Published in final edited form as:

Gen Hosp Psychiatry. 2018 ; 51: 54–62. doi:10.1016/j.genhosppsych.2017.12.003.

An Innovative Model to Coordinate Healthcare and Social Services for People with Serious Mental Illness: A Mixed-Methods Case Study of Maryland's Medicaid Health Home Program

Emma E. McGinty,

Assistant Professor, Department of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, 624 N. Broadway, Room 359, Baltimore, MD 21205

Alene Kennedy-Hendricks, PhD,

Assistant Scientist, Department of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health

Sarah Linden, MPH,

Senior Research Coordinator, Division of General Internal Medicine, Johns Hopkins School of Medicine

Seema Choksy, MPP,

Senior Research Coordinator, Division of General Internal Medicine, Johns Hopkins School of Medicine

Elizabeth Stone, BA, and

Senior Research Coordinator, Division of General Internal Medicine, Johns Hopkins School of Medicine

Gail L. Daumit

Professor, Division of General Internal Medicine, Johns Hopkins School of Medicine

Abstract

Objective—We conducted a case study examining implementation of Maryland's Medicaid health home program, a unique model for integration of behavioral, somatic, and social services for people with serious mental illness (SMI) in the psychiatric rehabilitation program setting.

Method—We conducted interviews and surveys with health home leaders (N=72) and front-line staff (N=627) representing 46 of the 48 total health home programs active during the November 2015-December 2016 study period. We measured the structural and service characteristics of the 46 health home programs and leaders' and staff members' perceptions of program implementation.

Corresponding Author: bmcginty@jhu.edu, Phone: 410-614-4018.

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Results—Health home program structure varied across sites: for example, 15% of programs had co-located primary care providers and 76% had onsite supported employment providers. Most leaders and staff viewed the health home program as having strong organizational fit with psychiatric rehabilitation programs' organizational structures and missions, but noted implementation challenges around health IT, population health management, and coordination with external providers.

Conclusion—Maryland's psychiatric rehabilitation-based health home is a promising model for integration of behavioral, somatic, and social services for people with SMI but may be strengthened by additional policy and implementation supports, including Incentives for external providers to engage in care coordination with health home providers.

Keywords

Serious mental illness; integrated care; healthcare policy

Introduction

People with serious mental illnesses (SMIs) like schizophrenia and bipolar disorder experience significant premature mortality, dying 10–20 years earlier and with mortality rates two to over three times higher than the overall U.S. population.^{1–5} Somatic conditions, especially cardiovascular disease, drive this premature mortality.^{6,7} Nearly half of people with SMI have co-morbid substance use disorders,⁸ and this population also experiences disproportionately high rates of negative social outcomes including unemployment, housing instability, and criminal justice involvement.^{9–14} Despite their high need, large segments of the population with SMI do not receive high-quality mental health, substance use, somatic or social services.^{14–18} Increasing delivery of such services and improving health and social outcomes among the population with SMI is a public health priority: while those with SMI account for a relatively small proportion of Americans – approximately 4% of U.S. adults¹⁹ – SMI costs society over \$300 billion per year,²⁰ and people with SMI are the largest and fastest growing group of social security disability beneficiaries in the U.S.^{21,22}

The historic separation of the mental health, substance use, general medical, and social service financing and delivery systems impedes receipt of evidence-based healthcare and social services for people with SMI by limiting their access to services, which are often geographically separate, and by hindering provider communication and sharing of data and expertise across systems.^{14,23–27}

Integrated Care Models for People with SMI

In recent years, the medical and health policy communities have increasingly recognized the need to integrate behavioral, somatic, and social services for people with SMI.^{27–30} However, few models designed to coordinate the delivery of all of these types of services have been implemented.

