	Ellicott City	42,246	3,903	3,903	42,246	3,903
21044	Howard	Columbia	41,704	5,423	5,423	41,704	5,423
21045	Howard	Columbia	38,288	4,148	4,148	38,288	4,148
21046	Howard	Columbia	15,080	1,121	1,121	15,080	1,121
21075	Howard	Elkridge	26,344	1,745	1,745	26,344	1,745
21076	Anne Arundel	Hanover	12,952	1,042	1,042	12,952	1,042
21104	Carroll	Marriottsville	4,601	454	454	4,601	454
21163	Howard	Woodstock	7,026	1,027	1,027	7,026	1,027
21723	Howard	Cooksville	803	64	64	803	64
21737	Howard	Glenelg	1,458	137	137	1,458	137
21738	Howard	Glenwood	3,268	362	362	3,268	362
21771	Frederick	Mount Airy	29,563	3,093	3,093	29,563	3,093
21784	Carroll	Sykesville	37,941	4,649	4,649	37,941	4,649
21794	Howard	West Friendship	2,434	260	260	2,434	260
21797	Howard	Woodbine	8,839	1,071	1,071	8,839	1,071
Howard County HCRP Total			**384,210**	**39,112**	**39,112**	**384,210**	**39,112**

Appendix A
Table A2

Howard County Hospital - Core Outcome Measures

Howard County Hospital Core Outcome Rates

	Total Unique Patients	Total Hospital Cost per Capita	Total Health Care Cost per Person	Total Hospital Admits per 1,000 Population	ED Visits per 1,000 Population	Readmissions per 1,000 Population	Potentially Avoidable Utilization Cost per Capita	Hospital Specific High Utilizers	Hospital Specific Population Target	Patient Experience
All Payer	27.4%	$2,017	-	92.9	201.9	8.6	$231	-	-	-
Medicare FFS	45.2%	$6,573	-	301.2	291.0	44.7	$1,285	-	-	-
2+ Conditions Medicare FFS	28.1%	$5,387	-	255.2	207.4	41.3	$1,192	-	-	-
People 3+ IP/Obs>24 All Payer	0.5%	$444	-	21.9	10.8	6.4	$135	-	-	-
People 3+ IP/Obs>24 Medicare FFS	2.8%	$2,038	-	112.2	40.4	33.7	$779	-	-	-

Howard County Hospital Core Outcomes - Numerators

	Total Unique Patients	Total Hospital Cost	Total Health Care Cost per Person	Total Hospital Admits	ED Visits	Readmissions	Potentially Avoidable Utilization Cost	Hospital Specific High Utilizers	Hospital Specific Population Target	Patient Experience
All Payer	105,176	$774,836,495	-	35,692	77,579	3,308	$88,662,968	-	-	-
Medicare FFS	17,679	$257,101,315	-	11,780	11,383	1,747	$50,275,988	-	-	-
2+ Conditions Medicare FFS	10,973	$210,715,544	-	9,981	8,112	1,617	$46,607,540	-	-	-
People 3+ IP/Obs>24 All Payer	2,059	$170,421,113	-	8,416	4,167	2,450	$51,785,472	-	-	-
People 3+ IP/Obs>24 Medicare FFS	1,103	$79,720,241	-	4,390	1,580	1,319	$30,473,093	-	-	-

Howard County Hospital Core Outcomes - Denominators (Populations)

All Payer	384,210	384,210	384,210	384,210	384,210	384,210	384,210	384,210	384,210	384,210
Medicare FFS	39,112	39,112	39,112	39,112	39,112	39,112	39,112	39,112	39,112	39,112
2+ Conditions Medicare FFS	39,112	39,112	39,112	39,112	39,112	39,112	39,112	39,112	39,112	39,112
People 3+ IP/Obs>24 All Payer	384,210	384,210	384,210	384,210	384,210	384,210	384,210	384,210	384,210	384,210
People 3+ IP/Obs>24 Medicare FFS	39,112	39,112	39,112	39,112	39,112	39,112	39,112	39,112	39,112	39,112

Notes:
[1] Numerator and denominator are based upon Howard County Regional Partnership Zipcodes per the attached summary.

