PRIMARY CARE BASED POPULATION HEALTH IN A COMMUNITY HEALTH SYSTEM: EVALUATION OF STRATEGIES, LESSONS LEARNED AND KEY RESULTS

by
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Abstract

Theory: As value-based programs continue to proliferate, healthcare delivery providers must adapt accordingly to meet these new demands. This study examines the strategies, lessons learned, and key results of the Greater Baltimore Health Alliance (GBHA), a patient-centered medical home (PCMH) community healthcare provider, in the population health context.

Methods: This study follows the work-place challenge format and as such includes an organizational assessment, plan for new service, program evaluation, economic evaluation, and discussion of implications. The organizational assessment leverages survey tools to study GBHA staff and leaders using the Baldrige Excellence Framework. The plan for new services outlines a plan and early results for integrated behavioral health in the PCMH setting. The program evaluation includes a run chart analysis, bivariate analysis, and logistic regression analysis to study colorectal cancer screening compliance rates at GBHA. The economic evaluation methods include a cost consequence analysis and return on investment analysis for GBHA. The implications section leverages a literature review and general discussion.

Results: The organizational assessment of GBHA revealed strengths in leadership, strategy, workforce and operations. The organizational assessment also indicated that GBHA has opportunity for improvement in the areas of customers, measurement, analysis and knowledge management, and results. The plan for new service revealed a nearly completed implementation of integrated behavioral health and early results indicate further opportunity for outcome measure refinement, workflow standardization, policy and procedure development, and the establishment of goal thresholds. The

program evaluation indicated special cause variation in the run chart as well as increased odds of screening for patients seen in practices with greater length of time recognized as a PCMH. The economic evaluation indicated significant investment in GBHA, largely positive quality outcomes, and progressively increasing return on investment each fiscal year. The discussion of implications underlined the importance of GBHA to stay abreast of federal regulations, which may dictate strategy changes.

Conclusions: GBHA has been largely successful in meeting the evolving demands of the population health landscape. GBHA's location in Maryland provides additional financial incentive to make investment in PCMH strategies more feasible. Additional study is necessary as the behavioral health integration implementation continues.

Dissertation Committee Members: Mark Bittle, DrPH, MBA; Katherine Clegg-Smith, PhD, MA (Chair); John Ellis; Lilly Engineer DrPH, MHA, MBBS; Eric Ford PhD, MPH, Jill Masteller, PhD, MPP (Advisor), David Thompson, DNSc, MS

Executive Summary

This work-place challenge dissertation includes several components that together provide a deeper understanding of advanced primary care strategies for population health improvement in a community health system, specifically the Greater Baltimore Medical Center (GBMC), located in Towson, Maryland. The goal of this study is to provide an overall evaluation of the Accountable Care Organization entity of GBMC known as the Greater Baltimore Health Alliance (GBHA). This overall evaluation includes an organizational assessment, a plan for new service, a program evaluation, an economic evaluation, and a discussion of implications, following the organization below in **Figure 1**, developed by the author.

Figure 1: Dissertation Organization

The Baldrige Excellence Framework was used to conduct an organizational assessment of GBHA staff, using a survey to collect perceptions of leadership, strategy, customers, measurement, analysis and knowledge management, workforce, operations

and results (Baldrige 2015). The results of this assessment indicate that GBHA exhibits strengths in the areas of leadership, strategy, workforce and operations. The organizational assessment also indicated that GBHA has opportunity for improvement in the areas of customers, measurement, analysis and knowledge management, and results.

Beyond the organizational assessment, this study outlines a plan for a new service within GBHA: behavioral health integration into primary care practices. Background, conceptual framework, and a detailed plan are included in this section. The plan to embed psychiatrists, behavioral health consultants and a substance use specialist in primary care practices covers an implementation that spans from fall 2016 to summer 2017. Implementation of the plan for new service is briefly evaluated using the RE-AIM framework (RE-AIM 2017). The plan for new service revealed a nearly completed implementation of integrated behavioral health. Early results indicate further opportunity for outcome measure refinement, workflow standardization, policy and procedure development, and the establishment of goal thresholds. Additional study is necessary as the behavioral health integration implementation continues.

This study also includes a program evaluation of one of over 30 GBHA population health quality metrics: colorectal cancer compliance rates. These majority of these population health quality measures leverage specifications outlined by the Centers for Medicare and Medicaid Services (CMS) for the Medicare Shared Savings Program (MSSP). These measures cover domains such as patient/caregiver experience, care coordination/patient safety, preventive health, and at-risk population. The program evaluation includes the use of a run chart to evaluate performance with colorectal cancer screening monthly at the GBMC level over the period of July 2015 to September 2016.

Additional evaluation included a regression analysis to assess the impact of key GBHA programmatic factors (that may vary by practice) on colorectal cancer screening compliance. Examples of such programmatic factors include recognition status, staffing, hours, and disease-specific education programs. The program evaluation indicated special cause variation in the run chart as well as increased odds of screening for patients seen in practices with greater length of time recognized as a PCMH.

An economic evaluation of the GBHA population health program in its entirety is also included. This evaluation includes a cost-consequence analysis (CCA) of key information related to costs invested in the implementation of the GBHA population health program, any revenue directly associated with population health activities, as well as available outcome metrics. A simple return on investment (ROI) analysis also puts key costs and revenues associated with GBHA into a ratio format. The CCA and ROI are tabulated with the intent of utility among industry leaders for both budgetary and planning purposes. The economic evaluation indicated significant investment in GBHA, largely positive quality outcomes, and progressively increasing return on investment each fiscal year. GBHA's location in the state of Maryland provides additional financial incentive to make investment in preventive care strategies more feasible.

The role of leadership, implications for policy, and generalizability are also addressed. The discussion of implications underlined the importance of GBHA to stay abreast of regulatory changes at the federal level, which may dictate changes in overall strategy. The results of this study may be useful in the industry as value-based purchasing programs proliferate across the country. Research and study in this area are

useful for operational leaders as they experiment with innovative care delivery models that aim to improve health, reduce cost, and provide better care.

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Special thanks to John Ellis for his ongoing mentorship since my administrative residency and for the opportunity to grow into a leadership role with GBHA. I am also incredibly grateful to Mary Ely and the entire GBHA team at GBMC for their support in allowing me to balance my work with my academic goals. GBMC is an outstanding organization and I am proud to showcase GBHA in this dissertation.

Last but not least, I would like to thank my loving family. To my children, Clare and Kellen, thank you for being such wonderful kids. To my husband, Marco, I am immensely grateful for your unwavering patience, encouragement and support throughout my DrPH journey. I am also forever grateful to my parents, Austin and Karen, and my sister, Erinn, for always believing in me and pushing me to meet my potential.

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List of Abbreviations

ACA: Affordable Care Act
ACO: Accountable Care Organization
ACP: American College of Physicians
ACS: American Cancer Society
ADLI: Approach, Deployment, Learning, Integration
AHRQ: Agency for Healthcare Research and Quality
BH: Behavioral Health
BHC: Behavioral Health Consultant
BMI: Body Mass Index
BOE: Board of Examiners
CCA: Cost Consequence Analysis
CCM: Chronic Care Management
CHNA: Community Health Needs Assessment
CMS: Centers for Medicare and Medicaid Services
CRISP: Chesapeake Regional Information System for our Patients
eCW: eClinicalWorks
ED: Emergency Department
EHR: Electronic Health Record
ENS: Encounter Notification System
DHMH: Maryland Department of Health and Mental Hygiene
FFS: Fee For Service
FOBT: Fecal Occult Blood Test
GBHA: Greater Baltimore Health Alliance
GBMA: Greater Baltimore Medical Associates
GBMC: Greater Baltimore Medical Center
GBR: Global Budget Revenue
HHS: Department of Health and Human Services
HIE: Health Information Exchange
HLA: Healthcare Leadership Alliance
HSCRC: Health Services Cost Review Commission
IP: Inpatient
IRB: Institutional Review Board
KORS: Kolmac Outpatient Recovery Services
LTCI: Levels, Trends, Comparisons, Integration
MACRA: Medicare Access and CHIP Reauthorization Act of 2015
MCS: Mosaic Community Services
MSSP: Medicare Shared Savings Program
NCQA: National Committee for Quality Assurance
NIST: National Institute of Standards and Technology
PCMH: Patient Centered Medical Home
PCP: Primary Care Provider
PCPCC: Patient Centered Primary Care Collaborative
PDSA: Plan Do Study Act
RFP: Request for Proposal

List of Abbreviations Continued

PHI: Protected Health Information
PHQ: Patient Health Questionnaire
RE-AIM: Reach, Effectiveness, Adoption, Implementation, Maintenance
RN: Registered Nurse
ROI: Return on Investment
SPHS: Sheppard Pratt Health System
SPC: Statistical Process Control
TCM: Transitional Care Management
TIN: Tax Identification Number
UM-SJMC: University of Maryland St. Joseph Medical Center

Introduction

This work-place challenge includes several components that together provide a deeper understanding of advanced primary care strategies for population health improvement in a community health system, specifically the Greater Baltimore Medical Center (GBMC), located in Towson, Maryland. The goal of this study is to provide an overall evaluation of the Accountable Care Organization entity of GBMC known as the Greater Baltimore Health Alliance (GBHA). This overall evaluation includes an organizational assessment, plan for new service, program evaluation, economic evaluation, and a discussion of implications, following the organization below in **Figure 1**.

Figure 1: Dissertation Organization

The Baldrige Excellence Framework was used to conduct an organizational assessment of GBHA staff, using a survey to collect perceptions of leadership, strategy, customers, measurement, analysis and knowledge management, workforce, operations

and results (Baldrige 2015). The results of this assessment are summarized to present areas of further opportunity.

Beyond the organizational assessment, this study outlines a plan for a new service within GBHA: behavioral health integration into primary care practices. Background, conceptual framework, and a detailed plan are included in this section. The plan to embed psychiatrists, behavioral health consultants and a substance use specialist in primary care practices covers an implementation that spans from fall 2016 to summer 2017. The plan for new service is briefly evaluated using the RE-AIM framework (RE-AIM 2017).

This study also includes a program evaluation for analysis of a key GBHA population health quality metric: colorectal cancer compliance rates. The program evaluation includes the use of a run chart to evaluate performance monthly at the GBMC level over the period of July 2015 to September 2016. Additional evaluation included a regression analysis to assess the impact of key GBHA programmatic factors (that may vary by practice) on colorectal cancer screening compliance. Examples of such programmatic factors include recognition status, staffing, hours, and disease-specific education programs.

An economic evaluation of the GBHA population health program in its entirety is also included. This evaluation includes a cost-consequence analysis (CCA) of key information related to costs invested in the implementation of the GBHA population health program, any revenue directly associated with population health activities, as well as available outcome metrics. A simple return on investment (ROI) analysis also puts key costs and revenues associated with GBHA into a ratio format. The CCA and ROI are

tabulated with the intent of utility amongst industry leaders for both budgetary and planning purposes.

Given that this project is a work-place challenge, the role of leadership, implications for policy, and generalizability are also addressed.

The goal at the conclusion of this work place challenge is to provide a deep understanding of selected population health practices in a community setting, GBHA, that may be useful in the industry as value-based purchasing programs proliferate across the country. Research and study in this area are useful for operational leaders as they experiment with innovative care delivery models that aim to improve health, reduce cost, and provide better care.

Chapter 1: Organizational Assessment

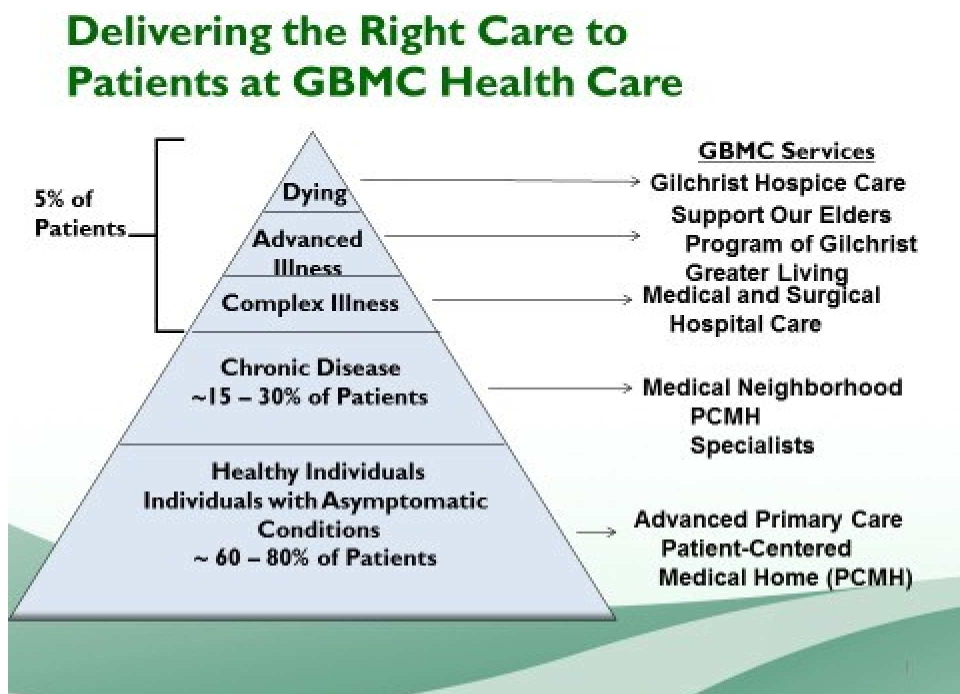
Description of organizational setting that will be examined:

The Greater Baltimore Health Alliance (GBHA) is a subsidiary company of the Greater Baltimore Medical Center (GBMC) formed in order to participate in the Medicare Shared Savings Program (MSSP) as an Accountable Care Organization (ACO). The MSSP was established by section 3022 of the Affordable Care Act (ACA) and "…is a key component of the Medicare delivery system reform initiatives…" (CMS 2016b, para. 1) The MSSP "…is a new approach to the delivery of health care…" that was created by congress "to facilitate coordination and cooperation among providers to improve the quality of care for Medicare Fee-For-Service (FFS) beneficiaries and reduce unnecessary costs." (CMS 2016b, para. 1) The MSSP fulfills the intent of the ACA through better care for individuals, better health for populations; and lowering growth in expenditures. MSSP participating organizations that are successful in achieving these goals as outlined in federal regulations have the opportunity to earn shared savings payments (CMS 2016b). The GBHA was formed by the GBMC to accomplish the following: 1) Improve the healthcare status of the community, 2) Utilize a patient-centered primary care model, 3) Improve compliance with health screening metrics, and 4) Increase access to care for the community including but not limited to early intervention, behavioral health, and geriatrics. This scope extends beyond only those patients that are included in the MSSP to include all patients regardless of payer. Results and improved outcomes related to these efforts are integral to GBHA processes and workflows. Several key desired results can be found in **Appendix A**.

GBMC is a healthcare system located in Towson, Maryland. GBMC predominantly serves patients in Baltimore County, Harford County, and Baltimore City,

but also serves patients in other parts of Maryland and Pennsylvania. GBMC Healthcare provides a variety of services, as outlined below in further detail, in a targeted, segmented fashion that addresses the specific healthcare needs for a comprehensive spectrum of patient groups, as illustrated below in **Figure 2.** This risk pyramid was created by the GBMC leadership team.

Figure 2: GBHA Risk Pyramid (GBMC 2015)



The GBMC Healthcare system includes:

- GBMC Hospital: Inpatient (IP) acute care hospital with 255 beds
- Greater Baltimore Medical Associates (GBMA): An employed multispecialty physician group with over 200 providers. 9 of the 10 employed primary care practices are recognized by the National Committee on Quality Assurance (NCQA) as Level 3 Physician Practice Connections-Patient-Centered Medical Homes. The organizational chart for GBMA is included in **Appendix B.**

- Gilchrist Hospice: Medical, nursing, social work, hospice aide, spiritual care and bereavement counseling/support and volunteer assistance serving over 750 patients each day (Gilchrist Hospice Care 2014).
- GBMC Foundation: a nonprofit organization established to centralize and coordinate fundraising efforts to benefit GBMC.
- GBHA: An ACO that is a wholly owned Limited Liability Company (LLC) of GBMC Healthcare, Inc., created to align health care providers and achieve a "triple aim" of Better Health, Better Care and Lower Cost through the MSSP. GBHA joined the MSSP in July 2012 and was the first MSSP ACO in the state of Maryland affiliated with a hospital. GBHA includes over 90 primary care providers including several independent community practices. GBMC Hospital, GBMA, and Gilchrist are also included in GBHA. (GBMC 2016a)

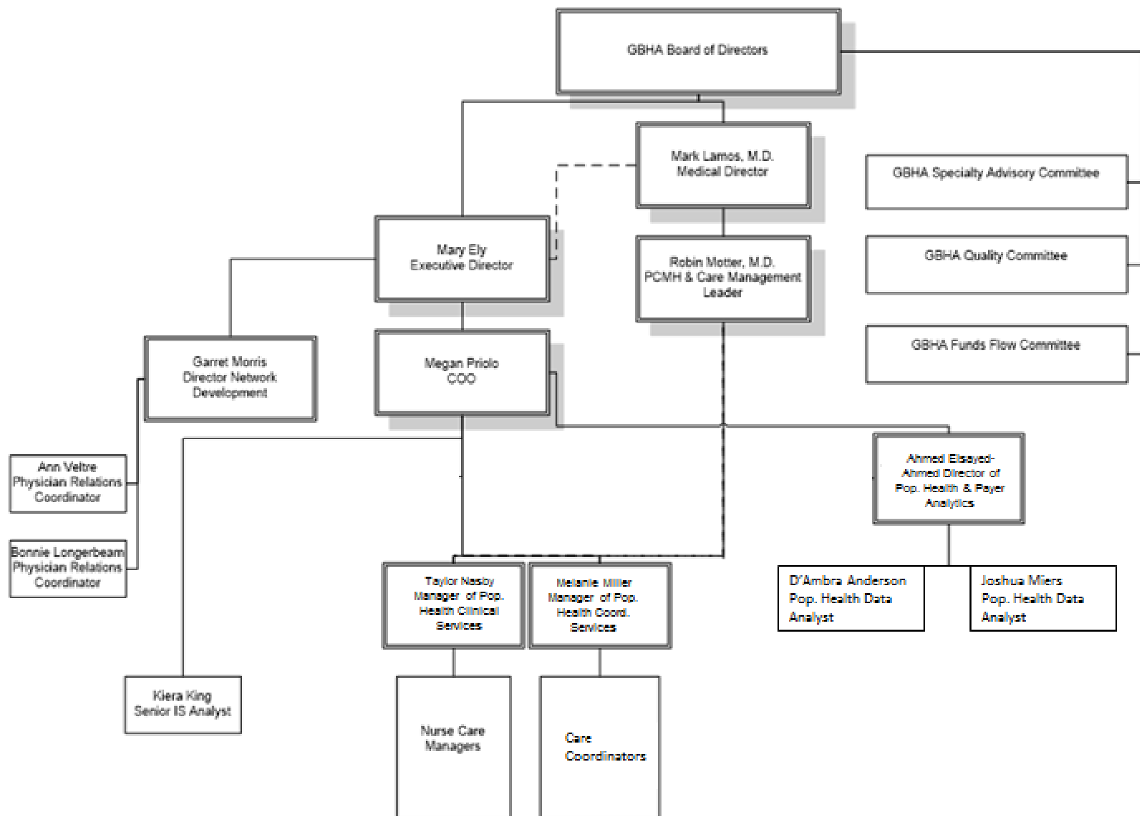
GBHA is the focus of the organizational assessment described in this dissertation. GBHA has its own governing body, leadership structure, staffing, policies and procedures of operation. It is governed by a Board of Directors, which includes stakeholders that represent administrative leadership and physicians, and includes one Medicare beneficiary. The majority of the voting board members (6 of 8) are providers who practice in the GBHA, to allow for a better perspective on clinical quality. The board has three subcommittees: the Specialty Advisory Committee, Quality Committee, and Funds Flow Committee. The Specialty Advisory Committee plays an important role in discussing and approving clinical care pathways for various conditions such as diabetes, congestive heart failure, and others. This group contributes its expertise to integrated care processes related to gastroenterology, psychiatry, endocrinology and others as

outlined in further sections. Since the GBHA board and many program initiatives are rooted in primary care, it is important for the Specialty Advisory Committee to bring the specialty care perspective to GBHA. The Quality Committee is responsible for monitoring and improvement strategies related to all GBHA quality metrics. These include the MSSP quality measures outlined by the Centers for Medicare and Medicaid Services (CMS) in domains such as patient/caregiver experience, care coordination/patient safety, preventive health, and care for the at-risk population. The Funds Flow Committee will be activated at the point in time where a shared savings is earned in order to allocate the incentive payment funds to the ACO providers. To date, GBHA has not earned a shared savings payment from CMS under the MSSP due to several factors. These factors include aggressive performance targets, which have proven challenging to achieve, the inclusion of all GBMC employed providers under a single tax identification number (TIN), and the unique reimbursement models in the state of Maryland, as described in further sections below.

The GBHA operational leaders are employees of GBMC. As of April 2017, these employees included an Executive Director, Chief Operating Officer (the author), Director of Network Development & Physician Relations and Director of Population Health & Payer Analytics. GBMC executive leaders such as the Senior Vice President of Corporate Strategy and Business Development, Vice President of Continuing Care Services, and the Chief Executive Officer of GBMC provide senior level direction to the GBHA leadership team alongside the GBHA Board. The Medical Director of GBHA as well as the Medical Director for Primary Care are also critical strategic leaders for GBHA. Both Medical Doctors guide the vision and strategic direction of GBHA and are

essential for engaging fellow providers in population health initiatives. There are additional GBHA managerial staff members as noted in the organizational chart of GBHA as of April 2017, included in **Figure 3**.

Figure 3: GBHA Organizational Chart



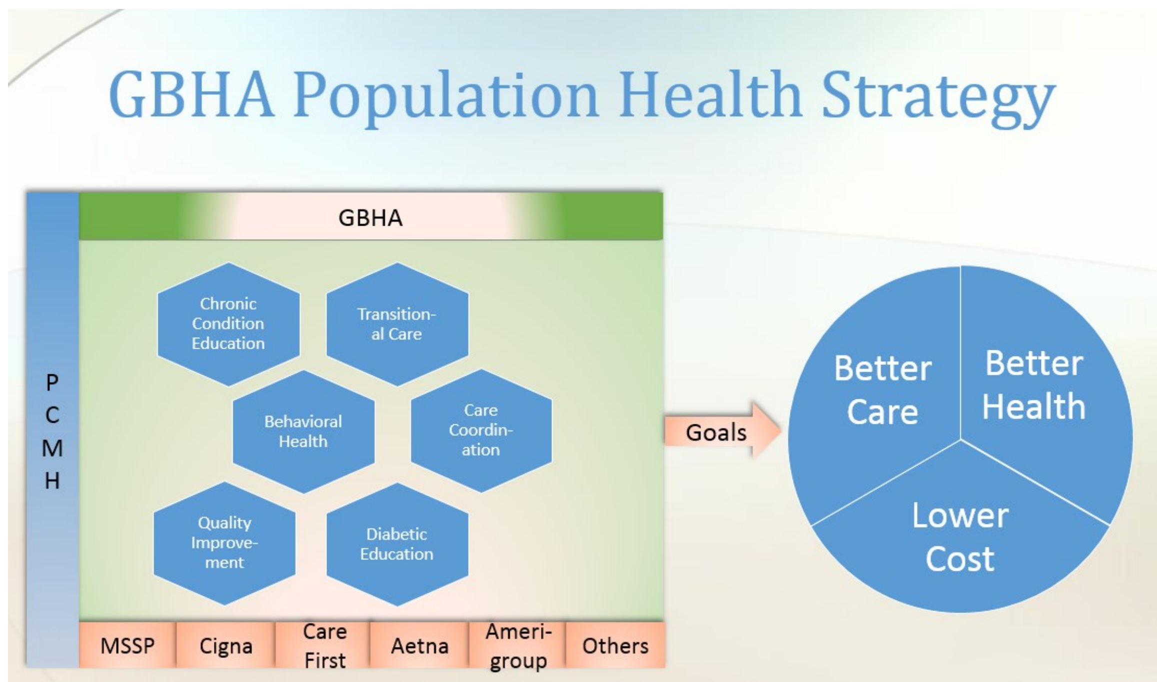
The GBHA was created in an effort to achieve Better Health, Better Care and Lower Cost, collectively referred to as the "triple aim." The "triple aim" is a pervasive concept in population health delivery models and was developed by the Institute for Healthcare Improvement (IHI). The "triple aim":

> "…describes an approach to optimizing health system performance. It is IHI's belief that new designs must be developed to simultaneously pursue three dimensions…Improving the patient experience of care (including quality and satisfaction); Improving the health of populations; and Reducing the per capita cost of health care." (IHI 2016, para. 1).

The MSSP "fulfills the intent" of the ACA by also following this "triple aim." (CMS 2016b, para. 2).

The GBHA is responsible for the strategy and implementation of a population health program to serve patients in the community. Key areas of focus programmatically include quality improvement, chronic care management, transitional care, care coordination, behavioral health and predictive analytics. These areas of focus are described below in further detail. In this organizational assessment, mission, purpose, stakeholders, internal processes and performance of GBHA are evaluated. A visual representation of the relationship between GBHA's key areas of programmatic focus, payer relationships and goals is displayed below in **Figure 4.** This figure was developed by the author for use in this dissertation.

Figure 4: GBHA Population Health Strategy



Key Areas of Focus:

In this organizational assessment several key areas, as summarized below, were assessed using the Baldrige Excellence Framework criteria. A high-level summary of these areas is included below as background.

The backbone of the GBHA population health program is an advanced primary care model known as the Patient Centered Medical Home (PCMH). According to the Agency for Healthcare Research and Quality (AHRQ), the five key goals of a PCMH are comprehensive care, patient-centeredness, coordinated care, accessible services, and quality & safety (AHRQ 2016). PCMH practices at GBHA include two professional roles not typical to traditional primary care practices. These roles are the Registered Nurse (RN) Care Manager and the Care Coordinator. These roles work together with the primary care providers, medical assistants, practice managers, and support staff to form the "care team" for each patient. The overarching objectives of these new roles are to improve quality of care, increase patient satisfaction, coordinate care, and prevent both potentially avoidable utilization and adverse outcomes for patients. The RN Care Manager role is designed to work together with patients that may have chronic conditions or who are otherwise identified as either "high risk" or "rising risk," as depicted above in **Figure 2**, to develop a care plan to address medical needs. These nurses use techniques of motivational interviewing, health coaching, and patient education to help patients achieve better health outcomes and meet their individual goals. The Care Coordinator is a nonclinical role designed to help patients navigate the healthcare system, assist with mitigating any nonmedical barriers to care by providing connections to transportation,

mental health/substance abuse treatment, home health care, durable medical equipment prescription assistance, and other organizations in the community as required.

Care management and coordination that occurs in a PCMH setting typically involves activities such as “engaging patients in care planning, care transition coordination, facilitating referrals to health care resources, and [providing] linkages to community-based organizations” (Daaleman et al. 2016, p. 97). Care management and coordination has also been described in the literature as:

> “more intensely caring for high-risk patients through the establishment and monitoring of care plans, more frequent follow-up visits, regular outreach between office visits to assess health status, extensive support for disease management and self-care, tracking and coordination of specialty and other services, and linkages with community resources” (Taliani et al 2013, p. 957).

The conceptual framework for the PCMH model implemented by GBHA, as visualized by the GBMC marketing department, is shown in **Figure 5.** In this model, the patient is at the center of the care team. The Primary Care Provider (PCP), who can be a Medical Doctor, Doctor of Osteopathic Medicine, Nurse Practitioner or Physician Assistant, works together with the RN Care Manager, Care Coordinator, and other providers such as specialists, pharmacists and social workers to make up what is collectively referred to as the care team for the patient. The ambulatory care team members play a key role in helping patients along the continuum of care, especially as patients transition between various care settings. Patients and their care team also benefit from having one medical record per patient in the GBMC’s system-wide electronic medical record system, which is Epic. Prior to October 1, 2016, these handoff activities required care team members to log in to disparate systems, patients had multiple records, and thus care was more fragmented. Having one GBMC enterprise-wide electronic

health record (EHR) makes care coordination across the continuum more seamless. There are several risks and challenges to using more than one EHR in a single organization such as impaired patient safety, problems viewing and integrating data, inept EHR functionality and hampered workflow, and higher institutional costs (Payne et al., 2012). The transition to an enterprise-wide EHR that occurred October 1, 2016 has helped mitigate the risks associated with those challenges at GBMC.

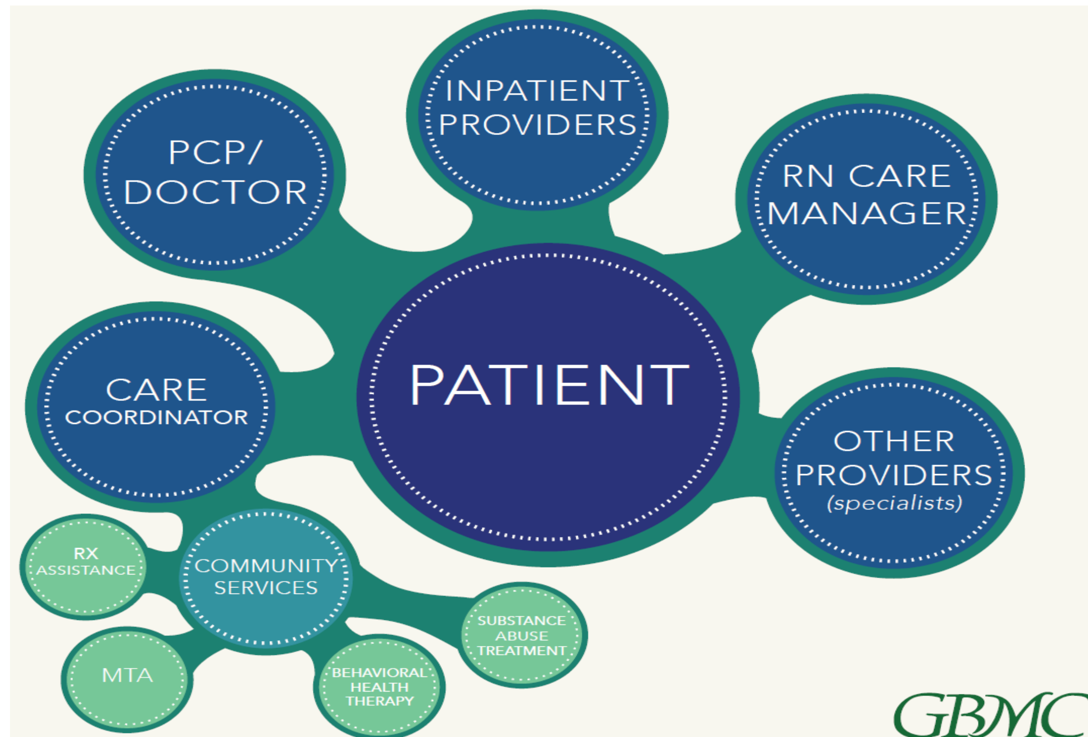
Along with the EHR, GBHA care management and care coordination processes leverage the regional health information exchange (HIE), the Chesapeake Regional Information System for Our Patients (CRISP). CRISP is designed "…to deliver the right health information to the right place at the right time - providing safer, timelier, efficient, effective, equitable, patient centered care" (CRISP Health 2016, para. 2) . As such, CRISP offers a suite of tools that aid in care coordination. Examples of such tools include the clinical query portal, prescription drug monitoring program, encounter notification system (ENS), reporting services, single sign on, ambulatory integration and others. GBHA care management and coordination heavily rely on the ENS. GBHA is alerted through the ENS any time a patient is admitted, discharged, or transferred to any participating IP hospital or emergency department (ED) (CRISP Health 2016). These notifications prompt intervention by the care team to enroll a patient in transitional care management, complete the medication reconciliation process, and ensure that discharge instructions are understood and adhered to by the patient. The GBHA is also able build reports by aggregating the ENS data so that patients with high utilization can be more easily identified and contacted for follow-up.

In addition to care management and care coordination, another key component of the GBHA population health program is ACO quality improvement. At a high level this initiative is based on a quality scorecard that was developed using GBMC's internal data warehouse. Each month, the GBHA administrators send PCPs a quality scorecard. An example scorecard can be found in **Appendix C.** Scorecards use data analytics that allow each PCP to monitor his or her performance as assessed using a list of ACO clinical quality measures. The Centers for Medicare and Medicaid Services (CMS) MSSP benchmarks are also included on the scorecards so that providers can compare themselves not only to their practice and ACO, but to national goals set by CMS. The scorecards are electronically delivered each month to both the individual PCP and his or her practice, allowing PCPs, practice staff, care managers and care coordinators to work together to identify patient care gaps or other risk factors. All providers and practices receive all scorecards, not only their own, in addition to identifiable rankings for each measure by provider. In this way, the GBHA promotes transparency and can promote learning and spread of successful strategies across the system.

PCPs use the scorecards to identify particular measures to focus on and improve. PCPs also use them to identify patients overdue for screenings or with uncontrolled chronic conditions, which prompts them to initiate or escalate appropriate interventions. The ambulatory RN care manager and care coordinator, described above, are integral to this process. They work together with the providers to engage patients that may have gaps in care or who may need additional resources. The care team has the ability to drill down on any measure to see the patient-level detail of who has or has not met a particular

measure, which guides the care teams as to which patients may need outreach for follow-up care.

Figure 5: GBHA PCMH Conceptual Framework (GBMC 2016b)



The GBHA developed and implemented these scorecards out of its system-wide integrated data warehouse. This data warehouse pulls data from various systems and medical records across the organization and merges them together for integrated reporting. Data for the scorecards are updated every night and therefore updates to the monthly scorecards are available in close to real-time, making information actionable for the practices. The GBHA custom-built the scorecards to mirror the MSSP ACO clinical quality measures. However, the GBHA broadened the scope of the measures used to include a larger base population to further emphasize population health. The scorecard denominators include any patient seen at least once in any practice throughout the system, regardless of payer, over the course of the prior 18 months. This is a rolling

number that updates daily. In this way, the GBHA aims to capture more patients than only those seen in the calendar year as many measure definitions stipulate. Furthermore, the GBHA is actively adding measures to align with other patient populations and payer requirements. Currently there are 29 measures reported on the GBHA quality scorecard. Examples of measures include Hemoglobin A1c in poor control (>9% for diabetic patients), compliance with diabetic eye exam screenings, pneumococcal vaccination, body mass index (BMI) screening and follow-up, documentation of current medications, and blood pressure screening and follow-up. Most measures have seen an improvement since the implementation of the scorecard process, some by as much as 20% in a 12-month period. The diabetes composite measure that includes eye exam and hemoglobin A1c results improved from 13.83% to 32.38% of patients in full compliance from October 2015 to September 2016. These individual measures are also aggregated at the system level to create an overall composite quality score as well as rates of gaps in care per patient. Examples of gaps in care can include missing screenings, missing vaccinations, or out of range lab results. Graphs showing the trends over time of these measures are included in **Appendix A.** Managing these scorecard activities and quality performance rates is a true team effort in the practices, involving medical assistants, care managers, care coordinators, providers, call center operators, patient services assistants, and practice managers. The transition of the workflows and reports for ACO quality measure improvement related to the Epic conversion is currently under way. Since the Epic transition, the GBHA is working to merge data sources from Epic and eClinicalWorks (eCW) systems to create monthly aggregated scores. The GBHA also

works closely with the Epic team to ensure training, build, and other requirements are in place.

The GBHA model, as described above, evolved over the years in preparation for population health payment reform. Given these investments in culture and strategy change to support population health, the GBHA is well positioned to react to payment reform especially in the Maryland context, as described in more detail below.

Description of the organizational assessment framework

The Baldridge Excellence Framework is the framework leveraged for the organizational assessment of the GBHA. The Baldrige Excellence Framework can be used to assess an organization in the areas of leadership, strategy, customers, measurement, analysis, knowledge management, workforce, operations and results. The core values and concepts of high-performing organizations per this framework include a systems perspective, visionary leadership, patient-focused excellence, valuing people, organization learning and agility, a focus on success, managing for innovation, management by fact, societal responsibility and community health, ethics and transparency, and delivering value and results. Four dimensions used in this framework to evaluate and improve *processes* include Approach, Deployment, Learning, and Integration (ADLI). *Results* are evaluated along four other dimensions: Levels, Trends, Comparisons, and Integration (LTCI). Pertinent questions that are part of both ADLI and LTCI are included below in **Table 1.** (NIST 2016)

Table 1: Baldrige Evaluation Dimensions

PROCESS DIMENSIONS	RESULTS DIMENSIONS
Approach: How systematic are your key processes?	**Levels:** What is your current performance?
Deployment: How consistently are your key processes used throughout your organization?	**Trends:** Are results improving, staying the same, or getting worse?
Learning: Have you evaluated and improved your key processes? Have improvements been shared within your organization?	**Comparisons:** How does your performance compare with that of other organizations or with benchmarks?
Integration: How do your processes address your current and future organizational needs?	**Integration:** Are you tracking results that are important to your organization? Are you using the results in organizational decision making?

Methods

The Baldrige Excellence Framework allows for an assessment of the GBHA from multiple perspectives, not only the key dimensions described above, and evaluates opportunities for improvement. The Baldrige Survey Tools: "Are we Making Progress as Leaders?" and "Are We Making Progress?" were used to assess each of the above dimensions. The two Baldrige Survey questionnaires in their original form are included in **Appendices D and E**. Modifications were made to the Baldrige survey tools so that they could be administered electronically rather than on paper to facilitate data aggregation and analysis. Two additional answer choices were appended to each question: 1) "Not Applicable" and 2) "Prefer Not to Answer." The opportunity to add comments with free text was included after each section of the survey, rather than only at the very end, since electronic survey administration would not allow the respondent to view all the questions at once. A demographics section including role, gender, age and race/ethnicity was also added at the end of the survey. Each question must be completed in order to proceed to the next question, in an effort to maximize completeness of the data (but as noted, the respondent had a "refuse" option). The added demographic section was

placed at the end so as not to deter respondents from submitting the survey. The modified surveys are included in **Appendix F and G**.