Financing and delivery of mental illness and substance use disorder treatment is increasingly being integrated under the umbrella of “behavioral health services.”^{31–34} In addition, models

integrating behavioral health services into primary care settings, such as the Collaborative Care³⁵ and Patient-Centered Medical Home (PCMH)³⁶ models, are increasingly common: the U.S. now has over 12,000 National Committee for Quality Assurance (NCQA)-recognized Primary Care Medical Homes (PCMHs),³⁶ which are designed to implement team-based, coordinated care across health systems.³⁷ Evaluations of these models suggest that they can improve access to and quality of somatic and behavioral health care services,^{38–41} medication adherence,⁴² and mental health outcomes,⁴³ as well as reduce somatic and behavioral acute care utilization among people with moderate mental illness and some individuals with SMI.^{39,44} Importantly, these primary care-based models do not reach the many people with SMI who access most or all of their healthcare services through the specialty behavioral health system.^{14,24,45}

Fewer models integrating somatic services into behavioral health settings have been developed and evaluated. A randomized clinical trial evaluating a behavioral health home program that integrated primary care services into a community mental health center showed improvements in quality of cardiometabolic care, but not cardiovascular health outcomes, among participants with SMI.⁴⁶ SAMHSA's Primary and Behavioral Health Care Integration (PBHCI) program provides grants to community behavioral health clinics to screen and monitor somatic conditions and coordinate needed services.⁴⁷ Early evaluations suggest that the PBHCI program may increase access to outpatient somatic services, decrease acute care utilization, and improve some somatic health outcomes among people with SMI,^{48,49} but longer-term evaluations are needed.⁴⁹ A behavioral health home program in Missouri, implemented in community mental health clinics, resulted in improvements in cardiovascular risk factor care and outcomes among consumers with SMI.^{50,51}

While promising, these existing models focus on healthcare services and exclude the social services, like supported housing and employment, which can provide the stability many people with SMI need in order to effectively engage in medical care.^{28,52–54} In this case study, we describe implementation of an innovative model to coordinate behavioral, somatic, and social services for people with SMI.

Case Study: Maryland's Medicaid Health Home Program

The 2010 Affordable Care Act (ACA) allowed states to create health home programs for high-cost, high-need Medicaid beneficiaries. Through this program, states bill Medicaid for care coordination and health promotion “health home services” delivered to the designated population of beneficiaries.⁵⁵ Maryland, along with 15 other states and D.C., formed a Medicaid health home program for people with SMI.⁵⁶ All of these programs except Maryland's integrated primary care services into community mental health clinics.⁵⁶ In contrast, Maryland based its health home program in psychiatric rehabilitation programs (PRPs), for two main reasons.^{57–59} First, PRPs reach a high-need subset of approximately 11,500 Maryland adults with SMI, about 25% of all adults with SMI in the state.⁶⁰ To be eligible for psychiatric rehabilitation services in Maryland, individuals must have a serious mental illness, be engaged in outpatient mental health treatment, and have impaired role functioning resulting in a need for rehabilitation services to develop or restore independent living skills (see Table 1 for detailed eligibility criteria).⁵⁹ Second, before the health home

program was implemented, Maryland PRPs were already responsible for coordinating behavioral and social services for consumers with SMI. PRPs are staffed by case managers, counselors, and lay staff who coordinate and support behavioral health care, for example by helping consumers schedule mental health appointments. PRPs also coordinate social services, for example by helping eligible consumers with SMI enroll in public nutrition or housing assistance programs. PRPs provide onsite services designed to support independent living, including vocational training and class on topics such as household budgeting and cooking. The health home program added coordination of somatic healthcare services to PRPs' responsibilities, taking advantage of these organizations' prior experience with service coordination and creating a health home model that incorporated the full array of somatic, behavioral, and social services needed by many people with SMI.⁵⁷⁻⁵⁹

The core components of Maryland's Medicaid Health Home Model are shown in Table 1. All consumers with SMI who receive psychiatric rehabilitation services in Maryland are eligible to participate in the health home program.⁵⁸ During the November 2015-December 2016 study period, PRPs that applied and were certified by the state to become health homes received a \$98.97 per-member per-month payment for delivering at least two health home services, which focus on somatic care coordination, to each consumer with SMI per month.^{57,58} As of July 1, 2017, the per-member per-month payment increased to \$102.86. All accredited health home programs must have a director (.5 FTE/125 clients) who oversees program administration; a nurse care manager(s) (.5 FTE/125 clients), who leads health home implementation; and a physician or nurse practitioner primary consultant (1.5 hrs./client/year) who reviews and signs off on clinical assessments and orders.⁵⁸ This staffing structure mirrors the structure shown to be effective in a recent clinical trial testing a community mental health center-based health home program⁴⁶ and the structure used in SAMHSA's PBHCI program.⁶¹ In Maryland, all billable health home services (Table 1) focus on somatic health. While PRPs deliver similar services in the behavioral health and social domains, e.g. care coordination for substance use disorder treatment or referral to disability support services, Medicaid reimburses these services as "psychiatric rehabilitation," as opposed to health home, services.

