

**SMI Innovations Project:  
Southeast Pennsylvania Case  
Study**

**The HealthChoices  
HealthConnections Pilot Program**

October 1, 2012

Tricia Collins Higgins  
Jung Y. Kim  
Dominick Esposito  
Angela M. Gerolamo



**MATHEMATICA**  
Policy Research

Contract Number:  
100755

Mathematica Reference Number:  
40039.210

Submitted to:  
Center for Health Care Strategies  
200 American Metro Boulevard  
Suite 119  
Hamilton, NJ 08619

Project Officer: Allison Hamblin

Submitted by:  
Mathematica Policy Research  
P.O. Box 2393  
Princeton, NJ 08543-2393  
Telephone: (609) 799-3535  
Facsimile: (609) 799-0005  
Project Director: Dominick Esposito

**SMI Innovations Project:  
Southeast Pennsylvania Case  
Study**

**The HealthChoices  
HealthConnections Pilot Program**

October 1, 2012

Tricia Collins Higgins  
Jung Y. Kim  
Dominick Esposito  
Angela M. Gerolamo

**MATHEMATICA**  
**Policy Research**

## CONTENTS

HealthChoices HealthConnections: The Pilot Program at a Glance.....	1
Origins of HealthChoices HealthConnections.....	2
Planning Process .....	3
HCHC Implementation.....	4
Evaluation Findings for Performance and Outcomes Measures.....	8
Challenges and Strategies to Address Them.....	12
Lessons Learned .....	14
Conclusions .....	15
References .....	17

## TABLES

1	HCHC Participant County Information .....	3
2	Characteristics of Navigators Across Counties.....	6
3	Summary of Performance Measures .....	9
4	Number of Study and Comparison Group Members and Enrollment.....	11
5	Average Number of ED Visits, per 1,000 Members per Month .....	12

## FIGURES

1	Logic Model for HealthChoices HealthConnections.....	18
2	HealthChoices HealthConnections Member Health Profile.....	20

## HealthChoices HealthConnections (HCHC) Pilot Program

### *The Pilot Program At a Glance*

**Partners:** Keystone Mercy Health Plan, Magellan Behavioral Health of Pennsylvania, and three county-level behavioral health agencies in Southeast Pennsylvania: Bucks, Delaware, and Montgomery.

**Planning:** A Vision Group, comprising leaders from each health plan and county, met frequently to develop and monitor the program. Although the three counties exercised flexibility in designing initiatives to suit their particular resources and needs, the Pennsylvania Department of Public Welfare (DPW) established key elements of an integrated system of physical and behavioral care to guide the intervention, which included consumer and provider engagement and activities targeting system-level change. DPW also developed a financial incentive program based on four performance measures designed to increase collaboration among the partners and two additional measures to reward potential improvements in emergency department (ED) and hospital use.

**Evaluation Findings:** HCHC partners were successful in meeting three of four performance measures and both outcomes measures established by DPW. In addition, analysis of Medicaid administrative claims data revealed that ED use declined across all HCHC counties combined and in Montgomery County alone, while increasing for a comparison group; difference-in-difference estimates were statistically significant at the  $p < 0.05$  level. The intervention did not have an effect on the rate of hospitalizations, readmissions, or the number of days between hospital visits.

**Strategies and Challenges:** The partners developed multiple strategies to address implementation challenges in the provision of care, data exchange, and consumer and provider engagement. To engage consumers, partners established an “on-the-ground” approach that placed navigators at the heart of communications and outreach. These behavioral health case managers had trusted relationships with members. Members initially were stratified according to their risk for physical and behavioral issues; risk groups were expected to dictate the level of care members would receive. However, as the pilot progressed, this process was not helpful in designating services and care for members. Navigators adapted by providing individualized care driven by specific member needs. Data exchange in the form of member profiles shared across plans and providers required substantial resources and planning to develop and maintain. Although costly, plans continually updated member profiles with navigator input in an effort to provide navigators and providers with the information needed to care for members. Some counties and behavioral health agencies successfully engaged primary care providers, who lacked financial incentives to participate, through personal visits.

**Lessons Learned:** HCHC development and implementation provided several lessons. Programs should allow for flexibility in design but include some standard components. Partners should establish at the outset an acceptable consent process (that is, consent from members to share health information) to avoid implementation delays. The program planning process should involve on-the-ground staff to facilitate buy-in. Partners also emphasized the importance of providing a usable, single source of integrated physical and behavioral health information to all providers and including nurses on multidisciplinary care teams. Using existing clinical relationships to engage members and connecting with primary care providers through in-person meetings provide opportunities for continued involvement.

The Rethinking Care Program is an initiative of the Center for Health Care Strategies (CHCS), supported by a grant from Kaiser Permanente, which seeks to improve the quality and lower the costs of care for high-need, high-cost Medicaid beneficiaries. In 2009, the Pennsylvania Department of Public Welfare (DPW) and CHCS partnered to launch two pilot programs under this initiative, focusing on the integration of physical and behavioral health care services for adult Medicaid beneficiaries with serious mental illness (SMI) and co-occurring physical health conditions. Despite the growing consensus that improved integration of physical and behavioral health care might improve healthcare quality and lower costs (Institute of Medicine 2006; World Health Organization 2003), evidence on how best to achieve such integration is scarce. The Pennsylvania pilot programs, collectively referred to as the SMI Innovations Project, were designed to test various approaches to addressing this difficult challenge.

Drawing on findings from discussions and focus groups with key stakeholders and an analysis of Medicaid claims data, this case study describes a pilot program in Southeast Pennsylvania called HealthChoices HealthConnections (HCHC). We first provide background information on the SMI Innovations Project and HCHC, then follow with a discussion of the planning process and implementation strategies. Next, we report findings for the program's performance measurement goals, rates of member participation, and outcome measures. We then identify successful strategies and challenges encountered during implementation. We conclude with lessons learned that might inform others interested in behavioral and physical health care integration. A logic model (Figure 1, at the end of this document) identifies the anticipated sequence of events that connect program development and implementation to desired results.

## **Origins of HealthChoices HealthConnections**

Despite the complex care that beneficiaries with multiple chronic conditions require, physical and behavioral health services are often fragmented with little coordination across providers, leading to suboptimal care and escalating health care costs (Hamblin 2011). In many states, including Pennsylvania, service delivery and payment systems for physical and behavioral health care operate through separate state and county agencies. As a result, Medicaid physical and behavioral health agencies often function in silos, rarely coordinate with one another, and have few incentives to change their practices. Medicaid beneficiaries with SMI are often negatively affected by this lack of coordination. They often receive more sporadic and lower quality care than many other Medicaid beneficiaries, resulting in poorer outcomes for patients and higher costs for states.

HCHC was developed as an approach to start to integrate the fragmented health care delivery system that Medicaid clients with SMI navigate. The program was a decentralized, community-based partnership between the behavioral health agencies in Bucks, Montgomery, and Delaware counties; Magellan Behavioral Health; and Keystone Mercy Health Plan. Magellan, the behavioral health plan, and Keystone, the physical health plan, are owned by different corporate entities and had little experience working collaboratively before this initiative. DPW invited all of these partners to come together to work on HCHC. Table 1 presents county population and health plan enrollment information for the three county HCHC partners.