The first questionnaire is oriented toward leaders and was administered to manager-level-and-above employees of the GBHA, which totals 12 individuals. The second questionnaire was administered to 23 GBHA staff members. Respondents were able to complete the questionnaire anonymously using Survey Monkey. Both surveys opened for responses starting on March 23, 2017. While not sufficient for generalizability beyond the GBHA given the small number of employees surveyed, the results provide internally useful information and potential areas for improvements within the GBHA. An interview approach was also considered, but deemed impractical given timelines.

The surveys were sent out to respondents with an introductory email included below in **Figure 6**. The anonymity of respondents was stressed and respondents were made aware that their responses would be used in this dissertation. Reminder emails were sent to non-responders through Survey Monkey on March 29, April 3 and April 5, 2017. A separate reminder was sent directly via email to all survey respondents on April 3, 2017. The survey was closed for responses on April 6, 2017.

Figure 6: Organizational Assessment Introductory Email

Hi everyone. This email is from Megan Priolo, COO of GBHA. I would like to seek your input about GBHA. As part of my doctoral dissertation at the Johns Hopkins Bloomberg School of Public Health, I am working to better understand areas of strength and opportunity within GBHA. I would like to ask you to participate in this study so that we can learn from our team and drive improvement efforts. You do not have to participate; it is your choice.

If you agree to participate, we will ask you to complete a brief survey questionnaire using Survey Monkey. The survey can be completed in approximately 5-15 minutes. You do not have to answer all the questions and you may stop at any time. We will collect the information you submit and use it to identify opportunities for both improvement and celebration.

It is possible that someone outside the study will see the results of this survey. We will do our best to keep your information safe by not collecting your name and by analyzing the data at the aggregate level only rather than individually. If we share your information with other researchers, we will ask them to use the same protections.

We will not pay you to join the study.

If you have any questions or concerns, you may contact Megan Priolo at mpriolo@gbmc.org or 443-849-2232.

Please select the "Begin Survey" button below to participate in this study.

Thank you for your input!

After administration of both questionnaires, the GBHA's results were compared, as detailed below, to publicly available summary level results from the 2011 Baldrige Board of Examiners (BOE). The Survey Monkey tool was used in this analysis. Survey Monkey calculated frequencies and proportions for each question as well as the completion rate for each question. Comparisons were made by calculating the difference between the proportions for each answer type by question for the GBHA population and the BOE. Subsequent to this comparison, the results of the leader and staff surveys were compared to each other using this same approach with analysis of the variance of proportion by question. These external BOE results are included in **Appendices H and I**. One-hundred seventy-three Baldrige Board of Examiners contributed to the 2011 "Are We Making Progress?" results whereas 294 contributed to the "Are We Making Progress

as Leaders?" results. In this exercise, BOE completed these surveys as a reflection of their respective organizations. By design, these summaries can be used to "…compare your organization's progress toward performance excellence with that of others in the business, education, health care, and nonprofit sectors…" (NIST 2016, para.5) It is important to note that demographic and other information is not available for this subset, thus this comparison group may be limited in its comparability to the main study group. Nonetheless, it is the only available external comparison data and as such is used in this analysis.

Hypothesis

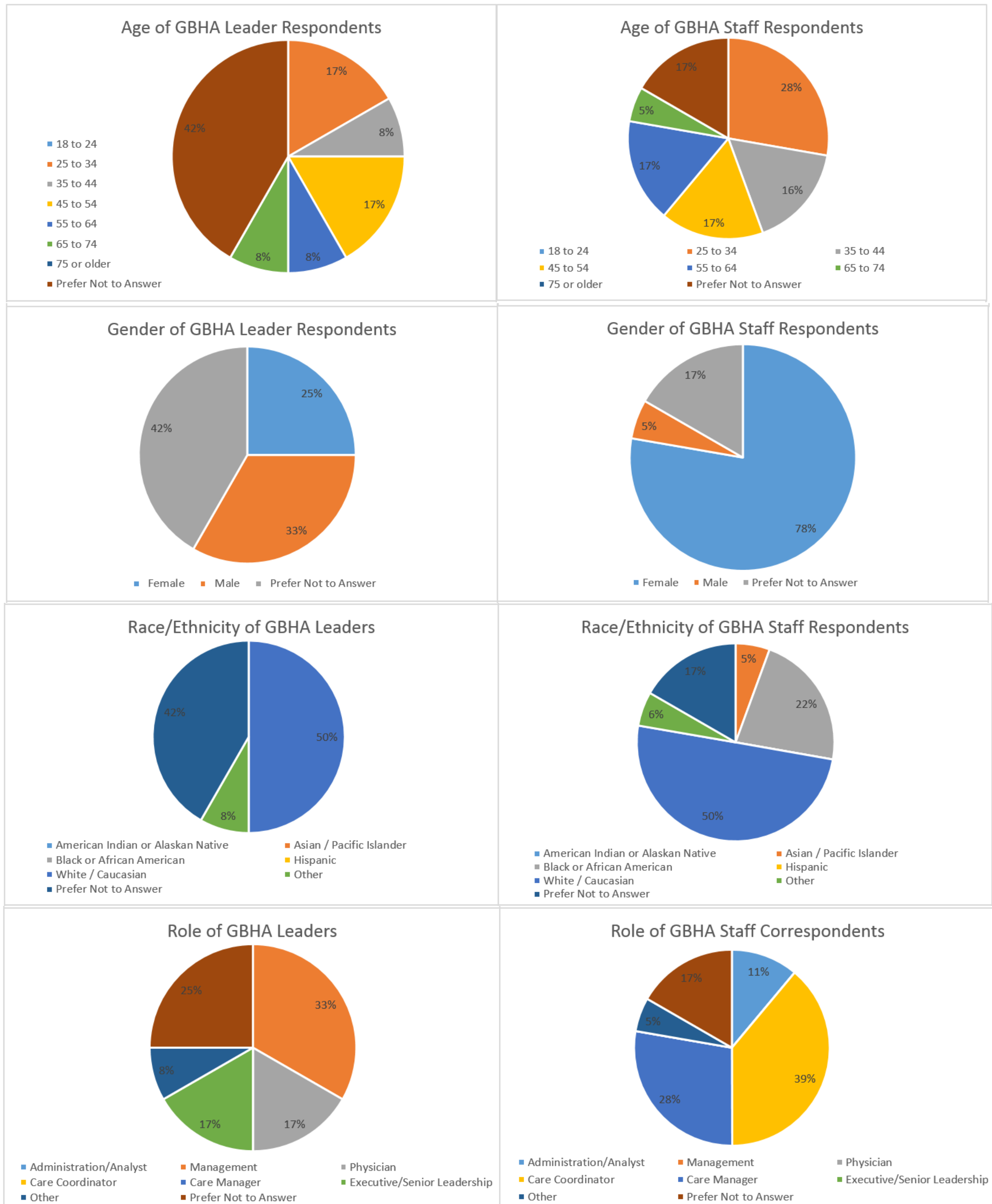
The hypothesis is that this analysis will reveal strengths in the areas of leadership and strategy with the most room for improvement in the areas of operations and process. This in anticipated due to the innovative nature of the GBHA, which operates on a fast pace with much agility. Thus leadership and strategy are required to drive these changes. However, this rapid pace may lend itself to shortcomings in operations and process as the outcomes and procedures change rapidly.

Results

Both surveys were closed on April 6, 2017. For the leader survey, 12 individuals were included in this sample and the response rate achieved was 100%. Additionally, all 12 of these respondents completed the survey in its entirety. For the staff survey, 23 individuals were included in this sample with a response rate of 86.96%. However, only 18 of these individuals completed the survey in its entirety as 2 respondents stopped the survey after completing Section 4, thus skipping Sections 5-7 and demographics. The

demographic and role composition of each survey group are detailed in the side-by-side charts below in **Figure 7**.

Figure 7: Organizational Assessment Demographics



Comparison of the GBHA Survey Results to Benchmark Data

Survey results from the GBHA leaders and staff are compared to those of the 2011 Baldrige Board of Examiners (BOE) in the tables provided in this section. The BOE results are reflective of their respective organizations. By design, these summaries can be used to "…compare your organization's progress toward performance excellence with that of others in the business, education, health care, and nonprofit sectors…" (NIST 2016). It is important to note that demographic and other information is not available for this subset, thus this comparison group may be limited in its comparability to the main study group. Additionally, the "Not Applicable" and "Prefer Not to Answer" options were not included in the original version of the Baldrige Survey tools and as such, there is no comparison data for these answer options.

Leadership

Leadership is a strength according to the GBHA leaders. In the leadership section, the GBHA exhibited a higher percentage of leaders indicating either agree or strongly agree as compared to the BOE in all items with only one exception. This exception was the statement "Our leadership team shares information about the organization," where 75% of GBHA leaders indicated that they either agreed or strongly agreed, as compared to 80% of the BOE. Therefore, this represents an opportunity for improvement for the GBHA, whereas the other sections should be celebrated and periodically assessed for maintenance. The GBHA staff also had a higher percentage of respondents that selected agree and strongly agree for all statements except for one, "My organization asks what I think." In this statement, the variance between the GBHA staff and the BOE benchmark was 14 percentage points, showing considerable room for improvement. Overall, the

GBHA compares favorably to the BOE benchmark in the leadership category. The results are summarized in **Table 2 and Table 3**.

Strategy

The results from the *Strategy* section of the survey indicate an overall result that is relatively similar to the organizations reviewed by the BOE. The statement where GBHA leader responses exhibited the most variance when compared to the BOE benchmark is "Our employees know how to tell if they are making progress on their workgroup's part of the plan." In this statement, the number of individuals answering agree was 17 percentage points higher than the BOE benchmark, and the number of individuals answering undecided was 22 percentage points lower. When comparing staff results to the BOE, the statement where the most variance was observed was "My organization is flexible and makes changes quickly when needed," where GBHA staff selecting agree or strongly agree was 26 percentage points higher than the benchmark. Overall both groups positively rated and agreed with statements in the strategy section. These results are summarized in **Table 4 and Table 5.**

Customers

The GBHA leaders' results for the *Customers* section suggest a larger opportunity for improvement as compared to the more positive Leadership and Strategy sections. A larger percentage of individuals indicated that they disagreed with the statement "Our employees ask if their customers are satisfied or dissatisfied with their work" when compared to the BOE benchmark. Also, fewer individuals indicated that they strongly agreed with the statement "Our employees also know who our organization's most important customers are." In the GBHA staff survey, a larger percentage of respondents

selected not applicable in this section relative to other sections and there is no comparative data for the BOE benchmark for this answer choice. The percentage of respondents that selected not applicable for statements in the customer section ranged from 17% to 28%. This may indicate that staff do not have a clear understanding of who their customers are, perhaps due to the nature of their roles. One staff respondent commented that all customers are important in response to the statements, “I know who my most important customers are,” and “I also know who my organization’s most important customers are.” The nature of the word customer in a healthcare setting may have been off-putting or confusing to some respondents. Beyond this relatively higher incidence of selecting not applicable, GBHA staff selected agree or strongly agree less often than the BOE benchmark for all statements, with one exception: “I regularly ask my customers what they need and want.” Overall, a focus on customers is an area for further exploration and improvement efforts within the GBHA. These results are summarized in **Table 6 and Table 7.**

Measurement, Analysis and Knowledge Management

GBHA leaders performed similarly to the BOE benchmark in the *Measurement, Analysis and Knowledge Management* section for the majority of the survey questions. For the first two statements, the GBHA leaders’ results show a lower percentage of individuals indicating that they disagree with the statement, “Our employees know how to measure the quality of their work,” and a larger percentage of respondents agreeing with this statement when compared to the benchmark. Similarly, fewer respondents selected undecided and more selected strongly agree with the statement, “Our employees use this information to make changes that will improve their work,” when compared to

the BOE benchmark. GBHA staff also indicated results similar to those of the BOE. The largest variance in the percentage points between GBHA staff and BOE in terms of the percent of respondents selecting agree or strongly agree was for the statement, "I get all the important information I need to do my work." For this statement, 72% of staff selected agree or strongly agree as compared to 54% of BOE. Overall this area represents an area that is neither particularly weak nor strong, however, with focus, may represent an opportunity to excel. These results are summarized in **Table 8 and Table 9.**

Workforce

The *Workforce* section of the leader survey indicated a very positive response as compared to the BOE for all statements. The largest variance in answer category for items in this section was for, "Our employees cooperate and work as a team." In this section, the percent of respondents selecting strongly agree was 38 percentage points higher than the BOE benchmark. A larger percentage of GBHA leaders selected agree or strongly agree as compared to benchmark and thus this is an area for potential celebration and periodic monitoring. A larger percentage of GBHA staff selected strongly agree or agree for all statements when compared to the BOE. The largest difference was for the statement, "My bosses encourage me to develop my job skills so I can advance in my career," followed by "The people I work with cooperate as a team." The difference in percentage points in the strongly agree and agree categories for these statements compared to the BOE are 22 and 18 respectively. Overall, these results indicate positive outcomes in the area of workforce and thus should be celebrated and periodically monitored. These results are summarized in **Table 10 and Table 11.**

Operations

The leader responses to the *Operations* section revealed a larger percentage of respondents selecting agree for all sections. The largest variance existed for the statement, "Our employees can improve their personal work processes when necessary," with GBHA leaders indicating a 30 percentage point higher average in the agree category and 16 percentage point higher average in the strongly agree category. The staff responses revealed similar results when compared to the BOE staff benchmark with a larger percentage of respondents selecting agree or strongly agree for all but one statement. The largest difference in percentage points answering either agree or strongly agree between GBHA staff and BOE was for the statement, "I can get everything I need to do my job," with a positive combined difference of 25 percentage points. Only one statement, "We are prepared to handle an emergency," yielded similar results to those of the BOE. Thus this is another area that may warrant celebration and monitoring. No doubt all organizations can put additional focus toward preparing for emergencies. These results are summarized in **Table 12 and Table 13.**

For the final category of *Results,* GBHA leaders' responses are similar to the BOE for many statements. One statement where GBHA exhibited a larger percentage of respondents selecting agree and strongly agree compared to BOE is "Our employees' customers are satisfied with their work." Conversely, a larger percentage of respondents indicated that they disagreed with the statement, "Our workforce knows how well our organization is doing financially," when compared to the BOE, representing an opportunity for improvement within GBHA. GBHA staff survey results also reveal relative similarity to the benchmark. The statement, "My organization has the right people and skills to do its work," revealed a 21 percentage point difference when

comparing the percentage of respondents that selected either agree or strongly agree, thus this is one of GBHA's strengths, according the staff. Similar to the leader survey results, staff also had the largest negative difference from the benchmark for the statement, "I know how well my organization is doing financially." These results are summarized in **Table 14 and Table 15.**

Table 2: GBHA Leadership: Are We Making Progress As Leaders? – External Comparison with 2011 Baldrige Board of Examiners

GBHA Baldrige Survey: Are We Making Progress As Leaders?

Section 1: Leadership	GBHA Leaders	2011 Board of Examiners	Comparison
Question & Response Option	Percent	Percent	Difference
1A Our workforce knows our organization's mission (what we are trying to accomplish).			
Strongly Disagree	0%	1%	-1%
Disagree	0%	6%	-6%
Undecided	8%	8%	0%
Agree	25%	41%	-16%
Strongly Agree	67%	45%	22%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
1B Our workforce knows our organization's vision (where it is trying to go in the future).			
Strongly Disagree	0%	2%	-2%
Disagree	8%	13%	-5%
Undecided	17%	16%	1%
Agree	50%	39%	11%
Strongly Agree	25%	30%	-5%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
1C Our leadership team is ethical and demonstrates our organization's values.			
Strongly Disagree	0%	1%	-1%
Disagree	0%	13%	-13%
Undecided	8%	14%	-6%
Agree	33%	39%	-6%
Strongly Agree	58%	33%	25%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
1D Our leadership team creates a work environment that helps our employees do their jobs.			
Strongly Disagree	0%	1%	-1%
Disagree	0%	12%	-12%
Undecided	0%	20%	-20%
Agree	58%	46%	12%
Strongly Agree	42%	22%	20%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
1E Our leadership team shares information about the organization.			
Strongly Disagree	0%	1%	-1%
Disagree	8%	8%	0%
Undecided	17%	12%	5%
Agree	50%	47%	3%
Strongly Agree	25%	33%	-8%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
1F Our leadership team asks employees what they think.			
Strongly Disagree	0%	3%	-3%
Disagree	8%	12%	-4%
Undecided	8%	13%	-5%
Agree	67%	46%	21%
Strongly Agree	17%	26%	-9%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
Section 1 GBHA Comments (None)			

Table 3: GBHA Leadership: Are We Making Progress? – External Comparison with 2011 Baldrige Board of Examiners

GBHA Baldrige Survey: Are We Making Progress?

Section 1: Leadership	GBHA Staff	2011 Board of Examiners Results	Comparison
Question and Response Option	Percent	Percent	Difference
1A I know my organization's mission (what it is trying to accomplish).			
Strongly Disagree	0%	1%	-1%
Disagree	5%	5%	0%
Undecided	0%	1%	-1%
Agree	40%	36%	4%
Strongly Agree	55%	56%	-1%
Not Applicable	0%	0%	-1%
Prefer Not to Answer	0%	0%	-1%
1B I know my organization's vision (where it is trying to go in the future).			
Strongly Disagree	0%	2%	-2%
Disagree	0%	8%	-8%
Undecided	5%	8%	-3%
Agree	45%	32%	13%
Strongly Agree	50%	50%	0%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
1C My senior (top) leaders are ethical and demonstrate our organization's values.			
Strongly Disagree	0%	1%	-1%
Disagree	0%	15%	-15%
Undecided	10%	16%	-6%
Agree	50%	35%	15%
Strongly Agree	40%	33%	7%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
1D My senior leaders create a work environment that helps me do my job.			
Strongly Disagree	0%	4%	-4%
Disagree	10%	13%	-3%
Undecided	5%	16%	-11%
Agree	60%	45%	15%
Strongly Agree	25%	22%	3%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
1E My organization's leaders share information about the organization.			
Strongly Disagree	0%	1%	-1%
Disagree	0%	13%	-13%
Undecided	5%	11%	-6%
Agree	70%	49%	21%
Strongly Agree	25%	27%	-2%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
1F My organization asks what I think.			
Strongly Disagree	0%	5%	-5%
Disagree	10%	16%	-6%
Undecided	35%	15%	20%
Agree	20%	47%	-27%
Strongly Agree	30%	17%	13%
Not Applicable	0%	0%	0%
Prefer Not to Answer	5%	0%	0%
Section 1 GBHA Comments (1 individual)			
1F - lip service			

Table 4: GBHA Strategy: Are We Making Progress As Leaders? – External Comparison with 2011 Baldrige Board of Examiners

GBHA Baldrige Survey: Are We Making Progress As Leaders?

Section 2: Strategy	GBHA Leaders	2011 Board of Examiners	Comparison
Question & Response Option	Percent	Percent	Difference
2A As our leadership team plans for the future, we ask our employees for their ideas.			
Strongly Disagree	0%	2%	-2%
Disagree	25%	24%	1%
Undecided	17%	17%	0%
Agree	50%	40%	10%
Strongly Agree	0%	16%	-16%
Not Applicable	0%	0%	0%
Prefer Not to Answer	8%	0%	8%
2B Our organization encourages totally new ideas (innovation).			
Strongly Disagree	0%	3%	-3%
Disagree	17%	15%	2%
Undecided	25%	20%	5%
Agree	42%	44%	-2%
Strongly Agree	17%	18%	-1%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
2C Our employees know the parts of our organization's plans that will affect them and their work.			
Strongly Disagree	0%	3%	-3%
Disagree	17%	19%	-2%
Undecided	17%	23%	-6%
Agree	58%	43%	15%
Strongly Agree	8%	12%	-4%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
2D Our employees know how to tell if they are making progress on their workgroup's part of the plan.			
Strongly Disagree	0%	4%	-4%
Disagree	33%	21%	12%
Undecided	0%	22%	-22%
Agree	58%	41%	17%
Strongly Agree	8%	12%	-4%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
2E Our organization is flexible and makes changes quickly when needed.			
Strongly Disagree	0%	8%	-8%
Disagree	8%	21%	-13%
Undecided	17%	21%	-4%
Agree	50%	35%	15%
Strongly Agree	25%	16%	9%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
Section 2 GBHA Comments (None)			

Table 5: GBHA Strategy: Are We Making Progress? – External Comparison with 2011 Baldrige Board of Examiners

GBHA Baldrige Survey: Are We Making Progress?

Section 2: Strategy	GBHA Staff	2011 Board of Examiners Results	Comparison
Question and Response Option	**Percent**	**Percent**	**Difference**
2A As it plans for the future, my organization asks for my ideas.			
Strongly Disagree	0%	8%	-8%
Disagree	11%	24%	-13%
Undecided	28%	20%	8%
Agree	44%	33%	11%
Strongly Agree	17%	16%	1%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
2B My organization encourages totally new ideas (innovation).			
Strongly Disagree	0%	3%	-3%
Disagree	17%	18%	-1%
Undecided	6%	24%	-18%
Agree	56%	40%	16%
Strongly Agree	22%	15%	7%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
2C I know the parts of my organization's plans that will affect me and my work.			
Strongly Disagree	0%	4%	-4%
Disagree	6%	12%	-6%
Undecided	22%	17%	5%
Agree	56%	46%	10%
Strongly Agree	17%	21%	-4%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
2D I know how to tell if we are making progress on my workgroup's part of the plan.			
Strongly Disagree	0%	3%	-3%
Disagree	6%	16%	-10%
Undecided	17%	17%	0%
Agree	44%	43%	1%
Strongly Agree	28%	21%	7%
Not Applicable	6%	0%	6%
Prefer Not to Answer	0%	0%	0%
2E My organization is flexible and makes changes quickly when needed.			
Strongly Disagree	0%	6%	-6%
Disagree	0%	23%	-23%
Undecided	28%	24%	4%
Agree	50%	35%	15%
Strongly Agree	22%	11%	11%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
Section 2 GBHA Comments (None)			

Table 6: GBHA Customer: Are We Making Progress As Leaders? – External Comparison with 2011 Baldrige Board of Examiners

GBHA Baldrige Survey: Are We Making Progress As Leaders?

Section 3: Customers	GBHA Leaders	2011 Board of Examiners	Comparison
Question & Response Option	Percent	Percent	Difference
3A Our employees know who their most important customers are.			
Strongly Disagree	0%	0%	0%
Disagree	0%	7%	-7%
Undecided	8%	9%	-1%
Agree	42%	42%	0%
Strongly Agree	50%	41%	9%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
3B Our employees regularly ask their customers what they need and want.			
Strongly Disagree	0%	2%	-2%
Disagree	25%	18%	7%
Undecided	17%	18%	-1%
Agree	33%	37%	-4%
Strongly Agree	17%	24%	-7%
Not Applicable	8%	0%	8%
Prefer Not to Answer	0%	0%	0%
3C Our employees ask if their customers are satisfied or dissatisfied with their work.			
Strongly Disagree	0%	2%	-2%
Disagree	42%	23%	19%
Undecided	17%	16%	1%
Agree	25%	37%	-12%
Strongly Agree	8%	22%	-14%
Not Applicable	8%	0%	8%
Prefer Not to Answer	0%	0%	0%
3D Our employees are allowed to make decisions to satisfy their customers.			
Strongly Disagree	0%	1%	-1%
Disagree	8%	7%	1%
Undecided	17%	21%	-4%
Agree	58%	47%	11%
Strongly Agree	17%	22%	-5%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
3E Our employees also know who our organization's most important customers are.			
Strongly Disagree	0%	1%	-1%
Disagree	0%	11%	-11%
Undecided	17%	12%	5%
Agree	67%	39%	28%
Strongly Agree	17%	37%	-20%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
Section 3 GBHA Comments (1 individual)			
System tells culture what is to be done			

Table 7: GBHA Customer: Are We Making Progress? – External Comparison with 2011 Baldrige Board of Examiners

GBHA Baldrige Survey: Are We Making Progress?

Section 3: Customers	GBHA Staff	2011 Board of Examiners Results	Comparison
Question and Response Option	**Percent**	**Percent**	**Difference**
3A I know who my most important customers are.			
Strongly Disagree	0%	1%	-1%
Disagree	0%	1%	-1%
Undecided	0%	3%	-3%
Agree	28%	38%	-10%
Strongly Agree	44%	57%	-13%
Not Applicable	28%	0%	28%
Prefer Not to Answer	0%	0%	0%
3B I regularly ask my customers what they need and want.			
Strongly Disagree	0%	1%	-1%
Disagree	0%	15%	-15%
Undecided	0%	12%	-12%
Agree	33%	42%	-9%
Strongly Agree	50%	30%	20%
Not Applicable	17%	0%	17%
Prefer Not to Answer	0%	0%	0%
3C I ask if my customers are satisfied or dissatisfied with my work.			
Strongly Disagree	0%	1%	-1%
Disagree	17%	12%	5%
Undecided	0%	15%	-15%
Agree	44%	44%	0%
Strongly Agree	11%	29%	-18%
Not Applicable	28%	0%	28%
Prefer Not to Answer	0%	0%	0%
3D I am allowed to make decisions to satisfy my customers.			
Strongly Disagree	0%	2%	-2%
Disagree	0%	8%	-8%
Undecided	17%	11%	6%
Agree	44%	45%	-1%
Strongly Agree	22%	35%	-13%
Not Applicable	17%	0%	17%
Prefer Not to Answer	0%	0%	0%
3E I also know who my organization's most important customers are.			
Strongly Disagree	0%	1%	-1%
Disagree	6%	3%	3%
Undecided	28%	10%	18%
Agree	33%	40%	-7%
Strongly Agree	6%	45%	-39%
Not Applicable	28%	0%	28%
Prefer Not to Answer	0%	0%	0%
Section 3 GBHA Comments (1 individual)			
3A/3E I feel that all of our customers are the most important; 3C I ask patients what I can do to help them get what they need;			

Table 8: GBHA Measurement, Analysis and Knowledge Management: Are We Making Progress As Leaders? – External Comparison with 2011 Baldrige Board of Examiners

GBHA Baldrige Survey: Are We Making Progress As Leaders?

Section 4: Measurement, Analysis, and Knowledge Management	GBHA Leaders	2011 Board of Examiners	Comparison
Question & Response Option	**Percent**	**Percent**	**Difference**
4A Our employees know how to measure the quality of their work.			
Strongly Disagree	0%	4%	-4%
Disagree	33%	23%	10%
Undecided	0%	22%	-22%
Agree	58%	44%	14%
Strongly Agree	8%	7%	1%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
4B Our employees use this information to make changes that will improve their work.			
Strongly Disagree	0%	4%	-4%
Disagree	33%	25%	8%
Undecided	0%	28%	-28%
Agree	42%	37%	5%
Strongly Agree	25%	6%	19%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
4C Our employees know how the measures they use in their work fit into our organization's overall measures of improvement.			
Strongly Disagree	0%	5%	-5%
Disagree	25%	27%	-2%
Undecided	17%	24%	-7%
Agree	42%	37%	5%
Strongly Agree	17%	7%	10%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
4D Our employees get all the information they need to do their work.			
Strongly Disagree	0%	3%	-3%
Disagree	25%	22%	3%
Undecided	17%	28%	-11%
Agree	50%	40%	10%
Strongly Agree	8%	7%	1%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
4E Our employees know how our organization as a whole is doing			
Strongly Disagree	0%	2%	-2%
Disagree	17%	16%	1%
Undecided	25%	14%	11%
Agree	42%	46%	-4%
Strongly Agree	17%	22%	-5%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
Section 4 GBHA Comments (1 individual)			
4D: At times it can be difficult to get information when we must rely on others outside of GBHA to get information.			

Table 9: GBHA Measurement, Analysis and Knowledge Management: Are We Making Progress– External Comparison with 2011 Baldrige Board of Examiners

GBHA Baldrige Survey: Are We Making Progress?

Section 4: Measurement, Analysis and Knowledge Management	GBHA Staff	2011 Board of Examiners Results	Comparison
Question and Response Option	Percent	Percent	Difference
4A I know how to measure the quality of my work.			
Strongly Disagree	0%	1%	-1%
Disagree	11%	6%	5%
Undecided	0%	15%	-15%
Agree	61%	46%	15%
Strongly Agree	28%	32%	-4%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
4B I can use this information to make changes that will improve my work.			
Strongly Disagree	0%	1%	-1%
Disagree	6%	9%	-3%
Undecided	11%	16%	-5%
Agree	50%	46%	4%
Strongly Agree	22%	28%	-6%
Not Applicable	11%	0%	11%
Prefer Not to Answer	0%	0%	0%
4C I know how the measures I use in my work fit into the organization's overall measures of improvement.			
Strongly Disagree	0%	6%	-6%
Disagree	11%	13%	-2%
Undecided	17%	16%	1%
Agree	39%	45%	-6%
Strongly Agree	33%	20%	13%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
4D I get all the important information I need to do my work.			
Strongly Disagree	6%	6%	0%
Disagree	17%	21%	-4%
Undecided	6%	19%	-13%
Agree	50%	42%	8%
Strongly Agree	22%	12%	10%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
4E I know how my organization as a whole is doing.			
Strongly Disagree	6%	6%	0%
Disagree	0%	10%	-10%
Undecided	28%	15%	13%
Agree	44%	43%	1%
Strongly Agree	22%	26%	-4%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
Section 4 GBHA Comments (2 individuals)			
4D - I assist patients with their care - Epic messaging system is difficult to follow frequently.			
4D) Epic trainings were not satisfactory for my position. Have to take it day by day with documentatino for our ACO Scorecards			

Table 10: GBHA Workforce: Are We Making Progress As Leaders? – External Comparison with 2011 Baldrige Board of Examiners

GBHA Baldrige Survey: Are We Making Progress As Leaders?

Section 5: Workforce Question & Response Option	GBHA Leaders Percent	2011 Board of Examiners Percent	Comparison Difference
5A Our employees cooperate and work as a team.			
Strongly Disagree	0%	1%	-1%
Disagree	0%	10%	-10%
Undecided	0%	12%	-12%
Agree	42%	57%	-15%
Strongly Agree	58%	20%	38%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
5B Our leadership team encourages and enables our employees to develop their job skills so they can advance in their careers.			
Strongly Disagree	0%	2%	-2%
Disagree	8%	11%	-3%
Undecided	8%	22%	-14%
Agree	58%	41%	17%
Strongly Agree	25%	24%	1%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
5C Our employees are recognized for their work.			
Strongly Disagree	0%	1%	-1%
Disagree	17%	10%	7%
Undecided	8%	14%	-6%
Agree	33%	54%	-21%
Strongly Agree	42%	21%	21%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
5D Our organization has a safe workplace.			
Strongly Disagree	0%	0%	0%
Disagree	0%	2%	-2%
Undecided	0%	8%	-8%
Agree	25%	44%	-19%
Strongly Agree	75%	46%	29%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
5E Our managers and our organization care about our workforce.			
Strongly Disagree	0%	1%	-1%
Disagree	0%	3%	-3%
Undecided	0%	11%	-11%
Agree	42%	48%	-6%
Strongly Agree	58%	36%	22%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
5F Our workforce is committed to our organization's success.			
Strongly Disagree	0%	1%	-1%
Disagree	0%	4%	-4%
Undecided	0%	14%	-14%
Agree	42%	50%	-8%
Strongly Agree	58%	32%	26%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
Section 5 GBHA Comments (None)			

Table 11: GBHA Workforce: Are We Making Progress? – External Comparison with 2011 Baldrige Board of Examiners

GBHA Baldrige Survey: Are We Making Progress?

Section 5: Workforce	GBHA Staff	2011 Board of Examiners Results	Comparison
Question and Response Option	Percent	Percent	Difference
5A The people I work with cooperate and work as a team.			
Strongly Disagree	6%	3%	3%
Disagree	0%	6%	-6%
Undecided	0%	14%	-14%
Agree	39%	51%	-12%
Strongly Agree	56%	26%	30%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
5B My bosses encourage me to develop my job skills so I can advance in my career.			
Strongly Disagree	0%	3%	-3%
Disagree	6%	13%	-7%
Undecided	6%	17%	-11%
Agree	61%	32%	29%
Strongly Agree	28%	35%	-7%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
5C I am recognized for my work.			
Strongly Disagree	6%	3%	3%
Disagree	0%	9%	-9%
Undecided	17%	16%	1%
Agree	44%	50%	-6%
Strongly Agree	33%	22%	11%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
5D I have a safe workplace.			
Strongly Disagree	0%	0%	0%
Disagree	0%	3%	-3%
Undecided	0%	4%	-4%
Agree	67%	38%	29%
Strongly Agree	33%	55%	-22%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
5E My bosses and my organization care about me.			
Strongly Disagree	6%	3%	3%
Disagree	0%	8%	-8%
Undecided	17%	20%	-3%
Agree	44%	35%	9%
Strongly Agree	33%	34%	-1%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
5F I am committed to my organization's success.			
Strongly Disagree	6%	0%	6%
Disagree	0%	1%	-1%
Undecided	0%	5%	-5%
Agree	56%	33%	23%
Strongly Agree	39%	62%	-23%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
Section 5 GBHA Comments (2 individuals)			
5D work place safe, but a couple of months ago we realized that we could be vulnerable when dealing with a behavioral health			
5E Bosses care about me - not sure about organization.			

Table 12: GBHA Operations: Are We Making Progress As Leaders? – External Comparison with 2011 Baldrige Board of Examiners

GBHA Baldrige Survey: Are We Making Progress As Leaders?

Section 6: Operations	GBHA Leaders	2011 Board of Examiners	Comparison
Question & Response Option	**Percent**	**Percent**	**Difference**
6A Our employees can get everything they need to do their jobs.			
Strongly Disagree	0%	2%	-2%
Disagree	17%	20%	-3%
Undecided	8%	21%	-13%
Agree	67%	46%	21%
Strongly Agree	8%	11%	-3%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
6B Our organization has good processes for doing its work.			
Strongly Disagree	0%	5%	-5%
Disagree	17%	22%	-5%
Undecided	25%	26%	-1%
Agree	42%	42%	0%
Strongly Agree	17%	5%	12%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
6C Our employees can improve their personal work processes when necessary.			
Strongly Disagree	0%	3%	-3%
Disagree	0%	20%	-20%
Undecided	0%	23%	-23%
Agree	75%	45%	30%
Strongly Agree	25%	9%	16%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
6D Our organization is prepared to handle an emergency.			
Strongly Disagree	0%	1%	-1%
Disagree	0%	6%	-6%
Undecided	0%	14%	-14%
Agree	75%	45%	30%
Strongly Agree	25%	34%	-9%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
Section 6 GBHA Comments (None)			

Table 13: GBHA Operations: Are We Making Progress? – External Comparison with 2011 Baldrige Board of Examiners

GBHA Baldrige Survey: Are We Making Progress?

Section 6: Operations	GBHA Staff	2011 Board of Examiners Results	Comparison
Question and Response Option	**Percent**	**Percent**	**Difference**
6A I can get everything I need to do my job.			
Strongly Disagree	0%	3%	-3%
Disagree	6%	18%	-12%
Undecided	11%	19%	-8%
Agree	56%	43%	13%
Strongly Agree	28%	16%	12%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
6B We have good processes for doing our work.			
Strongly Disagree	6%	6%	0%
Disagree	6%	18%	-12%
Undecided	22%	27%	-5%
Agree	39%	43%	-4%
Strongly Agree	28%	6%	22%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
6C I can improve my work processes when necessary.			
Strongly Disagree	0%	3%	-3%
Disagree	0%	16%	-16%
Undecided	22%	13%	9%
Agree	50%	51%	-1%
Strongly Agree	28%	17%	11%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
6D We are prepared to handle an emergency.			
Strongly Disagree	6%	5%	1%
Disagree	0%	11%	-11%
Undecided	22%	18%	4%
Agree	44%	40%	4%
Strongly Agree	22%	26%	-4%
Not Applicable	6%	0%	6%
Prefer Not to Answer	0%	0%	0%
Section 6 GBHA Comments (2 individuals)			
6b and 6c no independent control over our processes			
6B&C - Epic Messaging system hinders processes at times.			

Table 14: GBHA Results: Are We Making Progress As Leaders? – External Comparison with 2011 Baldrige Board of Examiners

GBHA Baldrige Survey: Are We Making Progress As Leaders?

Section 7: Results Question & Response Option	GBHA Leaders Percent	2011 Board of Examiners Percent	Comparison Difference
7A Our employees' work products meet all requirements.			
Strongly Disagree	0%	1%	-1%
Disagree	8%	21%	-13%
Undecided	17%	25%	-8%
Agree	58%	44%	14%
Strongly Agree	17%	9%	8%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
7B Our employees' customers are satisfied with their work.			
Strongly Disagree	0%	1%	-1%
Disagree	0%	13%	-13%
Undecided	8%	16%	-8%
Agree	83%	56%	27%
Strongly Agree	8%	13%	-5%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
7C Our workforce knows how well our organization is doing financially.			
Strongly Disagree	0%	4%	-4%
Disagree	33%	12%	21%
Undecided	25%	13%	12%
Agree	33%	39%	-6%
Strongly Agree	8%	32%	-24%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
7D Our organization has the right people and skills to do its work.			
Strongly Disagree	0%	3%	-3%
Disagree	8%	16%	-8%
Undecided	17%	19%	-2%
Agree	50%	45%	5%
Strongly Agree	25%	16%	9%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
7E Our organization removes things that get in the way of progress.			
Strongly Disagree	0%	3%	-3%
Disagree	17%	31%	-14%
Undecided	33%	22%	11%
Agree	50%	36%	14%
Strongly Agree	0%	7%	-7%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
7F Our organization obeys laws and regulations.			
Strongly Disagree	0%	1%	-1%
Disagree	0%	1%	-1%
Undecided	0%	2%	-2%
Agree	8%	22%	-14%
Strongly Agree	83%	74%	9%
Not Applicable	8%	0%	8%
Prefer Not to Answer	0%	0%	0%
7G Our organization practices high standards and ethics.			
Strongly Disagree	0%	1%	-1%
Disagree	0%	2%	-2%
Undecided	8%	8%	0%
Agree	17%	29%	-12%
Strongly Agree	75%	60%	15%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%

Table 14 Continued: GBHA Results: Are We Making Progress As Leaders? – External Comparison with 2011 Baldrige Board of Examiners

GBHA Baldrige Survey: Are We Making Progress As Leaders?