Beyond the core requirements shown in Table 1, individual PRPs have flexibility in how they set up their health homes. Programs can choose to contract with a primary care provider(s) to deliver onsite somatic health services or to coordinate all of consumers' somatic care with primary care providers in the community. To gain insight into the implementation of Maryland's Medicaid health home model for coordination of behavioral, somatic, and social services for people with SMI, we conducted a mixed-methods case study with three objectives. First, to describe the organizational structure of and services delivered by PRP health homes in Maryland. Second, to examine PRP leaders' perceptions of health home implementation strategies, barriers, and facilitators. Third, to explore front-line PRP staff members' perceptions of coordinating somatic services for people with SMI.

Data and Methods

Study Population

The study population included health home leaders and PRP staff at the 48 active Maryland Medicaid health home sites during the November 2015–December 2016 study period. At each of the 48 sites, we recruited the nurse care manager leading health home implementation to complete a survey assessing their health home site’s organizational structure and services. We recruited the same nurse care manager and the PRP director, who oversees administration of the entire PRP – including but not limited to the health home – to participate in qualitative interviews. In addition, all PRP staff who had direct contact with consumers with SMI as part of their professional duties were eligible for a survey. Examples of staff roles include case managers, counselors, and peer leaders.

Data Collection & Measures

Study team leaders (EEM & GLD) sent email messages to the highest-level leader (e.g., chief executive officer or director) of the 48 PRPs implementing health homes during the study period, following up with phone calls in cases of non-response. At sites that agreed to participate, the data described below was collected. All study participants completed an informed consent process approved by the [blinded for review] Institutional Review Board. Health home nurse care managers and PRP directors received a \$50 gift card for participating in the study. Participating PRP staff received a \$20 gift card. With participants’ permission, interviews were recorded and transcribed.

Nurse care manager survey measuring health home structure and implementation—Nurse care managers completed a 110-item, approximately 40-minute survey using a tablet. We report the results of 33 questions in three domains: co-location of providers, care management core components, and partnerships with external organizations. Specifically, questions assessed which types of health and social service providers were co-located at the PRP; whether and the degree to which a health home program was implementing core components of effective care management^{46,62–64} (individualized care plan, monitoring of health and social indicators, tracking of lab tests and referrals, two-way communication with external providers, and electronic medical record access); and partnerships with external organizations.

Qualitative Interviews Measuring Leaders’ Perceptions of Health Home Implementation—Health home nurse care managers and PRP directors were interviewed separately using standard, semi-structured interview protocols designed to elicit leaders’ perceptions of health home implementation strategies, barriers, and facilitators. Interviews were conducted by two study team members and took 30–45 minutes to complete.

Survey Measuring Staff Members’ Perceptions of Health Home Somatic Services—PRP staff at participating sites completed paper-and-pencil, 165-item surveys during regularly scheduled staff meetings. This case study reports the results of 26 items designed to assess staff perceptions of integration of somatic services – the primary innovation of the Maryland Medicaid health home program – into the PRP setting.

Responses for all items were measured using a 5-point Likert scale (1=strongly disagree, 2=somewhat disagree, 3=neutral, 4=somewhat agree, 5=strongly agree). For ease of interpretation, this scale was collapsed into a dichotomous measure with ratings of '4' or '5' combined to indicate agreement.