**Table 1. HCHC Participant County Information**

County	Total Population (2010)	Total Enrollment in HealthChoices (2011)	Enrollment in HealthChoices and Keystone Mercy (2011)
Bucks	625,249	40,979	28,365
Delaware	558,979	63,257	49,626
Montgomery	799,874	40,239	28,365

Sources: Population: U.S. Census (<http://quickfacts.census.gov/qfd/states/42000.html>); Medicaid population: PA Medicaid Policy Center (<http://www.pamedicaid.pitt.edu/>); Health plan enrollment: PA Department of Public Welfare.

Note: The mandatory medical assistance managed care program in these counties is called HealthChoices. All HealthChoices enrollees with behavioral health needs were served by Magellan, but only a subset were also enrolled in Keystone since multiple MCOs operate in these counties.

The plans and counties were interested and enthusiastic about participating in HCHC, given their direct experience with the challenges of providing services to Medicaid beneficiaries with SMI and a desire for better coordination of physical and behavioral health care for these individuals. DPW established a bonus incentive that the plans and counties would share if they jointly met specific performance measures; however, the partners engaged in HCHC understood that they would not be compensated for investing the time and resources necessary to develop and implement the program.<sup>1</sup> The partners believed that some savings would result from improved integration, although not necessarily to their organizations. Despite operating with limited resources, the counties and health plans believed in the mission of the integrated care initiative. They felt their investments in HCHC would be worthwhile regardless of whether state funds would be available to sustain the program when the pilot ended.

## Planning Process

The HCHC planning process relied on extensive county and plan collaboration. Because the partners initially were unfamiliar with each others' organizational structures, systems, and jargon, they invested considerable time and resources to develop and launch the pilot, ensure member confidentiality, and resolve the legal and logistical details for data sharing. During the planning process, the partners also determined how members would be enrolled and provided with HCHC services.

A key element of the HCHC planning process was the establishment of a Vision Group, comprising leaders from each health plan and county, to develop and monitor the pilot program with guidance and support from DPW and CHCS. Initially, the group met weekly (in-person every other week and by phone otherwise) for two to four hours. The Vision Group established about a dozen working groups including members from partner organizations to provide input on intervention components and activities, such as engaging primary care providers (PCPs), developing member educational materials, and creating assessment tools. As the program evolved, the number

<sup>1</sup> The performance measures for both study years included stratification of eligible members by physical and behavioral risk, development of integrated care plans, notification of hospitalization admissions and coordination of care following discharge, and identification and prescriber notification of refill gaps for members prescribed atypical antipsychotics. Second-year measures also included incremental improvements in two outcomes measures: ED visits and hospitalizations.

of working groups decreased to two ongoing groups and several ad hoc groups, reflecting a shift from the intensive program start-up phase to a somewhat less demanding implementation phase.

Due to the sensitive nature of clients' behavioral health information, member confidentiality was a primary concern in the initiative's early planning stage. With guidance from DPW, the Vision Group established a strategy to ensure confidentiality and obtain eligible members' consent to share health information. They decided a single consent was needed to share with providers, who were named by consenting members, information on physical and behavioral health, substance use, and HIV status.<sup>2</sup> Members could revoke consent at any time by notifying Magellan, the behavioral health plan, in writing or over the telephone.

HCHC partners planned for the program to provide services to clients based on their individual needs; however, to operationalize the general level of intensity of these services, the Vision Group originally decided to stratify eligible clients into severity classes based on analysis of administrative data. The risk stratification scheme grouped members into four categories based on their risk for adverse behavioral or physical health events.<sup>3</sup> For instance, a member classified at high risk for both behavioral and physical health events was placed into the “high/high” category. By extension, other categories included “high/low,” “low/high,” and “low/low.” The partners used these risk groupings to assign varying levels of intervention intensity to members. A person with a “low/low” designation typically would be cared for primarily by a PCP, with behavioral health providers serving those with a slightly elevated behavioral health risk. In contrast, the expectation was that a person with a “high/high” designation would be served in both the specialty behavioral health and primary care or medical specialty systems. Individuals falling into this risk category would receive the highest levels of coordination across the behavioral and physical health systems. This classification scheme was not put to widespread use – the program ultimately favored more individualized treatment planning -- but it provided a starting point for the Vision Group to think through different levels of services required for individuals with varying physical and behavioral health needs.

## HCHC Implementation

The implementation of HCHC activities reflected certain key elements of an integrated system of physical and behavioral care, identified by DPW as “pillars.” The pillars included: (1) consumer engagement, (2) activities targeting system-level change (pharmacy management, co-location of services, data management and information exchange, and appropriate emergency department [ED] use for behavioral health treatment), and (3) activities targeting provider-level change (alcohol and substance use treatment and care coordination, provider engagement and medical home, and coordination of hospital discharge and follow-up). The pillars lent uniformity to the intervention and were expected to help bring about the short- and long-term outcomes illustrated in the logic model (Figure 1).

---

<sup>2</sup> In Pennsylvania, legislation restricts providers' ability to reveal drug and alcohol use information without explicit consent from a member. Federal law restricts plan-to-plan information exchange and plan-to-provider information exchange.

<sup>3</sup> The four-quadrant risk model is described in B. J. Mauer. *Behavioral Health/Primary Care Integration: The Four Quadrant Model and Evidence-Based Practices*. Rockville, MD: National Council for Community Behavioral Healthcare, 2006.

Although the elements of an integrated system identified by DPW guided the pilot, a key element of the design of HCHC was that DPW allowed the partners to flexibly implement interventions based on the particular needs, infrastructure, and resources of the participating counties. Therefore, activities designed to address each pillar were not uniform across the counties participating in HCHC. In addition, each county and agencies within the counties staffed their programs differently; provided different types and levels of training, tools, and guidelines; and launched HCHC at various times.

### **Consumer Engagement Activities**

Counties' approaches to identification and initial outreach to members varied. All three counties first identified potential participants using medical claims and plan enrollment data.<sup>4</sup> From the initial lists of eligible members, Montgomery and Delaware counties identified members served by their largest behavioral health providers, analyzed which PCPs were connected to these members, selected a subset of core PCPs, and sent invitations to HCHC-eligible members assigned to those PCPs. The counties chose this strategy to help with relationship-building and program participation from the outset. Bucks County took a different approach in sending an informational packet to behavioral health providers for case managers to distribute to members at their discretion.

A unifying element of HCHC was the use of navigators, care managers employed by the behavioral health agencies, to lead efforts related to member engagement. The navigators' roles in HCHC extended from the preliminary stages of member outreach and enrollment throughout the care coordination process. Navigators' duties included:

***Engaging members and facilitating enrollment.*** Each county implemented a consent and enrollment process emphasizing the importance of navigator-to-member contact. Navigators contacted members to describe the program, obtain consent, and complete a survey that assessed members' perspectives on their relationships with providers and the importance of increased collaboration between physical and behavioral health care providers. It also determined whether members understood the program as it was explained to them. This approach ensured potential members were equipped to provide consent to participate.