Appendix A
Table A3

Howard County Hospital - PSA/SSA Populations by Category
Calendar Year 2014

Howard County PSA/SSA Zip Codes	County	City	All Payer	Medicare FFS	2+ Conditions Medicare FFS	People 3+ IP/Obs>24 All Payer	People 3+ IP/Obs>24 Medicare FFS
20723	Howard	Laurel	28,972	1,720	1,720	28,972	1,720
20794	Howard	Jessup	14,098	896	896	14,098	896
21042	Howard	Ellicott City	38,076	4,950	4,950	38,076	4,950
21043	Howard	Ellicott City	42,246	3,903	3,903	42,246	3,903
21044	Howard	Columbia	41,704	5,423	5,423	41,704	5,423
21045	Howard	Columbia	38,288	4,148	4,148	38,288	4,148
21046	Howard	Columbia	15,080	1,121	1,121	15,080	1,121
21075	Howard	Elkridge	26,344	1,745	1,745	26,344	1,745
Howard County PSA Subtotal			244,808	23,906	23,906	244,808	23,906
20707	Prince Georges	Laurel	31,538	2,998	2,998	31,538	2,998
20708	Prince Georges	Laurel	25,546	1,876	1,876	25,546	1,876
20724	Anne Arundel	Laurel	16,093	990	990	16,093	990
20755	Anne Arundel	Fort George G Meade	9,302	47	47	9,302	47
20759	Howard	Fulton	3,355	393	393	3,355	393
21029	Howard	Clarksville	11,333	935	935	11,333	935
21076	Anne Arundel	Hanover	12,952	1,042	1,042	12,952	1,042
21113	Anne Arundel	Odenton	30,469	2,524	2,524	30,469	2,524
21144	Anne Arundel	Severn	31,884	2,645	2,645	31,884	2,645
21163	Howard	Woodstock	7,026	1,027	1,027	7,026	1,027
21227	Baltimore	Halethorpe	33,534	4,300	4,300	33,534	4,300
21228	Baltimore	Catonsville	47,577	9,045	9,045	47,577	9,045
21771	Frederick	Mount Airy	29,563	3,093	3,093	29,563	3,093
21784	Carroll	Sykesville	37,941	4,649	4,649	37,941	4,649
21797	Howard	Woodbine	8,839	1,071	1,071	8,839	1,071
Howard County SSA Subtotal			336,952	36,635	36,635	336,952	36,635
Howard County PSA/SSA Total			**581,760**	**60,541**	**60,541**	**581,760**	**60,541**

Appendix A
Table A4

Howard County Hospital - Core Outcome Measures

Howard County Hospital Core Outcome Rates

	Total Unique Patients	Total Hospital Cost per Capita	Total Health Care Cost per Person	Total Hospital Admits per 1,000 Population	ED Visits per 1,000 Population	Readmissions per 1,000 Population	Potentially Avoidable Utilization Cost per Capita	Hospital Specific High Utilizers per 1,000 Population	Hospital Specific Population Target per 1,000 Population	Patient Experience
All Payer	29.6%	$2,185	-	103.6	252.3	9.5	$265	102.56	-	-
Medicare FFS	46.7%	$7,094	-	325.3	332.6	47.2	$1,396	157.99	157.99	-
2+ Conditions Medicare FFS	30.1%	$5,923	-	282.3	244.2	44.1	$1,312	-	-	-
People 3+ IP/Obs>24 All Payer	0.6%	$502	-	25.2	14.6	7.1	$159	12.51	-	-
People 3+ IP/Obs>24 Medicare FFS	3.1%	$2,301	-	126.7	56.2	36.0	$850	-	43.11	-