Analysis

Interviews were coded using a hybrid inductive/deductive coding approach. Prior to coding, an initial codebook including key themes identified from the prior literature was developed. Two coders then independently coded the same five interview transcripts, applying existing codes and adding new codes (identified as they read the transcripts) into the codebook. The coders then compared their coded transcripts, discussing and resolving disagreements in coding (with EEM resolving disputes when needed) and refined the codebook to incorporate new codes. This process was repeated until data saturation was achieved, i.e. until no new themes emerged from the data. The final codebook was then applied to all transcripts. Next, codes were organized into hierarchies to identify the most frequently mentioned key themes and related sub-themes. We conducted member checking with 5 health home leaders during a meeting on health implementation convened by the state. Leaders reviewed key themes and confirmed that they perceived those themes to be accurate based on their experiences with health home implementation. Qualitative data analysis was conducted using NVivo Version 11 software. Survey results were analyzed using descriptive statistics in Stata Version 14.

Study Results

Data was collected from 46 of the 48 (96%) total health home sites. Interviews were completed by a total of 72 leaders, including 41 nurse care managers and 31 PRP directors. In some cases, these two types of leaders served multiple health home sites: the 41 health home nurse care managers represented 46 health home sites and the 31 program directors represented 37 health home sites. Because the survey completed by health home nurse care managers was site-specific, e.g. items asked about co-located providers at a specific site, the nurse care managers representing multiple sites completed a survey for each site (46 total surveys completed by 41 nurse care managers). The PRP staff survey was completed by 626 staff members at 38 sites. The response rate among eligible staff at the 38 participating sites was 83%. The study population of leaders was 78% white, 85% female, and had worked at the organization an average of 8 years. The study population of staff was 57% white, 73% female, and had worked at the organization an average of 5 years.

Health Home Structure and Implementation (Table 2)

Fifteen-percent of health homes had a co-located primary care provider and 30% had a co-located licensed substance use treatment provider. Co-located mental health (59%) and supported housing (70%) and employment (76%) providers were more common. Results indicated incomplete implementation of some care management processes: for example, while all programs reported using individualized care plans for consumers with SMI, only 43% had care plans with complete information on all participants' somatic, behavioral, and social service needs. Ninety-three percent of health homes reported monitoring health and

social indicators, but only 35% had an electronic registry with complete information for all consumers.

Leaders' Perceptions of Key Factors Influencing Health Home Implementation (Table 3)

Six key themes related to health home implementation data emerged from qualitative analysis of interview transcripts. Brief summaries of these themes are described in the text below; see Table 3 for additional details. Table

Organizational Fit

Leaders consistently viewed the health home program as having strong fit with PRPs' organizational structure, mission, and skills. They perceived their programs' longstanding focus on case management and service coordination as a good fit with health home implementation.

Geographic Proximity

Key leaders noted that geographic proximity of providers, facilitated health home implementation, but that geographic proximity alone was not enough to ensure effective service coordination.

Coordination with External Providers

Leaders viewed effective coordination with external, community-based providers as a key—but challenging—component of successful health home implementation. Leaders reported difficulty engaging with external providers, especially primary care providers.. Leaders reported trying various strategies to overcome this challenge, including having a PRP staff member accompany consumers with SMI to appointments.

Health IT

Leaders identified health IT as a critical but not fully functional component of health home implementation. Leaders had consistently positive views of Maryland's hospital/emergency department admission electronic alert system,⁶⁵ which helped them proactively engage in discharge planning for consumers with SMI. Leaders of over half the sites (N=27) reported using a software package⁶⁶ designed to help conduct population health management tasks like tracking delivery of guideline-concordant services. However, leaders reported usability challenges with the software, including an interface that health home staff found challenging to use, the need to enter a lot of data by hand because the software did not connect with PRPs' EMR systems, and the fact that the Medicaid claims data used to populate the software with services received by participants was delayed by several months. While most PRPs had an EMR system (N=41 sites), it was often shared only with the affiliated mental health clinic; external primary care and other providers used separate EMRs.

Population Health Management Capacity

Leaders identified building the health homes' population health management capacity as a challenge. PRP directors reported difficulty finding nurse care managers interested in performing population health management tasks as opposed to delivering direct clinic care. Leaders also noted that the reimbursement requirement to deliver two health home services for all participants with SMI per month, including those in good health, sometimes prevented them from implementing population health management best practices^{67–69} related to prioritizing high-need consumers.