***Meeting with members and coordinating care.*** Navigators met with enrolled members at least monthly, usually in-person, to monitor medication adherence and use of health care services. They also discussed members' health status and needs, tailoring interventions appropriately. Navigators arranged for follow-up doctors' appointments for members who were hospitalized or visited an emergency room. Some navigators also accompanied members to appointments and assisted them when communicating with physicians.

***Coordinating care and information across members, health plans, and providers.*** Some navigators participated in case rounds with health plan medical directors and care managers to discuss the care of HCHC members with particularly challenging conditions or situations. Navigators in some counties also played a critical role in outreach to and relationship building with PCPs (discussed further below).

---

<sup>4</sup> To be eligible for participation, members had to be enrolled in both Keystone Mercy and Magellan, reside in one of the three participating counties, be at least 18 years old, and have a diagnosis of SMI in their claims data.

Navigators across the three counties had varying educational preparation and clinical experience, ranging from navigators with bachelor's level training to registered nurses and those with master's degrees in psychology or social work (Table 2). Several partners underscored the value of including nurse navigators in HCHC; having clinical expertise to complement the behavioral health knowledge of other navigators was widely regarded as beneficial to the program and to members.

**Table 2. Characteristics of Navigators Across Counties**

	Bucks County	Delaware County	Montgomery County
Background	Registered nurses	Bachelors degree in sociology or psychology; one registered nurse	Registered nurses and/or masters or higher degree in psychology or social work
Orientation	No formal training; informational sessions about the program	Some attended University of Massachusetts training program; informational sessions about the program	University of Massachusetts training program
Ongoing training	Targeted training as requested by navigators	Periodic updates about the program	Monthly learning collaborative meetings

Source: Focus groups with navigators in February 2011 and interviews with program partners conducted in February-March 2010 and February-March 2011.

Counties took different approaches to navigator orientation and training. Montgomery County partners, in particular, emphasized the value of training and certification for navigators, as well as monthly collaborative learning sessions for navigators to share resources, discuss challenges, and provide peer support. Many navigators from Montgomery County attended a training program developed by the University of Massachusetts that focuses on coordination of care, member outreach, and the principles of embedding behavioral health in physical health settings.<sup>5</sup> Navigators and county partners alike valued this type of training and emphasized its importance to understanding the goals and objectives of HCHC.

### System-Level Activities

Activities targeting system-level change included pharmacy management, co-location of physical and behavioral health services, appropriate ED use for behavioral health treatment, and data management and information exchange. The focus of **pharmacy management** was identification of adherence patterns for members on second-generation antipsychotics. The process used to identify non-adherence involved calculation of the medication possession ratio (MPR), which measures the percentage of time a patient has access to medication over a fixed period. As of the second year of the pilot, the plans' aim was to notify prescribers at least 85 percent of the time if the following criteria were met: (1) an eligible member had fewer than 72 continuous days of therapy within a 90 day time frame (that is, an MPR of less than 80 percent); (2) the member missed an anticipated fill date by 10 or more calendar days; and (3) the prescriber had not been sent a notification for the same member within 60 calendar days (helping to ensure the provider had adequate time to reach out to such a member); or the member did not experience an inpatient hospitalization within the 90 days prior to a run date (such an admission would be considered a reason for non-adherence, so provider communication would not be warranted).

<sup>5</sup> Further information on this training can be found at: [www.umassmed.edu/FMCH/PCBH/background.aspx](http://www.umassmed.edu/FMCH/PCBH/background.aspx).

The counties took preliminary steps to encourage **co-location of services**. For instance, in Bucks County, four behavioral health agencies that serve the vast majority of HCHC members in that county now employ a nurse whose focus is physical health. In Montgomery County, there currently is one co-located office, Creative Health Services, that provides primary care, pharmacy, social work, and behavioral health services in the same physical location. In addition, Montgomery County used a team of physical health and behavioral health navigators, working together to address members' needs.

To encourage **appropriate ED use for behavioral health treatment**, the HCHC partners developed several strategies. For instance, a Keystone representative in one ED compiled discharge information on all Keystone members. When a member of HCHC appeared on this list, this information was passed along to both Magellan and to the member's navigator. In addition, participants in joint case rounds, described in more detail below, brainstormed ways to help HCHC members who visited the ED frequently avoid this activity. Another way members with frequent ED visits were flagged and assisted was through regular navigator contact. A navigator in Bucks County described one member who had visited the ED 54 times in the previous year for shortness of breath. When the navigator began tracking the members' ED visits, she realized the member was suffering not from a physical health condition, but rather from bouts of anxiety. The navigator was able to address the member's anxiety accordingly and reduce the member's number of ED visits.

Within the set of activities pertaining to **data management and information exchange**, a core feature of the HCHC intervention was the use of member profiles (Figure 2, at the end of this document), which documented members' physical and behavioral health information. Use of member profiles helped strengthen relationships and improve communication between physical and behavioral health providers. The profiles were created and updated by merging information from each of the health plan's data systems. Navigators, health plans, and physical and behavioral health providers all had access to the profiles, which included members' diagnoses, service utilization, primary care visits, hospitalizations, gaps in care, pharmacy utilization, and contact information for the member's providers.

The creation of member profiles was representative of the teamwork displayed by HCHC partners at every level. For instance, Magellan sent relevant patient information for each profile to Keystone, which produced the profiles in PDF form. Magellan then transmitted the profiles to county behavioral health agencies. In turn, each agency distributed profiles to its navigators, who discussed the profiles with clients and shared them with treatment staff. Agencies developed their own processes for ensuring profiles were updated regularly and distributed to navigators. Navigators in two counties reported receiving updated profiles monthly; navigators in the other county reported receiving updated profiles every two to three months. PCPs also had access to the profiles via Navinet, a system for health care claim entry, although PCPs' access and use of the profiles often depended on navigators pointing out their existence and utility. In the future, HCHC partners indicated they would like to work toward converting the member profiles to a web-based, live database, such that both physical and behavioral health providers could access data in real time without relying on potentially dated paper printouts.

Another key element related to data management and information exchange was bimonthly joint case rounds, during which both plans' medical directors, plan-level care managers, and navigators discussed particularly challenging members' cases. These meetings provided opportunities for plan medical directors to serve not only as resources to navigators but also as mentors. Prior to the case rounds, participants reviewed member profiles for the cases being discussed. During the meetings, participants discussed diagnostic clarifications, how to access specialty consultations and follow-up appointments for members, and how to help the navigators access needed information and coordinate care.

### **Provider-Level Activities**

Activities targeting provider-level change included alcohol and substance abuse treatment and care coordination, provider engagement and medical home, and coordination of hospital discharge and follow-up. With regard to **alcohol and substance abuse treatment and care coordination**, one key element of the HCHC consent process involved ensuring members consented to share alcohol and substance abuse information with providers. This component of the planning process was challenging, due to Pennsylvania's legal restrictions around sharing this type of information. However, partners and navigators expressed the value of having this information on hand to better serve members and coordinate care.