Section 7: Results Question & Response Option	GBHA Leaders Percent	2011 Board of Examiners Percent	Comparison Difference
7H Our organization helps our employees help their community.			
Strongly Disagree	0%	2%	-2%
Disagree	8%	13%	-5%
Undecided	25%	13%	12%
Agree	50%	38%	12%
Strongly Agree	17%	34%	-17%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
7I Our employees believe our organization is a good place to work.			
Strongly Disagree	0%	1%	-1%
Disagree	0%	4%	-4%
Undecided	0%	13%	-13%
Agree	83%	47%	36%
Strongly Agree	17%	34%	-17%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
Section 7 GBHA Comments (None)			

Table 15: GBHA Results: Are We Making Progress? – External Comparison with 2011 Baldrige Board of Examiners

GBHA Baldrige Survey: Are We Making Progress?

Section 7: Results	GBHA Staff	2011 Board of Examiners Results	Comparison
Question and Response Option	Percent	Percent	Difference
7A My work products meet all requirements.			
Strongly Disagree	0%	0%	0%
Disagree	0%	8%	-8%
Undecided	17%	20%	-3%
Agree	61%	58%	3%
Strongly Agree	11%	14%	-3%
Not Applicable	11%	0%	11%
Prefer Not to Answer	0%	0%	0%
39. 7B My customers are satisfied with my work.			
Strongly Disagree	0%	1%	-1%
Disagree	0%	1%	-1%
Undecided	6%	13%	-7%
Agree	61%	60%	1%
Strongly Agree	22%	25%	-3%
Not Applicable	11%	0%	11%
Prefer Not to Answer	0%	0%	0%
7C I know how well my organization is doing financially.			
Strongly Disagree	6%	3%	3%
Disagree	11%	15%	-4%
Undecided	33%	7%	26%
Agree	28%	36%	-8%
Strongly Agree	11%	38%	-27%
Not Applicable	11%	0%	11%
Prefer Not to Answer	0%	0%	0%
7D My organization has the right people and skills to do its work.			
Strongly Disagree	0%	5%	-5%
Disagree	6%	17%	-11%
Undecided	17%	21%	-4%
Agree	56%	43%	13%
Strongly Agree	22%	14%	8%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
7E My organization removes things that get in the way of progress.			
Strongly Disagree	0%	7%	-7%
Disagree	6%	27%	-21%
Undecided	50%	34%	16%
Agree	33%	28%	5%
Strongly Agree	6%	5%	1%
Not Applicable	6%	0%	6%
Prefer Not to Answer	0%	0%	0%
7F My organization obeys laws and regulations.			
Strongly Disagree	0%	0%	0%
Disagree	0%	1%	-1%
Undecided	6%	2%	4%
Agree	50%	29%	21%
Strongly Agree	44%	67%	-23%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
7G My organization practices high standards and ethics.			
Strongly Disagree	0%	0%	0%
Disagree	0%	5%	-5%
Undecided	6%	12%	-6%
Agree	44%	31%	13%
Strongly Agree	50%	52%	-2%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%

Table 15 Continued: GBHA Results: Are We Making Progress? – External Comparison with 2011 Baldrige Board of Examiners

GBHA Baldrige Survey: Are We Making Progress?

Section 7: Results	GBHA Staff	2011 Board of Examiners Results	Comparison
Question and Response Option	Percent	Percent	Difference
7H My organization helps me help my community.			
Strongly Disagree	0%	3%	-3%
Disagree	6%	9%	-3%
Undecided	6%	11%	-5%
Agree	56%	42%	14%
Strongly Agree	28%	35%	-7%
Not Applicable	6%	0%	6%
Prefer Not to Answer	0%	0%	0%
7I My organization is a good place to work.			
Strongly Disagree	0%	1%	-1%
Disagree	0%	4%	-4%
Undecided	6%	13%	-7%
Agree	44%	43%	1%
Strongly Agree	50%	39%	11%
Not Applicable	0%	0%	0%
Prefer Not to Answer	0%	0%	0%
Section 7 GBHA Comments (2 individuals)			
7E - Specialists need more available appts for urgent issues.			
7A - work products meet all requirements -- Epic is not meeting all requirements at this time. 7E -- I am unsure if the organization removes things that get in the way of progress since I have not been with the organization long enough to see this happen.			

Comparison of GBHA Staff Survey Results to GBHA Leader Survey Results

Although comparing both GBHA survey results to those of the BOE is useful as an external comparison, the differences between the results of the GBHA staff and the GBHA leaders' surveys may have more immediate importance, as they may indicate a disconnect within the organization. The results for each section and the variance between the two survey groups are included below.

In the *Leadership* section, each of the statements yielded mostly positive results of agree or strongly agree for all statements. For a couple of the items, there was negligible difference between the results for staff and for leaders. For others, a more sizeable difference was noted. For example, 95% of staff agreed or strongly agreed with the statement, "I know my organization's vision (where it is trying to go in the future)," a full 20 percentage points higher than the 75% of leaders who agreed or strongly agreed with the statement, "Our workforce knows our organization's vision (where it is trying to

go in the future)." In this case, it would appear that staff have a better understanding of the vision than expected by the leaders, which may be a positive outcome. However, this does not necessarily indicate that the leaders and staff agree on what the vision is. Another area in which the staff agreed more with a statement when compared with leaders is that 85% of staff agreed or strongly agreed with the statement, "My organization's leaders share information about the organization," as compared to 75% of leaders agreeing or strongly agreeing with, "Our leadership team shares information about the organization." Conversely, there is a 34 percentage point difference between the 50% of staff that agreed or strongly agreed with "My organization asks what I think," compared to the 84% of leaders who agreed or strongly agreed with, "Our leadership team asks employees what they think." This represents an opportunity for GBHA leaders to more actively seek the input of the staff. Another possible area for improvement exists in the fact that 85% of staff agreed or strongly agreed with the statement, "My senior leaders create a work environment that helps me do my job," a full 15 percentage points higher than the 100% of leaders that agreed or strongly agreed with the statement, "Our leadership team creates a work environment that helps our employees do their jobs." Thus the leaders may not be creating the work environment that they intend to and therefore opportunity for improvement exists. Overall, the majority of responses were positive for all statements for both staff and leaders. These results are summarized in **Table 16.**

Each of the statements in the surveys for the *Strategy* section indicate positive results with the majority of respondents agreeing or strongly agreeing with all statements. For all statements except for one, higher percentages of GBHA staff agreed or strongly

agreed than among GBHA leaders. The statement where the largest incidence of this variance exists is, "My organization encourages totally new ideas (innovation), for which 78% of GBHA staff agreed or strongly agreed, as compared to only 59% of GBHA leaders agreeing or strongly agreeing with the statement, "Our organization encourages totally new ideas (innovation)." Additionally, a difference of 11 percentage points was found between the 61 percent of staff that agreed or strongly agreed with the statement, "As it plans for future, my organization asks for my ideas," as compared to 50% of leaders selecting agree or strongly agree with, "As our leadership team plans for the future, we ask our employees for their ideas." Thus, the GBHA staff appear to feel more engaged and also encouraged to drive innovation than leaders realize. These results are summarized in **Table 17.**

When comparing results in the *Customers* section between the GBHA staff and leaders, it was found that there was quite a bit of variance for almost all statements. The largest difference in the percentage of respondents selecting agree or strongly agree between the two survey groups was 45 percentage points, where 39% of staff agreed or strongly agreed with, "I know who my organization's most important customers are," as compared to 84% of leaders indicating, "Our employees also know who our organization's most important customers are." This apparent disconnect between staff and leaders may indicate a lack of understanding among the GBHA staff regarding who represents the customers. Thus, this is an area of opportunity for the GBHA. The second largest variance was 33 percentage points, with 83% of staff agreeing or strongly agreeing that, "I regularly ask my customers what they need and want," compared to 50% of leaders agreeing or strongly agreeing that, "Our employees regularly ask their

customers what they need and want." Thus staff indicate that they perform this action with greater frequency than leaders realize. The third largest variance was 20 percentage points with 72% of GBHA staff agreeing or strongly disagreeing with, "I know who my most important customers are," as compared with 92% of GBHA leaders indicating they agree or strongly agree with, "Our employees know who their most important customers are." As stated above, there is evidence in the comments that staff may take issue with labeling customers as "most important." Thus staff may view all customers equally, especially in the case of patient care. Overall, the GBHA has larger discrepancies between leaders and staff perceptions in the Customers section relative to the other sections. These results are summarized in **Table 18.**

In the *Measurement, Analysis and Knowledge Management* section, higher percentages of GBHA staff agreed or strongly agreed with all statements across the board when compared to GBHA leaders. For these statements, staff indicated that they agreed or strongly agreed with statements at a higher rate than leaders with a variance ranging from 4 to 14 percentage points, with one exception, where the difference was 23 percentage points. Eighty-nine percent of staff agreed or strongly agreed that, "I know how to measure the quality of my work," compared to 66 percent of leaders that, "Our employees know how to measure the quality of their work." The next largest variance was 14 percentage points with 72% of staff agreeing or strongly agreeing with, "I know how the measures I use in my work fit into the organization's overall measures of improvement," compared to 59% of leaders on the statement, "Our employees know how the measures they use in their work fit into our organization's overall measures of improvement. Thus, there is a difference in the rates of agreement, but there is evidence

that staff are more engaged with, and have a better understanding of, their measures than realized by leadership. These results are summarized in **Table 19.**

The majority of respondents for both surveys agreed or strongly agreed with all statements in the *Workforce* section. In fact, 100% of the leaders agreed or strongly agreed with the statements, "Our employees cooperate and work as a team," "Our organization has a safe workplace," "Our managers and our organization care about our workforce," and "Our workforce is committed to our organization's success." There was minimal variance in percentage points between the GBHA staff and leaders for most statements, ranging from 0 to 6 percentage points for all except 1 statement. Unlike the complete agreement among leaders that, "Our managers and our organization care about our workforce," only 77% of staff answered similarly that, "My bosses and my organization care about me." One commenter indicated, "Bosses care about me – not sure about organization." Therefore, the GBHA leaders and staff rate GBHA high in terms of Workforce and agree on these rating with the one exception. This represents an opportunity for GBHA to improve the experience for staff to show that the organization and managers care about staff. These results are summarized in **Table 20.**

The majority of all respondents agreed or strongly agreed with all statements in the *Operations* section. However, the leaders indicated more positive responses for 3 out of the 4 statements in this section. All leaders agreed or strongly agreed that, "Our employees can improve their personal work processes when necessary," compared to only 78% of staff agreeing or strongly agreeing that, "I can improve my work processes when necessary." Likewise, 100% of leaders agreed or strongly agree with, "Our organization is prepared to handle an emergency," compared to 66% of staff agreeing or

strongly agreeing with “We are prepared to handle an emergency.” Although when compared to the BOE benchmark and looked at in their raw forms, these results are positive, the discrepancy evident between the GBHA staff and leaders may warrant attention. These results are summarized in **Table 21.**

Although not all of the statements in the *Results* section indicate positive outcomes, there is relative consistency in answer selection amongst the GBHA staff and leaders. For all statements with two exceptions, the difference in the percentage of respondents agreeing or strongly agreeing with statements ranged from 2 to 6 percentage points, thus indicating reasonable consistency in rating among the two groups. The largest variance existed with 84% of staff agreeing or strongly agreeing with, “My organization helps me help my community,” compared to 67% of leaders with, “Our organization helps our employees help their community.” This may be a function of proximity; the staff are closer to the patients and the care delivery process and thus better positioned to assess community benefit compared to the leaders. The next largest variance was in 39% of staff agreeing or strongly agreeing with, “My organization removes things that get in the way of progress,” compared to 50% of leaders who agreed that, “Our organization removes things that get in the way of progress.” Issues related to the EHR conversion may be perceived barriers for the staff and are reflected in their assessment. Accordingly, there is a disconnect between the staff and the leaders for this statement, as well as relatively low agreement with the statement in general. As such, there may be opportunity for improvement. These results are summarized in **Table 22.**

In conclusion, the outcomes of these surveys may look different depending upon the comparison group. When compared with the BOE, both surveys revealed that

GBHA's the strengths, according to its staff and leaders include leadership, strategy, workforce and operations. Conversely, the survey responses indicate that there are areas for possible improvement based on either the low favorable responses or response discordance between the leaders and the staff. These areas for possible improvement include customers, measurement, analysis and knowledge management, and results. When the GBHA staff and leaders' results are compared, similar trends emerge with areas of strong agreement and areas of low overall favorable ratings or high level of rating discordance between the two groups. The data suggest that the hypothesis regarding the strengths of leadership and strategy appear correct, however the hypothesis that operations is an area of weakness was not supported by evidence when compared to the BOE benchmark. Based on the internal comparison, opportunities for improvement within operations were identified. Although not hypothesized, workforce was also identified as an area of strength for GBHA through this organizational assessment.

Table 16: GBHA Survey Results – Internal Comparison: Leadership

GBHA Baldrige Survey: Are We Making Progress?		GBHA Baldrige Survey: Are We Making Progress As Leaders?		
Section 1: Leadership	**GBHA Staff**	**Section 1: Leadership**	**GBHA Leaders**	**Difference Staff - Leaders**
Question and Response Option	**Percent**	**Question & Response Option**	**Percent**	
1A I know my organization's mission (what it is trying to accomplish).		1A Our workforce knows our organization's mission (what we are trying to accomplish).		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	5%	Disagree	0%	5%
Undecided	0%	Undecided	8%	-8%
Agree	40%	Agree	25%	15%
Strongly Agree	55%	Strongly Agree	67%	-12%
Not Applicable	0%	Not Applicable	0%	0%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
1B I know my organization's vision (where it is trying to go in the future).		1B Our workforce knows our organization's vision (where it is trying to go in the future).		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	0%	Disagree	8%	-8%
Undecided	5%	Undecided	17%	-12%
Agree	45%	Agree	50%	-5%
Strongly Agree	50%	Strongly Agree	25%	25%
Not Applicable	0%	Not Applicable	0%	0%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
1C My senior (top) leaders are ethical and demonstrate our organization's values.		1C Our leadership team is ethical and demonstrates our organization's values.		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	0%	Disagree	0%	0%
Undecided	10%	Undecided	8%	2%
Agree	50%	Agree	33%	17%
Strongly Agree	40%	Strongly Agree	58%	-18%
Not Applicable	0%	Not Applicable	0%	0%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
1D My senior leaders create a work environment that helps me do my job.		1D Our leadership team creates a work environment that helps our employees do their jobs.		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	10%	Disagree	0%	10%
Undecided	5%	Undecided	0%	5%
Agree	60%	Agree	58%	2%
Strongly Agree	25%	Strongly Agree	42%	-17%
Not Applicable	0%	Not Applicable	0%	0%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
1E My organization's leaders share information about the organization.		1E Our leadership team shares information about the organization.		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	0%	Disagree	8%	-8%
Undecided	5%	Undecided	17%	-12%
Agree	70%	Agree	50%	20%
Strongly Agree	25%	Strongly Agree	25%	0%
Not Applicable	0%	Not Applicable	0%	0%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
1F My organization asks what I think.		1F Our leadership team asks employees what they think.		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	10%	Disagree	8%	2%
Undecided	35%	Undecided	8%	27%
Agree	20%	Agree	67%	-47%
Strongly Agree	30%	Strongly Agree	17%	13%
Not Applicable	0%	Not Applicable	0%	0%
Prefer Not to Answer	5%	Prefer Not to Answer	0%	5%
Section 1 GBHA Comments (1 individual)		Section 1 GBHA Comments (None)		
1F - lip service				

Table 17: GBHA Survey Results – Internal Comparison: Strategy

GBHA Baldrige Survey: Are We Making Progress?		GBHA Baldrige Survey: Are We Making Progress As Leaders?		
Section 2: Strategy	GBHA Staff	Section 2: Strategy	GBHA Leaders	Difference Staff - Leaders
Question and Response Option	Percent	Question & Response Option	Percent	
2A As it plans for the future, my organization asks for my ideas.		2A As our leadership team plans for the future, we ask our employees for their ideas.		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	11%	Disagree	25%	-14%
Undecided	28%	Undecided	17%	11%
Agree	44%	Agree	50%	-6%
Strongly Agree	17%	Strongly Agree	0%	17%
Not Applicable	0%	Not Applicable	0%	0%
Prefer Not to Answer	0%	Prefer Not to Answer	8%	-8%
2B My organization encourages totally new ideas (innovation).		2B Our organization encourages totally new ideas (innovation).		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	17%	Disagree	17%	0%
Undecided	6%	Undecided	25%	-19%
Agree	56%	Agree	42%	14%
Strongly Agree	22%	Strongly Agree	17%	6%
Not Applicable	0%	Not Applicable	0%	0%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
2C I know the parts of my organization's plans that will affect me and my work.		2C Our employees know the parts of our organization's plans that will affect them and their work.		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	6%	Disagree	17%	-11%
Undecided	22%	Undecided	17%	6%
Agree	56%	Agree	58%	-3%
Strongly Agree	17%	Strongly Agree	8%	8%
Not Applicable	0%	Not Applicable	0%	0%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
2D I know how to tell if we are making progress on my workgroup's part of the plan.		2D Our employees know how to tell if they are making progress on their workgroup's part of the plan.		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	6%	Disagree	33%	-28%
Undecided	17%	Undecided	0%	17%
Agree	44%	Agree	58%	-14%
Strongly Agree	28%	Strongly Agree	8%	20%
Not Applicable	6%	Not Applicable	0%	6%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
2E My organization is flexible and makes changes quickly when needed.		2E Our organization is flexible and makes changes quickly when needed.		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	0%	Disagree	8%	-8%
Undecided	28%	Undecided	17%	11%
Agree	50%	Agree	50%	0%
Strongly Agree	22%	Strongly Agree	25%	-3%
Not Applicable	0%	Not Applicable	0%	0%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
Section 2 GBHA Comments (None)		Section 2 GBHA Comments (None)		

Table 18: GBHA Survey Results – Internal Comparison: Customers

GBHA Baldrige Survey: Are We Making Progress?		GBHA Baldrige Survey: Are We Making Progress As Leaders?		
Section 3: Customers	GBHA Staff	Section 3: Customers	GBHA Leaders	Difference Staff - Leaders
Question and Response Option	Percent	Question & Response Option	Percent	
3A I know who my most important customers are.		3A Our employees know who their most important customers are.		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	0%	Disagree	0%	0%
Undecided	0%	Undecided	8%	-8%
Agree	28%	Agree	42%	-14%
Strongly Agree	44%	Strongly Agree	50%	-6%
Not Applicable	28%	Not Applicable	0%	28%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
3B I regularly ask my customers what they need and want.		3B Our employees regularly ask their customers what they need and want.		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	0%	Disagree	25%	-25%
Undecided	0%	Undecided	17%	-17%
Agree	33%	Agree	33%	0%
Strongly Agree	50%	Strongly Agree	17%	33%
Not Applicable	17%	Not Applicable	8%	8%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
3C I ask if my customers are satisfied or dissatisfied with my work.		3C Our employees ask if their customers are satisfied or dissatisfied with their work.		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	17%	Disagree	42%	-25%
Undecided	0%	Undecided	17%	-17%
Agree	44%	Agree	25%	19%
Strongly Agree	11%	Strongly Agree	8%	3%
Not Applicable	28%	Not Applicable	8%	20%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
3D I am allowed to make decisions to satisfy my customers.		3D Our employees are allowed to make decisions to satisfy their customers.		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	0%	Disagree	8%	-8%
Undecided	17%	Undecided	17%	0%
Agree	44%	Agree	58%	-14%
Strongly Agree	22%	Strongly Agree	17%	6%
Not Applicable	17%	Not Applicable	0%	17%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
3E I also know who my organization's most important customers are.		3E Our employees also know who our organization's most important customers are.		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	6%	Disagree	0%	6%
Undecided	28%	Undecided	17%	11%
Agree	33%	Agree	67%	-33%
Strongly Agree	6%	Strongly Agree	17%	-11%
Not Applicable	28%	Not Applicable	0%	28%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
Section 3 GBHA Comments (1 individual)		Section 3 GBHA Comments (1 individual)		
3A/3E I feel that all of our customers are the most important; 3C I ask patients what I can do to help		System tells culture what is to be done		

Table 19: GBHA Survey Results – Internal Comparison: Measurement, Analysis and Knowledge Management

GBHA Baldrige Survey: Are We Making Progress?		GBHA Baldrige Survey: Are We Making Progress As Leaders?		
Section 4: Measurement, Analysis and Knowledge Management	GBHA Staff	Section 4: Measurement, Analysis, and Knowledge Management	GBHA Leaders	Difference Staff - Leaders
Question and Response Option	Percent	Question & Response Option	Percent	
4A I know how to measure the quality of my work.		4A Our employees know how to measure the quality of their work.		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	11%	Disagree	33%	-22%
Undecided	0%	Undecided	0%	0%
Agree	61%	Agree	58%	3%
Strongly Agree	28%	Strongly Agree	8%	20%
Not Applicable	0%	Not Applicable	0%	0%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
4B I can use this information to make changes that will improve my work.		4B Our employees use this information to make changes that will improve their work.		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	6%	Disagree	33%	-28%
Undecided	11%	Undecided	0%	11%
Agree	50%	Agree	42%	8%
Strongly Agree	22%	Strongly Agree	25%	-3%
Not Applicable	11%	Not Applicable	0%	11%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
4C I know how the measures I use in my work fit into the organization's overall measures of improvement.		4C Our employees know how the measures they use in their work fit into our organization's overall measures of improvement.		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	11%	Disagree	25%	-14%
Undecided	17%	Undecided	17%	0%
Agree	39%	Agree	42%	-3%
Strongly Agree	33%	Strongly Agree	17%	17%
Not Applicable	0%	Not Applicable	0%	0%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
4D I get all the important information I need to do my work.		4D Our employees get all the information they need to do their work.		
Strongly Disagree	6%	Strongly Disagree	0%	6%
Disagree	17%	Disagree	25%	-8%
Undecided	6%	Undecided	17%	-11%
Agree	50%	Agree	50%	0%
Strongly Agree	22%	Strongly Agree	8%	14%
Not Applicable	0%	Not Applicable	0%	0%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
4E I know how my organization as a whole is doing.		4E Our employees know how our organization as a whole is doing		
Strongly Disagree	6%	Strongly Disagree	0%	6%
Disagree	0%	Disagree	17%	-17%
Undecided	28%	Undecided	25%	3%
Agree	44%	Agree	42%	3%
Strongly Agree	22%	Strongly Agree	17%	6%
Not Applicable	0%	Not Applicable	0%	0%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
Section 4 GBHA Comments (2 individuals)		Section 4 GBHA Comments (1 individual)		
4D - I assist patients with their care - Epic messaging system is difficult to follow frequently.		4D: At times it can be difficult to get information when we must rely on others outside of GBHA to get information.		
4D) Epic trainings were not satisfactory for my position. Have to take it day by day with documentatino for our ACO Scorecards				

Table 20: GBHA Survey Results – Internal Comparison: Workforce

GBHA Baldrige Survey: Are We Making Progress?		GBHA Baldrige Survey: Are We Making Progress As Leaders?		
Section 5: Workforce	GBHA Staff	Section 5: Workforce	GBHA Leaders	Difference Staff - Leaders
Question and Response Option	Percent	Question & Response Option	Percent	
5A The people I work with cooperate and work as a team.		5A Our employees cooperate and work as a team.		
Strongly Disagree	6%	Strongly Disagree	0%	6%
Disagree	0%	Disagree	0%	0%
Undecided	0%	Undecided	0%	0%
Agree	39%	Agree	42%	-3%
Strongly Agree	56%	Strongly Agree	58%	-3%
Not Applicable	0%	Not Applicable	0%	0%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
5B My bosses encourage me to develop my job skills so I can advance in my career.		5B Our leadership team encourages and enables our employees to develop their job skills so they can advance in their careers.		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	6%	Disagree	8%	-3%
Undecided	6%	Undecided	8%	-3%
Agree	61%	Agree	58%	3%
Strongly Agree	28%	Strongly Agree	25%	3%
Not Applicable	0%	Not Applicable	0%	0%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
5C I am recognized for my work.		5C Our employees are recognized for their work.		
Strongly Disagree	6%	Strongly Disagree	0%	6%
Disagree	0%	Disagree	17%	-17%
Undecided	17%	Undecided	8%	8%
Agree	44%	Agree	33%	11%
Strongly Agree	33%	Strongly Agree	42%	-8%
Not Applicable	0%	Not Applicable	0%	0%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
5D I have a safe workplace.		5D Our organization has a safe workplace.		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	0%	Disagree	0%	0%
Undecided	0%	Undecided	0%	0%
Agree	67%	Agree	25%	42%
Strongly Agree	33%	Strongly Agree	75%	-42%
Not Applicable	0%	Not Applicable	0%	0%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
5E My bosses and my organization care about me.		5E Our managers and our organization care about our workforce.		
Strongly Disagree	6%	Strongly Disagree	0%	6%
Disagree	0%	Disagree	0%	0%
Undecided	17%	Undecided	0%	17%
Agree	44%	Agree	42%	3%
Strongly Agree	33%	Strongly Agree	58%	-25%
Not Applicable	0%	Not Applicable	0%	0%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
5F I am committed to my organization's success.		5F Our workforce is committed to our organization's success.		
Strongly Disagree	6%	Strongly Disagree	0%	6%
Disagree	0%	Disagree	0%	0%
Undecided	0%	Undecided	0%	0%
Agree	56%	Agree	42%	14%
Strongly Agree	39%	Strongly Agree	58%	-19%
Not Applicable	0%	Not Applicable	0%	0%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
Section 5 GBHA Comments (2 individuals)		Section 5 GBHA Comments (None)		
5D work place safe, but a couple of months ago we realized that we could be vulnerable when				
5E Bosses care about me - not sure about organization.				

Table 21: GBHA Survey Results – Internal Comparison: Operations

GBHA Baldrige Survey: Are We Making Progress?		GBHA Baldrige Survey: Are We Making Progress As Leaders?		
Section 6: Operations	**GBHA Staff**	**Section 6: Operations**	**GBHA Leaders**	**Difference Staff - Leaders**
Question and Response Option	**Percent**	**Question & Response Option**	**Percent**	
6A I can get everything I need to do my job.		6A Our employees can get everything they need to do their jobs.		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	6%	Disagree	17%	-11%
Undecided	11%	Undecided	8%	3%
Agree	56%	Agree	67%	-11%
Strongly Agree	28%	Strongly Agree	8%	20%
Not Applicable	0%	Not Applicable	0%	0%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
6B We have good processes for doing our work.		6B Our organization has good processes for doing its work.		
Strongly Disagree	6%	Strongly Disagree	0%	6%
Disagree	6%	Disagree	17%	-11%
Undecided	22%	Undecided	25%	-3%
Agree	39%	Agree	42%	-3%
Strongly Agree	28%	Strongly Agree	17%	11%
Not Applicable	0%	Not Applicable	0%	0%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
6C I can improve my work processes when necessary.		6C Our employees can improve their personal work processes when necessary.		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	0%	Disagree	0%	0%
Undecided	22%	Undecided	0%	22%
Agree	50%	Agree	75%	-25%
Strongly Agree	28%	Strongly Agree	25%	3%
Not Applicable	0%	Not Applicable	0%	0%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
6D We are prepared to handle an emergency.		6D Our organization is prepared to handle an emergency.		
Strongly Disagree	6%	Strongly Disagree	0%	6%
Disagree	0%	Disagree	0%	0%
Undecided	22%	Undecided	0%	22%
Agree	44%	Agree	75%	-31%
Strongly Agree	22%	Strongly Agree	25%	-3%
Not Applicable	6%	Not Applicable	0%	6%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
Section 6 GBHA Comments (2 individuals)		Section 6 GBHA Comments (None)		
6b and 6c no independent control over our processes				
6B&C - Epic Messaging system hinders processes at times.				

Table 22: GBHA Survey Results – Internal Comparison: Results

GBHA Baldrige Survey: Are We Making Progress?		GBHA Baldrige Survey: Are We Making Progress As Leaders?		
Section 7: Results	GBHA Staff	Section 7: Results	GBHA Leaders	Difference Staff - Leaders
Question and Response Option	Percent	Question & Response Option	Percent	
7A My work products meet all requirements.		7A Our employees' work products meet all requirements.		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	0%	Disagree	8%	-8%
Undecided	17%	Undecided	17%	0%
Agree	61%	Agree	58%	3%
Strongly Agree	11%	Strongly Agree	17%	-6%
Not Applicable	11%	Not Applicable	0%	11%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
39. 7B My customers are satisfied with my work.		7B Our employees' customers are satisfied with their work.		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	0%	Disagree	0%	0%
Undecided	6%	Undecided	8%	-3%
Agree	61%	Agree	83%	-22%
Strongly Agree	22%	Strongly Agree	8%	14%
Not Applicable	11%	Not Applicable	0%	11%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
7C I know how well my organization is doing financially.		7C Our workforce knows how well our organization is doing financially.		
Strongly Disagree	6%	Strongly Disagree	0%	6%
Disagree	11%	Disagree	33%	-22%
Undecided	33%	Undecided	25%	8%
Agree	28%	Agree	33%	-5%
Strongly Agree	11%	Strongly Agree	8%	3%
Not Applicable	11%	Not Applicable	0%	11%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
7D My organization has the right people and skills to do its work.		7D Our organization has the right people and skills to do its work.		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	6%	Disagree	8%	-3%
Undecided	17%	Undecided	17%	0%
Agree	56%	Agree	50%	6%
Strongly Agree	22%	Strongly Agree	25%	-3%
Not Applicable	0%	Not Applicable	0%	0%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
7E My organization removes things that get in the way of progress.		7E Our organization removes things that get in the way of progress.		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	6%	Disagree	17%	-11%
Undecided	50%	Undecided	33%	17%
Agree	33%	Agree	50%	-17%
Strongly Agree	6%	Strongly Agree	0%	6%
Not Applicable	6%	Not Applicable	0%	6%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
7F My organization obeys laws and regulations.		7F Our organization obeys laws and regulations.		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	0%	Disagree	0%	0%
Undecided	6%	Undecided	0%	6%
Agree	50%	Agree	8%	42%
Strongly Agree	44%	Strongly Agree	83%	-39%
Not Applicable	0%	Not Applicable	8%	-8%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%

Table 22 Continued: GBHA Survey Results – Internal Comparison: Results

GBHA Baldrige Survey: Are We Making Progress?		GBHA Baldrige Survey: Are We Making Progress As Leaders?		
Section 7: Results	**GBHA Staff**	**Section 7: Results**	**GBHA Leaders**	**Difference Staff - Leaders**
Question and Response Option	**Percent**	**Question & Response Option**	**Percent**	
7G My organization practices high standards and ethics.		7G Our organization practices high standards and ethics.		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	0%	Disagree	0%	0%
Undecided	6%	Undecided	8%	-3%
Agree	44%	Agree	17%	28%
Strongly Agree	50%	Strongly Agree	75%	-25%
Not Applicable	0%	Not Applicable	0%	0%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
7H My organization helps me help my community.		7H Our organization helps our employees help their community.		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	6%	Disagree	8%	-3%
Undecided	6%	Undecided	25%	-19%
Agree	56%	Agree	50%	6%
Strongly Agree	28%	Strongly Agree	17%	11%
Not Applicable	6%	Not Applicable	0%	6%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
7I My organization is a good place to work.		7I Our employees believe our organization is a good place to work.		
Strongly Disagree	0%	Strongly Disagree	0%	0%
Disagree	0%	Disagree	0%	0%
Undecided	6%	Undecided	0%	6%
Agree	44%	Agree	83%	-39%
Strongly Agree	50%	Strongly Agree	17%	33%
Not Applicable	0%	Not Applicable	0%	0%
Prefer Not to Answer	0%	Prefer Not to Answer	0%	0%
Section 7 GBHA Comments (2 individuals)		Section 7 GBHA Comments (None)		
7E - Specialists need more available appts for urgent issues.				
7A - work products meet all requirements -- Epic is not meeting all requirements at this time. 7E – I am unsure if the organization removes things that get in the way of progress since I have not been with the organization long enough to see this happen.				

Chapter 2: Plan for a New Service

As described above, the GBHA is the entity responsible for the strategy and implementation of a population health program to meet the needs of patients in the community. Within the GBHA population health program, there are several key existing components including quality reporting, analytics, care management, and care coordination, as described above. These initiatives all fit together to form the population health program strategy driven out of the GBHA. Behavioral health is a new service within this overall GBHA population health program that aims to help address barriers and gaps in care related to behavioral health for its patients. This new initiative to build behavioral health resources is the service of focus in this plan.

Program Objectives

The objectives specific to this new service of behavioral health integration include providing screening, short-term intervention, ongoing counseling/behavioral management, and telephonic support to patients in the GBHA primary care setting. The GBHA behavioral health service aims to address unmet mental and behavioral needs in the community in a setting that is familiar and easily accessible to patients, with a specific focus on reducing unnecessary utilization.

Description of need and its significance

Behavioral health is a growing need at the national level, local level, and GBHA level. At the national level, more than 25% of Americans suffer from a diagnosable mental disorder (Brown Levey et al. 2012). Moreover, an estimated 12% of ED visits are related to behavioral health issues (Brown Levey et al. 2012). Recent literature highlights alarming statistics indicating that behavioral and mental health issues are often under-

diagnosed and undertreated. The Patient Centered Primary Care Collaborative (PCPCC) provides an aggregation of key study statistics on the subject summarized on its webpage titled “Benefits of Integrated Behavioral Health,” several of which are outlined below (PCPCC 2015).

- Sixty-seven percent of people with a behavioral health disorder do not get behavioral health treatment (Kessler et al. 2005).
- Two-thirds of primary care physicians report not being able to access outpatient behavioral health for their patients. Shortages of mental health care providers, health plan barriers, and lack of coverage or inadequate coverage were all cited by primary care providers as critical barriers to mental healthcare access (Cunningham 2009).
- Eighty percent of people with a behavioral health disorder will visit a primary care provider at least once a year (Narrow et al. 1993).
- Thirty to fifty percent of patient referrals from primary care to an outpatient behavioral health clinic do not make the first appointment (Fisher 1997).

The above findings indicate that not only is there substantial need for improved behavioral health care delivery, but they also suggest that primary care is the appropriate setting for this care. An estimated 70% of primary care visits are associated with significant psychosocial issues, although the patients present with a physical complaint (Brown Levey et al. 2012). Additionally, the first point of contact for patients seeking mental health care is typically a PCP (Mechanic 2004). The percentage of adult patients with mental health disorders that receive care from a mental health specialist is only 20% and many patients actually prefer to receive treatment in the primary care setting (Unützer et al. 2013).

In addition to its impact on clinical outcomes, mental health contributes to overall healthcare costs in a sizeable way. Of note, it has been demonstrated that depression increases overall health care costs by 50-100 percent (Unützer et al. 2013). In the time from 1996 to 2006, care costs for mental health disorders increased from $35.2 billion to $575.5 billion, placing mental health disorders in the list of top five most costly conditions in the United States for period (AHRQ 2009). Additionally, the time between IP mental health treatment and follow-up care in the community can contribute to preventable readmissions (Feldman et al. 2013). Since about 1 in 4 adults in the United States suffers from a mental health disorder in a given year, and nearly a third of adults suffer from mental illness or substance abuse disorder, providing appropriate care for this population represents an enormous opportunity (AHRQ 2009).

A community health needs assessment (CHNA) conducted by Holleran in partnership with GBMC, Sheppard Pratt Health System (SPHS), and University of Maryland St. Joseph Medical Center (UM-SJMC) revealed similar statistics. Mental health/suicide as well as substance abuse/alcohol abuse both ranked among the top 5 health issues identified by community members surveyed through the CHNA. Mental health/suicide specifically was selected as a top 3 health issue by 44% of CHNA survey respondents and was rated as the most significant issue by 22% of CHNA survey respondents. Lastly, the CHNA revealed that respondents found resources available for the treatment of mental health issues insufficient (Holleran 2013).

Within the GBHA, internal data indicate a significant prevalence of behavioral health issues. For the GBMA PCMH panel of patients, chart reviews revealed that 46.9% of the patients that had 3 or more ED visits and/or 4 or more IP visits in a 6-month period

(January through July 2016) had a behavioral health diagnosis on their problem list. Additionally, of the patients seen at the GBMA PCMH practices from 1/15/16 through 6/15/16, 21.6% had a diagnosis of depression, dysthymia, anxiety, bipolar disorder, obsessive compulsive disorder, panic disorder, schizoaffective disorder, or schizophrenia on their problem list in the EHR. These data underline the importance and the need for integrated behavioral health within the GBHA.

Based on the growing concern at all levels in the U.S., Maryland's Healthcare Cost Services Review Commission (HSCRC) awarded a grant to the GBHA specifically to implement an integrated behavioral health services program, in addition to the expansion of existing population health programs. As part of the grant conditions, the GBHA must demonstrate improvement in clinical outcomes for patients, as well as reduce unnecessary utilization and the cost of care related to this population. In order to effectively accomplish this, the GBHA must implement a plan to integrate behavioral health services in a relatively rapid timeframe and also expand data analysis and reporting capabilities related to behavioral health.

Literature Review of Related Programs

Literature suggests that the implementation of the collaborative care model that integrates physical and mental health could "substantially improve medical and mental health outcomes and functioning, as well as reduce health care costs" (Unützer et al. 2013, p. 1). Over 70 randomized controlled trials have established that this collaborative care model is a successful one for managing common mental health disorders. In fact, these trials have proven that this model is more effective and cost-effective than usual care. It has been tested for multiple mental health conditions including depression,

anxiety disorders and more serious conditions such as bipolar disorder and schizophrenia (Unützer et al. 2013).

A cumulative meta-analysis completed by Gilbody et al. also revealed that "…collaborative care is more effective than standard care in improving depression outcomes in the short and longer terms" (Gilbody et al. 2006, p. 2314). This meta-analysis included 37 randomized studies and revealed that depression outcomes were improved at 6 months and at 5 years. Additional intervention characteristics such as medication compliance, professional background, and method of supervision of the behavioral health consultants were also shown to be related to this improvement. (Gilbody et al. 2006). Thus, these may represent opportunities for future evaluative study after the implementation period is complete.