Shifting Psychiatric Rehabilitation Staff Roles to Support Health Home Implementation

Leaders reported shifting the roles of existing PRP staff to support health home implementation, for example by having PRP staff request medical records from external primary care providers.

Staff Members' Perceptions of Integration of Somatic Services (Table 4)

Staff members generally had a positive view of the health home program's integration of somatic health services into the psychiatric rehabilitation setting, with some exceptions (Table 4). Ninety-three percent of staff endorsed the statement "improving the physical health of clients should be part of our organization's mission", though 32% also endorsed the statement that consumers' somatic health is better addressed outside of PRPs and only 54% reported feeling directly accountable for clients' physical health outcomes.

Discussion

Overall, program leaders and staff viewed coordination of a full range of behavioral, somatic, and social services for people with SMI as well-aligned with their mission and skills. Interestingly, while 93% of staff reported that improving the somatic health of clients should be part of PRPs' mission and 94% believed that PRPs should work with primary care providers to improve clients' somatic health, nearly a third of the staff members surveyed reported that consumers' somatic health is better addressed outside of PRPs. This finding may reflect the fact that most health home programs did not have onsite primary care providers, instead coordinating care with providers in the community. Due to this program structure, staff may have believed that PRPs are unable to fully control and "address" their clients' somatic health. It also possible that staff perceived a tension between the somatic health services introduced through the health home program and the psychosocial services that have historically been the primary purview of PRPs. The finding that 37% of staff reported that PRPs should focus more on social services than on healthcare services supports the latter possibility.

In the qualitative interviews, leaders identified three factors as contributing to strong health home-PRP organizational fit: PRPs' longstanding focus on addressing the 'whole person' with SMI; PRPs' existing capacity for and experience with coordinating services for people with SMI; and the fact that many PRP clients with SMI attend PRP programs multiple days per week, facilitating the development of meaningful provider-consumer relationships and potentially helping to overcome challenges with recruiting and retaining consumers

experienced by health home programs focused on integrating somatic services into mental health clinics, including SAMHSA's PBHI and Iowa's Medicaid Health Home programs.^{61,70} These findings suggest that this type of health home model may be scalable to PRPs in other states and possibly to other types of 'wraparound' programs focused on coordinating services for people with SMI, like Assertive Community Treatment teams (ACTs), as well. While the lack of a comprehensive national directory of such programs precludes us from comparing the concentration of PRPs in Maryland versus other states, forms of PRPs, sometimes referred to as day programs, exist in all 50 U.S. states.⁷¹ In states with less robust psychiatric rehabilitation systems than Maryland, PRPs could potentially be included as one component in a broader health home model that also includes other types of providers, e.g. outpatient mental health clinics.

Despite perceptions of strong organizational fit of the health home program, PRP leaders reported implementation challenges. Health IT presented a major challenge: most sites lacked EMRs that could be shared across all of consumers' healthcare providers. The results of clinical trials suggest that electronic sharing of health information facilitates coordinated behavioral/somatic care delivery for people with SMI,^{46,72,73} but many programs in the U.S. lack this capacity. Among 56 community mental health clinics funded to coordinate somatic care for consumers with SMI through SAMHSA's PBHCI program, only 29% reported that they had plans to develop a shared general medical and behavioral health EMR.⁶¹ Maryland health home leaders reported that coordinating consumers' care with primary care providers in the community was a challenge, and – consistent with prior research⁷⁴ – that while co-location of providers helped, it was not enough, in the absence of other care coordination tools like regular meetings and shared EMRs, to prompt effective coordination. High health home provider caseloads and limited primary care physician/nurse practitioner consultant involvement in Maryland's model (0.5 FTE health home nurse care manager per 125 consumers, and 1.5 hours/client/year per consultant) may have contributed to care coordination challenges. Study results suggest that it is critical to develop financing and delivery strategies to improve the ability of behavioral health home programs to coordinate care with primary care providers.