As one partner put it, HCHC took a "street-level" approach to **provider engagement**, similar to HCHC's approach to engaging consumers. Although Keystone and Magellan initiated contact with PCPs and behavioral health providers and created member profiles and pharmacy reports, county behavioral health agencies and navigators handled much of the care coordination and relationship building with PCPs. For instance, nurse navigators in Montgomery and Bucks counties developed relationships with PCP office staff including managers, triage nurses, and residents. To facilitate relationships between navigators and PCPs, Montgomery County deliberately focused engagement efforts on PCPs that had the highest volume of HCHC members. A behavioral health agency in Bucks County held educational luncheons with its medical director in attendance to build relationships with PCPs and facilitate physician-to-physician interaction.

The HCHC partners also took steps to better **coordinate hospital discharge and follow-up**. The goal of this activity was for plans and navigators to share hospital discharge information in real time. Such timely information would help ensure that navigators could visit members in the hospital, obtain consent from the hospital to share information with the navigator, ensure the adherence to members' behavioral health medication regimens, and help schedule and attend follow-up physician appointments with members. For a physical health hospitalization, Keystone was charged with notifying Magellan, the member's navigator, or both, to inform them of the situation. In practice, there were delays in the system, and notification of navigators did not always occur in real time; however, navigators often were informed of a member's hospitalization through alternate means (for example, through a recovery coach or therapist within the behavioral health agency). Navigators indicated that even when a notification from Keystone was delayed, it still was helpful to discuss the hospitalization and plans for follow-up.

### **Evaluation Findings for Performance and Outcomes Measures**

To assess whether HCHC improved care for members with SMI and co-occurring chronic conditions, the evaluation conducted analyses of Medicaid administrative claims data to identify partners' progress toward DPW's performance measures and changes in hospitalizations and emergency department (ED) visits. Stakeholder interviews and focus groups augmented these

analyses by helping to identify strategies and challenges encountered in program planning and implementation and to place findings from the outcomes analysis in context.

## Performance Measures

Understanding the importance of fostering buy-in for a new program and the lack of financial alignment across the physical and behavioral health systems, DPW established an annual bonus incentive program. Partners would share the incentive payment by meeting six performance measures. DPW designed four measures to increase plan collaboration that partners had to meet in both years of the intervention: (1) joint member stratification into risk groups; (2) integrated care plan development; (3) hospital admission notification; and (4) pharmacy refill gap notification. In the second year, half of the bonus was tied to targets for incremental improvement in ED visits and hospitalizations.

DPW determined that HCHC met member stratification, integrated care plan development, and refill gap notification in the first year. In the second year, HCHC again fulfilled the requirements for integrated care plans and refill gap notification measures. In addition, they met the measure of notification of hospital admissions notifications (Table 3). For stratification of members into behavioral and physical health risk groups, DPW determined that HCHC did not meet the second year target.<sup>6</sup> Also in the second year, HCHC met the DPW targets for both of the incremental improvement measures (ED visits and hospitalizations).

**Table 3. Summary of Performance Measures**

Performance Measure	Met Goal in Year 1	Met Goal in Year 2
Stratification of at least 90 percent of members into risk groups and annual restratification	✓	
Patient-centered care plans for 1,000 enrollees	✓	✓
Notification of at least 85 or 90 percent of admissions within one business day of responsible entity learning of admission		✓
Prescriber notification of at least 85 or 90 percent of medication refill gaps for atypical antipsychotics leading to a medication possession ratio of < 0.8 <sup>a</sup>	✓	✓
Incremental Improvement Measure		
ED Visits	n.a.	✓
Hospitalizations, Combined for Physical Health and Mental Health	n.a.	✓

Source: Island Peer Review Organization and DPW Office of Medical Assistance Programs.

Note: A check (✓) indicates that the performance measure was met. n.a. = not applicable (measure was added for Year 2)

<sup>a</sup>Medication possession ratio, a measure of continuity or adherence, is the ratio of the number of days between the most recent refill and the next expected refill to the number of days between the most recent refill and the next actual refill.

Notification of hospital admissions and discharges presented an initial challenge for the HCHC partners. In the first year of the pilot, HCHC was able to complete the notification process for most hospitalizations (84.7 percent) but fell short of the target (90 percent) due to internal data system issues. The physical health plan produced a daily report of hospitalizations for both members who

<sup>6</sup> The HCHC partners appealed this decision on the premise that new members had not been enrolled for the time period in question. DPW stated that this measure was not met due to lack of data for new member stratification.

provided consent and those who did not. Before sharing the report with the behavioral health plan, the physical health plan removed sensitive information related to members who did not provide consent. For approximately 20 days within a six-month period, there was an error in the process, so the daily hospitalization report was suspended. Once the issue was resolved, the partners achieved nearly 100 percent notification in subsequent periods and were able to meet the target for the second year of the pilot.

## Outcomes Measures

To assess whether HCHC demonstrated promise in improving care, we analyzed Medicaid claims and enrollment data to examine the following outcomes among eligible members in the study and comparison groups: emergency department (ED) visits, physical health, mental health, and drug and alcohol treatment-related hospitalizations, readmissions (for any type of hospitalization), and the number of days between hospitalizations.<sup>7</sup> To isolate potential changes due to the intervention rather than existing long-term trends, we used a difference-in-differences approach (regression-adjusted), comparing changes in the rates of the study group between the baseline year and the intervention period with changes in the rates of the comparison group. In this population-based analysis we assessed outcomes for all members who were eligible for the program regardless of their participation. To supplement this analysis, we examined outcomes only for members who consented to participate. We also looked at outcomes for all eligible HCHC members by county and for those invited to participate. Because the potential for impact was highest in Montgomery County, where the partners were earliest to start the intervention, we examined outcomes for those invited to participate in Montgomery County.

The study and comparison groups included 4,788 and 7,039 members, respectively (Table 4). Among the study group population, 18 percent provided their consent to share their health care information, though the consent rate among the eligible population varied from 14 percent (Delaware) to 21 percent (Bucks and Montgomery) across the three counties. The consent rate among the invited population ranged from 39 percent (Montgomery) to 47 percent (Delaware). More than three-quarters of all study group members were enrolled for at least 18 months, although only about two-thirds in the comparison group were enrolled as long.

At baseline, the study and comparison groups were similar in age (mean of 41 for the study group; mean of 39 in the comparison group) and gender (females comprised about 70 percent in both groups).<sup>8</sup> However, the groups differed significantly in the proportion of members reporting Hispanic ethnicity: less than 4 percent in the study group and 45 percent in the comparison group. In addition, the proportion of African American members was much higher in the study group (about 26 percent) than the comparison group (7 percent). Although more study group members had existing physical health conditions—such as coronary artery disease, diabetes, hypertension, and hyperlipidemia—these members had similar inpatient use and ED visits to comparison group members during the 12 months before the start of the program.

---

<sup>7</sup> The comparison group included Magellan members in Lehigh or Northampton Counties. For more information, please see Appendix B.

<sup>8</sup> For more information on the baseline characteristics of the study and comparison groups, please see Appendix A, Table A.10.