The American College of Physicians (ACP) put forth recommendations based on available literature and research related to integration of behavioral and mental health care into primary care. Many of these recommendations encourage integrated efforts amongst key stakeholders including payers, government, researchers, and training programs. One such recommendation that is being undertaken in the GBHA behavioral health program is support for behavioral health integration into primary care and encouragement for providers to address behavioral health issues "within the limits of their competencies and resources" (Crowley et al. 2015, p. 298) The ACP further suggested that the PCMH model is an "excellent foundation for this integration of care" (Crowley et al. 2015, p. 306). The ACP Health and Public Policy Committee summarized these recommendations along with key statistics and evidence for behavioral health integration in a position paper published in 2015. This position paper outlines key

elements of this behavioral health integration that can include use of screening, diagnosis, brief treatment, and referral, in addition to reinforcing the ACP recommendations. Moreover, this paper suggests that true integration is “the care that results from a practice team of primary care and behavioral health clinicians, working together with patients and families, using a systematic and cost-effective approach to provide patient-centered care for a defined population,” (Crowley et al. 2015, p. 302).

The IHI conducted a 90-day project surveying various healthcare systems that have implemented integrated behavioral health with primary care. Program results as indicated in this report suggest promising improvements in utilization, cost and clinical outcomes. One such organization, Intermountain Healthcare in Utah, found that patients enrolled in their integrated care model were 54 percent less likely to have an ED encounter after their initial diagnosis of depression. The program also showed cost savings of approximately $667 per member per annum, and improvement in depression remission (IHI 2014).

GBHA Integrated Behavioral Health Program Design

The desired program design conceptually includes the addition of several behavioral health team members into each PCMH practice: a behavioral health consultant, psychiatrist, and substance use specialist. The credentials, key functions, goals, and desired staffing of each of these roles is described in this section below.

The behavioral health consultants (BHCs) offer brief behavioral intervention, counseling and structured psychotherapy that is done in partnership with the primary care team. These BHCs work with patients who may have behavioral or mental health diagnoses, or that may have behavioral barriers to adherence to chronic condition clinical

care regimens. The program design is to have BHCs embedded, i.e., present on a full-time basis physically, within the practice. In the early planning phases of this program design, licensed psychologists, licensed clinical social workers, and licensed professional counselors were considered for the role of behavioral health consultant (BHC). Upon further investigation of billing requirements and insurance coverage, the decision was made to utilize licensed clinical social workers as the BHC. Medicare Part B will not reimburse for mental health care provided by a licensed professional counselor, but it will cover care provided by a psychiatrist or other doctor, clinical psychologist, clinical social worker, clinical nurse specialist, nurse practitioner, or physician assistant (CMS 2017). Additionally, the number of clinical social workers that can be deployed within existing budget constraints exceeded those of the other professionals reimbursable by Medicare.

The program design also includes the addition of a psychiatrist to this integrated team. The psychiatrist serves in a consult liaison capacity, providing care for patients that currently receive primary care within the practice rather than carrying their own separate panel of patients. The program design is to have these psychiatrists available in the practice on a limited part-time basis at 4 hours per week per practice.

A part-time substance use specialist (SUS) to be shared across the practices is also part of this model. The program design for the SUS is to provide care *via* telephone or in person where feasible to patients that may have substance use or addiction issues, to assist them with readiness to quit and/or treatment where appropriate. A licensed clinical professional counselor (LCPC) was the selected professional to serve in this capacity. The LCPC would be a resource physically on site in each of the PCMH practices on a limited basis, approximately 3 hours per week, and available *via* telephone.

In the summer of 2016, two staffing models were explored in the design-planning phase. One model involved the direct hiring of both the BHCs and the manager of the BHCs. In the second model, the GBHA would contract with an outside organization that would supply these BHCs to provide behavioral health services. Psychiatry would remain contracted through Sheppard Pratt Health System (SPHS), a Baltimore-area private non-profit health system, as a continuation of the pilot (described in more detail below). The SUS role was not yet conceptualized as of this point. At the conclusion of the design-planning phase in September of 2016, the second model was selected as the chosen staffing model and the substance use specialist role was added. Reasons for selecting the contracted staffing model included, but were not limited to, their existing specialized expertise in behavioral health, experience with billing behavioral health codes, and benefits of improved relationships with community partners. SPHS, Mosaic Community Services (MCS), and Kolmac Outpatient Recovery Centers (KORS) were selected as the partners to integrate behavioral health into the PCMHs in August 2016. SPHS is the "largest non-profit provider of mental health, substance use, special education, and social support services in the country" …and "…provides 2.3 million services each year across a comprehensive continuum of care, spanning both hospital- and community-based service," (SPHS 2014, para. 1). SPHS was selected as a partner that supplies both psychiatrists and BHCs. KORS specializes in the treatment of patients that have addiction and substance use issues and supplies an addiction specialist to support the GBHA PCMH practices through consultation and connection to treatment. KORS works with patients so that they can "…achieve a life that they find satisfying without addictive substances or behaviors" (KORS 2016, para. 3). MCS is "the largest,

non-profit provider of community-based mental health and addiction services in Central Maryland (para. 3)" and provides care to nearly 30,000 people annually (MCS 2016). MCS will help connect GBHA patients to community resources beyond the scope of the BHC and addiction specialist.

Upon selection of partners, the phases of contract development, planning and implementation were carried out concurrently. Key elements of contract development included outlining the terms and conditions of service provision and delivery, expectations and payment. Included in the terms and conditions were the outcome metrics, which were to be reported in a scorecard format as a requirement. Outcomes metrics to be reported include visit counts, referral counts, Patient Health Questionnaire-9 (PHQ-9) results, and percent of ED visits with behavioral health comorbidities. Targets and benchmarks were also specified in the contract, specifically the percent of time spent in billable activities, staffing timelines, and fees. Additional thresholds for clinical outcomes metrics are under development as the model unfolds throughout the implementation process. The list of outcomes metrics for the behavioral health program once implemented includes:

Outcome metrics:

- IP and ED utilization trends for patients enrolled in BH program
- HbA1c trends for enrolled patients with BH & diabetes
- HbA1c trends for enrolled patients with BH & abnormal glucose
- BP trends for enrolled patients with BH & hypertension
- BMI trends for enrolled patients with BH & overweight/obesity
- PHQ9 trends for enrolled patients with Depression
- GAD7 trends for enrolled patients with Anxiety
- ACO Depression Remission Measure
- ACO Depression Screening and Follow Up

Operational metrics:

- # Encounters with BHC, # Referrals to BHC, # Patients enrolled in behavioral health program
- # Encounters with psychiatrist, # Referrals to psychiatrist, # Patients with psychiatrist visits, time to appointment
- # Encounters with SUS, # Referrals to SUS, # Patients enrolled in substance abuse program
- % of time spent in billable activity, total billed

Concurrent to negotiating the terms and conditions of the contract, planning and implementation efforts began in the fall 2016 through spring 2017 to operationalize the integrated behavioral health model. Planning efforts included the identification of physical space in each of the practices for the integrated behavioral health team members. In the ideal state, these new BH team members would be physically embedded in the practice during a regular day shift. However, exam room and physical space limitations prompted the consideration of phased, remote, and modified schedule approaches for the BHCs. Through planning discussions with each of the practice site managers, schedules were identified and agreed upon for integrated behavioral health team members across most sites. Further modification to scheduling is being considered in one remaining location. The goals included embedding 5 BHCs in 5 PCMH practices in phase 1, and additional BHCs in the remaining 5 PCMH practices in phase 2. Given operational realities such as physical space limitations, availability of exam rooms, availability of qualified candidates, and budget limitations, alternative staffing models were considered in order to select the most feasible options for all parties. The placement timeline by practice is included below in **Figure 8.**

Figure 8: Behavioral Health Integration Timeline (GBMC 2017)

	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
FCA	PSY				SUC	BHC						
JR			PSY		SUC	BHC						
HM			PSY		SUC					BHC		
OM					SUC	PSY	BHC					
IM					SUC	PSY				BHC		
HV									PSY	BHC/ SUC		
TX								BHC	PSY	SUC		
TS								BHC	PSY	SUC		
PH									PSY	BHC/ SUC		
Jarr									PSY	SUC		BHC
M4A										SUC		BHC/ PSY

PSY Psychiatrist (.1 FTE per site)
SUC Substance Use Consultant (.1 FTE per site)
BHC Behavioral Health Consultant (1 FTE per site)

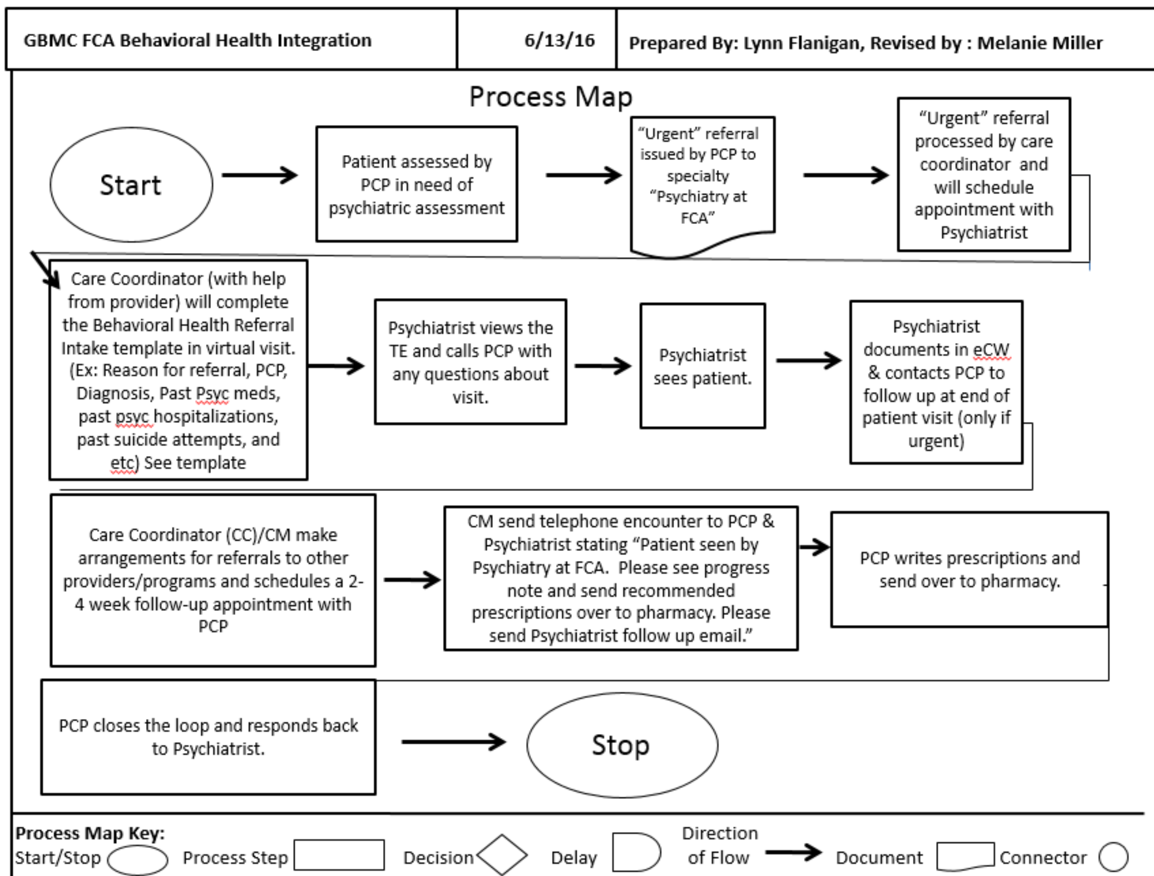
The plan for the addition of psychiatrists to the PCMH practice follows a phased approach in partnership with SPHS. The implementation began with a pilot that tested the effectiveness of embedding a SPHS psychiatrist on a limited part-time basis within one of the largest PCMH practices. In this pilot and now with this new service, the psychiatrists can provide education to PCPs and PCMH care team members to improve quality of behavioral health care delivered in this setting. This can be done on a peer-to-peer review level, educational sessions at staff meetings, and through direct patient care. The pilot included 4 hours of patient appointments per week in one office location. PCPs in this pilot practice would refer patients to the psychiatrist if they have symptoms of bipolar disorder, if they have failed two medication regimens, or if they have severe depression or anxiety. Early results from the pilot based on internal data and chart

reviews suggest ED utilization reduction post consultation as well as reductions in PHQ-9 scores. Given the early success of the pilot, the goal was established to expand this model to 4 additional practices by December 2016. Thus, by the end of phase 1, five practices had a complete behavioral health integrated care team in place. It is anticipated that there will be an additional 5 by the end of phase 2. A visual representation of the process workflow for the pilot is included in **Figure 9.**

The implementation plan for the SUS similarly follows a phased approach with 1 individual covering 5 practices in phase 1 and expanding to all 10 practices in phase 2. The assumption is that the SUS spends approximately 3 hours per week on site at each practice location, with availability offsite in KORS and telephonically as well.

Outside the scope of this dissertation, a subsequent phase of the behavioral health program design is to develop a robust behavioral health network that can be used beyond the limits of the PCMH practices, expanding to patients seen in GBMC hospital or elsewhere in the community. Additionally, subsequent implementation related to behavioral health will include the establishment of a telemedicine program to support behavioral health services where access to care is a barrier. Telemedicine is also planned but is out of scope for this dissertation.

Figure 9: Behavioral Health Pilot Process Map

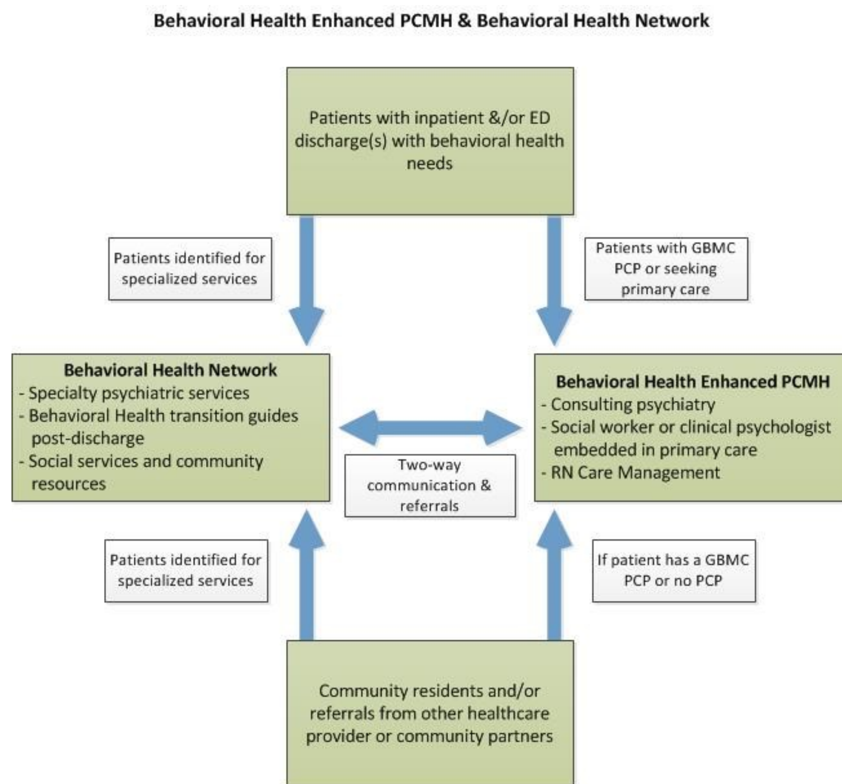


Conceptual Framework

The conceptual framework for behavioral health services that are integrated with the overall GBHA population health strategy is illustrated below in **Figure 10.** This model was visualized in-house by internal operational and clinical leaders within the GBHA. The behavioral health program is based on the collaborative care model for behavioral health integration, the foundation of which is the premise that the preferred location for behavioral health screening and therapeutic intervention is the primary care office. "The collaborative care model is an evidence-based approach for integrating physician and behavioral health services that can be implemented within a primary care-

based Medicaid health home model, among other settings" (Unützer et al. 2013, p. 1). Key components of collaborative care include care coordination, care management, regular monitoring, treatment to target, and regular psychiatric caseload reviews and consultation for those patients not demonstrating clinical improvement (Unützer et al. 2013).

Figure 10: Integrated Behavioral Health Conceptual Framework (GBMC 2016c)



Plan for Program Implementation

As a result of operational feasibility and finalization of a contract, the long-term implementation plan for behavioral health in the primary care setting was adjusted on an iterative basis. The short-term plan, completed in summer 2016, included concurrent consideration of both the employment and RFP models. The plan included writing the job descriptions and starting the candidate interview process for a Manager of Population

Health Integrated Services as well as the Behavioral Health Consultants. These job descriptions are included in **Appendices J and K.** Also during this time frame, the RFP was written, distributed, and proposals were reviewed. The RFP is included as **Appendix L.** A committee was formed to review proposals and make a final decision. After assessing availability of qualified candidates, availability of space in the PCMH practices, and value of proposals received through the RFP process, a decision was made to partner with SPHS, MCS and KORS.

Subsequent to this decision, the goal was established for SPHS to embed up to 10 BHCs within the practices in a phased approach spanning 2016 and 2017. As of April 2017, this goal was both on track and ahead of schedule, per **Figure 8**. These positions were filled based on qualifications of candidates and needs of the individual practice locations. Expectations, standards–of-service expectations, and terms of the contract continue to be outlined and implemented over a mutually agreed-upon timeframe. The GBHA expanded its psychiatrist program with SPHS to 5 psychiatrists by December 2016 and will complete to expansion to all 10 sites by July 2017. SUS coverage included up to 5 practices by January 2017 and will include 10 by July 2017. Overall goals in terms of number of patients served and quality outcomes such as improved PHQ-9 scores must also be met. Beginning in the summer of 2016 and beyond, at both leadership and practice level meetings, the educational and training campaigns occurred in the practices to assist providers and other care team members to understand which types of patients may benefit from these new behavioral health services and discuss potential workflow changes to assure appropriate referrals and documentation. In addition to operational

changes, educational campaigns also help practices adjust to any culture changes that may be needed in order to fully embrace this new concept of care.

The elements of the behavioral health program will be assessed following the Plan Do Study Act (PDSA) cycle. As described by the Deming Institute, the PDSA cycle is a rapid cycle approach to process improvement that involves the key steps of plan, do, study, act. The first step in this cycle is to set a goal based on the proposed theory, followed by implementing the plan. Studying outcomes and monitoring progress for success or failure ensues, and finally adjustments or changes to the process are made based on learning from the initial efforts (The W. Edward Deming Institute, 2016). By using the PDSA cycle, the goal is for the GBHA to quickly learn from the pilot and make any changes needed to adjust workflow, provide additional education, or make other adjustments prior to expanding the program beyond the initial phase. Program managers will continue to follow the PDSA cycle to support continuous improvement and learning.

Beyond the PDSA, the plan calls on GBHA leaders and behavioral health partners to draw on the relevant experience of other organizations that have implemented integrated behavioral health care programs. The IHI describes several organizations that have implemented integrated behavioral health care including Intermountain Healthcare, University of Washington AIMS Center IMPACT Program, TEAMcare, Cherokee Health Systems, St. Charles Health System, Southcentral Foundation, Colorado's Advancing Care Together, California's Integrated Behavioral Health Project, and the US Department of Veterans Affairs mental health integration model (IHI 2014). The GBMC is active with the IHI and will leverage existing expertise as in addition to sharing their own experiences. The GBHA will also periodically consider the establishment of a

consulting arrangement with an outside expert to provide education and guidance on best practices and implementation success tactics as part of this plan.

The high-level project plans as of December 2016 and April 2017 are included below in **Figure 11 and Figure 12,** respectively**. Figure 12** reflects expanded timelines for the hiring and roll out, and securing work space for the team. The fully detailed 5-page plan currently in use is displayed in **Appendix M.** As other key stakeholders are added and the plan further evolves, task ownership may be adjusted. The action plan included in **Appendix M** follows GBMC's adoption of the Lean methodology for the strategic deployment process (SDP). "The objective [of SDP] is to match available resources with desirable projects so that only projects that are desirable, important, and achievable are authorized. (This is to avoid the practice in many organizations of embarking on many improvement initiatives that are popular in parts of the organization but aren't completed for lack of cross-function agreement and resources)." (LEI 2016, para. 4).

Figure 11: High Level Project Plan as of December 2016

Behavioral Health Project Plan

DECEMBER 2016 DRAFT

Project Team: COO of GBHA, Medical Director of Clinical Integration, Chairman of Family Medicine, Ambulatory Service Line Administrator, Practice Managers, Physician Lead, Manager of Population Health Clinical Services, Manager of Population Health Coordination Services, Executive Director of GBHA, Manager of Contracting, Director of Revenue Cycle & Call Center, Adminstrative Resident, Social Work Intern, VP Post Actue Services, VP Corporate Strategy, COO of GBMA

										2017					
Phase/Task	**Status**	**May**	**June**	**July**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**
PLANNING															
Research Concept	Complete														
Outline expectations	Complete														
Educate Key Leaders	Complete														
Research billing options	In progress														
Write Job Descriptions	Complete														
Write RFP	Complete														
Research Vendors	Complete														
Define key metrics	Complete														
RFP Presentations	Complete														
Decide RFP or Direct Hire	Complete														
IMPLEMENTING															
Partner to fill positions	In progress														
Educate PCMH and Hospital	In progress														
Pilot at 1-5 PCMH practices	In progress														
Assess pilot(s)	In progress														
Standardize Workflows	Not yet started														
Expand to all PCMH practices	Not yet started														
Monitor key metrics	Not yet started														

Figure 12: High Level Project Plan as of March 2017

Behavioral Health Project Plan

MARCH 2017 DRAFT

Project Team: COO of GBHA, Medical Director of Clinical Integration, Chairman of Family Medicine, Ambulatory Service Line Administrator, Practice Managers, Physician Lead, Manager of Population Health Clinical Services, Manager of Population Health Coordination Services, Executive Director of GBHA, Manager of Contracting, Director of Revenue Cycle & Call Center, Adminstrative Resident, Social Work Intern, VP Post Actue Services, VP Corporate Strategy, COO of GBMA

										2017					
Phase/Task	**Status**	**May**	**June**	**July**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**
PLANNING															
Research Concept	Complete														
Outline expectations	Complete														
Educate Key Leaders	Complete														
Research billing options	In progress														
Write Job Descriptions	Complete														
Write RFP	Complete														
Research Vendors	Complete														
Define key metrics	Complete														
RFP Presentations	Complete														
Decide RFP or Direct Hire	Complete														
Identify space and hours	Complete														
IMPLEMENTING															
Partner to fill positions	In progress														
Educate PCMH and Hospital	Complete														
Pilot at 1-5 PCMH practices	Complete														
Assess pilot(s)	In progress														
Standardize Workflows	In progress														
Expand to all PCMH practices	In progress														
Monitor key metrics	In progress														

This plan is still within the implementation phase and as such cannot be fully evaluated within the scope of this dissertation. Based on all complete action items as of April 2017, an assessment of early results is included that leverages components of the RE-AIM framework (RE-AIM). RE-AIM is a tool that is intended "…to encourage program planners, evaluators, readers of journal articles, funders and policy-makers to pay more attention to essential program elements including external validity that can improve the sustainable adoption and implementation of effective, generalizable, evidence-based interventions" (RE-AIM 2017, para. 1). The components of this framework include reach, effectiveness, adoption, implementation, and maintenance. The RE-AIM Planning Tool was used to evaluate these areas in further detail (RE-AIM 2016).

Under this framework, ***reach*** is defined as "the absolute number, proportion, and representativeness of individuals who are willing to participate in a given initiative, intervention, or program" (RE-AIM 2017, para. 3). The target population for the integrated behavioral health program contains patients with at least one office visit in a GBMC PCMH practice over the course of a rolling 18 months that have at least 1 behavioral health diagnosis. As of October 1, 2016, this number was approximately 9,368 patients. This program is not designed to reach all members of the target population for various reasons. Program budget constraints and physical space in the practices limits the number of behavioral health staff that can be made available. Additionally, not all patients with behavioral health diagnoses are appropriate for this model of care. Some patients have severe behavioral health diagnoses that may require management outside of the PCMH practice. Other patients may have their behavioral

health conditions under control or well managed and may not need additional resources. Beyond appropriateness, there may be barriers to adoption and patient compliance that limit the program's reach. Given these considerations, the goal for this program would be to reach approximately 10% of the target population, representing almost 1,000 patients.

There is relatively low confidence that the behavioral health program will successfully attract all members of the target population regardless of the above demographic characteristics and other characteristics such as health literacy. Selection bias may be introduced based on the patient's frequency of office visits. For example, if a patient has not been seen in an office with the integrated behavioral health program resources, they may not have been screened or enrolled in the program due to circumstance rather than appropriateness. Health literacy as well as a patient's readiness to engage may also impact their decision to participate in this program. Another potential barrier that may limit ability to successfully reach the intended target population is provider engagement and understanding of the model. If a provider does not fully understand or find merit in this integrated behavioral health care, he/she may be unlikely to screen or refer patients accordingly, thus limiting reach.

In order to overcome these barriers, efforts will be made to ensure that practices are fully staffed with qualified behavioral health team members as quickly as possible. Education and training sessions for the practices and behavioral health team will be imperative to the successful reach of this program. An additional tactic to help overcome these reach barriers includes marketing efforts to the community that highlight patient

success stories and allows patients to better understand the program while helping to reduce any stigma that patients may feel.

Effectiveness is defined as "the impact of an intervention on important outcomes, including potential negative effects, quality of life and economic outcomes" (RE-AIM 2017, para. 4). Integrated behavioral health is evidence-based; however, it is also a new innovation for GBHA. Although based off the collaborative care model, GBHA's behavioral health program does not follow this model to the letter. One key distinction is that in GBMC's program, elements of the collaborative care model were layered into an existing population health model: the PCMH. As part of the PCMH, other care team members exist in the practice, such as care managers and care coordinators as described in the organizational assessment above. Under traditional collaborative care, the BHC would also engage in some care coordination and care management activities, however given the presence of these other care team members, pre-existing workflows may allow the BHC to focus more on providing therapies or other care directly to patients. This integrated approach, modeled off collaborative care, was selected due to its history of positive outcomes in the literature as noted above. Additionally, data related to the prevalence of behavioral health issues for our patients and the overrepresentation of behavioral health conditions for GBHA's high utilizer population (as described in the plan), clearly underlined the need for improved behavioral health care delivery.

Other strengths of this intervention, in addition to its evidence base, are that the approach is integrated and that it provides convenience to the patients. GBHA strives to deliver patient centered care and to remove unnecessary barriers to health. Providing behavioral health services within the practice itself can for many patients alleviate the

need for a referral, researching appropriate providers clinically and for insurance purposes, scheduling phone calls, delays in appointment times, wayfinding time to a new location, and ideally can decrease the likelihood that a patient is lost to follow up.

Key stakeholders are currently in the process of coming to agreement about how success will be defined and measured. There is a framework established with key metrics related to staffing, productivity, quality outcomes and utilization outcomes, however there are not clear guidelines as to what the goals are for each. Thus this is a major opportunity for improvement within this integrated program. The measures currently captured on a monthly basis are included below in **Table 23.**

Table 23: Behavioral Health Operational Metrics

FY 2017 Behavioral Health Integration Dashboard											
	Measure	Target	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016	Jan 2017	Feb 2017	Mar 2017
Operational	Total BH Patients Enrolled	TBD	137	146	173	191	205	253	348	454	542
	Total Psychiatry Patients Enrolled	TBD	137	146	173	191	205	236	269	276	329
	Psychiatry Visits	120	9	9	27	18	14	31	33	31	38
	Psychiatry % Visits filled	75%	56%	56%	68%	38%	29%	43%	38%	50%	47%
	Total BHC Patients Enrolled	TBD	0	0	0	0	0	17	79	178	209
	BHC Referrals	TBD	0	0	0	0	0	49	85	109	145
	BHC Visits	TBD	0	0	0	0	0	32	103	140	279
	BHC % Visits filled	75%	0%	0%	0%	0%	0%	18%	29%	29%	49%
	Total SUC Patients Enrolled	TBD	0	0	0	0	0	0	TBD	TBD	4
	SUC Referrals	TBD	0	0	0	0	0	10	24	30	44
	SUC Visits	TBD	0	0	0	0	0	2	17	16	29
	SUC % Visits Filled	75%	0%	0%	0%	0%	0%	2%	13%	13%	26%

There are some potential unintended consequences that may result from the development of the behavioral health program. An example of this would be adverse selection. Patients that have behavioral health issues may begin to specifically seek out care at GBHA's PCMH practices offering behavioral health services as a result of this program. This may possibly impact various value-based payment arrangements as these patients may be high risk, have higher health care costs and utilization, and potentially lower compliance with quality standards. Further, with behavioral health there are additional privacy concerns that occur. Such questions may relate to what type of patient

information can be shared with the patient *via* the patient portal, *via* Epic, *via* CRISP, and to outside entities such as life insurance agencies. It is also possible that in time patients may grow frustrated with the model, which does not allow for ongoing psychiatric care and long-term therapy to occur within the practice.

Confidence is relatively low that the intervention will achieve effectiveness across all subgroups that have differing levels of risk and available resources. It is anticipated that the highest risk patients with the fewest resources may not achieve the same outcomes as those with lower risk profiles and more resources. If a patient is, overall, relatively healthy, engaged in their care, and has high health literacy, they might achieve better outcomes as compared to those patients that have other complicating factors such as homelessness or multiple chronic disease conditions. To increase the chances of positive outcomes for patients, the behavioral health team will need to work collaboratively with care managers and care coordinators in the practice so that other medical and social needs can be managed for the patient.

On an individual level, there is high confidence that the integrated behavioral health program will lead to positive outcomes for patients. At the organizational level, there is moderate confidence that the outcomes will be achieved for the target population. Due to the relatively limited reach described above, it is anticipated that it may take considerable time to change metrics at the population level.

Per RE-AIM, ***adoption*** is “the absolute number, proportion, and representativeness of settings and intervention agents (people who deliver the program) who are willing to initiate a program” (RE-AIM 2017, para. 5). Within the GBMC system, the goal is for all 10 PCMH practice locations to adopt this integrated care

model, therefore 100% of the PCMH practices will be willing and able to offer this program. As the program matures, expansion of this program to specialty practices in some capacity can be explored as early interest already exists with specialties such as physical therapy, bariatrics and obstetrics. Although not anticipated in the planning phases, adoption of behavioral health programs across GBMC may prove higher than anticipated.

Beyond GBMC, is it difficult to accurately assess the percent of other organizations similar to GBMC that will be willing and able to offer similar programs. In general, the addition of services that may not be fully reimbursable or profitable may be unlikely in independent private practices.

Implementation per this framework has two levels. “At the setting level, implementation refers to the intervention agents’ fidelity to the various elements of an intervention’s protocol, including consistency of delivery as intended and the time and cost of the intervention. At the individual level, implementation refers to clients’ use of the intervention strategies” (RE-AIM 2017, para. 6). There is moderate confidence that the integrated behavioral health program can be consistently delivered as intended. There are many variables such as practice culture, provider engagement and the need to establish brand new workflows for many scenarios that may cause the program to vary a bit from practice site to practice site. This program allows for flexibility while maintaining fidelity to its original design in order to accommodate changes and corrections as they arise. This is an area that should improve over time as the implementation rolls out. Reinforcing mechanisms to assure optimal adherences such as performance evaluations, regular audits, and informal surveys to practices will be

considered for implementation. There is relatively high confidence that the program can be delivered by staff representing a variety of positions, levels and expertise/experience.

As the model evolves and the understanding of the team's functions within the practices increase, so too will standardized workflows and established policies and procedures. These are still in their infancy and warrant the attention of GBHA leaders to ensure that the interventions are carried out as intended and that there is not significant variance in the interventions by practice location. It will be important to embed measurable targets within these policies and procedures so that the team members understand their expectations. Sufficient training will also be critical to ensuring that all behavioral health staff members have the resources they need to deliver their interventions as designed.

Finally, ***maintenance*** refers to "the extent to which a program or policy becomes institutionalized or part of the routine organizational practices and policies. Within the RE-AIM framework, maintenance also applies the individual level. At the individual level, maintenance has been defined as the long-term effects of a program on outcomes after 6 or more months following the most recent intervention contact" (RE-AIM 2017, para. 7). As of April 2017, the GBHA is still within the implementation phase and as such cannot yet assess maintenance. The implementation of continuous measurement, education, and training as part of the implementation plan will be critical to the ongoing success of this new service.

Chapter 3: Program Evaluation

The goal of this section is to evaluate the overall GBHA population health program. Although program evaluation is certainly part of the behavioral health program plan described above, due to the roll out timeframe, it is not feasible to include this evaluation as part of this dissertation. The behavioral health program will phase in gradually and as such will take considerable ramp-up time to both implement and obtain reliable data with significant sample sizes. Sufficient data points will not be available in within the target graduation timeline. Since this is a new endeavor for GBMC and GBMC does not have experience with pulling the data necessary for outcomes measurement for such a program, there will be a period where metrics are extracted, tested, and refined via PDSA. Therefore, even though the implementation is under way, standard metrics and reports are still under development as of April 2017. Beyond the newness of the program, vendor capabilities, and issues of timing, GBMC underwent a major system conversion from multiple EHR systems to one EHR effective October 1, 2016. Available reports and customizable queries specific to the behavioral health program are still in development and not readily available. Given these circumstances, this workplace challenge evaluates specific components of the existing GBHA population health program instead of solely focusing on the new program described above.

Evaluation design

The overall objectives of the GBHA population health program are to improve quality, reduce unnecessary spending, reduce unnecessary utilization and improve care coordination. In order to evaluate this program, we focus on achievement of one specific population health goal that should be emblematic of overall success, and that is the main

overall population health system-wide goal for GBMC Healthcare-- to improve performance rates with Colorectal Cancer Screening compliance up to 75%. The measure definition used in this analysis is per CMS MSSP quality measure definitions for Preventive Health Measure #7: Colorectal Cancer Screening. The definition per the CMS guidance is the "percentage of adults 50-75 years of age who had appropriate screening for colorectal cancer." (CMS 2015, p. 26) In order to be included in the numerator of this measure, patients must have had either a fecal occult blood test (FOBT) in the last 12 months, a flexible sigmoidoscopy during the last 5 years, or a colonoscopy during the last 10 years (CMS 2015). Patients are included in the denominator if they have had an office visit during the measurement period (12-month calendar year). Patients are excluded from this measure if they have a diagnosis or past history of total colectomy or colorectal cancer (CMS 2015). This definition was modified slightly by the GBHA so as to capture a larger base of patients. The denominator for GBHA's analysis includes all patients seen at least once in a rolling 18-month time frame, rather than only during the past calendar year. Additionally, the GBHA does not limit quality improvement initiatives to only MSSP patients, and thus this analysis includes all patients regardless of payer. In this way, the GBHA aims to engage a broader patient base in the community that is not limited to particular payer programs.

This measure was selected as a system-wide goal due to the prevalence of colorectal cancer, as well as success of interventions with early detection. The 2014 Cancer Report published by the Maryland Department of Health and Mental Hygiene revealed that there were 2,352 new cases of colorectal cancer reported by Maryland residents in 2011. Although the incidence of colorectal cancer per 100,000 residents has

decreased from 41.6 in 2007 to 37.3 in 2011, colorectal cancer was still the second leading cause of cancer-related death in Maryland, behind lung cancer. Moreover, Maryland had the 28th highest colorectal cancer mortality rate when compared to other states and the District of Columbia from 2007-2011 (DHMH 2015). Although lung cancer is the leading cause of cancer-related death, the opportunity for screening related to colorectal cancer for GBHA patients is larger than the opportunity for tobacco use screening and follow-up. As of October 1, 2016, the GBHA colorectal cancer compliance rate was 68.94% whereas the performance rate for tobacco use screening and follow-up measure for the GBHA was 94.67%. This represents 2,792 patients missing appropriate follow-up for their tobacco use compared to 6,159 patients missing a colorectal cancer screening. Breast cancer screening compliance is also a large area of focus for the GBHA, however the opportunity size for this population is also smaller than that for colorectal cancer screening, with 3,114 patients missing a mammogram as of October 1, 2016 (a 73.18% compliance rate). Therefore, colorectal cancer screening was selected as the system-wide measure and the focus of this analysis. It should be mentioned that GBHA's quality improvement efforts are by no means limited to just this measure.

Data at the national level also underline the significance of colorectal cancer. The American Cancer Society (ACS) estimated that colorectal cancer would be diagnosed in about 71,830 men and 65,000 women in the US in 2014, and 50,310 people would die from the disease (ACS 2014). Colorectal cancer screening has allowed for detection and removal of precancerous polyps, and is responsible for large declines in colorectal cancer incidence over the past decade (ACS 2014). Moreover, declines in colorectal cancer

mortality since 1975 are attributed to improvements in treatment (12%), changing patterns in colorectal cancer risk factors (35%), and screening (53%) (ACS 2014). Additional data also indicate the potential for significant cost savings to Medicare through increased colorectal cancer screening. Data published by the National Colorectal Cancer Roundtable (NCCR) indicate that colonoscopies have the potential to provide nearly $15 billion in Medicare savings and fecal blood testing may account for $13.3 billion in Medicare savings. The cost benefit to Medicare is greater with earlier age of screening (NCCR 2008).