Maryland's Medicaid health home model introduced a new financing mechanism allowing PRPs to be reimbursed for coordinating somatic services for consumers with SMI, building on existing reimbursement mechanisms allowing the programs to bill for coordination of behavioral and social services. However, the health home program did not include a financial incentive for providers in the community to take time from their busy practices to take phone calls with health home staff or respond to information requests. In addition, PRPs are not held financially accountable for achieving behavioral, somatic, or social quality of care or outcome benchmarks. While this in some ways makes sense, given that these programs play a primarily coordinating role and do not have direct control over many of the healthcare and social services that consumers receive, lack of such accountability may also make the program less likely to improve consumer outcomes. Integrating the health home model with the accountable care organization (ACO) model,^{27,64,75,76} in which providers across sectors can contract to share financial responsibility for achieving high quality of care and health/social outcome benchmarks in a defined population of people, may hold promise

in overcoming this barrier. The Hennepin Health ACO, a leader in developing this type of cross-sector model, shows promising results among the vulnerable populations served.⁷⁷

Financing strategies to facilitate coordination of behavioral, somatic, and social services for people with SMI are critical. However, financing strategies alone, without parallel system- and provider-level interventions to build capacity for implementation of integrated care models, may not improve outcomes in this group.⁷⁸ System-level strategies including workflow redesign and health information technology-based implementation supports, such as EMR-embedded decision support decision protocols, are needed. Training to help behavioral health home providers develop the knowledge and skills needed to implement the components of integrated care shown to be effective in randomized clinical trials, for example a target-to-treat approach to address cardiometabolic risk factors among consumers with SMI,⁴⁶ are also needed.

Limitations

While we were able to collect data from the large majority of leaders and staff at health home sites our study did not include complete data for all 48 health home programs operational during the study period. Qualitative data analysis can be influenced by coders' preconceived ideas and biases. To minimize this issue, we used standard analytic techniques including use of a structured codebook and double-coding of transcripts by two independent coders and member checking. Survey measures could be influenced by social desirability bias and/or respondents' concern that their supervisors might react negatively if results reflected negatively on the health home program. To address these issues, the results shared with study sites reported all survey measures at the aggregate site-level to prevent identification of specific individuals' responses. The informed consent procedure included assurance that employment would not be negatively affected by study participation. Importantly, the health home care management processes measured in our study, e.g. tracking of lab tests, were self-reported by program leaders. It is possible that leaders may have overestimated the degree to which processes were carried out, reflecting programs' implementation intentions as opposed to reality. In addition, the self-reported nature of the data meant that some results lacked specificity. For example, leaders at 43% of health home sites reported that they had individual care plans with complete information on somatic, behavioral, and social service needs for the majority of their clients, but 'majority' could encompass significant variation across sites, e.g. 51% at one site and 100% at another. Similarly, over 90% of health home sites reported attempting to track lab tests and referrals, but our data did not allow us to determine the degree to which such tracking was successful. Future research verifying implementation of care management processes with more objective members, e.g. data abstraction from EMRs, is needed.

Conclusions

Maryland's Medicaid health home model is a unique and potentially promising model for coordinating behavioral, somatic, and social services for people with SMI. Future research should evaluate whether and how this model improves delivery of evidence-based healthcare and social services for people with SMI as well as health and social outcomes in this

population. Future work should also consider integration of this type of health home model into ACO or other models that tie financing to quality of care and/or health outcomes, and develop and test system and provider-level implementation support strategies to facilitate delivery of integrated care models for SMI.

Acknowledgments

None to report

Funding sources: The authors gratefully acknowledge support from the National Institute of Mental Health, grants K01MH106631 (PI: McGinty) and R24MH104553 (PI: Daumit).