**Table 4. Number of Study and Comparison Group Members and Enrollment**

	Study Group				Comparison Group
	All Counties	Bucks	Delaware	Montgomery	
Number of Eligible Members	4,788	1,312	2,163	1,313	7,039
Number Invited	1,955	614	631	710	--
Percent Invited of Eligible	40.8	46.8	29.2	54.1	--
Number who Consented	857	282	297	278	--
Percent Consented of Eligible	17.9	21.5	13.7	21.2	--
Percent Consented of Invited	43.8	45.9	47.1	39.2	--
Enrollment, Mean (months)	20.7	20.8	21.0	20.1	18.3
Percent Enrolled 18-24 Months	77.5	77.9	79.5	73.7	65.9

Source: PA DPW; HCHC partners

At baseline, those who provided consent were older (43.9 years) than those who did not (40.3 years). Although consented members were more likely to be diagnosed with schizophrenia than those who did not consent (45.5 percent versus 27.4 percent), consented members were less likely to be diagnosed with mood disorder or anxiety. Consented members were more likely than the non-consented to have physical co-morbidities, including asthma, chronic obstructive pulmonary disease, diabetes, hyperlipidemia, and hypertension. Although ED visits were not significantly different across the consented and non-consented groups, consented members had a higher rate of hospitalizations at baseline.

### Effects on ED and Hospital Use

During the intervention period, the number of ED visits for any reason among members in the HCHC intervention counties decreased by 4 percent, but increased in comparison counties by 6 percent. This corresponds to a rate for HCHC that is an estimated 9 percent lower than the projected trend without the intervention.<sup>9</sup> The decrease in ED visits was most substantial for members who resided in Montgomery County, where the rate was an estimated 14 percent lower than we projected would have occurred in the absence of the program, based on the comparison group's experience. As Table 5 indicates, the average number of ED visits per 1,000 members per month among study group members dropped from 148.1 to 142.4, compared with an increase among comparison groups members from 183.8 to 194.4 ( $p = 0.036$ ). In Montgomery County, the average number of ED visits in the study group decreased from 166.4 to 151.5 visits per 1,000 members per month ( $p = 0.049$ ). However, there were no differences between HCHC intervention counties and the comparison counties in the rates of hospitalizations, readmissions, or the number of days between admissions (Appendix A, Table A.1).

<sup>9</sup> We estimated the projected trend by applying the percent change observed in the comparison group to the study group to identify what the rate would have been without the intervention and comparing that rate with the actual observed rate for the study group. For example, the rate of ED visits in the comparison group increased 5.7 percent (from 183.8 to 194.4 per 1,000 members per month); applying that percent change to HCHC's pre-intervention rate of 148.1, we would estimate that without the intervention, the rate would increase 8.5 (5.7 percent) to 156.6. Instead the actual intervention rate was 142.4, a difference of 14.2 or 9 percent of the projected pre-intervention rate of 156.5.

**Table 5. Average Number of ED Visits, per 1,000 Members per Month**

	Study Group			Comparison Group			Difference-in-Differences	
	Pre-Intervention	Intervention	Difference	Pre-Intervention	Intervention	Difference	Estimate	p-Value
All Eligible Members	148.1	142.4	-5.7	183.8	194.4	10.5	-16.2	0.036
Montgomery County	166.4	151.5	-14.9	183.3	194.4	10.5	-25.4	0.049

Note: The rate was calculated by multiplying the average number of hospitalizations for each member per month (number of days enrolled in both plans divided by 30) by 1,000. We weighted all analyses to account for members who were enrolled in both the physical and behavioral health programs simultaneously for only part of the pre-intervention or intervention periods. The weights are proportional to the total number of days enrolled in both plans.

## Challenges and Strategies to Address Them

Over the course of the pilot program, HCHC partners identified several challenges in program development and implementation, as well as strategies developed to address them.

### System-Level Challenges and Strategies

***Sharing information across health plans and counties.*** Information sharing and data exchange is critical to any integrated care initiative that aims to improve care coordination for members with complex behavioral and physical health needs. To accomplish this goal, HCHC partners developed the member profile, described above. Although HCHC partners identified the profiles as a successful component of the program, their creation was not without drawbacks. For example, *the profile required substantial resources to design and implement*, as neither of the health plans had ever developed a similar product. Initially working through the legal complexities of information sharing and privacy issues, which are rife with differing and strongly held positions, was challenging and time consuming. Another key challenge related to the profiles was the *difficulty in obtaining consent from members* who wished to restrict sharing of their mental health and/or substance use information.

The *profiles also required ongoing improvements*, such as updates to include additional features such as drug class. Health plan IT staff members therefore had to redirect their efforts from the plan's other projects. In addition, from a practical standpoint, navigators noted limitations in the profiles. For example, the original member profile did not reconcile the ordering of diagnostic tests across providers. Because multiple providers could order a diagnostic test, navigators spent a lot of time tracking whether laboratory tests had been ordered and their results. Finally, many PCPs did not regularly use the member profiles, due either to lack of awareness of the profiles or issues around accessing them via Navinet, which typically was used more by office staff than by PCPs themselves. A real-time, web-based member profile, as the partners envisioned, could help alleviate many of these issues.

***Using risk stratification to assess members' needs.*** As described previously, risk stratification levels, which identified members' risk for physical and behavioral health issues, were meant to guide the intensity of interventions delivered by navigators. However, case managers and navigators noted that *these classifications were not always congruent with the intensity of care required by members*. They found that interacting with members was more useful for identifying needs-based interventions. Navigators could (and occasionally did) override stratification levels and tailor patient care based on members' needs and clinical judgment. In addition, using established guidelines, case

managers and navigators could change a member's stratification level. However, some were unaware of the process for changing the risk stratification level and others viewed the process of changing a member's risk level as difficult.

### Consumer-Level Challenges and Strategies

***Conducting outreach and engaging members.*** The SMI Innovations target population included individuals who, according to the partners, were not readily engaged through telephone or email. To address this challenge, county officials acknowledged that consumer engagement through behavioral health agencies could effectively capitalize on the rapport and trust already established through therapeutic relationships. The county behavioral health offices had well-established relationships with the behavioral health agencies in their respective counties. In turn, the behavioral health agencies had existing relationships with many of the members eligible for HCHC. Because navigators were based in the behavioral health agencies, they had easy access to both providers and members. *According to the partners, the "on-the-ground" approach to engagement was efficient and effective for the target population.*

*HCHC consumer outreach strategies varied across counties, resulting in differing levels of success.* For instance, Delaware County used existing case managers to engage and enroll members, which resulted in limited success because case managers reported being overwhelmed with HCHC responsibilities added to their existing workloads. Some case managers noted that it might be more effective to have one case manager dedicated to working with HCHC members so that he or she could focus on members' medical problems, rather than adding this responsibility to the workload of all case managers. Although Delaware County hired a registered nurse in January 2011 to function as a nurse navigator for all HCHC members, some suggested that having a nurse navigator for each agency, or a navigator team, would improve the program.

Bucks County did not have clinical navigators in place initially, which proved to complicate preliminary outreach. Given a lack of clinical navigators, Bucks County first used administrative navigators, and in one agency, a peer specialist to engage consumers. This approach resulted in a significant delay in members having contact with a clinical navigator.

Another challenge related to consumer engagement was that *members sometimes became confused and frustrated by the multiple individuals who contacted them*—such as Keystone's plan-level care managers, nurse navigators, and agency staff, including recovery coaches. Some navigators noted that the program could have avoided confusion and reduced duplication if Keystone's plan-level care managers served as a resource for navigators and coordinated contact with members through navigators rather than directly.