Given this importance to, and impact on, population health outcomes, there is significant programmatic emphasis placed on the colorectal cancer screening measure by the GBHA team. In fact, one of the key tasks that the care coordinators in the PCMH practices are held accountable for is compliance with this metric for their individual performance evaluation. Significant efforts take place in order to implement new processes, try new tactics, and increase marketing, awareness and education around the importance of colorectal cancer screening. These efforts occur for other quality measures and chronic conditions as well. These and other initiatives are outlined in the population health timeline in **Appendix N.**

The evaluation of the colorectal cancer screening program includes two evaluation designs. The first design is longitudinal. The outcome metric of colorectal cancer screening is measured on a continuous basis using multiple time periods without comparison. Given the structure within the PCMH practices and the desire not to withhold programs anticipated to deliver positive patient outcomes, randomization is not feasible. Further, the majority of the program effects evaluated are assessed using

retrospective data, therefore eliminating the possibility of randomization. Additionally, since the GBHA population health program features are typically implemented system-wide, there is no good candidate available to serve as a control or comparison group within the GBHA system. A run chart is used to display the trend of colorectal cancer screening compliance rates by month. A minimum of 15 total data points is required in order to complete this run chart analysis (Carey et al. 2001).

The second study design looks at available detailed data as of a point in time. The data pull occurred on September 1, 2016, prior to the system conversion to a new EHR. Data available beyond that point is limited in the near term and is not representative of the full picture due to limitations in data conversion from the prior EHR. The GBMC data warehouse does not store detailed data for colorectal cancer screening compliance on a historical basis, and therefore looking at this detailed information over time is not possible.

Using a cross-sectional approach, data can be employed at one point in time to assess the impact of practice and program variables on colorectal cancer screening compliance after adjusting for patient and provider characteristics. Such program variables include amount of time the practice has operated as a NCQA PCMH level 3, presence of integrated diabetic education group classes, presence of integrated diabetic education one-on-one sessions, total weekly hours of operation, care management and coordination FTEs, clinical provider FTEs, and the presence of integrated psychiatric consultation services. Although variables such as diabetic education classes at a glance may appear unrelated to screening for colorectal cancer, it is hypothesized that the patient discussion offered by the diabetic educators regarding nutrition and other diabetic

education items may result in increased patient engagement and compliance with other clinical recommendations beyond diabetes, such as colorectal and other diagnostic screenings.

Other outcomes not measured. Although the colorectal cancer screening adherence subprogram of the overall GBHA population health program is the primary focus of this program evaluation, additional variables and metrics are available that may be considered in subsequent analyses. For this dissertation these items are considered out of scope, but will be considered by GBHA leaders and may be used at a later date for future studies. These out of scope items include other ACO quality measure performance rates for both MSSP patients and all patients, MSSP claims data, and utilization rates such as IP and ED rates per 1,000 patients. The GBHA entered the MSSP program in July of 2012 and as such, trends on available CMS metrics that target patients attributed to the GBHA through the MSSP can be assessed. These key metrics include total expenditures per beneficiary, hospital discharges per 1,000, and ED visits/1,000. Additional utilization data beyond the MSSP program can be calculated based on data available through the regional HIE CRISP ENS data. Rates of hospital discharges per 1,000 and ED visits/1,000 can be calculated for the population of patients that have been seen in the PCMH practices over the course of rolling 18 months. These data are available from January 2015 to present, with some exceptions. Although operationally relevant, data available for these metrics are not consistently available for at least 15 consecutive measurements. Also, changes in definitions and operational program variables make these metrics less comparable on a month-to-month basis. Most importantly, there are also sensitivities related to confidentiality with using data outside

of the GBMC scope of control such as data provided by CRISP, CMS, or other payers, which limit their use in this analysis. While not in scope for this dissertation, these metrics may be drawn upon if appropriate and operationally relevant to the GBHA.

Data sources and measurement of variables

The data used in this evaluation of the colorectal cancer screening compliance program were pulled from the GBMC enterprise data warehouse. The source of these data in the data warehouse is the ambulatory EHR. These data represent patients that have been seen at least once within the GBHA over a rolling 18 month period. For the run chart analysis, data are evaluated on monthly intervals from July 2015 through September 2016. For the regression analyses, the patient-level data are pulled from the data warehouse, again with eCW as the source, based on the point in time of September 1, 2016. These data are supplemented with additional variables such as the amount of time the practice has operated as a NCQA PCMH level 3 as of September 1, 2016, presence of integrated diabetic education group classes, presence of integrated diabetic education one-on-one sessions, total weekly hours of operation, care management and coordination FTEs, clinical provider FTEs, the presence of integrated psychiatric consultation services, provider gender, provider residency status, patient age, patient gender, patient insurance type, and the number of days since the patient's last visit. To assess the impact of GBHA's organizational focus and structure on colorectal cancer screening compliance, factors such as patient age, gender, primary insurance, days since most recent visit as of September 1, 2016, and provider characteristics such as gender and whether or not they are a resident (in training) physician, must be controlled for in the analysis.

Examples of external data not included in this analysis include MSSP data for Medicare patients, NCQA national rates broken down by commercial, Medicaid, and Medicare, as well as available state-wide data from ACS that is all-payer. Since the colorectal cancer compliance rate from the GBMC data warehouse is calculated at an aggregated level, the ability to assess performance rates by payer historically is not available. There may be limited information available on those benchmarks related to geographic differences and risk adjustment, which may make those comparisons less valid, but they may still hold value operationally.

Methods and analysis

A run chart was used in order to evaluate colorectal cancer screening compliance over time in a longitudinal fashion from July 2015 to September 2016. Compliance rates are available dating back to September 2014, however there was a switch in measurement methodology that occurred starting July 2015. The denominator was changed from patients seen in the last 12 months to those seen in the last 18 months, thus using older data does not provide a fair comparison from month to month. The colorectal cancer screening compliance rates are plotted graphically over time. A timeline of programmatic changes, pilots, and initiatives was also reviewed alongside the graphical display for each point in time. Since colorectal cancer screening compliance is a binary measure (the patient has been screened or not), the outcome variable is discrete rather than continuous. Each test of run charts, as outlined by Carey et al. in Measuring Quality Improvement in Healthcare, was performed to determine whether colorectal cancer screening adherence exhibits indications of important change due specific program elements. These tests include an assessment of 1) whether there are too few or too many

runs in the data, 2) if a run contains too many data points, 3) presence of a statistical trend, and 4) presence of a zig-zag pattern (Carey 2001). The population health historical timeline referenced to identify events that may have contributed to any identified special cause variation is included in **Appendix N.**

It would be operationally useful to perform run chart analysis at a practice level, however data points at this level are limited due to the structure of the data warehouse. The GBMC data warehouse does not store historical data, so particular variables such as practice name are only available if saved externally at a particular point in time. Therefore, the needed minimum numbers of data points are not available at the practice level. In an effort to identify any practice level impacts, a separate analysis was performed that included an exploration of the data at one point in time. This included an analysis of the impact of programmatic factors that may vary by practice, as described above. The data set was coded and categorized for ease of analysis in Stata 13.1. The continuous variables of days recognized as an NCQA PCMH as of September 1, 2016, care team FTE count, total weekly hours, and clinical provider FTE count were left in numeric form. Binary variables that indicate the presence of absence of a certain program (such as diabetic education and psychiatry) were coded 0 to indicate the absence and 1 to indicate the presence of these programs. Patient characteristics were coded into various categories as well. Age was categorized into 5 categories: 51-54, 55-59, 60-64, 65-69 and 70+. Primary insurance was categorized as Commercial, Commercial Government, Medicaid, Medicare, Medicare Advantage, Other and Self-Pay. Number of days since the patient's last office visit as of September 1, 2016 was categorized as 0-30, 31-180 and 180+. The number of days until the patient's next scheduled office visit as of

September 1, 2016 was categorized as 0-30, 31-180, 180+, and not scheduled. Gender was coded 0 to indicate male and 1 to indicate female for both patient and provider characteristics. The provider characteristic indicating his or her status as a resident physician was coded as 1 for resident and 0 for non-resident.

After the completion of coding the data set, bivariate analysis using chi-square tests was completed for each of the practice variables to obtain a p-value. Next, both univariate regression analyses and a multivariate logistic regression analysis as of a point in time was performed for the GBHA patient population. Logistic regression was selected due to the binary nature of the outcome measure. The key assumptions of logistic regression that will be validated as part of this analysis include: the true conditional probabilities are a logistic function of the independent variables, no important variables are omitted, no extraneous variables are included, the independent variables are measured without error, the observations are independent and the independent variables are not linear combinations of each other (UCLA 2016).

Logistic regression is used in this analysis in order to assess whether these factors impact compliance per the model below:

$$P = \frac{e\beta 0 + \beta 1 age + \beta 2 sex + \beta 3 insurance + \beta 4 lastvisit + \beta 5 resident + \beta 6 providersex + \beta 7 psych + \beta 8 providerfte + \beta 9 weeklyhours + \beta 10 careteamfte + \beta 11 diabetic11 + \beta 12 diabeticgroup + \beta 13 dayspcmh}{1 + e\beta 0 + \beta 1 age + \beta 2 sex + \beta 3 insurance + \beta 4 lastvisit + \beta 5 resident + \beta 6 providersex + \beta 7 psych + \beta 8 providerfte + \beta 9 weeklyhours + \beta 10 careteamfte + \beta 11 diabetic11 + \beta 12 diabeticgroup + \beta 13 dayspcmh} + \varepsilon 1$$

Using the above model, backwards elimination to test practice characteristics for significance was used. Those variables identified as nonsignificant were removed from the model. An assessment of collinearity between the practice characteristics in the above model was also performed. Interdependencies among the practice characteristics were assessed as well. The sample size for this regression is 17,916 patients seen in 9 GBMA PCMH practices from the time period of April 1, 2015 to September 1, 2016.

Results and findings are summarized indicating whether or not any of the GBHA population health program characteristics that vary by practice have a statistical impact on colorectal cancer screening compliance.

Hypotheses

It is hypothesized that the run chart will demonstrate that the independent variable, colorectal cancer screening, will exhibit increasing trends coincident with population health program initiatives. Similarly, it is hypothesized that the multivariate logistic regression will reveal that the odds of compliance with colorectal cancer screening will be higher for those patients who see providers in practices that have higher staffing, extended hours, more days recognized by NCQA, integrated diabetes education, and integrated psychiatric consultation, after adjusting for patient age, sex, primary insurance type and provider characteristics.

Strengths and weaknesses of evaluation design

The colorectal cancer screening compliance data are advantageous in that they can be pulled with relative ease from the GBMC data warehouse, and are up-to-date, so they can be pulled in close to real time. The quality performance, however, may only be as good as the data that are entered in a discrete way in the EHR; therefore, information that is documented in an unstructured format, such as free text or a scanned document, may not be accurately reflected in the results. Given that the data extraction occurred after significant effort by the care coordinators to clean up documentation for improved accuracy, this impact is assumed to be small. The amount of historical data at an overall-performance-rate level is advantageous, however a key weakness is that more detailed data for the patients that make up these rates is not available historically due to the

structure of the GBMC data warehouse. The run chart longitudinal design is advantageous in that it is intuitive to operational leaders and as such may be immediately relevant and useful to others in the industry. The use of statistical process control (SPC), while a more robust tool, required a minimum number of data points (20-25) that is not present and thus this is not an option (Carey et al. 2003). The cross-sectional logistic regression helps fill in some of the outstanding questions or gaps in understanding of possible effects of both the patient population and key GBHA population health program factors, and will likely provide insights into potential areas for operational improvement.

Another possible limitation in this study design is that it does not account for the presence of over-screening. This is an area that may be considered in future studies to assess the scope and impact of the completion of colorectal cancer screening that may not be clinically appropriate based on frequency, patient age or other factors.

Results – Run Chart

The run chart of colorectal cancer screening performance rates by month is illustrated in **Figure 13**. The Y-axis was set to be ±20 from the median. The median of this data set is 68.28, therefore the Y-axis scale was set from 48.28 to 88.28. "A run is defined as one or more consecutive data points on the same side of the median," (Carey et al. 2001, p. 55). It was determined that there are 4 distinct runs of one or more consecutive data points on the same side of the median. These runs occur from July 2015 through January 2016, February 2016 through March 2016, April 2016, and May 2016 through October 2016. These runs are circled in **Figure 14.** Sixteen data points are included in this data set with zero data points directly on the mean, therefore there are 16 useful observations.

Figure 13: Run Chart of Colorectal Cancer Screening Performance Rates by Month

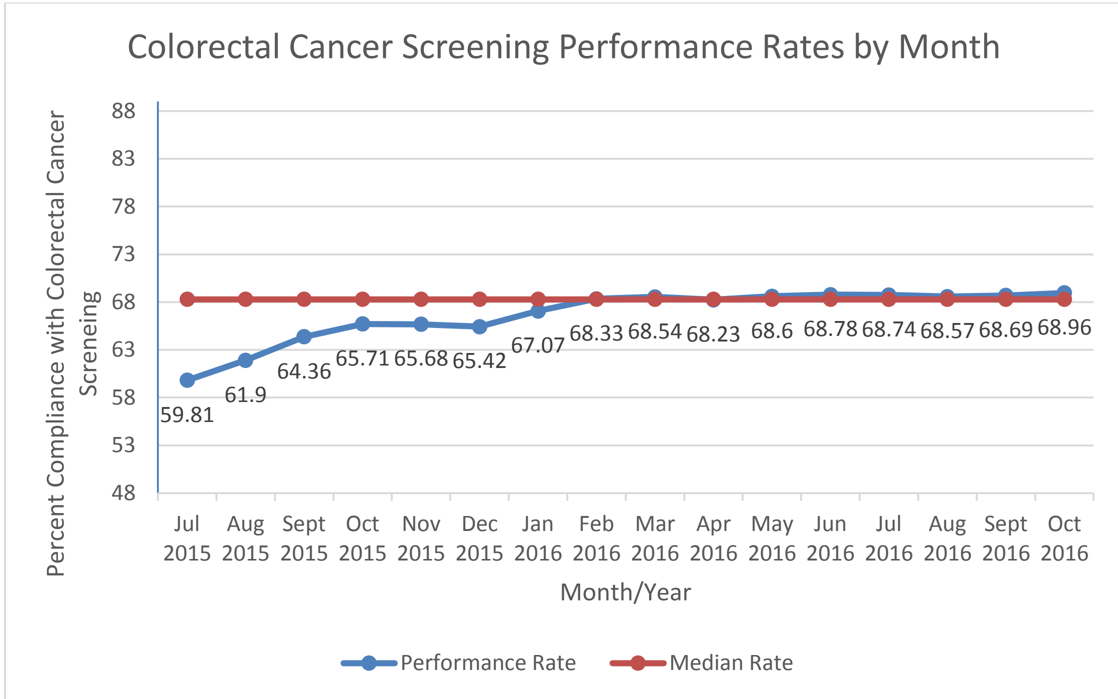
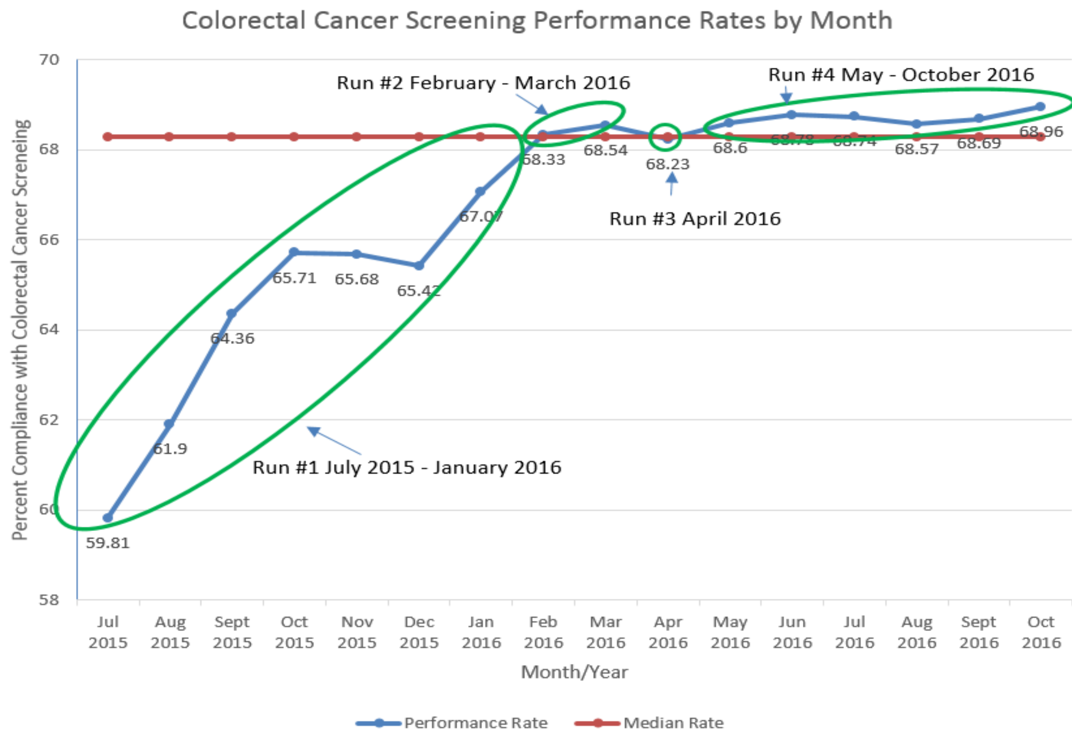


Figure 14: Runs in Monthly Colorectal Cancer Screening Performance Rates



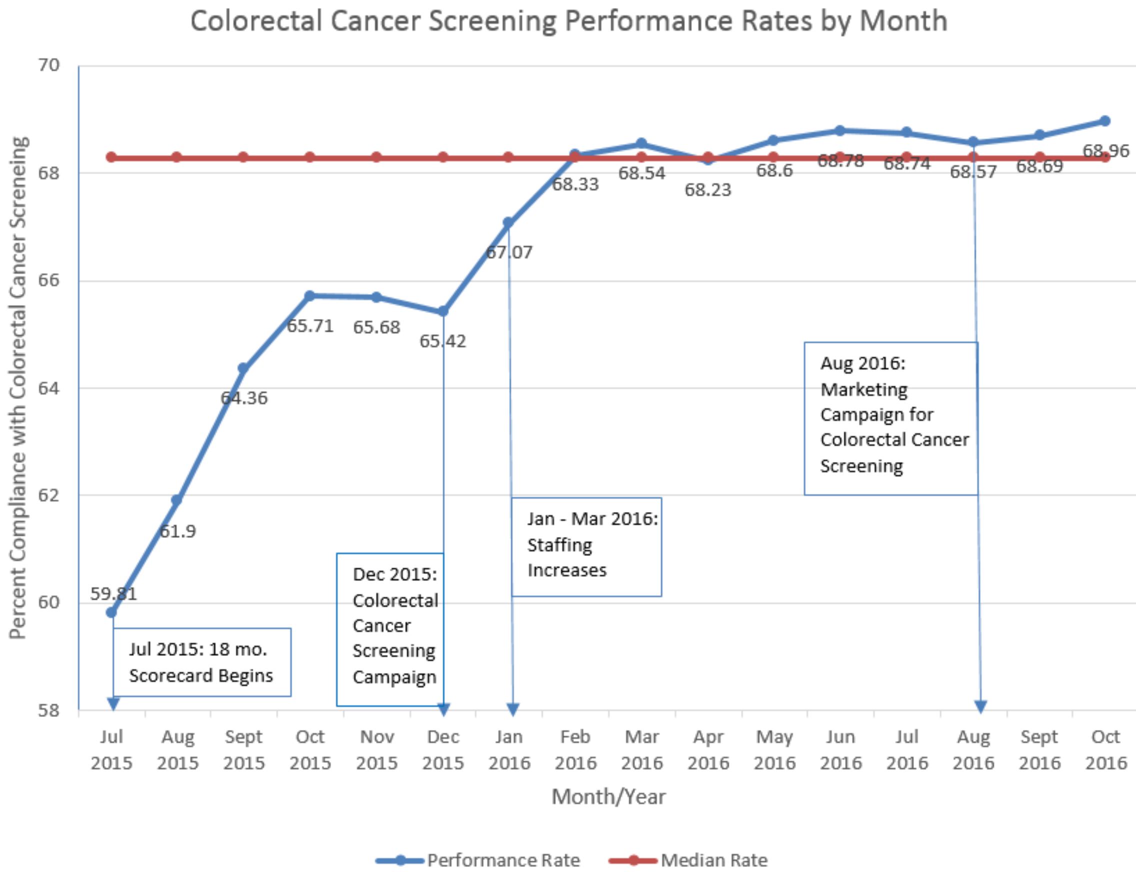
Test 1: Whether there are too few or too many runs in the data

Per Carey et al., in Measuring Quality Improvement in Healthcare, this test is performed by calculating the number of useful observations as the total number of data points minus the total data points on the median and comparing this number to a lower and upper limit. Since this data set included 16 useful observations, the defined lower limit for number of runs is 5 and the upper limit is 12, according to Carey et al. (Carey et al. 2001). There are only 4 runs in this data set, which falls outside of the control limits, thus indicating a special cause.

Test 2: If a run contains too many data points

Per Carey et al., in Measuring Quality Improvement in Healthcare, when a data set includes less than 20 observations, having 7 data points in a run (on the same side of the median) indicates a special cause. Using this definition, the first run of the data set (Figure 13, July 2015 to Feb. 2016) is therefore identified as due to a special cause. In comparing against the population health timeline in **Appendix N**, several initiatives occurred during that timeframe, which may have contributed to this special cause. Most notably, staffing of care managers and care coordinators in the practices increased, with full-time care teams being added to multiple practices in January and February 2016 as depicted in **Appendix N.** Additionally, outreach efforts to Medicare patients overdue for colorectal cancer screening started in December 2015. These events are overlaid with the run chart data in **Figure 15.** Other efforts such as an outreach campaign for breast cancer screening, the addition of diabetic education classes at one practice, and EHR template improvements also occurred during this time frame.

Figure 15: Population Health Events with Monthly Colorectal Cancer Screening Rates



Test 3: Presence of a statistical trend

Per Carey et al., in Measuring Quality Improvement in Healthcare, with a data set that has 9-20 data points, the presence of 6 or more consecutive ascending or descending points indicates a trend. This data set does not include any evidence of 6 or more consecutive ascending and descending points and therefore a statistical trend was not found. Although a statistical trend is not present, the starting point is clearly lower at 59.81% than the ending point, at 68.96%, so there is some evidence of quality improvement likely resulting from the population health program efforts at the GBHA.

Test 4: Presence of a zig-zag pattern

Per Carey et al., in Measuring Quality Improvement in Healthcare, if 14 or more points in a row present in a zig-zag pattern, this can indicate a special cause variation. Upon examination of this run chart, a zig zag pattern was not found. This may indicate that the process of colorectal cancer screening is somewhat stable from month to month.

Results: Bivariate Analysis and Logistic Regression

The practice, patient and provider level characteristics are summarized below in **Tables 24 and 25.**

Table 24: Characteristics of Study Practices

Practice ID	Colorectal Cancer Screening Rate	Days Recognized PCMH	Diabetic Education Classes	Diabetic One-on-One Classes	Care Team FTE Count	Total Weekly Hours	Provider Clinical FTE Count	Psychiatry On-Site	% Female Providers	% Resident Providers
1	75.87%	149	Yes	Yes	1.0	82	7.14	Yes	71.4%	0.0%
2	70.81%	149	Yes	Yes	1.0	70.5	6.52	No	62.5%	0.0%
3	73.93%	221	Yes	Yes	1.0	65	6.13	No	62.5%	0.0%
4	60.42%	91	No	Yes	0.5	60.5	6.68	No	40.5%	73.0%
5	63.24%	91	Yes	Yes	1.0	54.5	4.00	No	50.0%	0.0%
6	75.74%	149	No	No	0.5	53.5	2.80	No	75.0%	0.0%
7	60.29%	91	Yes	Yes	1.0	65.5	4.21	No	66.7%	0.0%
8	68.74%	91	Yes	No	1.0	61.5	4.15	No	100.0%	0.0%
9	66.50%	149	No	No	1.0	59	4.80	No	50.0%	0.0%

Table 25: Characteristics of Study Patients by Practice

		Demographics			Primary Insurance							Days Since Last Visit		
Practice ID	Colorectal Cancer Screening Rate	Percent Female	Average Age	Percent 65+	Commercial	Commercial Government	Medicaid	Medicare	Medicare Advantage	Other	Self-Pay	0-30 Days	31-180 Days	181+ Days
1	75.87%	71.3%	60	26.8%	64.8%	4.5%	2.8%	19.9%	5.1%	2.8%	0.1%	21.2%	48.6%	30.1%
2	70.81%	57.8%	61	33.4%	63.2%	3.6%	2.5%	25.9%	2.3%	2.4%	0.0%	18.4%	48.4%	33.2%
3	73.93%	53.5%	62	34.4%	62.6%	2.4%	2.5%	27.5%	2.7%	2.4%	0.0%	24.1%	53.2%	22.7%
4	60.42%	56.8%	61	33.7%	53.0%	3.2%	5.8%	27.3%	8.2%	2.5%	0.1%	22.6%	47.6%	29.8%
5	63.31%	52.6%	62	36.2%	53.7%	3.3%	5.1%	30.2%	6.5%	1.3%	0.0%	22.5%	51.3%	26.2%
6	75.74%	69.9%	62	35.9%	54.7%	4.1%	3.6%	28.6%	6.2%	2.8%	0.1%	23.3%	47.8%	28.9%
7	60.29%	69.5%	61	33.1%	52.6%	5.0%	6.2%	25.3%	8.2%	2.6%	0.1%	20.6%	50.9%	28.5%
8	68.74%	68.6%	61	27.9%	57.5%	4.4%	5.2%	23.3%	6.7%	3.0%	0.0%	26.6%	53.7%	19.6%
9	66.50%	48.0%	62	34.6%	62.1%	3.4%	3.7%	24.1%	4.2%	2.6%	0.0%	20.1%	51.3%	28.5%

Bivariate Analysis

A bivariate analysis of the practice, provider, and patient variables using chi-square tests indicated that the variables of integrated diabetic education one-on-one

classes and the FTE count of care managers and care coordinators did not have significant p-values (p= 0.359 and 0.298 respectively). Additionally, provider gender and patient gender had insignificant p-values of 0.116 and 0.128 respectively. Conversely, the chi-square bivariate analyses of all other variables revealed p-values of less than 0.05. The number of days recognized by NCQA for PCMH level 3 as of September 1, 2016 indicated a p-value of <0.001 and a raw correlation of higher compliance rates with colorectal cancer screening with more days recognized. Diabetic education group classes indicated a p-value of 0.003, with higher compliance at those practices with the presence of these classes. Similarly, the variable of psychiatric consultation integration indicated a p-value of <0.001, with higher compliance at those practices in the presence of this integration. The variables of total weekly hours and FTE count of clinical providers revealed p-values of <0.001, however there was no monotonic directional trend or relationship between raw colorectal cancer screening compliance rates and having higher numbers of weekly practice operating hours and clinical provider FTE counts. The presence of a residency program indicated a p-value <0.001 with lower rates for patients that receive their care at the practice with residents. Additionally, variance exists by payer type with higher screening rates among the Commercial, Commercial Government, Other, and Medicare population as compared to other payers such as Medicaid, Medicare Advantage and Self-Pay with a p-value of <0.001. Lastly, the number of days since the patient's last visit revealed lower screening rates for patients with last office visits 180+ days before September 1, 2016, with a p-value of <0.001. These results are summarized below in **Table 26.**

Univariate & Multivariate Regression Analysis

These same variables were then evaluated using univariate regression analysis. These results indicated similar trends as the bivariate chi-square analysis with very similar p-values for each variable, as shown is **Table 27.** These univariate regression analyses offer further insight into the categories within each variable. For instance, **Table 27** reveals that the odds of patient compliance with colorectal cancer screening increases as the number of days the practice has been recognized as a level 3 PCMH increases. Another notable trend is visible for patient age as the odds of patient compliance with colorectal cancer screening increases with patient age. These odds ratio trends displayed in **Table 27** mirror those of the colorectal cancer screening rates displayed in **Table 26.**

Table 26: Bivariate Analysis of Variables with Colorectal Cancer Screening Rates

Variable	Patient Count	Colorectal Cancer Screening Rate	P-Value*
Days Recognized PCMH Level 3			
91	6,064	62.8%	<0.001
149	9,186	72.0%	
221	2,666	73.9%	
Diabetic Education Group Classes			
No	4,850	67.5%	0.003
Yes	13,066	69.8%	
Diabetic One-on-one Education Classes			
No	4,700	69.7%	0.359
Yes	13,216	69.0%	
Care Team FTE Count			
0.5	2,620	68.3%	0.298
1	15,296	69.3%	
Total Weekly Practice Hours			
53.5	1,344	75.7%	<0.001
54.5	1,826	63.3%	
59	2,230	66.5%	
60.5	1,276	60.4%	
61.5	1,126	68.7%	
65	2,666	73.9%	
65.5	1,836	60.3%	
70.5	2,943	70.8%	
82	2,669	75.9%	
Clinical Provider FTE Count			
2.8	1,344	75.7%	<0.001
4	1,826	63.3%	
4.15	1,126	68.7%	
4.205	1,836	60.3%	
4.8	2,230	66.5%	
6.125	2,666	73.9%	
6.52	2,943	70.8%	
6.68	1,276	60.4%	
7.135	2,669	75.9%	
Integrated Psychiatric Consultation			
No	15,247	68.0%	<0.001
Yes	2,669	75.9%	
Provider Gender			
Male	8,119	68.6%	0.116
Female	9,797	69.6%	
Provider Residency Status			
No	17,675	69.6%	<0.001
Yes	241	34.4%	
Patient Age			
51-54	3,232	59.2%	<0.001
55-59	4,597	69.0%	
60-64	4,207	70.9%	
64-69	3,364	72.7%	
70+	2,516	74.6%	
Patient Gender			
Male	7,141	68.5%	0.128
Female	10,775	69.5%	
Patient Insurance			
Commercial	10,648	68.6%	<0.001
Commercial Government	664	71.2%	
Medicaid	687	54.3%	
Medicare	4,571	74.1%	
Medicare Advantage	897	60.1%	
Other	440	68.4%	
Self-Pay	9	55.6%	
Days Since Last Patient Visit			
0-30 Days	3,890	71.3%	<0.001
31-180 Days	9,013	71.2%	
180+ Days	5,013	63.8%	

Table 27: Univariate Regression Analysis of Variables with Colorectal Cancer Screening Rates

Variable	Odds Ratio	95% CI	P-Value
Days Recognized PCMH Level 3			
91	1.00		<0.001
149	1.52	(1.42-1.63)	
221	1.68	(1.52-1.86)	
Diabetic Education Group Classes			
No	1.00		0.003
Yes	1.11	(1.04-1.20)	
Diabetic One-on-one Education Classes			
No	1.00		0.359
Yes	0.97	(0.90-1.04)	
Care Team FTE Count			
0.5	1.00		0.299
1	1.05	(0.96-1.15)	
Total Weekly Practice Hours			
Hours	1.01	(1.01-1.02)	<0.001
Clinical Provider FTE Count			
FTE Count	1.07	(1.04-1.09)	<0.001
Integrated Psychiatric Consultation			
No	1.00		<0.001
Yes	1.48	(1.35-2.20)	
Provider Gender			
Male	1.00		0.116
Female	1.05	(0.99-1.12)	
Provider Residency Status			
No	1.00		<0.001
Yes	0.23	(0.18-0.30)	
Patient Age			
51-54	1.00		<0.001
55-59	1.53	(1.40-1.68)	
60-64	1.68	(1.52-1.85)	
64-69	1.83	(1.65-2.03)	
70+	2.02	(1.80-2.26)	
Patient Gender			
Male	1.00		0.129
Female	1.05	(0.99-1.12)	
Patient Insurance			
Commercial	1.00		<0.001
Commercial Government	1.13	(0.95-1.35)	
Medicaid	0.54	(0.46-0.63)	
Medicare	1.31	(1.21-1.42)	
Medicare Advantage	0.69	(0.60-0.79)	
Other	0.99	(0.81-1.22)	
Self-Pay	0.57	(0.15-2.13)	
Days Since Last Patient Visit			
0-30 Days	1.00		<0.001
31-180 Days	1.00	(0.92-1.08)	
180+ Days	0.71	(0.65-0.78)	

In order to better understand any interdependencies of these variables and effects of confounding, a multivariate regression analysis that includes all of these practice-, provider- and patient-level variables was completed, following the model outlined above. A one-way analysis of variance for colorectal cancer screening compliance by practice yielded an intra-class correlation of 0.016 with standard error 0.009 thus this indicates that there is a low magnitude of clustering and practice-level adjustment is not required. A one-way analysis of variance for colorectal cancer screening compliance by provider yielded an intra-class correlation of 0.047 with standard error 0.011. Due to this low magnitude of clustering, provider-level adjustment was also deemed unnecessary.

A multivariate regression analysis revealed similar results to the univariate regression analysis, however it did reveal changes for several variables. The practice level variable of the number of Days Recognized at PCMH Level 3 remained a statistically significant variable with odds of colorectal cancer screening compliance increasing with days recognized. The FTE count of the Care Coordinators and the RN Care Managers showed statistical significance controlling for other influences, however the odds do not follow the expected trend, with lower odds of patient colorectal cancer screening for patients that receive care in practices with higher staffing ratios. Several variables that had been significant in univariate regressions lost statistical significance in the multivariate context: presence of diabetic education group classes, FTE count of clinical providers, and presence of integrated psychiatric consultation. This is not to say that hours and integrated programs such as diabetic education, psychiatric consultation, care management and care coordination do not have a positive impact on patients and

their quality measure compliance, however in this regression these factors are most likely already accounted for within the variable of PCMH recognition.

Provider- and patient-level characteristics were again considered. Provider gender remained an insignificant variable. Provider residency status remained a statistically significant variable with much lower odds of compliance with colorectal cancer screening for patients that receive care in practices with resident providers. Patient age continued to demonstrate statistical significance with the odds of patient compliance with colorectal cancer screening increasing as patient age increases. Patient gender remained a statistically insignificant variable. The multivariate regression analysis revealed that the patient insurance types of Medicaid and Medicare Advantage are the only two with p-values <0.001 with the remaining types exhibiting insignificant p-values. Both of these populations exhibit lower odds of screening when compared to patients with commercial insurance. Lastly, the multivariate regression indicated that the variable of the number of days since last patient visit was only significant for the category of patients whose visit was 180+ days from the data extraction date. Thus, the odds of compliance with colorectal cancer screening for patients with office visits 180+ days in the past is lower than those patients with a visit that occurred within the past 30 days. The results are summarized in **Table 28.**

Table 28: Multivariate Regression Analysis of Practice Variables with Colorectal Cancer Screening Rates

Variable	Odds Ratio	95% CI	P-Value
Days Recognized PCMH Level 3			
91	1.00		
149	1.38	(1.01-1.88)	0.044
221	1.54	(1.12-2.12)	0.008
Diabetic Education Group Classes			
No	1.00		
Yes	1.67	(0.94-2.98)	0.082
Diabetic One-on-one Education Classes			
No	1.00		
Yes	0.72	(0.44-1.19)	0.202
Care Team FTE Count			
0.5	1.00		
1	0.56	(0.37-0.85)	0.006
Total Weekly Practice Hours			
Hours	0.99	(0.96-1.02)	0.670
Clinical Provider FTE Count			
FTE Count	1.06	(0.90-1.25)	0.087
Integrated Psychiatric Consultation			
No	1.00		
Yes	1.43	(0.88-2.32)	0.15
Provider Gender			
Male	1.00		
Female	0.96	(0.76-1.21)	0.728
Provider Residency Status			
No	1.00		
Yes	0.27	(0.20-0.37)	<0.001
Patient Age			
51-54	1.00		
55-59	1.56	(1.39-1.75)	<0.001
60-64	1.68	(1.51-1.88)	<0.001
64-69	1.77	(1.57-1.99)	<0.001
70+	1.97	(1.64-2.36)	<0.001
Patient Gender			
Male	1.00		
Female	1.03	(0.94-1.12)	0.522
Patient Insurance			
Commercial	1.00		
Commercial Government	1.11	(0.91-1.37)	0.298
Medicaid	0.61	(0.49-0.76)	<0.001
Medicare	1.05	(0.95-1.17)	0.331
Medicare Advantage	0.62	(0.53-0.73)	<0.001
Other	1.00	(0.81-1.23)	0.986
Self-Pay	0.41	(0.14-1.64)	0.238
Days Since Last Patient Visit			
0-30 Days	1.00		
31-180 Days	0.99	(0.90-1.09)	0.880
180+ Days	0.71	(0.64-0.80)	<0.001

In conclusion, this program evaluation indicates mixed results. The run chart revealed special cause variation through multiple tests, as well as an overall increase from start to finish in colorectal cancer screening. Thus this may be deemed a successful quality improvement effort on behalf of the GBHA. However, future study is needed in order to assess the impact of over-screening. The completion of colorectal cancer screening for patients that may not be appropriate based on age, frequency and other factors may have negative impact on GBHA's ability to achieve the "triple aim," despite an apparent improvement in the performance of this particular quality metric.

Although the bivariate analysis indicated several variables are statistically significant in their effect on colorectal cancer screening compliance, upon further examination using univariate followed by multivariate logistic regression analyses, it was determined that the number of days recognized as a level 3 PCMH may be the most predictive variable with regard to increased odds of screening compliance. Increasing patient age was also consistently determined to be a variable that increases the odds of colorectal cancer screening compliance. Although other integrated care program variables did not reveal statistical significance in this model, it is assumed that these variables are intrinsic to the PCMH recognition and thus their impact may be accounted for within this variable.

Protection of human subjects

The analysis and evaluation completed as part of this dissertation did not impact patient care or pose added risk to human subjects. The GBHA population health program is payer-agnostic and aims to make a high level of care accessible to all members of the community that seek care with a GBHA provider. The GBHA population health program

strictly adheres to data security standards and guidelines and this evaluation would not expose patients to any additional risk. Protected Health Information (PHI) was used in this only in the initial data gathering stage to identify a patient sample, however patient identifiable data points such as name, date of birth, address, and phone number were then eliminated from the data set used in this analysis. The project has also been submitted to the Institutional Review Board (IRB) at GBMC and approval and oversight of this project was not deemed necessary. It has also been submitted to the Johns Hopkins School of Public Health (JHSPH) IRB and determined to be exempt.