Howard County Hospital Core Outcomes - Numerators

	Total Unique Patients	Total Hospital Cost	Total Health Care Cost per Person	Total Hospital Admits	ED Visits	Readmissions	Potentially Avoidable Utilization Cost	Hospital Specific High Utilizers	Hospital Specific Population Target	Patient Experience
All Payer	172,130	$1,271,174,357	-	60,299	146,795	5,511	$154,047,819	59,663	-	-
Medicare FFS	28,279	$429,457,295	-	19,691	20,134	2,860	$84,511,546	9,565	9,565	-
2+ Conditions Medicare FFS	18,199	$358,610,862	-	17,093	14,787	2,669	$79,453,295	-	-	-
People 3+ IP/Obs>24 All Payer	3,560	$291,821,971	-	14,667	8,506	4,124	$92,582,445	7,280	-	-
People 3+ IP/Obs>24 Medicare FFS	1,892	$139,286,633	-	7,670	3,401	2,179	$51,464,654	-	2,610	-

Howard County Hospital Core Outcomes - Denominators (Populations)

All Payer	581,760	581,760	581,760	581,760	581,760	581,760	581,760	581,760	581,760	581,760
Medicare FFS	60,541	60,541	60,541	60,541	60,541	60,541	60,541	60,541	60,541	60,541
2+ Conditions Medicare FFS	60,541	60,541	60,541	60,541	60,541	60,541	60,541	60,541	60,541	60,541
People 3+ IP/Obs>24 All Payer	581,760	581,760	581,760	581,760	581,760	581,760	581,760	581,760	581,760	581,760
People 3+ IP/Obs>24 Medicare FFS	60,541	60,541	60,541	60,541	60,541	60,541	60,541	60,541	60,541	60,541

Notes:
[1] Numerator and denominator are based upon PSA and SSA Zipcodes per the attached summary.

Appendix B: Community Care Time Intervention Timeline, Roles and Responsibilities and Caseload Estimates

Intervention Timeline:

CCT Intervention Timeline

Timeframe	Referral	Pre-enrolled	Enrolled: Day 1	Week 1	Weeks 2 & 3	Weeks 4-7	Week 8	Weeks 9 - 11	Week 12
Stage of Intervention	*Initial Client Engagement and/or Discharge Planning*		*Address Immediate Clinical/Social Needs*	*PCP/Behavioral Health/Specialist Follow Up*		*Complete Social Goals and Clinical Goals of Care Plan*			
Activities	-Confirm Eligibility -Assign a Care Team	-Hospital Visit or Phone Call to engage client -Collect data for client profile	-First Home Visit -CHW complete Health Risk Assessment -CHN complete Medication Reconciliation	-Schedule follow up appointments -Create Care Plan -Create Medication list -Case Conference	-CHW Home Visits -CHN Follow up Visit as needed -CSW Home Visit and Mini Mental Status as needed -Case Conference	-CHW Home Visits -Case Conference	-CHW Home Visits -Case Conference	-Care Plan Complete -Graduation -Warm hand off to PCP and/or Caregiver	-Care Plan Complete -Graduation -Warm hand off to PCP and/or Caregiver
						-Care Plan Complete -Graduation -Warm hand off to PCP and/or Caregiver			

Decision Point → Graduation & Hand Off to PCP

Decision Point → Continue Intervention to Complete Care Plan

Roles and Responsibilities:

Nurse Program Manager (PM)

The PM is a registered nurse who provides direct supervision to the community-based frontline staff, which includes community health nurses (CHNs), community health workers (CHWs), community social worker (CSW) and care coordinator (CC). The PM holds regular meetings with program staff to assess and promote team functioning and client success. This position ensures adequate training and development of staff and is responsible for developing and monitoring evidence-based program standards and staff compliance.

Community Health Nurse (CHN)

The hospital-based CHN works closely with the JHHCG home health coordinators (HCCs) to identify, screen and engage eligible clients during a hospital encounter and facilitate coordination of services pre- and post-discharge. The community-based CHN is largely responsible for meeting patients in their homes to provide health education and disease-specific management, motivational interviewing and goal setting, and regular follow-up with patients. The CHNs do not administer medications or treatments but work closely with medical providers to help ensure that patients have comprehensive and coordinated care. CHNs are also responsible for directly supervising and providing clinical recommendations to the community health workers.