### Provider-Level Challenges and Strategies

***Engaging PCPs.*** Providers who served HCHC members were not offered compensation for participating in the program. In addition, as one partner explained, there was a great deal of skepticism on the part of PCPs that HCHC would develop into a successful initiative, based on the time and resources required to develop and implement the program. PCPs were wary of participating, fearing their time would be wasted. Although HCHC partners created a Provider Advisory Group early in the program to obtain buy-in and solicit feedback from PCPs, this strategy did not prove to be effective due to provider skepticism.

Without a successful program-wide strategy to engage PCPs, *some counties, agencies, and navigators reached out directly to providers*, as described above. Although building relationships over several months was a time-intensive process, requiring persistence and effective communication skills, program staff reported that it yielded positive results. PCPs began to use navigators as a resource and initiate contact with them, particularly for members who needed more assistance. PCPs emphasized the importance of navigators being knowledgeable and available to share information about a member's mental health condition and associated medications.

## Lessons Learned

Throughout the development and implementation of HCHC, program partners reflected on lessons that might inform program developers, state officials, or others interested in integrating behavioral and physical health services for Medicaid beneficiaries.

### System-Level Lessons

*Understand that a balance of flexibility and standardization in program design and implementation is beneficial, but also introduces challenges.* Certain elements of HCHC were required across all three counties, including the target population and the intervention components related to DPW performance measures. However, HCHC's flexible program design allowed counties and behavioral health agencies to customize the program in ways that fit their community, existing infrastructure, and workflow processes. Partners developed their own outreach and enrollment activities, interventions, and staffing models. This malleable approach to program design facilitated sustainability as integration became the new way of doing business, albeit through different means, in each county.

However, this approach introduced opportunities for duplication of efforts and uncertainty in procedures at the agency level. It also led to a lag in implementation at the program and county levels while partners sought to reach consensus on a number of implementation decisions. When designing integrated care programs, program developers should consider the challenges involved in bringing together several different systems to collaborate and reach consensus. It is crucial to build ample time into the planning phase to ensure diverse perspectives can be considered.

*Establish a consent process acceptable to all partners.* Ambiguity around the future of the HCHC consent process ultimately led to Keystone's decision not to share member information with Magellan past the end of the pilot period. Although Keystone staff reported that the organization still believes in the mission of HCHC and plans to continue integration and coordination efforts for its members with SMI, some interim steps will be necessary to re-establish a consent process acceptable to all partners.

*Involve frontline navigators early in the planning process.* Program developers should ensure early involvement of the individuals implementing the program—in this case, the navigators. For example, navigators could provide input on the member profile, setting up systems for documentation, and identification of members. This strategy will not only foster navigators' understanding and support of the program, it will also ultimately benefit members.

*Provide a usable, single source of integrated physical and behavioral health information to both physical and behavioral health providers.* Partners identified the HCHC member profile as a critical achievement of the program. The member profile enabled data sharing across two separate systems and provided critical information, such as gaps in care and medications, to help navigators address member needs.

Any integrated care program should design and implement an information source that can be easily shared across plans, agencies, navigators, and providers to coordinate care across multiple providers.

*Include nurses in multidisciplinary care teams.* HCHC partners recognized the value nurses brought to multidisciplinary teams in integrating care for individuals with SMI. Experienced registered nurses were crucial, particularly in behavioral health-led integration efforts, because of the learning curve related to understanding various medical conditions and their impact on members' behavioral health. Registered nurses were well-positioned to facilitate clinical discussions on members' care with PCPs and pharmacists, advocate on a member's behalf, and serve as a clinical bridge between physical and behavioral health providers. Program designers should consider including registered nurses as navigators or ensuring that registered nurses are available to clinical navigators to serve as liaisons to PCPs and other health care providers.

### **Consumer-Level Lessons Learned**

*Use existing clinical relationships to identify and engage members.* HCHC was more readily accepted by members when introduced by a behavioral health clinician or care manager who had established a rapport and trust with a member. In addition, navigators and care managers often were in the best position to identify members in greatest need. Although engaging care managers and clinicians to help identify members might be more time-intensive at the outset, partners agreed that this approach is more effective than relying solely on claims data to identify high-risk members.

*Include program enrollees on advisory boards and in peer-to-peer support roles.* Although these strategies were used only sparingly by some counties, several HCHC partners noted the value of program enrollees' voices on advisory boards and their potential as peer-to-peer supporters. Program enrollees bring a unique perspective to advisory boards, given their insider knowledge of behavioral health issues and their personal experiences navigating the health care system. In addition, due to common experiences, program enrollees are often able to win the trust of other members and provide meaningful encouragement and assistance in peer support roles.

### **Provider-Level Lessons Learned**

*Engage primary care providers with a personal touch.* In-person contact with nurse navigators or care managers was more effective in engaging PCPs than frequent faxes or letters with no personal contact. Nurse navigators had an integral role communicating with PCPs about medications or hospitalizations. These interactions saved providers time and demonstrated the value of both the program and nurses who could provide clinical support. Active engagement of PCPs should be a key responsibility of navigators.

*Establish relationships between behavioral health providers and primary care providers to improve coordination of care.* PCPs who were fully engaged with HCHC reported their relationships with navigators improved their ability to care for patients in a holistic way. Having a behavioral health provider to contact with questions was a valuable resource to PCPs, as was information provided via member profiles on medication use, behavioral health status, and ED use and hospitalizations.

## **Conclusions**

HCHC demonstrated promise in reducing ED visits among members with SMI during the intervention period, particularly in Montgomery County. The program's lack of results with regard to hospitalizations, readmissions, or the number of days between admissions during the intervention

period may be attributable to some combination of the short length of the pilot, low participation among the eligible population, and implementation delays in some counties. Future tests of this model should focus on achieving sustained member engagement and minimizing implementation delays. These factors, in addition to the use of multidisciplinary teams, appear to have been important components of the HCHC activities in Montgomery County, where trends in ED use were significantly different from the comparison counties.

The development and implementation of HCHC yielded lessons that can inform other states interested in pursuing a navigator-centric model of behavioral and physical health integration for adult Medicaid beneficiaries with SMI. For instance, HCHC partners emphasized the value of a *balance of standardization and flexibility* in designing and implementing an integration program. This balance allows for some common goals and measurement but provides leeway for local entities to develop a program suited to their particular resources and needs. Given the challenges associated with bringing multiple entities to consensus on important decisions--particularly around legal processes, consent and privacy issues, and information exchange--partners relayed the need for *plenty of time for planning at the outset of the program*. Development of a common, single source of integrated health information in the form of a member profile proved very useful to both navigators and PCPs. Partners also emphasized *the value of multidisciplinary care teams* and the important role of nurses in bridging the gaps between the behavioral and physical health worlds. Finally, the partners shared their experiences with consumer and provider engagement, both of which were enhanced by *personal contact*.

Although the long-term effects and sustainability of HCHC remain to be seen, partners expressed that the program was a valuable step toward better integration of physical and behavioral health care. The challenges in developing and implementing a program such as HCHC—including financing, legal issues, and separate systems of care—are significant. Nevertheless, HCHC partners felt this effort brought together previously separate entities to establish new relationships and processes to foster integration.