Chapter 4: Economic Evaluation

Description of cost-consequence analysis

This economic evaluation includes a cost consequence analysis (CCA) for the GBHA population health program. The CCA is an analysis "in which costs and effects are calculated but not aggregated into quality-adjusted life-years or cost-effectiveness ratios" (Russell et al. 1996, p. 1176). This analysis tool is appropriate as it presents key information on costs and outcomes in a tabular format that can be readily interpreted by industry operational leaders and used for decision-making. The CCA "is a listing of all the relevant costs and outcomes or consequences of the intervention…" (Mauskopf et al. 1998, p. 278).

Costs associated with the incremental investment in the GBHA such as staff, information technology infrastructure, and software applications are aggregated in the CCA below. Incremental revenue earned related to population activity are also aggregated. This includes transitional care management (TCM) billing, chronic care management (CCM) billing, and incentive payments from value-based purchasing arrangements. TCM billing covers "…services provided to a patient whose medical and/or psychosocial problems require moderate or high-complexity medical decision making during transitions in care from an inpatient hospital setting… to the patient's community setting" (AAFP 2013, p. 1). CCM billing covers services related to chronic conditions that do not occur face-to-face such as care coordination, care plan development, medication management, and patient education (ACP 2015). Incentives earned through commercial value-based purchasing contracts are also included. These initiatives provide the GBHA opportunities to collect incremental revenue as a result of

the care management and care coordination services provided within the PCMH. Costs related to physicians, practice staff and standard fee-for-service revenue are not included in this CCA; the only items that are considered are outside the scope of traditional practice and therefore incremental to GBHA's PCMH care delivery.

In addition to the above costs and revenue, there are other financial incentives in place for the GBMC to achieve the "triple aim" given the unique hospital reimbursement system in the state of Maryland. As mentioned above, the state has more recently funded a portion of the GBHA's efforts through an HSCRC grant. The HSCRC grant was awarded to help fund various initiatives including growth in PCMH care management, behavioral health and overhead. These funds, totaling $908,308, were not awarded until FY17 and as such are not included in this economic evaluation since complete data in all categories is only available through FY16. Beyond the HSCRC grant, the state of Maryland operates under a Medicare waiver and has implemented a reimbursement methodology known as Global Budget Revenue (GBR). GBR "…is central to achieving the three-part aim set forth in the All-Payer Model of promoting better care, better health, and lower cost for all Maryland patients." (HSCRC 2016, para. 1) "In contrast to the previous Medicare waiver that focused on controlling increases in Medicare inpatient payments per case, the new All-Payer Model focuses on controlling increases in total hospital revenue per capita. GBR methodology…encourages hospitals to focus on population-based health management by prospectively establishing a fixed annual revenue cap for each GBR hospital" (HSCRC 2016, para. 1). Although difficult to quantify the exact financial impact of the GBHA to the GBMC in terms of GBR, it is useful for industry leaders to understand the financial context unique to Maryland as they

consider models in their own markets. This underlying incentive structure in Maryland inherently encourages the GBHA to continue with its population health efforts. In fact, the HSCRC provides Maryland hospitals with additional funds in their rates to reflect investments in population health infrastructure. These funds are also included in this analysis.

Many of these GBHA population health program activities have benefits that may be quite long term. For example, providing care management for a diabetic may have a positive impact on a patient's outcome levels from a quality perspective within six months to a year, however, any cost savings may take years to realize. Health screenings may similarly hold long-term value in terms of both improved health and potential downstream cost avoidance. The long-term nature of these programs can make it challenging to calculate a short-term return on investment (ROI) analysis. Nonetheless, available quality outcome metrics are included in the CCA. Additionally, given the real pressure that healthcare systems are under to make investments within a finite budget, available cost and revenue data, where permissible by GBMC, is used to outline a simple ROI analysis. The ROI is the most commonly used management indicator for profit performance and is popular in large part due to its simplicity (Friedlob et al. 2002). This ROI, in conjunction with the additional factors outlined in the CCA, illustrates the investments made and outcomes achieved, which can be informative to industry leaders in their decision-making as they consider population health strategies.

Rationale for Outcome Selection

The outcomes used in the CCA and ROI were selected due to their relevance to the GBHA population health program, their availability, and their permissibility to make

publicly available. As noted above, the overarching goals of the GBHA are to achieve the triple aim of Better Health, Better Care and Lower Costs.

Better Health is measured using available quality outcomes from the GBHA data warehouse as of September 1, 2016. These measures are based on the MSSP ACO clinical quality measure specifications, expanded to all payers and an 18-month denominator, as described in more detail below. Measures included in this analysis that are related to better health include: Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy for Patients with Coronary Artery Disease (CAD) and Diabetes and/or Left Ventricular Systolic Dysfunction (LVSD); Diabetes Hemoglobin A1c Poor Control; Diabetes Eye Exam: Beta Blocker Therapy for patients with Heart Failure and LVSD; Controlling High Blood Pressure for Patients with Hypertension; Use of Aspirin or Another Antithrombotic for patients with Ischemic Vascular Disease (IVD); and Depression Remission at Twelve Months.

Better Care is also measured by ACO quality measures including Breast Cancer Screening; Colorectal Cancer Screening; Influenza Immunization; Pneumococcal Vaccination for Older Adults; BMI Screening and Follow-Up Plan; Tobacco Use Screening and Cessation Intervention; Screening for High Blood Pressure and Follow-Up; Screening for Clinical Depression and Follow-Up; and Statin Therapy for the Prevention and Treatment of Cardiovascular Disease. Finally, Better Care is measured through MSSP performance in experience of care surveys. These measures include: Getting Timely Care, Appointments, and Information; How Well Your Providers Communicate; Patients' Rating of Provider; Access to Specialists: Health Promotion and Education; Shared Decision Making; Health Status/Functional Status; and Stewardship of

Patient Resources. Although operationally relevant to GBHA leaders, these experience of care measures are only representative of a sample of MSSP patients rather than the full GBHA population, and thus are not considered in this analysis.

Lower Cost is measured using MSSP metrics that are publicly available, including results from all completed performance years for the GBHA. These figures include the number of assigned beneficiaries; total benchmark expenditures; total expenditures; total benchmark minus total assigned beneficiary expenditures; generated savings/losses; and quality performance. MSSP hospital discharges/1,000, MSSP ED visits/1,000, and MSSP total expenditures per beneficiary are operationally essential metrics that GBHA leadership rely on, however similar to experience of care metrics they do not represent the full GBHA population and as such are not included in this analysis. Complementary Lower Cost measures such as earned CCM, TCM and value based payer arrangement revenues can also be considered in comparison to investments made. Program costs are calculated based on actual investments made by GBMC Healthcare into the GBHA and population health programs.

Cross-cutting measures that touch each of the above domains and are based on GBHA's MSSP performance in each program year in terms of claims-based quality measures are also available to the GBHA. Examples of such measures include: Risk Standardized, All Condition Readmission; Skilled Nursing Facility 30-day All-Cause Readmission; All-Cause Unplanned Admissions for Patients with Diabetes; All-Cause Unplanned Admissions for Patients with Heart Failure; All-Cause Unplanned Admissions for Patients with Multiple Chronic Conditions; Ambulatory Sensitive Condition Admissions: Chronic Obstructive Pulmonary Disease or Asthma in Older Adults; and

Ambulatory Sensitive Conditions Admissions: Heart Failure. Although operationally relevant to GBHA leaders, these measures apply only to a subset of the GBHA population and thus are not included in this analysis.

Sources of data and measurement of variables

The Better Health outcomes data were pulled from the ACO Quality Scorecard data based on EHR data stored in the GBMC data warehouse (as described in the program evaluation section), inclusive of all GBHA patients regardless of payer. Information on revenue collected from CCM and TCM codes were pulled from the billing reporting module of the ambulatory EHR. These data were extracted as far back historically as possible, recognizing that billing for these activities was either in planning or early stages at the beginning of the MSSP agreement period. Value-based incentive information was retrieved from the managed care department records of funds received. Information on investments made by the GBHA was aggregated from prior budget information and internal financial reporting systems. In order to address confidentiality concerns with sharing this financially sensitive information in this dissertation, efforts were made to summarize these data into broad categories so as to remain operationally useful for other industry leaders without sharing data inappropriately.

Methods

The methods used in this economic evaluation include a cost consequence analysis and return on investment analysis. The cost consequence analysis, unlike cost-effectiveness analysis, does not aggregate data into quality adjusted life-years or cost-effectiveness ratios, but instead lists out all relevant costs and outcomes of the particular intervention (Mauskopf et al. 1998). Therefore, the variables outlined in the above

section related to costs and outcomes were aggregated in a list fashion. In this way, the data can be easily understood by operational industry leaders and may be used for comparison in the development and growth of similar population health programs.

The ROI includes all available cost information so that this information may be useful to other industry leaders from a budget perspective. The total investments made including staff, information technology, and others were aggregated. This was compared against the total revenue brought in that was directly related to the population health activities, using the formula below. This does not include indirect cost implications such as avoided utilization as these items are not traditionally accounted for in the budgeting process. This information was calculated on an individual fiscal year (FY) basis for each year of the population health program, starting with FY13 and using the formula below. The count of unique patients seen in a rolling 18-month period is also included in order to demonstrate these outcomes on a per capita basis.

ROI= Net Profit/Total Investment X 100

Hypotheses

It was hypothesized that the CCA would reveal a significant investment in population health initiatives, positive quality results, and minimal short-term financial return. Similarly, it was hypothesized that the ROI would reveal a negative return when looking at direct investment and profit only.

Societal & Organizational perspective

The primary focus of this economic evaluation is from the organizational perspective. However, where possible, extrapolations are made so that the data can be generalizable to other industry leaders and society as a whole. Beyond generalizable data, the GBHA's

population health efforts relate to current trends in healthcare delivery and reimbursement and may provide societal context for the importance of population health programs. In 2015, the Department of Health and Human Services (HHS) established a goal to move:

> "30 percent of traditional, or fee-for-service, Medicare payments to quality or value through alternative payment models, such as Accountable Care Organizations (ACOs) or bundled payment arrangements by the end of 2016, and tying 50 percent of payments to these models by the end of 2018. HHS also set a goal of tying 85 percent of all traditional Medicare payments to quality or value by 2016 and 90 percent by 2018 through programs such as the Hospital Value Based Purchasing and the Hospital Readmissions Reduction Program" (HHS 2015, para. 6).

This trend is not unique to Medicare programs, and in fact commercial payers are similarly moving toward value-based programs. These commercial contracts collectively represent a larger portion of patients compared to Medicare programs, and they also continue to grow significantly (Muhlestein et al. 2016).

Results

The cost consequence analysis revealed a steady increase in labor-related expenses from FY13 through FY16. This is due in large part to ramping-up of staffing in areas of care management and care coordination. There was also a sizeable increase in physician labor costs due to a change in the physician leadership salary allocation to better reflect their engagement and efforts. Non-labor expenses also increased from FY13 through FY16, in large part due to changes in purchased services related to computer software. In FY13, GBHA had just begun to invest in EHR subsidies for ACO providers and these efforts significantly increased in FY14 and FY15. A sizeable decrease related to computer software was realized in FY16 due to the cancellation of a software module that was no longer needed post transition to a new enterprise-wide EMR. Depreciation and amortization expenses increased gradually each year. Capital

spending for the GBHA increased significantly in FY14 and FY15 due to investments in data architecture build-out of the GBMC data warehouse to support ACO efforts such as the quality scorecards and MSSP claims analytics platform. Due to the transition to a new EHR and the completion of several of these projects, the level of capital spending decreased for FY16. These expenses are outlined in the cost section of **Table 29** below.

Earned incentives and revenue increased substantially from FY13 to FY16 as displayed below in **Table 29**. The number of value-based contracts has increased each year, with varying incentive amounts earned by payer. The majority of funds earned in this category are from the CareFirst PCMH contract. The GBHA also increased its efforts with transitional care post discharge for its patients. From FY13 to FY16, the GBHA's yearly revenue related to transitional care management grew incrementally by $258,906. The GBHA earned a relatively small amount of revenue related to billing chronic care management codes. This represents an opportunity for workflow process improvement with the GBHA as well as opportunity for increased revenue in future years. As described above, the HSCRC also provides financial incentives for Maryland hospitals to invest in population health efforts. In fact, the yearly investment built into GBMC's rates related to population health infrastructure increased steadily from $540,542 to $927,398 between FY13 to FY16.

Using the above operating expenses, incentives, and revenue, profit was calculated to be negative for FY13 through FY15. The profit calculation yielded a positive result in FY16 of $1,190,968. This corresponds to a rapid upswing in ROI from -55.95% in FY13 to 11.14% in FY16, as displayed in **Table 29**. This is reflective of the investments made each fiscal year and the increase in available financial opportunity over

time for the GBHA. It is anticipated that with the addition of the HSCRC grant funds in future years that the ROI will increase substantially. The number of unique patients seen in an 18-month period at a GBHA PCMH practice also increased from 54, 970 in FY14 to 67,681 in FY16. This patient count was not recorded in FY13. When the ROI is considered on a per capita basis, there is evidence of an increasing financial ROI alongside an increase in patient panel size, thus indicating increasing efficiency year over year. GBHA operational leaders will continue to track this information to assess the continued improvements in ROI each fiscal year. This will be closely monitored as the healthcare climate changes over time as discussed in Chapter 5.

In addition to the above metrics, quality outcomes are also included in this CCA in **Table 29**. The quality scorecards were first released October 1, 2014, therefore data is not available for FY13. FY14 data represents the time period from October 1, 2013 through October 1, 2014. In FY15, the GBHA transitioned from a 12-month denominator to an 18-month denominator, as detailed in prior sections. Thus, data for FY15 and FY16 represents a lookback period of 18 months ending June 30, 2015 and June 30, 2016 respectively. This shift in denominator definition gives the artificial impression for several measures that the performance rate has decreased from FY14 to FY15, whereas in actuality this is due to an increase in the denominator count. A data artifact also exists for the Depression Screening and Follow-Up measure, where the report was incorrectly counting those who had not been screened, which was rectified in FY15. Therefore, it appears that there was a large decrease in performance in this measure, however this was in actuality an improvement in the report's accuracy.

The performance rates for the majority of these quality metrics have either remained steady over time or have gradually increased as displayed in **Table 29**. Other measures have shown substantial improvement since FY14. For example, Falls Risk Screening rates have increased from 58.06% to 86.60%. This represents significant efforts in optimizing and standardizing workflow in the practices, the creation of standard policies and procedures, and the optimization of the use of EHR reminder alerts at the point of care. Similar efforts to optimize standard work at the point of care yielded an increase from 42.58% to 81.34% for Body Mass Index Screening and Follow-Up. Chart clean-up efforts and targeted outreach efforts from the GBHA care team yielded notable improvements in screening measures such as Influenza Vaccination, Pneumococcal Vaccination, Breast Cancer Screening, and Colorectal Cancer Screening.

Table 29: CCA and ROI

GBHA Costs/Expenses	FY2013	FY2014	FY2015	FY2016
Labor Expenses	$ 1,009,775	$ 1,442,252	$ 1,648,181	$ 2,005,511
Salaries and Wages	$ 897,833	$ 1,272,568	$ 1,479,313	$ 1,778,595
Salaries & Wages - Staff	$ 890,584	$ 1,170,611	$ 1,366,984	$ 1,537,874
Salaries & Wages - Physician	$ 7,249	$ 101,957	$ 112,329	$ 240,721
Benefits	$ 111,942	$ 169,684	$ 168,868	$ 226,916
Non-Labor Expenses	$ 263,140	$ 700,254	$ 781,626	$ 530,833
Total Supplies	$ 7,570	$ 5,842	$ 12,059	$ 10,833
Purchased Services	$ 108,152	$ 515,018	$ 473,563	$ 205,717
Overhead	$ -	$ -	$ 37,896	$ 49,428
Depreciation and Amortization	$ 147,418	$ 179,394	$ 258,108	$ 264,855
TOTAL Operating Expenses	**$ 1,272,915**	**$ 2,142,506**	**$ 2,429,807**	**$ 2,536,344**
TOTAL Capital Expenses	**$ -**	**$ 474,259**	**$ 468,678**	**$ 191,420**
TOTAL EXPENSES	**$ 1,272,915**	**$ 2,616,765**	**$ 2,898,485**	**$ 2,727,764**

GBHA Revenue/Incentives	FY2013	FY2014	FY2015	FY2016
Incentive Payments from Value-Based Contracts	$ 553,458	$ 1,226,183	$ 1,456,625	$ 1,616,630
Transitional Care Management Revenue	$ 7,323	$ 90,247	$ 170,774	$ 266,229
Chronic Care Management Revenue	$ -	$ -	$ -	$ 8,747
HSCRC Population Health Infrastructure Funding	$ -	$ 540,542	$ 726,349	$ 927,398
TOTAL REVENUE	**$ 560,781**	**$ 1,856,972**	**$ 2,353,748**	**$ 2,819,004**

Return On Investment	FY2013	FY2014	FY2015	FY2016
Profit (Revenue-Operating Expenses)	$ (712,134)	$ (285,534)	$ (76,059)	$ 282,660
Profit/Investment X 100	-55.95%	-13.33%	-3.13%	11.14%
Patient Panel Count	-	54,970	59,366	67,681

Table 29 Continued

Clinical Quality Outcomes	FY2013[4]	FY2014[5]	FY2015[6]	FY2016[7]
Medication Reconciliation After Discharge[2]	-	87.56%	93.46%	94.35%
Falls Risk Screening	-	58.06%	74.23%	86.60%
Documentation of Current Medications[3]	-	-	-	42.70%
Coronary Artery Disease (CAD) Composite[2]	-	81.06%	79.88%	80.66%
CAD Lipid Control[2]	-	83.88%	81.70%	82.83%
CAD ACE/ARB with LVSD or DM	-	80.65%	77.83%	79.42%
Diabetes Composite Original Version[2]	-	20.58%	23.05%	22.07%
Blood Pressure Control	-	77.18%	74.89%	76.22%
LDL Control	-	38.81%	46.63%	42.37%
a1C Control	-	54.67%	59.75%	60.02%
Daily Asprin with Ischemic Vascular Disease	-	86.49%	87.64%	86.70%
Tobacco Non-Use	-	87.20%	83.18%	83.86%
Diabetes Composite Updated Version[3]	-	-	-	31.24%
DM a1C Poor Control[1]	-	10.92%	30.40%	29.08%
DM Eye Exam[3]	-	-	-	38.55%
Heart Failure Beta Blocker with LVSD	-	92.86%	95.45%	88.89%
Hypertension Blood Pressure Control	-	74.15%	70.59%	74.35%
Ischemic Vascular Disease LDL Control[2]	-	38.38%	43.42%	41.14%
Ischemic Vascular Disease Aspirin or Antithrombot	-	79.47%	75.40%	76.23%
Mental Health Depression Remission at 12 Months	-	-	-	3.48%
Breast Cancer Screening	-	61.46%	70.10%	74.37%
Colorectal Cancer Screening	-	49.85%	59.81%	68.74%
Influenza Vaccination	-	40.09%	36.66%	46.68%
Pneumococal Vaccination	-	60.01%	60.35%	68.58%
Body Mass Index Screening and Follow-Up	-	42.58%	50.79%	81.34%
Tobacco Screening and Follow-Up	-	92.41%	82.95%	94.64%
Blood Pressure Screening and Follow-Up	-	55.01%	43.74%	57.65%
Depression Screening and Follow-Up	-	96.48%	57.11%	69.49%
Statin Therapy for Cardiovascular Disease[3]	-	-	-	77.32%

Notes:
1) Inverse Measure
2) Retired MSSP Measure as of 2015
3) Newly added MSSP Measure as of 2015
4) Data not available FY13
5) Data first available 10/1/14, FY14 represents 10/1/13 - 10/1/14. Switch to 18 Month Denominator occurred 7/1/15
6) FY15 represents 1/1/14 -7/1/15
7) FY16 represents 1/1/15 - 7/1/16

The results of this CCA and ROI confirm the hypothesis that the GBHA had a significant investment in population health initiatives, positive quality results, and minimal short term financial return. Conversely, it was hypothesized that the ROI would reveal a negative return when looking at direct investment and profit only. This was true for FY13-FY15, however proved untrue for FY16 as there was a positive ROI in FY16. In conclusion, investments in population health through PCMH initiatives can yield both improved quality outcomes for patients as well as financial return if billing for TCM and

CCM are maximized, value-based contracts are implemented and other marketplace incentives such as the HSCRC investments are in place. Since the HSCRC is unique to Maryland, organizations outside of Maryland would need to consider other mechanisms in order to yield a similar ROI.

Chapter 5: Discussion of Implications

Role of leadership

Leadership is critical to the success of the GBHA and its population health initiatives. At a general level, healthcare leaders should possess a wide variety of core competencies. The Healthcare Leadership Alliance (HLA) posits "…five competency domains common across all practicing healthcare managers: (1) communication and relationship management, (2) professionalism, (3) leadership, (4), knowledge of the healthcare system, and (5) business skills and knowledge" (Stefl 2008, p. 360). The HLA further established a directory of 300 competency statements that represent these five domains. Business skills and knowledge exhibited the most variability by specialty (i.e. finance, human resources, etc), however the other four domains spanned across all specialties. (Stefl 2008). These domains are readily applicable to GBHA. For example, communication and relationship management must occur within the PCMH practices themselves, but also horizontally between practices, across departments, vertically across leadership levels, and externally with community partners. Professionalism is an expectation as part of employment and has the benefit of fostering creativity. Front-end staff and others may more willingly participate in problem solving when their leaders, physicians included, treat them with respect and value their contributions. Leadership is necessary in order for the GBHA to attain its shared vision and work toward excellence. Knowledge of the healthcare environment is imperative to keep up with the changing healthcare landscape and various program incentives. Lastly, GBHA leaders' business skills and knowledge must cross over multiple specialty areas such as financial management, strategic planning, information management, and quality improvement.

Beyond these competencies critical to all healthcare managers, the initiatives described in this dissertation are both transformative and innovative in nature and as such require specialized leadership skill in these areas. The overwhelming majority of work under the purview of the GBHA is not traditional or straightforward, thus leaders need to foster willingness to innovate. "The rhetoric of innovation is often about fun and creativity, but the reality is that innovation is hard work and can be a very taxing, uncomfortable process, both emotionally and intellectually" (Hill et al. 2014, p. 96). In order for transformation to occur, specifically related to the PCMH, there are ten critical elements in which change must be made as identified by Homer et al.: leadership, resources, relationships, patient and family engagement, management and finances, improvement technique, expert and facilitated assistance, health information technology, capacity to deliver care coordination, and professional and staff roles and training (Homer et al. 2010). These elements resonate with the GBHA's transformation efforts as well, especially those of leadership, relationships, and health IT. Under this framework, leadership "…entails establishing and articulating a vision, building the relationships required to accomplish it, and allocating and prioritizing resources to enable it" (Homer et al. 2010, p. 627). One of GBHA's strengths, as identified in the organizational assessment chapter above, is leadership. From the GBHA PCMH perspective, physician leadership is paramount. Each PCMH location has a designated a Practice Manager as the administrative lead and a Physician Lead as the clinical lead. These individuals are responsible for fostering a culture of continuous improvement, teamwork, and accountability for population health program success at their site. This also crosses over into the resources and relationships elements. Local leaders are also responsible for

conducting PCMH practice meetings; however this happens with a varying degree of frequency by practice site. This represents an area of future exploration as to whether the frequency of these local-level meetings has any relationship to success in various population health programs. These local leaders come together monthly with system-level leaders to share learning, ideas, key results and new initiatives. During these system-level meetings, expert and facilitated assistance are often drawn upon to help build engagement and buy-in with various programs. Health IT, in the form of scorecards, leveraging CRISP, and the creation of electronic care plans, is also a very useful tool in the sustainability of the GBHA's PCMH transformation efforts. One element that stands out as an opportunity for the GBHA is patient and family engagement on a more formal level. This is also demonstrated in the results of the organizational assessment discussed in chapter 1 that revealed Customers as an area for improvement. Currently, the GBHA engages patients through the measurement of patient satisfaction through various survey mechanisms, the inclusion of a patient representative on several committees, and in responses to grievances. The GBMC has more recently started a Patient and Family Advisory Council (PFAC), which aims to do just this. This will be an opportunity to do more in the way of focus groups and obtaining more candid feedback from patients. Analysis from Aysola et al. indicated that "patients uniformly lacked awareness of the PCMH concept, and the vast majority perceived no PCMH-related structural changes..." yet "…patients overwhelmingly reported positive relationships with their provider and positive overall experiences" (Aysola et al. 2015, p. 1461). As the PFAC evolves, it may provide areas for future study as to whether GBHA's patients indicate similar findings.

Policy Implications

As described in the organizational assessment chapter above, GBHA has broader policy relevance, most notably in consideration of the Affordable Care Act (ACA). The MSSP "fulfills the intent" of the ACA by also following the "triple aim." (CMS 2016b). Moreover, as described in the economic evaluation section above, Maryland hospitals are uniquely positioned in the healthcare industry, as the state of Maryland operates under a Medicare waiver. Maryland's GBR reimbursement methodology "…is central to achieving the three part aim set forth in the All-Payer Model of promoting better care, better health, and lower cost for all Maryland patients." "GBR methodology… encourages hospitals to focus on population-based health management by prospectively establishing a fixed annual revenue cap for each GBR hospital." (HSCRC 2016, para. 1). The state of Maryland further encourages population health investments through its distribution of grant funds related to these efforts as described above as well as the provision of hospital rate increases to support population health infrastructure investments.

Beyond the ACA and GBR, the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) is also very relevant to GBHA. MACRA "…ended the Sustainable Growth Rate formula, which threatened clinicians participating in Medicare with potential payment cliffs for 13 years..." (CMS 2016a, para. 1). Moreover, MACRA established the Quality Payment Program (QPP), which offers two participation tracks. One track, the Advanced Alternative Payment Models (APMs), allows providers to earn an incentive payment for participating in an innovative payment model. The second option, the Merit-based Incentive Payment System (MIPS), allows providers to earn a

performance-based payment adjustment. (CMS 2016a). The principles of both tracks of MACRA align with those of the MSSP ACO and value-based purchasing efforts at GBHA. Therefore, the population health programs and infrastructure implemented by GBHA have positioned GBHA to be successful under this new regulation.

Despite the apparent alignment with the GBHA's efforts and both state and national level policy, it is imperative for GBHA leaders to closely follow any regulatory changes that may occur related to the changes in administration. The newly elected President of the United States of America and his administration are actively developing plans to repeal the ACA. In fact, the House of Representatives "…narrowly approved legislation to repeal and replace major parts of the Affordable Care Act…" on May 4, 2017 (Kaplan et al. 2017, para. 1). The outcome of this endeavor is still uncertain, but has the potential to eliminate the MSSP as well as the state waiver, which would have very substantial impact on GBHA. Financially, the loss of the state's Medicare waiver holds the potential for very negative financial impact to the GBHA but also to all Maryland hospitals as the waiver brings in an additional 2 billion dollars per year to the state (MHA 2017). If the MSSP was eliminated under an ACA repeal, the GBHA would continue with its commercial value-based contracts and look to optimize those. Further, MACRA legislation is separate and distinct from the ACA and as such would remain in place. GBMC executive leaders would need to commit significant attention to the strategic direction of the GBHA should the ACA repeal and subsequent policy changes come to fruition, thus necessitating a high degree of agility on behalf of GBHA's leadership.

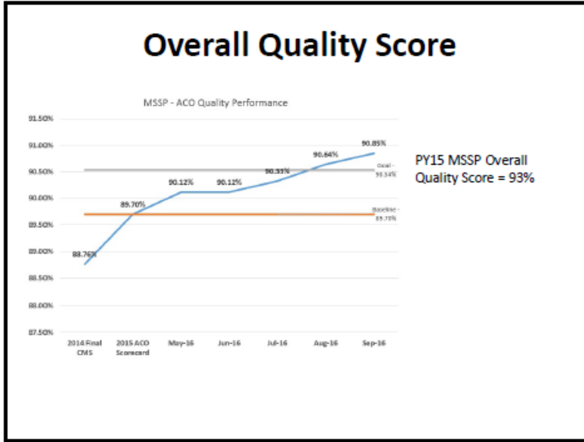
Implications for Organization and Generalizability

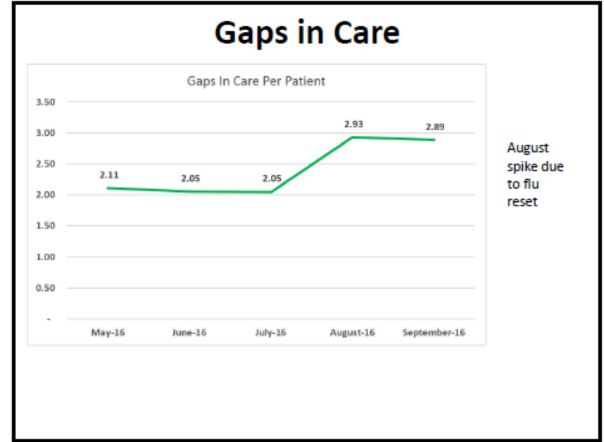
Given the increase of national and state-level regulation designed to foster population health improvement in the way of better care, improved quality and decreased unnecessary cost, this in-depth analysis of a primary care based population health program can be useful for others looking to embark on such a population health journey. This learning is useful internally at the GBHA, as a formal organizational assessment, program plan, program evaluation and economic evaluation are not generally routine work for the GBHA. Taking a step back with thoughtful intention to perform these analyses provided useful insight on opportunities for improvement within the GBHA.

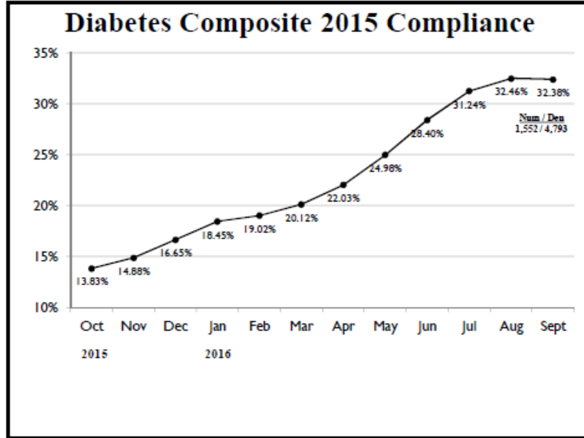
Conclusion

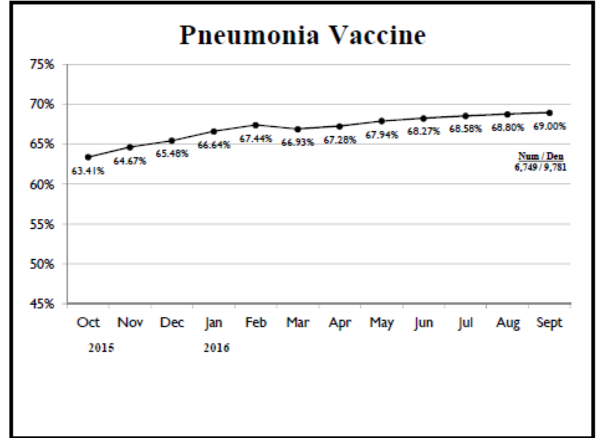
The GBHA achieved relative success in meeting the evolving demands of the population health landscape. The organizational assessment of GBHA revealed strengths in the areas of leadership, strategy, workforce and operations. The organizational assessment also indicated that the GBHA has opportunity for improvement in the areas of customers, measurement, analysis and knowledge management, and results. The plan for a new service revealed a nearly completed implementation of integrated behavioral health. Early results indicate further opportunity for outcome measure refinement, workflow standardization, policy and procedure development, and the establishment of goal thresholds. Additional study is necessary as the behavioral health integration implementation continues. The program evaluation indicated special cause variation in the run chart, suggesting impacts of various population health interventions, as well as increased odds of colorectal cancer screening for patients seen in practices with greater length of time recognized as a Level-3 PCMH. The economic evaluation indicated significant investment in the GBHA, generally positive quality outcomes, and progressively increasing return on investment each fiscal year. The GBHA's location in the state of Maryland provides additional financial incentive to make investment in preventive care strategies more feasible. The discussion of implications underlined the importance of GBHA's leaders staying abreast of regulatory changes at the federal level, which may dictate changes in overall strategy.

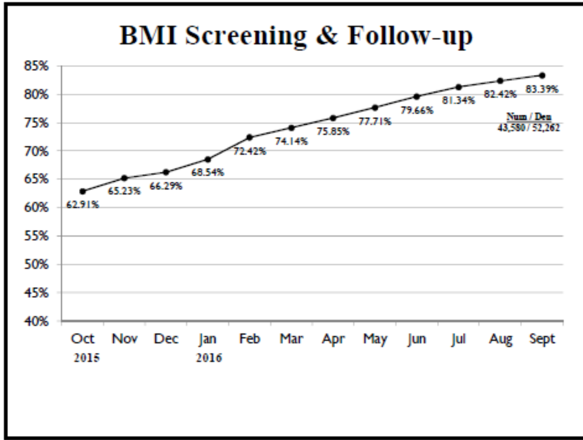
Appendix A: Example ACO Quality Trends

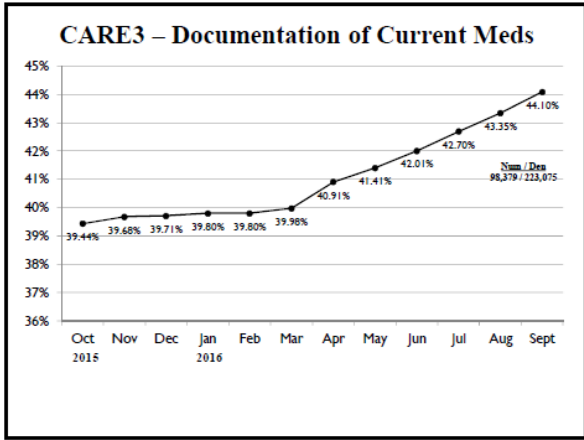









BMI Screening & Follow-up
85%
80%
75%
70%
65%
60%
55%
50%
45%
40%
62.91%
65.23%
66.29%
68.54%
72.42%
74.14%
75.85%
77.71%
79.66%
81.34%
82.42%
83.39%
Num / Den
43,580 / 52,262
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sept
2015
2016


CARE3 – Documentation of Current Meds
45%
44%
43%
42%
41%
40%
39%
38%
37%
36%
39.44%
39.68%
39.71%
39.80%
39.80%
39.98%
40.91%
41.41%
42.01%
42.70%
43.35%
44.10%
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Oct
Nov
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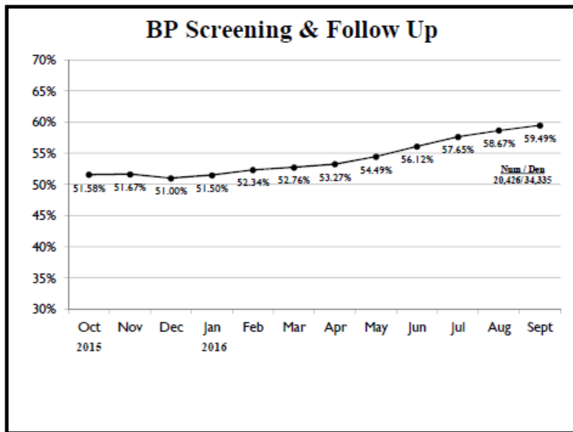
2016


BP Screening & Follow Up
70%
65%
60%
55%
50%
45%
40%
35%
30%
51.58%
51.67%
51.00%
51.50%
52.34%
52.76%
53.27%
54.49%
56.12%
57.65%
58.67%
59.49%
Num / Den
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Feb
Mar
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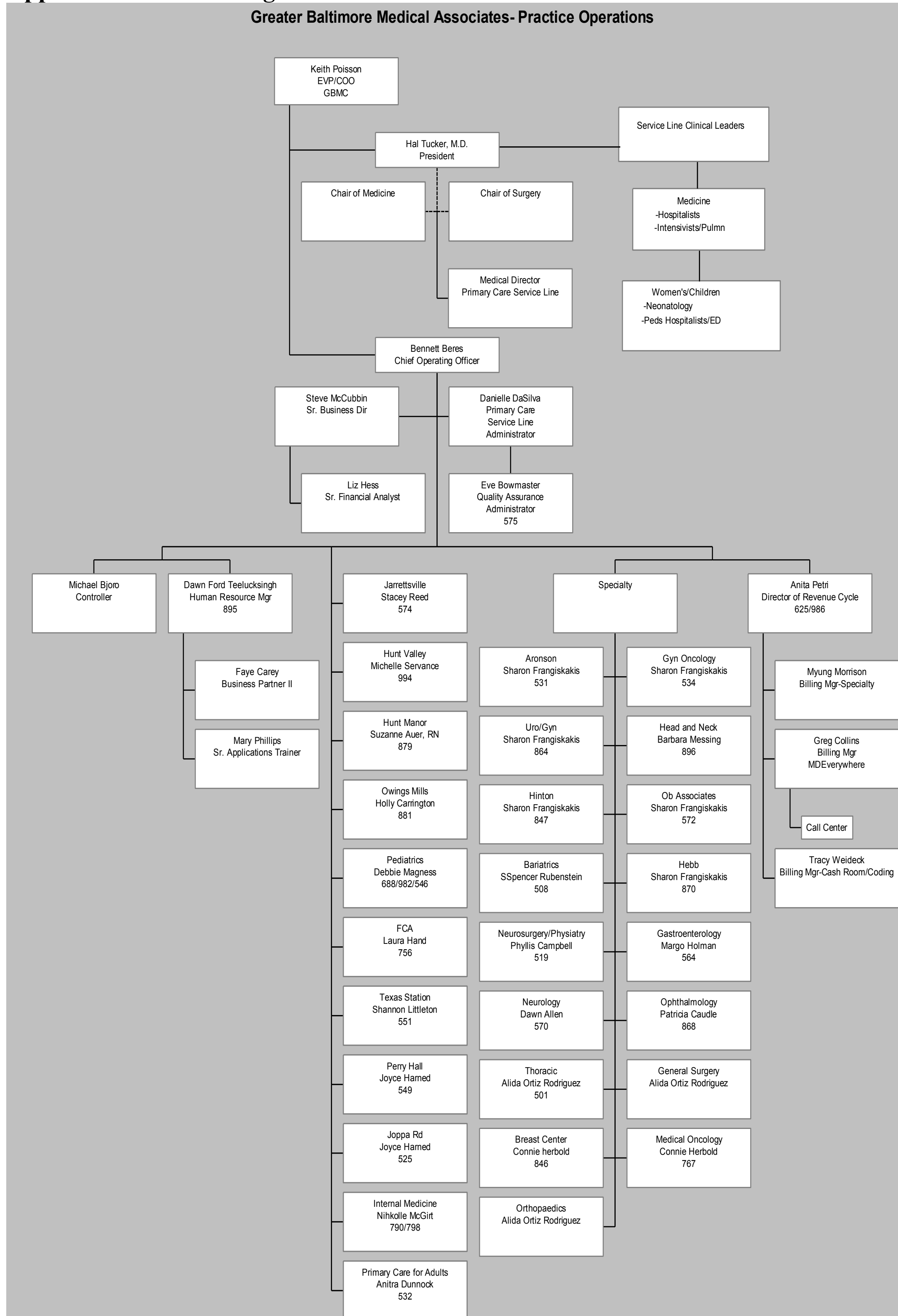
May
Jun
Jul
Aug
Sept
2015
2016

Appendix B: GBMA Organizational Chart



Appendix C: ACO Quality Scorecard Example

2016 ACO Quality Reporting

Data includes visits up to 9/1/16

Practice: Provider:

MeasureID	Measure Description	Sample Size	PCP Rate*	Our ACO Rate[1]	CMS Target Goal[2]	CMS Max Point Goal[3]
Current Measures						
CARE1	Medication Reconciliation After Discharge				70%	90.00%
CARE2	Falls Risk Screening				57.7%	82.30%
CARE3	Documentation of Current Medications				N/A	N/A
CAD7	ACE/ARB with LVSD or DM				70%	90.00%
DMCOMP 2015 †	Diabetes Composite 2015				N/A	N/A
DM2**	a1C Poor Control >9%				30%	10.00%
DM7	Eye Exam				N/A	N/A
HF6	Beta Blocker with LVSD				70%	90.00%
HTN2	Blood Pressure Control				70%	90.00%
IVD2	Aspirin or Antithrombotic				70%	90.00%
MH1	Depression Remission at 12 Months				N/A	N/A
PREV5	Mammography				70%	90.00%
PREV6	Colorectal Cancer Screening				70%	90.00%
PREV7	Influenza Vaccination				70%	90.00%
PREV8	Pneumococcal Vaccination				70%	90.00%
PREV9	BMI Screening and Follow Up				70%	90.00%
PREV10	Tobacco Screening and Intervention				70%	90.00%
PREV11	BP Screening and Follow Up				70%	90.00%
PREV12	Depression Screening and Follow Up				70%	90.00%
PREV13	Statin Therapy for CVD				N/A	N/A
MeasureID	**Measure Description**	**Sample Size**	**PCP Rate***	**Our ACO Rate[1]**	**CMS Target Goal[2]**	**CMS Max Point Goal[3]**
Retired Measures						
CADCOMP †	CAD Composite				72.32%	79.84%
CAD2	Lipid Control				N/A	N/A
DMCOMP 2014 †	Diabetes Composite 2014				28.17%	36.50%
DM13	BP Control				N/A	N/A
DM14	LDL Control				N/A	N/A
DM15	a1C Control				N/A	N/A
DM16	Daily Aspirin with IVD				N/A	N/A
DM17	Tobacco Non Use				N/A	N/A
IVD1	LDL Control				61.6%	78.81%

**: DM2 is an inverse measure

RED: PCP Rate falls below CMS Target Goal Goal.