Community Health Worker (CHW)

CHWs provide the bulk of patient-facing services for patients. Similar to the community-based CHN, the CHWs largely meet patients in their homes. CHWs perform outreach, community education, informal counseling, social support and advocacy to help patients increase health knowledge and self-efficacy. They conduct interviews and assessments with patients to understand and meet their needs. They maintain extensive knowledge of community resources and are able to arrange services in a timely fashion, including transportation, home care, home modifications and social supports. The CHWs report to the CHN and provide regular updates on the client's health status, barriers to good health and progress towards goals.

Community Social Worker (CSW)

The CSW assists CHWs with triaging and understanding patients' psychosocial needs and determining appropriate levels of emergent care services. In addition to connecting patients with behavioral health treatment, this position provides patient education, advocacy, counseling and support.

Care Coordinator (CC)

The CC is responsible for working with partner primary care practices in order to support the screening process and other steps needed to identify patients eligible for CCT. The CC is an embedded position, who will have direct access to the referring physicians and the practices' EMR to help support overall coordination.

Administrative Coordinator (AC)

The AC provides administrative and logistic support to the team. This position is responsible for contacting graduated patients to complete the post-graduation follow-up questionnaire, scheduling appointments for home visits for patients as needed, sending weekly patient updates and caseload lists to PCPs, and documenting all interactions with patients and their providers promptly and accurately.

CCT Caseload Estimates and Patient Allocation Assumptions:

CCT is an up-to-90-day intervention that provides home-based care coordination services. Continuation is assessed every 30 days based on patients' care plan goals. Experience to date suggests that greater social resource needs (e.g. transportation, housing) directly impacts time spent in the program.

HCRP has made the following assumptions regarding the distribution of patients that will require a 30, 60 or 90 day intervention in order to develop caseload estimates for the program. We assume that half of the patients enrolled will require a 60 day intervention, and the remaining half will be split between those who need just 30 days and those who require a 90 day intervention. The specialized care coordination programs running in parallel to CCT and the implementation of a caregiver intervention to improve family members' self-efficacy and ability to access community resources and supports should help reduce the need for clients to stay with CCT for 90 days.

Intervention Length	30 Days	60 Days	90 Days	Total
Patient Allocation Assumptions	25%	50%	25%	100%
Caseload per 1 CHW	5	10	5	20
Patient Capacity/year per 1 CHW	60	80	20	160
Patient Capacity/year with 4 CHWs (current)	240	320	80	640
Patient Capacity/year with 6 CHWs (expanded)	360	480	120	960

Appendix C: HCRP Participants

Name	Title
HOWARD COUNTY GENERAL HOSPITAL	
Steven Snelgrove	President
Ed Heise	Director, Emergency Services
Eric Aldrich, MD	VP, Medical Affairs
Karen Davis, PhD	VP, Nursing & Chief Nursing Officer
Elizabeth Edsall Kromm, PhD	Senior Director, Population Health & Community Relations
Nancy Smith	Senior Director, Patient Care Services
Leslie Rogers	Director, Patient Support Services
TBD	Director, Case Management (vacant)
Christina Younger	Director, Physician Relations
Eric Hamrock	Innovation and Continuous Improvement Facilitator
Andy Angelino, MD	Medical Director, Behavioral Health Services
James Young	CFO
Ryan Brown	VP, Operations
Robert Linton, II, MD	Chair, Department of Emergency Medicine
Mindy Kantsiper, MD	Associate Medical Director, CIMS
Reza Alavi, MD	Hospitalist
Anirudh Sridharan, MD	Hospitalist & Physician Liaison for Lorien/Gilchrist collaborative
Michael Silverman, MD	Cardiologist
LORIEN HEALTH SYSTEMS	
Lou Grimmel	CEO
Wayne Brannock	COO
Norman Snowberger	CFO
Susan Carroll	VP, Clinical Services
Elizabeth Canarte	Customer Service Transition Specialist