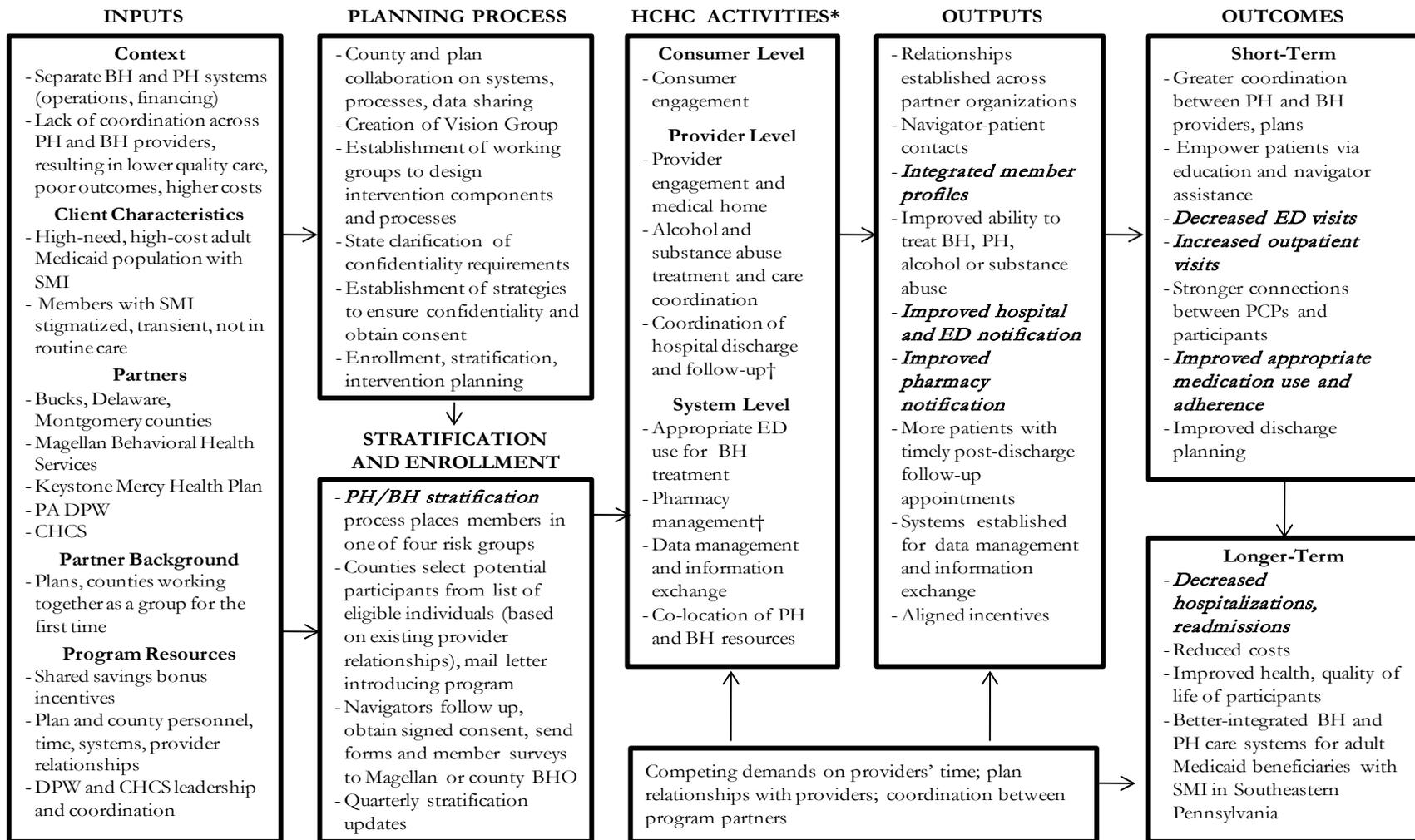
## REFERENCES

Hamblin A, J Verdier, M Au. *State Options for Integrating Physical and Behavioral Health Care*. Baltimore, MD: Integrated Care Resource Center, Centers for Medicare & Medicaid Services, October 2011.

Institute of Medicine. *Improving the Quality of Health Care for Mental and Substance-Use Conditions*. Washington, DC: National Academy Press, 2006.

World Health Organization. *Organization of Services for Mental Health*. Geneva: WHO, 2003.

Figure 1. Logic Model for HealthChoices HealthConnections (HCHC)



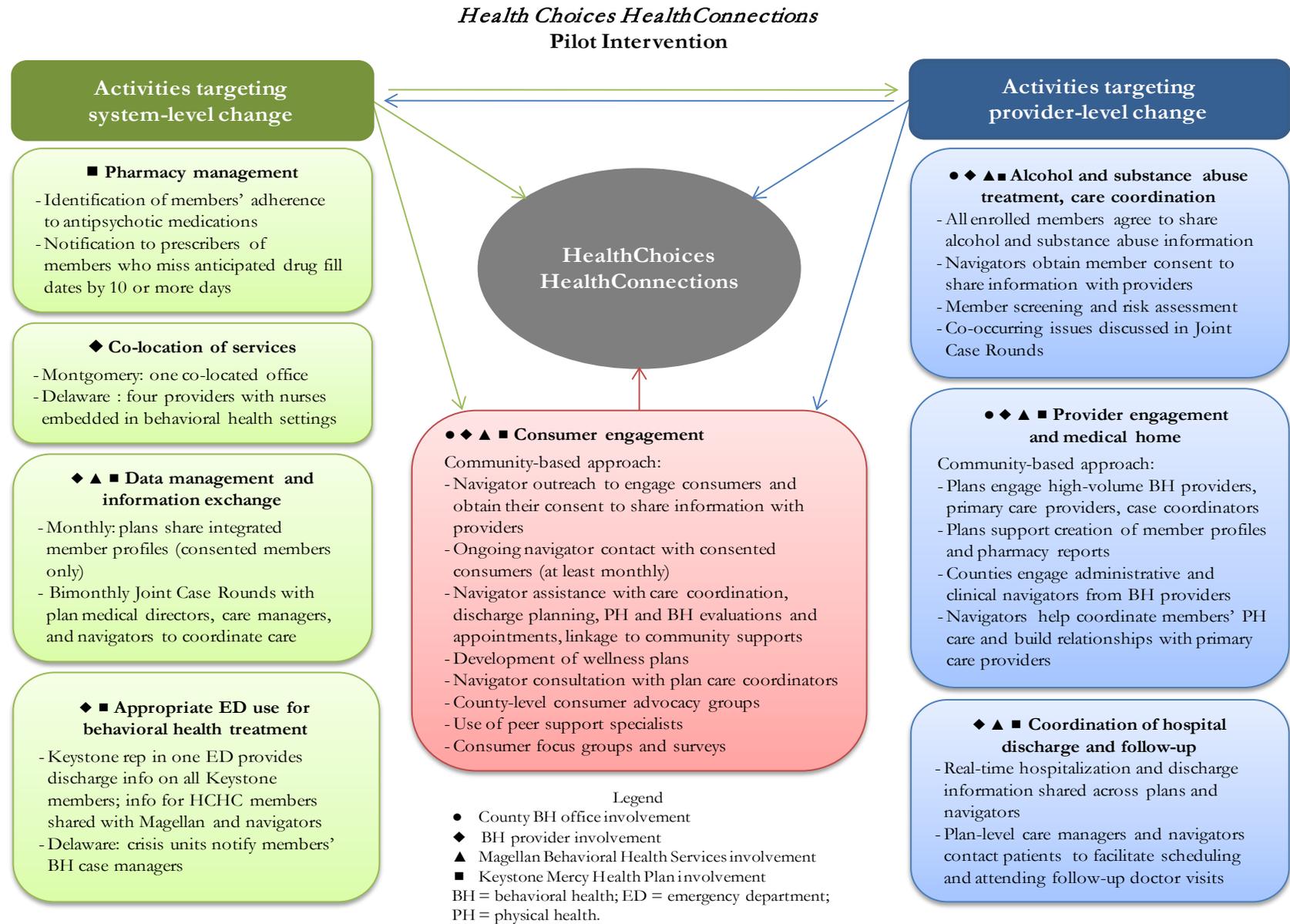
\*See page 2 for full description of intervention pillars and associated activities.