†: Patients must meet all submeasures (e.g. DM 2&7 or DM 13-17 or CAD 2&7) to successfully meet composite measure

*: PCP Rate includes all patients seen in the prior 18 months with provider listed as PCP.

1: Our ACO Rate includes all Medicare and Commercial patients seen in the prior 18 months for GBMA

2: CMS Target Goal represents 70th percentile benchmark.

3: CMS Max Point Goal represents 90th percentile benchmark.

Benchmark is based on data from PQRS, Medicare claims, ACO quality reporting, and FFS surveys. Benchmark data for individual CAD and DM measures is not available. Benchmark data only available at the composite level for these measures. Please contact Ahmed Elsayed-Ahmed with report questions.

Appendix D: Baldrige Survey- Are We Making Progress as Leaders?

Are We Making Progress as Leaders?

Your perceptions as a leader are important to our organization!

There are 40 statements below. For each statement, check the box that best matches how you feel (strongly disagree, disagree, undecided, agree, strongly agree). How you feel will help us decide where we most need to improve or change. We also have the opportunity (using the *Are We Making Progress?* questionnaire) to compare the perceptions of our leadership team with those of our workforce to see if there are differences. We will not be looking at individual responses but will use the information from our whole leadership team to make decisions. It should take you about 10 to 15 minutes to complete this questionnaire.

Senior leaders, please fill in the name of organization or unit being discussed.

Note: This refers to what is meant each time the word "organization" is used below. In addition, "employees" is used interchangeably with "workforce," which includes all people performing work for the organization.

____

1 Leadership

	Statement	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1A	Our workforce knows our organization's mission (what we are trying to accomplish).	❍	❍	❍	❍	❍
1B	Our workforce knows our organization's vision (where it is trying to go in the future).	❍	❍	❍	❍	❍
1C	Our leadership team is ethical and demonstrates our organization's values.	❍	❍	❍	❍	❍
1D	Our leadership team creates a work environment that helps our employees do their jobs.	❍	❍	❍	❍	❍
1E	Our leadership team shares information about the organization.	❍	❍	❍	❍	❍
1F	Our leadership team asks employees what they think.	❍	❍	❍	❍	❍

2 Strategy

	Statement	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
2A	As our leadership team plans for the future, we ask our employees for their ideas.	❍	❍	❍	❍	❍
2B	Our organization encourages totally new ideas (innovation).	❍	❍	❍	❍	❍
2C	Our employees know the parts of our organization's plans that will affect them and their work.	❍	❍	❍	❍	❍
2D	Our employees know how to tell if they are making progress on their workgroup's part of the plan.	❍	❍	❍	❍	❍
2E	Our organization is flexible and makes changes quickly when needed.	❍	❍	❍	❍	❍

3 Customers

Note: Your employees' customers are the people who use the products of their personal work.

		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
3A	Our employees know who their most important customers are.	❍	❍	❍	❍	❍
3B	Our employees regularly ask their customers what they need and want.	❍	❍	❍	❍	❍
3C	Our employees ask if their customers are satisfied or dissatisfied with their work.	❍	❍	❍	❍	❍
3D	Our employees are allowed to make decisions to satisfy their customers.	❍	❍	❍	❍	❍
3E	Our employees also know who our organization's most important customers are.	❍	❍	❍	❍	❍

4 Measurement, Analysis, and Knowledge Management

		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
4A	Our employees know how to measure the quality of their work.	❍	❍	❍	❍	❍
4B	Our employees use this information to make changes that will improve their work.	❍	❍	❍	❍	❍
4C	Our employees know how the measures they use in their work fit into our organization's overall measures of improvement.	❍	❍	❍	❍	❍
4D	Our employees get all the information they need to do their work.	❍	❍	❍	❍	❍
4E	Our employees know how our organization as a whole is doing.	❍	❍	❍	❍	❍

5 Workforce

		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
5A	Our employees cooperate and work as a team.	❍	❍	❍	❍	❍
5B	Our leadership team encourages and enables our employees to develop their job skills so they can advance in their careers.	❍	❍	❍	❍	❍
5C	Our employees are recognized for their work.	❍	❍	❍	❍	❍
5D	Our organization has a safe workplace.	❍	❍	❍	❍	❍
5E	Our managers and our organization care about our workforce.	❍	❍	❍	❍	❍
5F	Our workforce is committed to our organization's success.	❍	❍	❍	❍	❍

6 Operations

		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
6A	Our employees can get everything they need to do their jobs.	❍	❍	❍	❍	❍
6B	Our organization has good processes for doing its work.	❍	❍	❍	❍	❍
6C	Our employees can improve their personal work processes when necessary.	❍	❍	❍	❍	❍
6D	Our organization is prepared to handle an emergency.	❍	❍	❍	❍	❍

7 Results

		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
7A	Our employees' work products meet all requirements.	❍	❍	❍	❍	❍
7B	Our employees' customers are satisfied with their work.	❍	❍	❍	❍	❍
7C	Our workforce knows how well our organization is doing financially.	❍	❍	❍	❍	❍
7D	Our organization has the right people and skills to do its work.	❍	❍	❍	❍	❍
7E	Our organization removes things that get in the way of progress.	❍	❍	❍	❍	❍
7F	Our organization obeys laws and regulations.	❍	❍	❍	❍	❍
7G	Our organization practices high standards and ethics.	❍	❍	❍	❍	❍
7H	Our organization helps our employees help their community.	❍	❍	❍	❍	❍
7I	Our employees believe our organization is a good place to work.	❍	❍	❍	❍	❍

Would you like to give more information about any of your responses? Please include the number of the statement (for example, 2A or 7D) you are discussing.

Appendix E: Baldrige Survey - Are We Making Progress?

Are We Making Progress?

Your opinion is important to us!

There are 40 statements below. For each statement, check the box that best matches how you feel (strongly disagree, disagree, undecided, agree, strongly agree). How you feel will help us decide where we most need to improve or change. We will not be looking at individual responses but will use the information from our whole group to make decisions. It should take you about 10 to 15 minutes to complete this questionnaire.

Senior leaders, please fill in the name of organization or unit being discussed.

Note: This refers to what is meant each time the word "organization" is used below

____

1 Leadership		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1A	I know my organization's mission (what it is trying to accomplish).	❍	❍	❍	❍	❍
1B	I know my organization's vision (where it is trying to go in the future).	❍	❍	❍	❍	❍
1C	My senior (top) leaders are ethical and demonstrate our organization's values.	❍	❍	❍	❍	❍
1D	My senior leaders create a work environment that helps me do my job.	❍	❍	❍	❍	❍
1E	My organization's leaders share information about the organization.	❍	❍	❍	❍	❍
1F	My organization asks what I think.	❍	❍	❍	❍	❍

2 Strategy

		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
2A	As it plans for the future, my organization asks for my ideas.	❍	❍	❍	❍	❍
2B	My organization encourages totally new ideas (innovation).	❍	❍	❍	❍	❍
2C	I know the parts of my organization's plans that will affect me and my work.	❍	❍	❍	❍	❍
2D	I know how to tell if we are making progress on my workgroup's part of the plan.	❍	❍	❍	❍	❍
2E	My organization is flexible and makes changes quickly when needed.	❍	❍	❍	❍	❍

3 Customers

Note: Your customers are the people who use the products of your work.

		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
3A	I know who my most important customers are.	❍	❍	❍	❍	❍
3B	I regularly ask my customers what they need and want.	❍	❍	❍	❍	❍
3C	I ask if my customers are satisfied or dissatisfied with my work.	❍	❍	❍	❍	❍
3D	I am allowed to make decisions to satisfy my customers.	❍	❍	❍	❍	❍
3E	I also know who my organization's most important customers are.	❍	❍	❍	❍	❍

4 Measurement, Analysis, and Knowledge Management

		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
4A	I know how to measure the quality of my work.	❍	❍	❍	❍	❍
4B	I can use this information to make changes that will improve my work.	❍	❍	❍	❍	❍
4C	I know how the measures I use in my work fit into the organization's overall measures of improvement.	❍	❍	❍	❍	❍
4D	I get all the important information I need to do my work.	❍	❍	❍	❍	❍
4E	I know how my organization as a whole is doing.	❍	❍	❍	❍	❍

5 Workforce

		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
5A	The people I work with cooperate and work as a team.	❍	❍	❍	❍	❍
5B	My bosses encourage me to develop my job skills so I can advance in my career.	❍	❍	❍	❍	❍
5C	I am recognized for my work.	❍	❍	❍	❍	❍
5D	I have a safe workplace.	❍	❍	❍	❍	❍
5E	My bosses and my organization care about me.	❍	❍	❍	❍	❍
5F	I am committed to my organization's success.	❍	❍	❍	❍	❍

6 Operations

		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
6A	I can get everything I need to do my job.	❍	❍	❍	❍	❍
6B	We have good processes for doing our work.	❍	❍	❍	❍	❍
6C	I can improve my work processes when necessary.	❍	❍	❍	❍	❍
6D	We are prepared to handle an emergency.	❍	❍	❍	❍	❍

7 Results

		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
7A	My work products meet all requirements.	❍	❍	❍	❍	❍
7B	My customers are satisfied with my work.	❍	❍	❍	❍	❍
7C	I know how well my organization is doing financially.	❍	❍	❍	❍	❍
7D	My organization has the right people and skills to do its work.	❍	❍	❍	❍	❍
7E	My organization removes things that get in the way of progress.	❍	❍	❍	❍	❍
7F	My organization obeys laws and regulations.	❍	❍	❍	❍	❍
7G	My organization practices high standards and ethics.	❍	❍	❍	❍	❍
7H	My organization helps me help my community.	❍	❍	❍	❍	❍
7I	My organization is a good place to work.	❍	❍	❍	❍	❍

Would you like to give more information about any of your responses? Please include the number of the statement (for example, 2A or 7D) you are discussing.

Appendix F: Modified Baldrige Survey – GBHA Are We Making Progress as Leaders?

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GBHA Baldrige Survey: Are We Making Progress As Leaders?

Welcome to the survey

Thank you for participating in our survey. Your feedback is important. This survey will remain open until 4/5/17.

There are 40 total statements in this survey. For each statement, select the response that best matches how you feel.

Please refer to GBHA when the term "organization" is referenced.

This survey was adopted from the Baldrige Performance Excellence Program. Additional information about this survey can be found here: https://www.nist.gov/baldrige/self-assessing/improvement-tools/are-we-making-progress-leaders

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GBHA Baldrige Survey: Are We Making Progress As Leaders?

Section 1: Leadership

For each statement, select the option that best matches how you feel. Please refer to GBHA each time "organization" is used below.

* 1A Our workforce knows our organization's mission (what we are trying to accomplish).

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 1B Our workforce knows our organization's vision (where it is trying to go in the future).

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

2

* 1C Our leadership team is ethical and demonstrates our organization's values.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 1D Our leadership team creates a work environment that helps our employees do their jobs.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 1E Our leadership team shares information about the organization.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 1F Our leadership team asks employees what they think.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

Would you like to give more information about any of your responses? Please include the number of the statement (for example, 1A or 1D) you are discussing.

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GBHA Baldrige Survey: Are We Making Progress As Leaders?

Section 2: Strategy

For each statement, select the option that best matches how you feel. Please refer to GBHA each time "organization" is used below.

* 2A As our leadership team plans for the future, we ask our employees for their ideas.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 2B Our organization encourages totally new ideas (innovation).

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

5

* 2C Our employees know the parts of our organization's plans that will affect them and their work.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 2D Our employees know how to tell if they are making progress on their workgroup's part of the plan.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 2E Our organization is flexible and makes changes quickly when needed.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

Would you like to give more information about any of your responses? Please include the number of the statement (for example, 2A or 2D) you are discussing.

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GBHA Baldrige Survey: Are We Making Progress As Leaders?

Section 3: Customers

For each statement, select the option that best matches how you feel. Please refer to GBHA each time "organization" is used below.

* 3A Our employees know who their most important customers are.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 3B Our employees regularly ask their customers what they need and want.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

7

* 3C Our employees ask if their customers are satisfied or dissatisfied with their work.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 3D Our employees are allowed to make decisions to satisfy their customers.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 3E Our employees also know who our organization's most important customers are.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

Would you like to give more information about any of your responses? Please include the number of the statement (for example, 3A or 3D) you are discussing.

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GBHA Baldrige Survey: Are We Making Progress As Leaders?

Section 4: Measurement, Analysis, and Knowledge Management

For each statement, select the option that best matches how you feel. Please refer to GBHA each time "organization" is used below.

* 4A Our employees know how to measure the quality of their work.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 4B Our employees use this information to make changes that will improve their work.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 4C Our employees know how the measures they use in their work fit into our organization's overall measures of improvement.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 4D Our employees get all the information they need to do their work.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 4E Our employees know how our organization as a whole is doing

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

Would you like to give more information about any of your responses? Please include the number of the statement (for example, 4A or 4D) you are discussing.

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GBHA Baldrige Survey: Are We Making Progress As Leaders?

Section 5: Workforce

For each statement, select the option that best matches how you feel. Please refer to GBHA each time "organization" is used below.

* 5A Our employees cooperate and work as a team.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 5B Our leadership team encourages and enables our employees to develop their job skills so they can advance in their careers.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 5C Our employees are recognized for their work.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 5D Our organization has a safe workplace.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 5E Our managers and our organization care about our workforce.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 5F Our workforce is committed to our organization's success.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

Would you like to give more information about any of your responses? Please include the number of the statement (for example, 5A or 5D) you are discussing.

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GBHA Baldrige Survey: Are We Making Progress As Leaders?

Section 6: Operations

For each statement, select the option that best matches how you feel. Please refer to GBHA each time "organization" is used below.

* 6A Our employees can get everything they need to do their jobs.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 6B Our organization has good processes for doing its work.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

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* 6C Our employees can improve their personal work processes when necessary.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 6D Our organization is prepared to handle an emergency.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

Would you like to give more information about any of your responses? Please include the number of the statement (for example, 6A or 6D) you are discussing.

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GBHA Baldrige Survey: Are We Making Progress As Leaders?

Section 7: Results

For each statement, select the option that best matches how you feel. Please refer to GBHA each time "organization" is used below.

* 7A Our employees' work products meet all requirements.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 7B Our employees' customers are satisfied with their work.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

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* 7C Our workforce knows how well our organization is doing financially.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 7D Our organization has the right people and skills to do its work.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 7E Our organization removes things that get in the way of progress.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 7F Our organization obeys laws and regulations.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 7G Our organization practices high standards and ethics.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 7H Our organization helps our employees help their community.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 7I Our employees believe our organization is a good place to work.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

Would you like to give more information about any of your responses? Please include the number of the statement (for example, 7A or 7D) you are discussing.

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GBHA Baldrige Survey: Are We Making Progress As Leaders?

Demographics and Submit Survey

The demographic questions in this section areoptional. You may skip any or all of the questions in this section by selecting "Prefer Not to Answer"

Please select "Done" at the bottom of this page in order for your survey responses to be recorded.

* What is your age?

- 18 to 24
- 25 to 34
- 35 to 44
- 45 to 54
- 55 to 64
- 65 to 74
- 75 or older
- Prefer Not to Answer

* What is your gender?

- Female
- Male
- Prefer Not to Answer

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* Which race/ethnicity best describes you? (Please choose only one.)

- American Indian or Alaskan Native
- Asian / Pacific Islander
- Black or African American
- Hispanic
- White / Caucasian
- Other
- Prefer Not to Answer

* What is your job role?

- Administration/Analyst
- Management
- Physician
- Care Coordinator
- Care Manager
- Executive/Senior Leadership
- Other
- Prefer Not to Answer

Thank you! Please select "Done" at the bottom of this page in order for your survey responses to be recorded.

Thank you very much for your participation! Please reach out to Megan Priolo (mpriolo@gbmc.org) with any questions or concerns regarding this survey.

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Appendix G: Modified Baldrige Survey – GBHA Are We Making Progress?

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GBHA Baldrige Survey: Are We Making Progress?

Welcome to the survey

Thank you for participating in our survey. Your feedback is important. This survey will remain open until 4/5/17.

There are 40 total statements in this survey. For each statement, select the response that best matches how you feel.

Please refer to GBHA when the term "organization" is referenced.

This survey was adopted from the Baldrige Performance Excellence Program. Additional information about this survey can be found here: https://www.nist.gov/baldrige/self-assessing/improvement-tools/are-we-making-progress

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GBHA Baldrige Survey: Are We Making Progress?

Section 1: Leadership

For each statement, select the option that best matches how you feel. Please refer to GBHA each time "organization" is used below.

* 1A I know my organization's mission (what it is trying to accomplish).

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 1B I know my organization's vision (where it is trying to go in the future).

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

2

* 1C My senior (top) leaders are ethical and demonstrate our organization's values.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 1D My senior leaders create a work environment that helps me do my job.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 1E My organization's leaders share information about the organization.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 1F My organization asks what I think.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

Would you like to give more information about any of your responses? Please include the number of the statement (for example, 1A or 1D) you are discussing.

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GBHA Baldrige Survey: Are We Making Progress?

Section 2: Strategy

For each statement, select the option that best matches how you feel. Please refer to GBHA each time "organization" is used below.

* 2A As it plans for the future, my organization asks for my ideas.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 2B My organization encourages totally new ideas (innovation).

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

5

* 2C I know the parts of my organization's plans that will affect me and my work.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 2D I know how to tell if we are making progress on my workgroup's part of the plan.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 2E My organization is flexible and makes changes quickly when needed.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

Would you like to give more information about any of your responses? Please include the number of the statement (for example, 2A or 2D) you are discussing.

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GBHA Baldrige Survey: Are We Making Progress?

Section 3: Customers

For each statement, select the option that best matches how you feel. Please refer to GBHA each time "organization" is used below.

* 3A I know who my most important customers are.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 3B I regularly ask my customers what they need and want.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

7

* 3C I ask if my customers are satisfied or dissatisfied with my work.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 3D I am allowed to make decisions to satisfy my customers.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 3E I also know who my organization's most important customers are.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

Would you like to give more information about any of your responses? Please include the number of the statement (for example, 3A or 3D) you are discussing.

Greater Baltimore
HEALTH ALLIANCE
GBMC

GBHA Baldrige Survey: Are We Making Progress?

Section 4: Measurement, Analysis, and Knowledge Management

For each statement, select the option that best matches how you feel. Please refer to GBHA each time "organization" is used below.

* 4A I know how to measure the quality of my work.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 4B I can use this information to make changes that will improve my work.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 4C I know how the measures I use in my work fit into the organization's overall measures of improvement.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 4D I get all the important information I need to do my work.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 4E I know how my organization as a whole is doing.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

Would you like to give more information about any of your responses? Please include the number of the statement (for example, 4A or 4D) you are discussing.

Greater Baltimore

HEALTH ALLIANCE

GBMC

GBHA Baldrige Survey: Are We Making Progress?

Section 5: Workforce

For each statement, select the option that best matches how you feel. Please refer to GBHA each time "organization" is used below.

* 5A The people I work with cooperate and work as a team.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 5B My bosses encourage me to develop my job skills so I can advance in my career.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

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* 5C I am recognized for my work.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 5D I have a safe workplace.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 5E My bosses and my organization care about me.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 5F I am committed to my organization's success.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

Would you like to give more information about any of your responses? Please include the number of the statement (for example, 5A or 5D) you are discussing.

Greater Baltimore

HEALTH ALLIANCE

GBMC

GBHA Baldrige Survey: Are We Making Progress?

Section 6: Operations

For each statement, select the option that best matches how you feel. Please refer to GBHA each time "organization" is used below.

* 6A I can get everything I need to do my job.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 6B We have good processes for doing our work.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 6C I can improve my work processes when necessary.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 6D We are prepared to handle an emergency.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

Would you like to give more information about any of your responses? Please include the number of the statement (for example, 6A or 6D) you are discussing.

Greater Baltimore
HEALTH ALLIANCE
GBMC

GBHA Baldrige Survey: Are We Making Progress?

Section 7: Results

For each statement, select the option that best matches how you feel. Please refer to GBHA each time "organization" is used below.

* 7A My work products meet all requirements.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 7B My customers are satisfied with my work.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

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* 7C I know how well my organization is doing financially.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 7D My organization has the right people and skills to do its work.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 7E My organization removes things that get in the way of progress.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 7F My organization obeys laws and regulations.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 7G My organization practices high standards and ethics.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 7H My organization helps me help my community.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

* 7I My organization is a good place to work.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree
- Not Applicable
- Prefer Not to Answer

Would you like to give more information about any of your responses? Please include the number of the statement (for example, 7A or 7D) you are discussing.

Greater Baltimore
HEALTH ALLIANCE
GBMC

GBHA Baldrige Survey: Are We Making Progress?

Demographics and Submit Survey

The demographic questions in this section are<u>optional</u>. You may skip any or all of the questions in this section by selecting "Prefer Not to Answer"

Please select "Done" at the bottom of this page in order for your survey responses to be recorded.

* What is your age?

- 18 to 24
- 25 to 34
- 35 to 44
- 45 to 54
- 55 to 64
- 65 to 74
- 75 or older
- Prefer Not to Answer

* What is your gender?

- Female
- Male
- Prefer Not to Answer

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* Which race/ethnicity best describes you? (Please choose only one.)

- American Indian or Alaskan Native
- Asian / Pacific Islander
- Black or African American
- Hispanic
- White / Caucasian
- Other
- Prefer Not to Answer

* What is your job role?

- Administration/Analyst
- Management
- Physician
- Care Coordinator
- Care Manager
- Executive/Senior Leadership
- Other
- Prefer Not to Answer

Thank you! Please select "Done"" at the bottom of this page in order for your survey responses to be recorded.

Thank you very much for your participation! Please reach out to Megan Priolo (mpriolo@gbmc.org) with any questions or concerns regarding this survey.

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Appendix H: 2011 Baldrige Board of Examiners Results: Are We Making Progress as Leaders?

Are We Making Progress As Leaders?
QUESTIONNAIRE RESULTS
2011 Board of Examiners

Category 1: Leadership		Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
1a)	Our workforce knows our organization's mission (what we are trying to accomplish).	1%	6%	8%	41%	45%
1b)	Our workforce knows our organization's vision (where it is trying to go in the future).	2%	13%	16%	39%	30%
1c)	Our leadership team uses our organization's values to guide our organization and employees.	1%	13%	14%	39%	33%
1d)	Our leadership team creates a work environment that helps our employees do their jobs.	1%	12%	20%	46%	22%
1e)	Our leadership team shares information about the organization.	1%	8%	12%	47%	33%
1f)	Our leadership team asks employees what they think.	3%	12%	13%	46%	26%

Category 2: Strategic Planning	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
2a) As our leadership team plans for the future, we ask our employees for their ideas.	2%	24%	17%	40%	16%
2b) Our organization encourages totally new ideas (innovation).	3%	15%	20%	44%	18%
2c) Our employees know the parts of our organization's plans that will affect them and their work.	3%	19%	23%	43%	12%
2d) Our employees know how to tell if they are making progress on their work group's part of the plan.	4%	21%	22%	41%	12%
2e) Our organization is flexible and can make changes quickly when needed.	8%	21%	21%	35%	16%

Category 3: Customer Focus	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
3a) Our employees know who their most important customers are.	0%	7%	9%	42%	41%
3b) Our employees regularly ask their customers what they need and want.	2%	18%	18%	37%	24%
3c) Our employees ask if their customers are satisfied or dissatisfied with their work.	2%	23%	16%	37%	22%
3d) Our employees are allowed to make decisions to solve problems for their customers.	1%	7%	21%	47%	22%
3e) Our employees also know who our organization's most important customers are.	1%	11%	12%	39%	37%

Category 4: Measurement, Analysis, and Knowledge Management	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
4a) Our employees know how to measure the quality of their work.	4%	23%	22%	44%	7%
4b) Our employees use this information to make changes that will improve their work.	4%	25%	28%	37%	6%
4c) Our employees know how the measures they use in their work fit into our organization's overall measures of	5%	27%	24%	37%	7%
4d) Our employees get all the information they need to do their work.	3%	22%	28%	40%	7%
4e) Our employees know how our organization as a whole is doing.	2%	16%	14%	46%	22%

Category 5: Workforce Focus	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
5a) Our employees cooperate and work as a team.	1%	10%	12%	57%	20%
5b) Our leadership team encourages and enables our employees to develop their job skills so they can	2%	11%	22%	41%	24%
5c) Our employees are recognized for their work.	1%	10%	14%	54%	21%
5d) Our organization has a safe workplace.	0%	2%	8%	44%	46%
5e) Our managers and our organization care about our workforce.	1%	3%	11%	48%	36%
5f) Our workforce is committed to our organization's success.	1%	4%	14%	50%	32%

Category 6: Operations Focus

		Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
6a)	Our employees can get everything they need to do their jobs.	2%	20%	21%	46%	11%
6b)	Our organization has good processes for doing its work.	5%	22%	26%	42%	5%
6c)	Our employees have control over their personal work processes.	3%	20%	23%	45%	9%
6d)	Our organization is prepared to handle an emergency.	1%	6%	14%	45%	34%

Category 7: Results

		Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
7a)	Our employees' work products meet all requirements.	1%	21%	25%	44%	9%
7b)	Our employees' customers are satisfied with their work.	1%	13%	16%	56%	13%
7c)	Our workforce knows how well our organization is doing financially.	4%	12%	13%	39%	32%
7d)	Our organization has the right people and skills to do its work.	3%	16%	19%	45%	16%
7e)	Our organization removes things that get in the way of progress.	3%	31%	22%	36%	7%
7f)	Our organization obeys laws and regulations.	1%	1%	2%	22%	74%
7g)	Our organization practices high standards and ethics.	1%	2%	8%	29%	60%
7h)	Our organization helps our employees help their community.	2%	13%	13%	38%	34%
7i)	Our employees believe our organization is a good place to work.	1%	4%	13%	47%	34%

Appendix I: 2011 Baldrige Board of Examiners Results: Are We Making Progress?

Are We Making Progress?
QUESTIONNAIRE RESULTS
2011 Board of Examiners

Category 1: Leadership

		Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
1a)	I know my organization's mission (what it is trying to accomplish).	1%	5%	1%	36%	58%
1b)	I know my organization's vision (where it is trying to go in the future).	2%	8%	8%	32%	50%
1c)	My senior (top) leaders use our organization's values to guide us.	1%	15%	16%	35%	33%
1d)	My senior leaders create a work environment that helps me do my job.	4%	13%	16%	45%	22%
1e)	My organization's leaders share information about the organization.	1%	13%	11%	49%	27%
1f)	My organization asks what I think.	5%	16%	15%	47%	17%

Category 2: Strategic Planning

		Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
2a)	As it plans for the future, my organization asks for my ideas.	8%	24%	20%	33%	16%
2b)	My organization encourages totally new ideas (innovation).	3%	18%	24%	40%	15%
2c)	I know the parts of my organization's plans that will affect me and my work.	4%	12%	17%	46%	21%
2d)	I know how to tell if we are making progress on my work group's part of the plan.	3%	16%	17%	43%	21%
2e)	My organization is flexible and can make changes quickly when needed.	6%	23%	24%	35%	11%

Category 3: Customer Focus

		Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
3a)	I know who my most important customers are.	1%	1%	3%	38%	57%
3b)	I regularly ask my customers what they need and want.	1%	15%	12%	42%	30%
3c)	I ask if my customers are satisfied or dissatisfied with my work.	1%	12%	15%	44%	29%
3d)	I am allowed to make decisions to solve problems for my customers.	2%	8%	11%	45%	35%
3e)	I also know who my organization's most important customers are.	1%	3%	10%	40%	45%

Category 4: Measurement, Analysis, and Knowledge Management		Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
4a)	I know how to measure the quality of my work.	1%	6%	15%	46%	32%
4b)	I can use this information to make changes that will improve my work.	1%	9%	16%	46%	28%
4c)	I know how the measures I use in my work fit into the organization's overall measures of improvement.	6%	13%	16%	45%	20%
4d)	I get all the important information I need to do my work.	6%	21%	19%	42%	12%
4e)	I know how my organization as a whole is doing.	6%	10%	15%	43%	26%

Category 5: Workforce Focus		Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
5a)	The people I work with cooperate and work as a team.	3%	6%	14%	51%	26%
5b)	My bosses encourage me to develop my job skills so I can advance in my career.	3%	13%	17%	32%	35%
5c)	I am recognized for my work.	3%	9%	16%	50%	22%
5d)	I have a safe workplace.	0%	3%	4%	38%	55%
5e)	My bosses and my organization care about me.	3%	8%	20%	35%	34%
5f)	I am committed to my organization's success.	0%	1%	5%	33%	62%

Category 6: Operations Focus

		Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
6a)	I can get everything I need to do my job.	3%	18%	19%	43%	16%
6b)	We have good processes for doing our work.	6%	18%	27%	43%	6%
6c)	I have control over my work processes.	3%	16%	13%	51%	17%
6d)	We are prepared to handle an emergency.	5%	11%	18%	40%	26%

Category 7: Results

		Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
7a)	My work products meet all requirements.	0%	8%	20%	58%	14%
7b)	My customers are satisfied with my work.	1%	1%	13%	60%	25%
7c)	I know how well my organization is doing financially.	3%	15%	7%	36%	38%
7d)	My organization has the right people and skills to do its work.	5%	17%	21%	43%	14%
7e)	My organization removes things that get in the way of progress.	7%	27%	34%	28%	5%
7f)	My organization obeys laws and regulations.	0%	1%	2%	29%	67%
7g)	My organization practices high standards and ethics.	0%	5%	12%	31%	52%
7h)	My organization helps me help my community.	3%	9%	11%	42%	35%
7i)	My organization is a good place to work.	1%	4%	13%	43%	39%

Appendix J: Job Description for Behavioral Health Consultant

Greater Baltimore Medical Center

Job Description and Performance Management Form

Job Title: Behavioral Health Consultant	Employee Name:
FLSA Status: Exempt	Employee No:
Department: GBHA – Integrated Services	Department No:
Job Code: BEHAVHC	Supervisor Name:
Pay Grade:	Review Period:

I. JOB DESCRIPTION SUMMARY:

Provide behavioral health consultation to children, adolescents, adults and families in order to improve psychosocial functioning. Under limited, functions as a consultant, educator, expert practitioner, and licensed supervisor for patients in the primary care setting. Serves as organizational resource to ensure evidence-based practice, and to facilitate optimal patient care within GBMC. Provides psycho-social services including: psychosocial assessment, coordination of services, resource referral, support group facilitation and consultation. Participates in interdisciplinary collaboration with RN Care Managers, Care Coordinators, Primary Care Providers, Practice Managers, other practice staff and community partners.

Education	Masters Degree in Social Work or Clinical Psychology, PhD preferred
Experience	2 years of clinical social work or clinical psychology experience
Skills	• Knowledge of various social, home care, extended care, hospice, government program, commercial insurance and community services • Skill in coordinating efforts of an interdisciplinary team (agency, hospital, hospice, payer, etc.) and strong communication skills • Ability to assess complex patient needs including psychiatric and substance abuse • Customer service skills • Excellent working knowledge of behavioral medicine and evidence-based treatments for medical and mental health conditions. • Good knowledge of psycho-pharmacology • Working knowledge of Word, Excel, Power Point Presentations, and electronic medical record applications. • Comfortable with pace of primary care setting, having brief encounters with patients and other practice team members
Licensures, Certifications	• Licensed in the State of Maryland as a Licensed Clinical Social Worker (LCSW) or a Licensed Psychologist.
Physical Requirements	
Working Conditions	• Work is performed inside the organization's offices, patient care units, patient rooms, and/or patient home if applicable. Job attendance is required during all types of weather conditions.
Conditions of Employment	• Must speak, write, and understand English fluently both in person and on the phone.
Standard Precautions	Standard precaution policy and procedures are applicable to this job ☐
Patient Safety	Employee has knowledge and understanding of patient safety as it relates to the job duties ☐ N/A ☐
Patient Population	Demonstrates competency in the delivery of care and applies the knowledge to meet age-specific needs ☐ Not applicable ☐ Neonate / Infant ☐ Pediatric ☐ Adolescent ☐ Adult ☐ Geriatric ☐
Contacts	Patients and their families, physicians, employees and leadership

Reports to	Manager of Population Health Integrated Services
Supervises	None

II. GBMC Values

GBMC Values	Value Description	Method of Verifying Performance Check all that apply	Mid Year Review	Annual Rating
Respect	▪ Treats others with fairness, kindness, and respect for personal dignity and privacy ▪ Listens and responds appropriately to others' needs, feelings, and capabilities	☐Observation/ Demonstration ☐Surveys ☐Feedback ☐Records	☐ Satisfactory ☐ Unsatisfactory	
Excellence	▪ Meets and/or exceeds customer expectations ▪ Actively pursues learning and self development ▪ Pays attention to detail; follows through	☐Observation/ Demonstration ☐Surveys ☐Feedback ☐Records	☐ Satisfactory ☐ Unsatisfactory	
Accountability	▪ Sets a positive, professional example for others ▪ Takes ownership of problems and does what is needed to solve them ▪ Appropriately plans and utilizes required resources for various job duties ▪ Reports to work regularly and on time	☐Observation/ Demonstration ☐Surveys ☐Feedback ☐Records	☐ Satisfactory ☐ Unsatisfactory	
Teamwork	▪ Works cooperatively and collaboratively with others for the success of the team ▪ Addresses and resolves conflict in a positive way ▪ Seeks out the ideas of others to reach the best solutions ▪ Acknowledges and celebrates the contribution of others	☐Observation/ Demonstration ☐Surveys ☐Feedback ☐Records	☐ Satisfactory ☐ Unsatisfactory	
Ethical Behavior	▪ Demonstrates honesty, integrity and good judgment ▪ Respects the cultural, psychosocial, and spiritual needs of patients/families/coworkers	☐Observation/ Demonstration ☐Surveys ☐Feedback ☐Records	☐ Satisfactory ☐ Unsatisfactory	
Results	▪ Embraces change and improvement in the work environment ▪ Continuously seeks to improve the quality of products/services ▪ Displays flexibility in dealing with new situations or obstacles ▪ Achieves results on time by focusing on priorities and manages time efficiently	☐Observation/ Demonstration ☐Surveys ☐Feedback ☐Records	☐ Satisfactory ☐ Unsatisfactory	

III. Technical Assessment

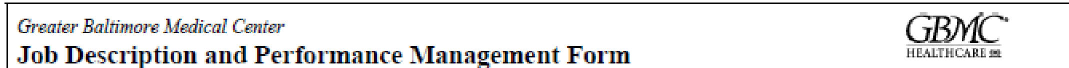
Principal Duties and Responsibilities	Method of Verifying Performance **Check all that apply**	Mid Year Review	Annual Rating
• Interviews patients, family members and significant others to obtain a relevant psychosocial assessment and to assess current/potential needs.	☐Observation/ Demonstration ☐Surveys ☐Feedback ☐Records	☐ Satisfactory ☐ Unsatisfactory	
• Develops and implements a plan of care appropriate to identified problems. Shares resultant findings with the appropriate health care team members, physicians, and payer source.	☐Observation/ Demonstration ☐Surveys ☐Feedback ☐Records	☐ Satisfactory ☐ Unsatisfactory	

Rating Definitions: **U= Unacceptable** **B= Below** **M= Meets** **E= Exceeds** **FE= Far Exceeds**

Competency	Method of Evaluation		Result	
• Provides complex social work and psychology services including individual, family and group modalities and other recognized psychosocial therapies in assisting patients and family members.	☐Observation/ Demonstration ☐Feedback	☐Surveys ☐Records	☐ Satisfactory ☐ Unsatisfactory	
• Provides interpretation of the patient's, significant other's, and family member's behavior as needed. Offers suggestions for modifying behavior by recommending appropriate resources.	☐Observation/ Demonstration ☐Feedback	☐Surveys ☐Records	☐ Satisfactory ☐ Unsatisfactory	
• Participates actively in patient problem solving to enhance the most efficient and appropriate care plan.	☐Observation/ Demonstration ☐Feedback	☐Surveys ☐Records	☐ Satisfactory ☐ Unsatisfactory	
• Provide comprehensive assessment and diagnosis of behavioral health clients in the ambulatory care setting and/or home if applicable	☐Observation/ Demonstration ☐Feedback	☐Surveys ☐Records	☐ Satisfactory ☐ Unsatisfactory	
• Provide effective treatment planning and assisting clients in successfully achieving goals.	☐Observation/ Demonstration ☐Feedback	☐Surveys ☐Records	☐ Satisfactory ☐ Unsatisfactory	
• Evaluate crisis situations and apply appropriate interventions.	☐Observation/ Demonstration ☐Feedback	☐Surveys ☐Records	☐ Satisfactory ☐ Unsatisfactory	
• Actively participate in meetings that support Greater Baltimore's integrated health care model to provide comprehensive care for clients.	☐Observation/ Demonstration ☐Feedback	☐Surveys ☐Records	☐ Satisfactory ☐ Unsatisfactory	
• Assist in the detection of "at risk" patients and development of plans to prevent further psychological or physical deterioration.	☐Observation/ Demonstration ☐Feedback	☐Surveys ☐Records	☐ Satisfactory ☐ Unsatisfactory	
• Assist the primary care team in developing care management processes such as the use of guidelines, disease management techniques, case management, and patient education to improve self-management of chronic disease.	☐Observation/ Demonstration ☐Feedback	☐Surveys ☐Records	☐ Satisfactory ☐ Unsatisfactory	
• Comply with key team metrics and data tracking as needed for program and patient success	☐Observation/ Demonstration ☐Feedback	☐Surveys ☐Records	☐ Satisfactory ☐ Unsatisfactory	
• Monitor the site's behavioral health program, identifying problems related to patient services and making recommendations for improvement.	☐Observation/ Demonstration ☐Feedback	☐Surveys ☐Records	☐ Satisfactory ☐ Unsatisfactory	
• Ability to work through brief patient contacts as well as to make quick and accurate clinical assessments of mental and behavioral conditions.	☐Observation/ Demonstration ☐Feedback	☐Surveys ☐Records	☐ Satisfactory ☐ Unsatisfactory	

Rating Definitions: **U= Unacceptable** **B= Below** **M= Meets** **E= Exceeds** **FE= Far Exceeds**

Appendix K: Job Description for Manager of Population Health Integrated Services


Greater Baltimore Medical Center

Job Description and Performance Management Form

GBMC HEALTHCARE

Job Title: Manager of Population Health Integrated Services	Employee Name:
FLSA Status: Exempt	Employee No:
Department: GBHA – Integrated Services	Department No:
Job Code: MGRPHIS	Supervisor Name:
Pay Grade:	Review Period:

I. JOB DESCRIPTION SUMMARY:

Under limited supervision, provides leadership, consultation, and training in organizational efforts to design and implement care programs throughout appropriate sites. Represents the organization in providing consultation services to external clients. Provides direct oversight and has management responsibility for team of behavioral health consultants. Responsible for integrating behavioral health and other services into the primary care setting and across the continuum of care.