GILCHRIST SERVICES	
Catherine Hamel	VP, Post-Acute Services & Executive Director
Jason Black, MD	Medical Director
Anthony Riley, MD	Medical Director
PRIMARY CARE	
DeWayne Oberlander	CEO, Columbia Medical Practice
William Saway, MD	Columbia Medical Practice
Melissa Blakeman, MD	Regional Medical Director, Maryland Suburbs, Johns Hopkins Community Physicians (JHCP)
Jennifer Bailey	Senior Director, Quality and Transformation, JHCP
Rajiv Dua, MD	Centennial Medical Group
Harry Oken, MD	Community Physician
Andy Lazaris, MD	Personal Physicians Care
TBD	Evergreen Health Care
TBD	Chase Brexton Health Care
TBD	MedPeds LLC
TBD	Wellbeing Medical Care
TBD	Maryland Primary Care Physicians
JOHNS HOPKINS HEALTH SYSTEM	
Linda Dunbar, PhD	VP, Population Health & Care Management, Johns Hopkins HealthCare LLC
Scott Berkowitz, MD	Executive Director, JMAP
Jonathan Zenilman, MD	Infectious Disease, Johns Hopkins Hospital
JOHNS HOPKINS HOME CARE GROUP	
Mary Myers	COO
Dawn Hohl, PhD	Director, Customer Service
Laura Syron	Nurse Manager, Transitions Program
CRISP	

Brandon Neiswender	VP, Operations
COUNTY AND STATE GOVERNMENT	
Maura Rossman, MD	Health Officer
Phyllis Madachy	Director, Department of Citizen Services
Starr Sowers	Administrator, Office on Aging
Wendy Farthing	Health and Wellness Coordinator, Office on Aging
Karen Butler	Director, Department of Social Services
Barbara Albert	SHIP Coordinator, Office on Aging
HEALTHY HOWARD, INC.	
Liddy Garcia Bunuel	Executive Director
Kate Harton	Program Manager, Community Care Team
Jeananne Sciabarra	Director, Healthcare Transformation
THE HORIZON FOUNDATION	
Nikki Highsmith Vernick	President & CEO
Glenn Schneider	Chief Program Officer
WAY STATION, INC.	
Scott Rose	President & CEO
Jean Moise, PhD	Executive VP, Operations
Community and Patient/Family Representatives	
Hector Garcia	Executive Director, FIRN
Pastor Robert Turner	Chair, PATH and Pastor with St. Johns Baptist Church
Jim Greco	Ex-Officio Chair, Outpatient Patient and Family Advisory Council
Carlessia Hussein, PhD	Patient Advisor

Appendix D: HCRP Steering Committee Membership

Name	Affiliation
Maura Rossman, MD	Health Officer, Howard County Health Department
Elizabeth Edsall Kromm, PhD	Senior Director, Population Health and Community Relations, HCGH
Lou Grimmel	CEO, Lorien Health Systems
Nikki Highsmith Vernick	President and CEO, The Horizon Foundation
Linda Dunbar, PhD	VP, Population Health and Care Management, Johns Hopkins HealthCare LLC
Steven Snelgrove	President Howard County General Hospital
Jim Greco	Patient Advisor
Brandon Neiswender	VP, Operations, CRISP
DeWayne Oberlander	CEO, Columbia Medical Practice
Mary Pieprzak, MD	President, HCGH Professional Staff Mid-Atlantic Nephrology Associates
Pastor Robert Turner	Chair, People Acting Together in Howard (PATH)
Harry Oken, MD	Community Physician
Scott Berkowitz, MD	Executive Director, JMAP Johns Hopkins Medicine
Catherine Hamel	VP, Post-Acute Services, Greater Baltimore Medical Center
Hector Garcia	Executive Director, FIRN
Karen Butler	HCGH Board of Trustees and Director, Howard County Department of Social Services
Kathleen White, PhD	Member, HCGH Board of Trustees
Phyllis Madachy	Director, Department of Citizen Services

Appendix E: Metrics Dashboard

Howard County Regional Partnership Metrics Dashboard (CY 2016)