† Members who consent to participate in HCHC receive the bulk of services; nonconsented members receive these services.

Items in bold and italics represent process or outcomes measures tied to shared savings bonus incentives.

BH = behavioral health; BHO = behavioral health organization; CHCS = Center for Health Care Strategies; DPW = Department of Public Welfare; ED = emergency department; PCP = primary care provider; PH = physical health; SA = substance abuse; SMI = serious mental illness.

Figure 1 (continued)



Report Period:

<b>Member Name:</b>		<b>KMHP Member ID:</b>	
<b>Address1:</b>		<b>Member MAID:</b>	
<b>Address2:</b>		<b>SSN (Last 4 Digits):</b>	
<b>City, State Zip:</b>		<b>County:</b>	
<b>Phone Number:</b>		<b>Risk Quadrant:</b>	
<b>Date of Birth:</b>		<b>Last BH DOS:</b>	
<b>Gender:</b>		<b>Last PH DOS:</b>	
<b>Race:</b>			

**Care Providers**

<b>Primary Care Provider</b>	<b>Behavioral Health Navigator</b>
Address 1:	Address 1
Address 2:	Address 2
Address 3:	Address 3
Address 4:	Address 4
Phone	Phone
Fax	Fax
Email	Email

**Case Management**

<b>Physical Health Case Management:</b>	<b>Behavioral Health Case Management</b>
Case Mgmt Engaged?:	CTT/SCOT Days:
Date of Engagement:	Last CTT/SCOT DOS:
Case Mgmt Program:	CTT/SCOT Provider:
Case Manager:	ICM Days:
Case Manager Phone:	Last ICM DOS:
	Last ICM Provider:
	D+A CM Days:
	Last D+A CM DOS:
	Last D+A CM Provider:

**Behavioral Health Diagnosis Information**

<b>Behavioral Health SMI Qualified</b>	<b>Behavioral Health Most Used Diagnoses</b>
<input type="checkbox"/> 295.xx Diagnosed	1st Diagnosis Most Used:
<input type="checkbox"/> 296.xx Diagnosed	2nd Diagnosis Most Used:
<input type="checkbox"/> 301.83 Diagnosed	3rd Diagnosis Most Used:
	4th Diagnosis Most Used:

**Behavioral Health Mental Health Utilization**

<b>Behavioral Health Inpatient Utilization</b>	<b>Behavioral Health Outpatient Utilization</b>
Number of Days:	Number of Days:
Last Discharge:	Last DOS:
Last Provider:	Last Provider:
Number of Admits:	

Member ID: \_\_\_\_\_ Creation Date: \_\_\_\_\_



MEMBER HEALTH PROFILE

**Behavioral Health Crisis Utilization**

Number of Days:  
Last DOS:  
Last Provider:

**Behavioral Health Residential Utilization**

Days:  
Last Discharge:  
Last Provider:  
Number of Admits:  
KMHP MEMBER ID:  
MEMBER MAID:

**Behavioral Health Medication Mgmt Checks**

Number of Checks:  
Last DOS:  
Last Provider:

**Behavioral Health CPS Utilization**

Number of Days:  
Last DOS:  
Last Provider:

**Behavioral Health Drug and Alcohol Utilization**

**Behavioral Health Inpatient Detox Utilization**

Number of Days:  
Last Discharge:  
Last Provider:  
Number of Admits:

**Behavioral Health Inpatient Non-Hosp Detox Utilization**

Number of Days:  
Last Discharge:  
Last Provider:  
Number of Admits:

**Behavioral Health Halfway House Utilization**

Number of Days:  
Last Discharge:  
Last Provider:  
Number of Admits:

**Behavioral Health D+A Outpatient Utilization**

Number of Days:  
Last DOS:  
Last Provider:

**Behavioral Health Inpatient Rehab Utilization**

Number of Days:  
Last Discharge:  
Last Provider:  
Number of Admits:

**Behavioral Health Inpatient Non-Hosp Rehab Utilization**

Number of Days:  
Last Discharge:  
Last Provider:  
Number of Admits:

**Behavioral Health Mobile Engage Utilization**

Number of Days:  
Last DOS:  
Last Provider:

**Physical Health PCP Visits**

Service Date	Service Provider	Diagnosis Codes 1-3
--------------	------------------	---------------------

**Physical Health Specialist Visits**

Service Date	Service Provider	Diagnosis Codes 1-3
--------------	------------------	---------------------



MEMBER HEALTH PROFILE

**Physical Health Inpatient Hospitalizations**

Admit Date      Discharge Date      Service Provider      Diagnosis Codes 1-3

**Physical Health Emergency Room Visits**

Service Date      Service Provider      Diagnosis Codes 1-3

**Physical Health Gaps in Care**

Service      Frequency      Status      Last Event Date

Adults Access to Care	At least once per year		
Breast Cancer Screen	At least once every 2 years		
Cervical Cancer Screen	At least once every 3 years		
Colorectal Cancer Screen	Once every 1-5 yrs (test dependent)		
Eye Exam	At least once per year		
HbA1c Test	At least once per year		
Lipid Test	At least once per year		
Microalbumin Test	At least once per year		

**Physical Health Disease States**

- Asthma     
  Diabetes     
  Emohysema COPD     
  Heart Failue AB  
 Heart Failure CD     
  HIV     
  Sickle Cell

**Pharmacy Utilization (Not a Full Profile Limited to Targeted Drug Categories)**

Total RX Count      Unique GCN Count      Report Period

STC      GCN      CS\*      Label Name      Sept      Oct      Nov      Dec      Jan      Feb      Mar      Apr      May      Jun      Jul      Aug


\* Please Note, CS stands for Controlled Substance (for example, CS 4 means Class IV Controlled Substance)



**MATHEMATICA**  
**Policy Research**

[www.mathematica-mpr.com](http://www.mathematica-mpr.com)

Improving public well-being by conducting high-quality, objective research and surveys

Princeton, NJ ■ Ann Arbor, MI ■ Cambridge, MA ■ Chicago, IL ■ Oakland, CA ■ Washington, DC

Mathematica® is a registered trademark of Mathematica Policy Research