Education	Masters Degree in Social Work or Clinical Psychology, PhD preferred
Experience	4 years directly related experience should be progressively responsible experience.
Skills	• Proven skill managing a team • Effective written and oral communication skills, to communicate and relate effectively with staff, physicians, and organization administration • Experience working in a team-oriented, collaborative environment. • Ability to coordinate effective solutions to organizational needs. • Ability to deal effectively with staff at all level of the organization. • Skill in using computer and working knowledge of Word, Excel, Power Point Presentations, and electronic medical record applications. • Analytic ability in order to problem solve, develop goals, objectives, clinical protocols, critical paths, and policies and procedures • Strong knowledge of behavioral health and psychology • Ability to design and implement clinical pathways and protocols for treatment of selected chronic conditions. • Able to manage multiple tasks in an uncertain and fast-paced environment
Licensures, Certifications	Licensed in the State of Maryland as a Licensed Clinical Social Worker (LCSW) or a Licensed Psychologist.
Physical Requirements	Ability to move quickly about the practices as needed. Able to concentrate on details in a hectic environment. Local travel as needed.
Working Conditions	• Inside organization's patient care offices and normal office environment.
Conditions of Employment	
Standard Precautions	Standard precaution policy and procedures are applicable to this job ☐
Patient Safety	Employee has knowledge and understanding of patient safety as it relates to the job duties ☐ N/A ☐
Patient Population	Demonstrates competency in the delivery of care and applies the knowledge to meet age-specific needs ☐ Not applicable ☐ Neonate / Infant ☐ Pediatric ☐ Adolescent ☐ Adult ☐ Geriatric ☐
Contacts	Behavioral Health Consultants, Patients, Providers, RN Care Managers, Care Coordinators, Practice Staff, Leadership, Payers

Reports to	Chief Operating Officer of GBHA, Medical Director of Clinical Integration
Supervises	Behavioral Health Consultants

II. GBMC Values

GBMC Values	Value Description	Method of Verifying Performance Check all that apply	Mid Year Review	Annual Rating
Respect	▪ Treats others with fairness, kindness, and respect for personal dignity and privacy ▪ Listens and responds appropriately to others' needs, feelings, and capabilities	☐Observation/ Demonstration ☐Surveys ☐Feedback ☐Records	☐ Satisfactory ☐ Unsatisfactory	
Excellence	▪ Meets and/or exceeds customer expectations ▪ Actively pursues learning and self development ▪ Pays attention to detail; follows through	☐Observation/ Demonstration ☐Surveys ☐Feedback ☐Records	☐ Satisfactory ☐ Unsatisfactory	
Accountability	▪ Sets a positive, professional example for others ▪ Takes ownership of problems and does what is needed to solve them ▪ Appropriately plans and utilizes required resources for various job duties ▪ Reports to work regularly and on time	☐Observation/ Demonstration ☐Surveys ☐Feedback ☐Records	☐ Satisfactory ☐ Unsatisfactory	
Teamwork	▪ Works cooperatively and collaboratively with others for the success of the team ▪ Addresses and resolves conflict in a positive way ▪ Seeks out the ideas of others to reach the best solutions ▪ Acknowledges and celebrates the contribution of others	☐Observation/ Demonstration ☐Surveys ☐Feedback ☐Records	☐ Satisfactory ☐ Unsatisfactory	
Ethical Behavior	▪ Demonstrate, honesty, integrity and good judgment ▪ Respects the cultural, psychosocial, and spiritual needs of patients/families/coworkers	☐Observation/ Demonstration ☐Surveys ☐Feedback ☐Records	☐ Satisfactory ☐ Unsatisfactory	
Results	▪ Embraces change and improvement in the work environment ▪ Continuously seeks to improve the quality of products/services ▪ Displays flexibility in dealing with new situations or obstacles ▪ Achieves results on time by focusing on priorities and manages time efficiently	☐Observation/ Demonstration ☐Surveys ☐Feedback ☐Records	☐ Satisfactory ☐ Unsatisfactory	

III. Technical Assessment

Principal Duties and Responsibilities	Method of Verifying Performance Check all that apply	Mid Year Review	Annual Rating
• **Planning.** Accurately scopes out length and difficulty of tasks and projects; sets objectives and goals; breaks down work into process steps; develops schedules and tasks/people assignments (work plans); anticipates and adjusts for problems and roadblocks; measures performance against goals and evaluates results.	☐Observation/ Demonstration ☐Surveys ☐Feedback ☐Records	☐ Satisfactory ☐ Unsatisfactory	
• **Organizing.** Marshals resources to get things done; can orchestrate multiple activities at once; uses resources effectively and efficiently. Arranges information in useful/useable manner.	☐Observation/ Demonstration ☐Surveys ☐Feedback ☐Records	☐ Satisfactory ☐ Unsatisfactory	

Rating Definitions: **U= Unacceptable** **B= Below** **M= Meets** **E= Exceeds** **FE= Far Exceeds**

• **Directing Others.** Is good at establishing clear directions; sets stretch objectives and distributes team member workload appropriately; lays out work in well organized manner; maintains dialogue with others on work and results; is a clear communicator.	☐Observation/ Demonstration ☐Surveys ☐Feedback ☐Records	☐ Satisfactory ☐ Unsatisfactory	
• **Drive for Results.** Can be counted on to meet and/or exceed goals; assess and direct care in the most efficient setting; and motivates others for not just action but results against defined goals for assigned projects.	☐Observation/ Demonstration ☐Surveys ☐Feedback ☐Records	☐ Satisfactory ☐ Unsatisfactory	
• **Managing and measuring work.** For existing projects, clearly assigns responsibility for tasks and decisions; sets clear objectives and measures; monitors progress and results, designs feedback into work. Aggressively manages issues lists and done proactive project risk mitigation. Manages project plan(s), schedules, and budgets.	☐Observation/ Demonstration ☐Surveys ☐Feedback ☐Records	☐ Satisfactory ☐ Unsatisfactory	
• **Written Communications.** Is able to write clearly and succinctly in a variety of settings and styles to get the message across and have the desired effect. Forms of communication include but are not limited to project statusing and issues management; effective team member communication on roles/assignments; goals/; agenda/minutes; effective delivery of formal presentations to both large and small groups; with peers and bosses.	☐Observation/ Demonstration ☐Surveys ☐Feedback ☐Records	☐ Satisfactory ☐ Unsatisfactory	
• **Priority Setting.** Spends time on what is important; quickly zeros in on the critical few and puts trivial things aside; can sense what will help/hinder accomplishing a goal; eliminates roadblocks; creates focus in a fast-paced, changing environment	☐Observation/ Demonstration ☐Surveys ☐Feedback ☐Records	☐ Satisfactory ☐ Unsatisfactory	
• **Timely Decision Making.** Makes decisions in a timely manner, sometimes with incomplete information and under tight deadlines and pressure.	☐Observation/ Demonstration ☐Surveys ☐Feedback ☐Records	☐ Satisfactory ☐ Unsatisfactory	
• Develop, facilitate and secure direct and indirect integrated care clinical services	☐Observation/ Demonstration ☐Surveys ☐Feedback ☐Records	☐ Satisfactory ☐ Unsatisfactory	
• Consult with patient care teams to develop assessment and treatment protocols as well as designing training programs.	☐Observation/ Demonstration ☐Surveys ☐Feedback ☐Records	☐ Satisfactory ☐ Unsatisfactory	
• Provide direct supervision of Behavioral Health Consultants to include psychologists and social workers	☐Observation/ Demonstration ☐Surveys ☐Feedback ☐Records	☐ Satisfactory ☐ Unsatisfactory	
• Develop and produce monitoring mechanisms including key team metrics and data tracking for program and patient success			
• Design and implement formal training programs relative to specific topics on integrated care for patient care teams	☐Observation/ Demonstration ☐Surveys ☐Feedback ☐Records	☐ Satisfactory ☐ Unsatisfactory	

Appendix L: Request for Proposal for Behavioral Health Integration

GBMC HealthCare: Request for Proposal for Behavioral and Mental Health Services Provider

Overview

GBMC Healthcare seeks to contract with a behavioral and mental health provider group to partner in integrating behavioral and mental health services into our primary care practices. We are accepting proposals for a range of involvement including: embedding behavioral health professionals (psychologists, licensed certified social workers, or licensed clinical professional counsellors) throughout our practices daily, providing project management in integrating behavioral health in the primary care setting, streamlining referral processes for specialty services, or participating in a blend of these activities. With a total of approximately 60,000 primary care patients, GBMC locations for behavioral health integration will begin in Towson, Owings Mills, and Phoenix, followed by integration in Jarrettsville, Hunt Valley, Perry Hall, and Timonium. We will accept single-entity responses and also encourage the formation of partnerships.

Company Background

GBMC HealthCare includes Greater Baltimore Medical Center (GBMC), Greater Baltimore Medical Associates (GBMA), Gilchrist Services, and the Greater Baltimore Health Alliance (GBHA).

Greater Baltimore Medical Center (GBMC)

The 281-bed medical center (acute and sub-acute care) handles more than 26,700 inpatient cases and approximately 60,000 emergency room visits annually. Since its founding in Towson in 1965, GBMC's accomplishments have validated the vision of its founders to combine the best of community and university-level medicine. GBMC's main campus also includes three medical office buildings-Physicians Pavilion East, Physicians Pavilion West and Physicians Pavilion North I. In addition to its main campus located in Towson, GBMC's care can be found in several facilities located throughout the community including Towson, Hunt Manor, Hunt Valley, Owings Mills, Pikesville, Mays Chapel, Perry Hall, Bel Air and Jarrettsville.

GBMC's Community Needs Advisory Committee strives to improve the health of the local community. The committee focuses on providing outreach, education and clinical services as well as building partnerships with local organizations, businesses and individuals to promote good health and disease prevention.

GBMC Physicians

Nearly 1,300 physicians serve on GBMC's medical staff, making it among the largest of any community hospital in the mid-Atlantic region. With its size comes a wealth of clinical knowledge, combined with a collaborative spirit to better understand the medical issues that patients confront on a daily basis. Physicians' ability to cross-reference information with such a wide variety of colleagues leads to a higher level of medical sophistication and expertise not typically present in a community hospital setting.

More than 200 of its physicians are employed through Greater Baltimore Medical Associates (GBMA), a group of physician practices owned by GBMC. GBMA features a diverse collection of practices in a number of different specialties including Internal Medicine, Pediatrics, OB/GYN, General and Specialty Surgery and Oncology.

GBMC and its physicians have long been recognized for outstanding quality and personalized service within the community. Over the past decade, U.S. News & World Report has repeatedly cited the medical center as one of "America's Best Hospitals" in several areas of service. Additionally, Baltimore Magazine's annual "Top Doctors" edition consistently recognizes more members of GBMC's medical staff than that of any other hospital in the state.

Employees are encouraged to continue their education through computer-based training, workshops and seminars for all levels of employees, and tuition reimbursement is available for many staff. Many incentives are offered especially in the area of nursing education, with special scholarships available and active affiliations with local schools. GBMC offers many opportunities for flexible schedules, especially in patient-care areas, including 4, 8, 10, and 12 hour shifts. In addition, compressed workweeks and telecommuting are options in some departments.

Greater Baltimore Medical Associates (GBMA)

Greater Baltimore Medical Associates (GBMA) is a group of more than 40 physician practices owned by GBMC, operating on the hospital's main Towson campus as well as in satellite locations across the region. GBMA practices experienced more than 250,000 patient visits last year, with almost 200 physicians available to care for community members.

Gilchrist Services

Gilchrist Services (GS) is a group of programs and services focused on the health and well-being of those patients with advanced or terminal illnesses. GS offers primary care services for elders in their medical office practice and in their homes (Support our Elders). Additionally, we provide primary medical care for residents in 30+ nursing homes caring for over 1,200 elders annually (Gilchrist Greater Living). Gilchrist Hospice and Palliative Care is the largest in the State of Maryland serving both adults and children. We serve more than 5,000 patients annually. We also offer hospice "like" services for patients not yet eligible for Hospice Care (Transitions) and our Gilchrist Choices program for hospice eligible patients who are seeking curative care concurrently.

Greater Baltimore Health Alliance (GBHA)

As part of GBMC Healthcare, the Greater Baltimore Health Alliance is chartered to integrate the delivery of the full spectrum of clinical services through collaboration of employed and community-based physicians and the hospital with the goal of improving access for patients and providers, maximizing quality and reducing the cost of care. The alliance will use data collected through electronic medical records to help facilitate coordination of care, and allow providers to make decisions based on real-time quality and cost information.

Project Description

GBMC Healthcare seeks to contract with a local behavioral health provider group to integrate behavioral and mental health services into our primary care practices. Given the triple aim of better health, better care, and lower cost, we seek a partner to work with us to improve the overall health of our patients, improve patient satisfaction, and lower hospital and emergency department utilization.

Behavioral health professionals (psychologists, licensed certified social workers, or licensed certified professional counsellor) will be embedded in primary care practices to provide services that address patients' mental health needs and motivate healthy behavior change through counseling sessions, psychosocial assessments, and other evidence-based tools and treatments. Behavioral health professionals will also educate and provide consultation for GBMC care team members, including physicians, nurse practitioners, medical assistants, care managers, care coordinators and practice managers. We are aiming towards full-time coverage of behavioral health services in our practices. See Appendix A for an example of a tentative job description.

Behavioral health will be integrated in up to 10 primary care practices, beginning with 5 locations in Towson, Owings Mills, and Phoenix, followed by an expansion to Jarrettsville, Hunt Valley, Perry Hall, and Timonium. Currently, approximately 3,500 to 10,500 patients are seen in each practice with a total of over 60,000 patients seen in an 18-month period. On average, 22% of patients or about 13,000 patients in total are diagnosed with a behavioral health condition such as depression, dysthymia, anxiety, bipolar, panic disorder, schizoaffective disorder or schizophrenia. Approximately 700 patients have a diagnosis of alcohol abuse/dependence or narcotic abuse/dependence.

Respondents are requested to address the following criteria:

a) Demonstrated experience in the provision of evidence-based behavioral health services for children, adolescents, adults and/or families including: psychosocial assessment, counseling, coordination of services, resource referral, support group facilitation, and consultation

b) Willingness to provide initial and ongoing education to our medical staff and care team on behavioral health best practices, models, and benefits

c) Willingness to consistently place staff on-site during a regularly scheduled, designated amount of time. Please indicate approximate number of behavioral health professionals to be made available, and approximate number of hours per week (up to 40 hours/week per professional).

d) Description of your staff's training, experience, licenses, and educational background

e) Description of any behavioral health specialty services or programs you provide, such as those that address depression, dysthymia, anxiety, bipolar, OCD, panic disorder, alcohol abuse/dependence, narcotic abuse/dependence, tobacco use, eating disorder, obesity, diabetes, or other. If your group has plans to establish a specialty service or program, please provide those details as well as a timeframe.

f) Description of any formal behavioral health screening tools used by your group

g) Description of any collaborators that you partner with to meet your patients' behavioral and mental health needs such as psychiatric, social, and community services

h) Data or metrics that demonstrate the success of your group's services. For example, measures can include average PHQ-9 improvement, alcohol cessation rates, hospital readmission rates, emergency department prevalence rates, or other metrics, if available.

i) Information on your group's patient satisfaction ratings and timeliness of delivery, if available

j) Information on your group's patient record system and whether or not your facility is participating/subscribing to Chesapeake Regional Information System for our Patients (CRISP) and/or other electronic medical record systems

k) Ability to work with payer groups is highly preferred. Please provide a list of accepted payers.

l) Information on pricing such as a fixed monthly price and/or hourly rates

m) A commitment to monthly on-site program review meetings in order to report key service and quality metrics in a timely manner (Metrics such as: emergency department utilization, average PHQ-9, patient satisfaction results, timeliness of service delivery, and feedback on the appropriateness of services requested by GBMC staff)

n) Service references. Proposals should include at least three service references who are willing to speak to representatives from GBMC Healthcare.

GBMC Healthcare is transitioning to the EPIC electronic medical record system. Though not required, preference will be given to any entity that supports the exchange of electronic health information, including electronic referrals, generation of electronic visit summaries, and sharing of clinical quality information.

The provider's ability to meet the above criteria should be included in the provider's response. Please do not hesitate to request clarification on any of the above criteria.

Estimated Project Duration

GBMC is interested in a multi-year agreement. The strength of the responses will determine the final contract term. The term of the agreement will be no less than one year and could be as long as three years.

Submission Information

Please inform us of any interest or intent to submit by contacting Gabriel Gomez at ggomez@gbmc.org.

Completed written proposals are due by **Tuesday, August 16, 2016 at 5 p.m.**

Please mail paper submissions and any supplemental materials to the following address:

Gabriel Gomez, Administrative Resident
GBMC Healthcare
Strategy and Business Development
6545 North Charles Street, Ste. 102
Baltimore, MD 21204

Questions about the proposal should also be directed to Gabriel Gomez, via ggomez@gbmc.org or 443-849-2471. Please do not hesitate to clarify any information presented.

Basis of the Award

The GBMC Healthcare Behavioral Health Services Selection Committee will review written proposals. Proposals will be rated on the above listed criteria. Providers who meet the majority of the criteria on the list will be invited to present their services and review their proposals in more detail with the committee.

Anticipated Selection Schedule

Written proposals will be reviewed by a multi-disciplinary team and provider presentations will occur in August. The selection committee will include representatives from various business units. Final awards will be made in August or September 2016, with a tentative service implementation date of September to October 2016.

Appendix M: Detailed Behavioral Health Integration Action Plan

Improvement Priority: Integrate behavioral health services into 10 PCMH practices

Owner: Dr. Motter-Mast / Gabriel Gomez / Megan Priolo

Date: 10/15/2016

Team: Dr. Robin Motter-Mast, Gabriel Gomez, Megan Priolo, Cathy Hamel, Sarah Presley, Melanie Miller, Taylor Nasby, Ben Beres, Danielle DaSilva, Mary Ely, Anita Petri, Laura Hand, Sam Pruden, John Ellis, JoAnn Parr, Kathy Eiseman-Brock, Kimberly Yates, Legal

Next Review: 11/15/2016

Factors to Consider:
Funded by HSCRC, which prioritizes utilization reduction, reporting results; Availabilty of qualified candidates in the market; Availability and capability of partners in the market; Amount and type of space in the practices; reimbursement and profitability questions; Ability to act quickly; EPIC go-live occurring concurrently; Behavioral health is new for us and Primary Care may be new for BH groups

Target(s) to Improve:
(in planning) Decrease in ER and IP utlization for patients that receive behavioral health inervention by xx% | Improve A1C, BMI, and BP for patients engaged in program by xx%
Improve PHQ-9 by XX% for patients engaged in program; Improve ACO Depression Remission score from 3.48% to X%; Increase BHC referrals to XX

Action Step/ Kaizen Events	Owner	Assist	Planned Dates	2016 J	A	S	O	N	D	2017 J	F	M	A	M	J	J	A	Comments
Site Preparation																		
Phase 1 locations (5 pracs)																		
Select Phase 1 locations	R. Motter	G. Gomez	6/28/2016	x														FCA, HM, OM, JR, IM
Identify exam rm space for psychiatrist	G. Gomez	Prac Mgrs	6/18/2016	x														
Decide space for BHist desk	G. Gomez	Prac Mgrs	8/11/2016		x													
Decide space for BHist patient visits	G. Gomez / R. Motter	Prac Mgrs / Care Team	8/11/2016		x													
Acquire and install furniture	G. Gomez	Prac Mgrs	9/8/2016			x												Incomp: HM, IM, but alternative available
Acquire and install IT hardware	G. Gomez	Prac Mgrs	9/8/2016			x												Incomp: IM, but alternative available
Phase 2 locations (3 pracs)																		
Select Phase 2 locations	R. Motter	G. Gomez	1/19/2017							x								
Identify exam rm space for psychiatrist	G. Gomez	Prac Mgrs	2/2/2017								x							
Decide space for BHist desk	G. Gomez	Prac Mgrs	2/2/2017								x							
Decide space for BHist patient visits	G. Gomez / R. Motter	Prac Mgrs / Care Team	2/2/2017								x							
Acquire and install furniture	G. Gomez	Prac Mgrs	2/16/2017								x							
Acquire and install IT hardware	G. Gomez	Prac Mgrs	2/16/2017								x							
Integrating Psychiatrists																		
Confirm weekly psych days w/ SP	G. Gomez / R. Motter	L. Flanigan / R. Roca	8/5/2016		x													Dr. Puttiah for OM date TBD by SP
Psych. integrated in 5 practices	G. Gomez	R. Motter / Prac Mgrs	10/15/2016				x											IM starts in Nov.; OM date TBD
Psych. integrated in 3 ad. practices	G. Gomez	R. Motter / Prac Mgrs	3/15/2017									x						
Specialist Requests																		
Gap analysis	G. Gomez		12/31/2016															

Action Step/ Kaizen Events	Owner	Assist	Planned Dates	2016 J	2016 A	2016 S	2016 O	2016 N	2016 D	2017 J	2017 F	2017 M	2017 A	2017 M	2017 J	2017 J	2017 A	Comments
Pediatrics	G. Gomez		cont.															
Geriatrics (Telehalth)	G. Gomez		cont.															
Cancer	G. Gomez		cont.															
Buildling the BH Specialist Role/ Model																		
Job role %	G. Gomez / R. Motter	S. Presley	9/15/2016	x	x	x												
Patient Criteria and defining the population	G. Gomez / M. Priolo	R. Motter	9/15/2016		x	x												To review
Workflow	G. Gomez	S. Presley / R. Motter / R. Roca	9/15/2016	x	x	x												First version created
Build/Implement BH screening tools	BH Partner	R. Motter / G. Gomez	10/15/2016				x											PHQ and NIDA to be used
Emebdding BH Specialists																		
RFP																		
Completion	G. Gomez	R. Motter / C. Hamel		x														
Distribution and Collection	G. Gomez	R. Motter / C. Hamel	8/16/2016		x													
Committee Formation	G. Gomez	R. Motter / C. Hamel	7/29/2016	x														
Create RFP Scorecard?	G. Gomez	R. Motter / C. Hamel	8/5/2016		x													
Response Deadline	G. Gomez	R. Motter / C. Hamel	8/16/2016		x													
Committee review and respondent invitation	G. Gomez	R. Motter / C. Hamel	8/23/2016		x													
Presentations and selection	G. Gomez	R. Motter / C. Hamel	8/30/2016		x													
Negotiation	C. Hamel	R. Motter / G. Gomez	9/15/2016			x												
Create Go-live plan	G. Gomez / R. Motter	M. Priolo	9/15/2016			x												
Engagement Meeting with new partner(s)	G. Gomez / R. Motter	M. Miller / T. Nasby	9/22/2016				x											
Begin onboarding (ex. Orientation, EPIC training)	G. Gomez	HR Partner / EPIC Team	9/26/2016				x											

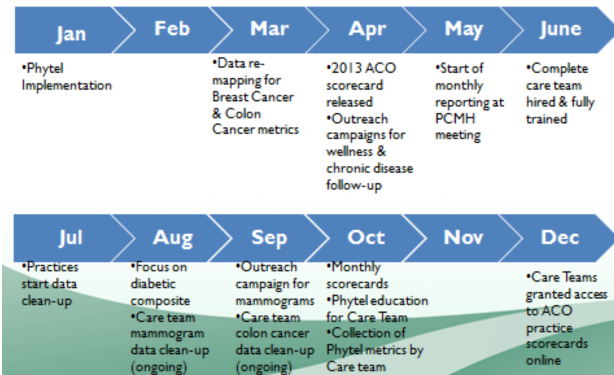
Action Step/ Kaizen Events	Owner	Assist	Planned Dates	2016 J	2016 A	2016 S	2016 O	2016 N	2016 D	2017 J	2017 F	2017 M	2017 A	2017 M	2017 J	2017 J	2017 A	Comments
Launch Date - begin integration	G. Gomez / R. Motter	Prac Mgrs	10/15/2016				x											
Contract 5 behavioralists (P1)	BH Partner / M. Priolo	G. Gomez / HR Partner	11/15/2016						x									
Contract 3 behavioralists (P2)	BH Partner / M. Priolo	G. Gomez / HR Partner	3/15/2016									x						
Hiring In-house																		To be postponed
Post job descriptions	M. Priolo	HR Partner	7/15/2016	x														
Recruit/Interview	M. Priolo	HR Partner / R. Motter / G. Gomez	cont.															
Credential	M. Ely		cont.															
Create "Go-live" plan	G. Gomez / R. Motter	M. Priolo	9/15/2016															
Launch Date - begin integration	G. Gomez / R. Motter	Prac Mgrs	10/15/2016															
Hire - 5 behavioralists	M. Priolo	G. Gomez / HR Partner	11/15/2016						x									
Hire - 3 addl. behavioralists	M. Priolo	G. Gomez / HR Partner	3/15/2016									x						
Billing / Payors																		
CPT codes gathered	G. Gomez	M. Ely	7/15/2016	x														
BH codes queried	M. Ely	G. Gomez	7/15/2016	x														
Payor meetings for authorization	M. Ely	M. Priolo / G. Gomez / R. Motter	9/30/2016				x											
Prepare billing process/workflow	A. Petri	G. Gomez	2/15/2016								x							
IT																		
EPIC build																		
Psychiatrists	G. Gomez	S. Pruden / R. Roca	8/5/2016		x													
Behavioralists	G. Gomez	S. Pruden / BH Partner	2/15/2016		x						x							
~~ECW training~~	~~G. Gomez~~	~~Mary Phillips~~	~~?~~															
EPIC training																		
Psychiatrists	L. Flanigan	G. Gomez	10/15/2016				x											Green for first 4 psych
Behavioralists	G. Gomez		cont.				x											
Research Telehealth	G. Gomez	M. Priolo	?		x													

Action Step/ Kaizen Events	Owner	Assist	Planned Dates	2016 J	2016 A	2016 S	2016 O	2016 N	2016 D	2017 J	2017 F	2017 M	2017 A	2017 M	2017 J	2017 J	2017 A	Comments
Data and Metrics																		
Define Key metrics	M. Priolo	G. Gomez	8/5/2016	x														Proposed metrics
Data collection process	M. Priolo	G. Gomez	8/5/2016		x													Plan in place
Research CRISP Panel	M. Priolo	G. Gomez	8/25/2016		x													
Create Metric Goals	M. Priolo	G. Gomez	9/15/2016			x												
Create Dashboard	M. Priolo	G. Gomez	9/15/2016			x												First draft in place
Communication and Engagement																		
Current staff engagement																		
Complete overview ppt	G. Gomez	R. Motter	7/11/2016	x														
Schedue ppt presentations at pracs	G. Gomez	Prac Mgrs	7/4/2016		x													
Present overview ppt to pracs (P1)	G. Gomez	Prac Mgrs	8/4/2016		x													
Send e-mail update	G. Gomez	R. Motter / Prac Mgrs	cont.		x	x	x											
Create how-to-use BHC and Psych. training materials	G. Gomez / R. Motter	M. Miller / T. Nasby	9/15/2016			x												First draft to be completed by 10/17/16
Train PC team on how to use BHC and Psych	G. Gomez	R. Motter	9/30/2016			x												Training to begin in November
Engage Specialists	G. Gomez		3/31/2016									x						
Patient engagement																		Point of contact
Meet with marketing re pt. engagement	G. Gomez	Marketing / Megan P / R. Motter	8/11/2016		x													
Implement pt. engagement plan	G. Gomez	Marketing / Megan P / R. Motter	11/15/2016			x												
HSCRC Reporting																		
Status report	M. Priolo	J. Ellis / G. Gomez	10/10/2016				x											
Budget report	M. Priolo	J. Ellis / G. Gomez	8/15/2016		x													
Mid-yr Variance Report w/ Narrative	M. Priolo	J. Ellis / G. Gomez	2/15/2017								x							
End-yr Variance Report w/ Narrative	M. Priolo	J. Ellis / G. Gomez	8/15/2017														x	
Behavioral Health Network																		
Define goal and vision	G. Gomez / R. Motter		8/15/2016		x													

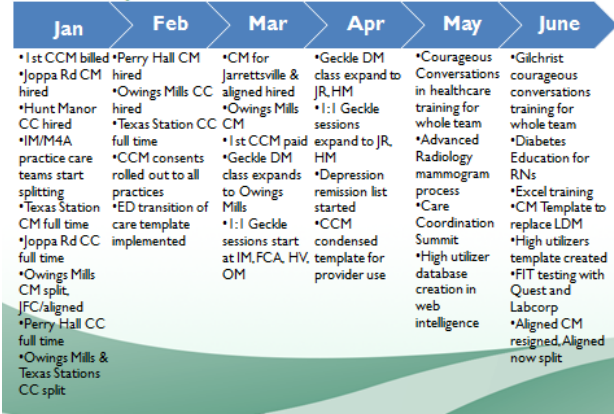
Action Step/ Kaizen Events	Owner	Assist	Planned Dates	2016						2017								Comments
				J	A	S	O	N	D	J	F	M	A	M	J	J	A	
Identify addl gaps/needs	G. Gomez	M. Miller	cont.		x													
Evaluate current state of partners	G. Gomez	M. Miller	cont.		x	x												
Approach and engage new partners	G. Gomez	R. Motter / BH Partner	12/31/2016		x	x	x	x	x									

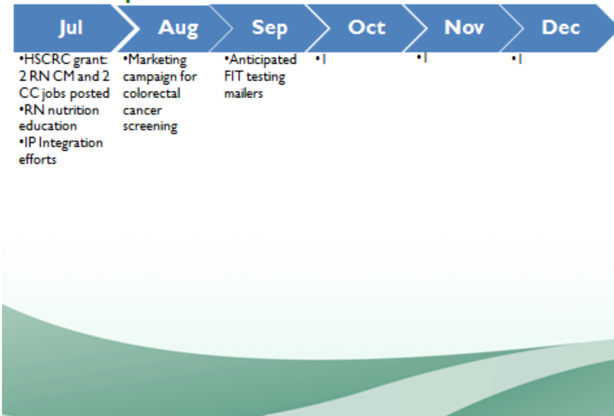
Appendix N: Population Health Timeline

2014 Population Health Timeline



2015 Population Health Timeline


2016 Population Health Timeline
Jan
Feb
Mar
Apr
May
June
•1st CCM billed
•Joppa Rd CM hired
•Hunt Manor CC hired
•IM/M4A practice care teams start splitting
•Texas Station CM full time
•Joppa Rd CC full time
•Owings Mills CM split, JFC/aligned
•Perry Hall CC full time
•Owings Mills & Texas Stations CC split
•Perry Hall CM hired
•Owings Mills CC hired
•Texas Station CC full time
•CCM consents rolled out to all practices
•ED transition of care template implemented
•CM for Jarrettsville & aligned hired
•Owings Mills CM
•1st CCM paid
•Geckle DM class expands to Owings Mills
•1:1 Geckle sessions start at IM, FCA, HV, OM
•Geckle DM class expand to JR, HM
•1:1 Geckle sessions expand to JR, HM
•Depression remission list started
•CCM condensed template for provider use
•Courageous Conversations in healthcare training for whole team
•Advanced Radiology mammogram process
•Care Coordination Summit
•High utilizer database creation in web intelligence
•Gilchrist courageous conversations training for whole team
•Diabetes Education for RNs
•Excel training
•CM Template to replace LDM
•High utilizers template created
•FIT testing with Quest and Labcorp
•Aligned CM resigned, Aligned now split


2016 Population Health Timeline
Jul
Aug
Sep
Oct
Nov
Dec
•HSCRC grant: 2 RN CM and 2 CC jobs posted
•RN nutrition education
•IP Integration efforts
•Marketing campaign for colorectal cancer screening
•Anticipated FIT testing mailers

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Curriculum Vitae

Megan Priolo was born on March 14, 1986 in Washington, D.C. She graduated from Hammond High School in Columbia, MD in 2004. She earned her Bachelor of Arts in Public Health Studies from the Johns Hopkins University in 2008. She went on to complete her Master of Health Science in Healthcare Finance in Management from the Johns Hopkins Bloomberg School of Public Health in 2010.

During her undergraduate and graduate education, Megan was inducted into several academic honor societies. These include: Rho Lambda Women's Leadership Honor Society, Order of Omega Leadership Honor Society, Delta Omega Honor Society, and Upsilon Phi Delta Honor Society.

Megan has worked at the Centers for Medicare and Medicaid Services (CMS) as a Health Insurance Specialist/Policy Analyst. At CMS, Megan worked in the Hospital and Ambulatory Policy Group in the Division of Acute Care with a focus on graduate medical education and long-term acute care hospital reimbursement policy. She has also held roles at Greater Baltimore Medical Center including Administrative Resident, Project Manager, Director of Operations, and her current role of Chief Operating Officer of GBHA. At GBHA, Megan has oversight of population health programs such as care management, care coordination, integrated behavioral health, quality reporting, claims analytics, and community practice support.

Megan has held various speaking engagements throughout her career. These include:

- 2017, Presenter, Maryland Health Information and Management Systems Society Spring Educational Event: Analytics & Teamwork as Drivers of ACO Quality Measures Improvement

- 2017, Guest Lecturer, Johns Hopkins Bloomberg School of Public Health, Strategic Planning
- 2016, Presenter, Maryland Healthcare Financial Management Association Fall Institute: ACO- Experiences and Lessons Learned
- 2016, Presenter, National Care Coordination Summit
- 2016, Presenter, CRISP Reporting Services Super User Group
- 2015, Presenter ONC & CMS meeting on Health IT to Support ACO and Group Reporting
- 2014, Presenter CMS MSSP ACO Learning Collaborative
- 2014, Presenter ONC Fall Meeting: Using Health Information Technology to Support Patient Centered Medical Home
- 2014, Guest Lecturer, Johns Hopkins Bloomberg School of Public Health: Managing Health Services Organizations
- 2013, Presenter, eClinicalWorks National User's Conference: Successes of leveraging care management and electronic health exchange for population health.
- 2012, 2013, Presenter, National Medicare calls on developing and disseminating internal cost and quality reports to providers.
- 2010, Presenter, Greater New York Hospital Association Event: Graduate Medical Education Regulatory Changes