Categories & Measures	Q1	Q2	Q3	Q4
Process Metrics				
CCT Intervention				
Number who meet criteria for CCT				
N (%) Eligible population referred to CCT				
From Primary Care				
From Acute Setting				
From Post-Acute Setting				
From "Other"				
N (%) Graduated from CCT				
N (%) Discharged from CCT				
N (%) Patients offered CCT who refused to participate				
N (%) Patient enrolled in CCT from Acute Setting who had in-home visit w/in 3 days post discharge				
N (%) CCT Enrollees with Completed Health Risk Assessment				
N (%) CCT Enrollees with Completed Care Plan				
N (%) CCT Enrollees with a Shared Care Profile in CRISP*				
N (%) Population with at least 1 care team subscriber receiving Encounter Notification Alerts				
All Population for Covered ZIPs				
Target Population				
Training and Education				
Number of staff who complete Patient Engagement Training				
N (%) staff (clinical and non-clinical) identified by practice/ partner organization to receive training				
N (%) CCT staff (CHW, CHN) identified to receive training				
Quality Metrics				
Patient Experience				
N (%) "Top Box" responses to HCAHPS Discharge Information Domain: *"During your hospital stay, did you get information in writing about what symptoms or health problems to look out for after you left the hospital?"*				
% Agree or Strongly Agree on HCAHPS: Care Transitions Domain: "*When I left the hospital, I had good understanding of the things I was responsible for in managing my health?*				
% Graduated CCT Enrollees who report "Very Satisfied" when asked, "How satisfied were you with the CCT services"(From CCT Survey)				
Preventive Care and Chronic Condition Management*				
Hypertension (HTN): Controlling High Blood Pressure				
Diabetes Mellitus: Hemoglobin A1c Poor Control				

Influenza Immunization				
Pneumococcal Vaccination for Patients 65 Years and Older				
Screening for Clinical Depression and Follow-Up Plan				
Utilization and Cost Metrics				
Utilization				
ED Visits per 1,000				
All Population for Covered ZIPs				
Target Population				
Total Hospital Admits per 1,000				
All Population for Covered ZIPs				
Target Population				
Ambulatory Care Sensitive Conditions				
Composite ACSC Discharge Rates per 1,000				
All Population for Covered ZIPs				
Target Population				
Chronic Obstructive Pulmonary Disease or Asthma Discharge Rate per 1,000				
Congestive Heart Failure: Discharge Rate per 1,000				
All Cause 30-day Readmissions per 1,000				
All Population for Covered ZIPs				
Target Population				
Cost				
Total Hospital Cost per Person				
All Population for Covered ZIPs				
Target Population				
Total Health Care Cost per Person**				
All Population for Covered ZIPs				
Target Population				

Calculated Yearly				
ROI***				
Target Population				
High Cost Top 10%				

KEY
*Measures will only be available for patients at primary care practices which choose to participate in reporting these measures
**Total Health Care Cost per person will not be possible to calculate without Medicare Claims Data
***ROI will not be calculated in year 1

Appendix F: Rapid Access Program Metrics

Diagnostic Presentation
Diagnosis upon RAP referral
Diagnosis upon RAP discharge or termination
Continuity of Care / Transition
# of RAP clients transitioned back to previous provider at termination
# of RAP clients transitioned to new provider at termination
# of RAP clients terminated with no follow up provider
# of RAP clients enrolled with WSI at termination
Access to Care Challenges
Average # of providers client actually contacted for service prior to enrolling in RAP
# of providers contacted for service as part of RAP transition planning
By insurer / payer: Average wait (days / weeks) for prescriber appointment as part of the RAP transition process
Payer Mix
# of RAP clients by payer (Medicare, Medicaid, commercial, self-pay, uninsured)
# of RAP uninsured clients enrolled who obtained insurance during the episode of care
Clinical Parameters
Avg. # of prescriber appointments per RAP client (month, quarter, year)
Avg. # of therapist appointments per RAP client (month, quarter, year)
Total # of sessions completed per client
Program Parameters
Total # of unique individuals served
Total# of cancellations & No Shows during week, month, quarter, year
Average # days from hospital discharge/referral to first appointment
# of RAP clients who left prior to completion of episode of care
# of RAP clients terminated prior to 9th visit by reason code