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Table 1**Maryland's Medicaid Health Home Model for Adults with Serious Mental Illness (SMI)**

Provider Eligibility	Maryland Psychiatric Rehabilitation Programs (PRPs) are eligible to become health home providers. [/] PRPs are affiliated with outpatient mental health clinics and provide skills training, case management, and social service coordination for people with SMI.
Beneficiary Eligibility	<p>All Medicaid beneficiaries and dual Medicaid/Medicare beneficiaries aged 18+ years receiving psychiatric rehabilitation services from a Maryland PRP with a health home program are eligible to participate, but participation is optional. PRP clients must be actively enrolled, with consent, into the health home program. To be eligible for PRP services in Maryland, individuals must meet all of the following criteria:</p> <ol style="list-style-type: none"> 1 Serious mental illness diagnosis, e.g. schizophrenia, bipolar disorder, major depressive disorder 2 Impaired role functioning, on a continuing or intermittent basis, for at least two years, defined as meeting at least three of the following criteria: inability to maintain independent employment; social behavior that results in interventions by the mental health system; inability, due to cognitive disorganization, to procure financial assistance to support living in the community; severe inability to establish or maintain a personal support system; need for assistance with basic living skills. 3 Need for an integrated program of rehabilitation services to develop and restore independent living skills to support his/her recovery; 4 Concurrent engagement in outpatient mental health treatment.
Financing	Health home programs can bill for six types of "health home" services (below). PRPs receive a per-member per-month rate of \$102.86 (effective July 1, 2017; from October 1 2013-June 2017, the rate was \$98.97) in exchange for delivering two health home services per month for each health home participant with SMI. For the first two years of implementation, Maryland received a 90% Federal Medicaid Assistance Percentage (FMAP) rate for health home services. After the first two years of implementation, health home services received Maryland's standard 50% FMAP rate.
Accreditation	PRPs must be accredited by either the Commission on Accreditation of Rehabilitation Facilities' (CARF) Health Homes Standards or the Joint Commission's Behavioral Health Homes Certification.
Staffing Structure	<p>Required Health Home staff include:</p> <ol style="list-style-type: none"> 1 Health home Director (.5 FTE per 125 health home participants): Individual with healthcare administration qualifications responsible for training and oversight of Health Home staff, partnerships with relevant entities (e.g. primary care practices), identification of quality improvement opportunities, oversight of population-level care management and general administrative leadership of the program. 2 Health Home Care Manager (.5 FTE per 125 health home participants): Licensed registered nurse, nurse practitioner, or physician's assistant responsible for leading health home implementation, including developing and implementing individualized treatment plans and coordinating health home service delivery. 3 Primary Care Consultant (1.5 hours per Health home enrollee per year): Physician or nurse practitioner responsible for signing off on initial Health home intake assessments and consulting on participants' medical issues as-necessary.
Services	<p>Billable health home services include somatic health services in six categories:</p> <ol style="list-style-type: none"> 1 Comprehensive care management: e.g. individualized care plan development, update, and monitoring; 2 Care coordination: e.g. communication with/records request from primary care providers; 3 Health promotion: promotion of lifestyle interventions, e.g. smoking cessation, nutritional counseling, physical activity counseling; 4 Comprehensive transitional care: e.g. scheduling of post-inpatient discharge follow-up appointments; 5 Individual and family support services: e.g. advocating for health home participants and/or their caregivers with primary care providers 6 Referral to community and social support services: e.g. referring and facilitating access to smoking cessation support groups in the community.

[/] In Maryland, Mobile Treatment Programs like Assertive Community Treatment Programs (N=11 during the study period) for people with serious mental illness and Opioid Treatment Programs (N=9 during the study period) can also serve as Medicaid Homes. This study focused on Psychiatric Rehabilitation Programs (N=48 during the study period), which comprised the majority of Maryland Medicaid Health Homes.

Table 2

Characteristics of Maryland Medicaid Health Home Programs for People with Serious Mental Illness (N=46 programs)

Co-location of providers:	% Co-located
Primary care providers (physician, nurse practitioner, physician's assistant)	15%
Mental health provider (psychiatrist or licensed mental health counselor)	59%
Licensed substance use treatment provider	30%
Supported housing provider	70%
Supported employment provider	76%
Care Management Core Components:	
<i>Care plan</i>	
<i>Does your health home...</i>	% Yes
Create an individual care plan for each health home participant and monitor and update that plan at least two times per year?	100%
Create, monitor and update a care plan that includes complete information on all participants' somatic, behavioral, and social service needs?	43%
<i>Monitoring</i>	
Monitor the status of the entire health home population on key indicators (e.g. blood pressure, tobacco use) to identify and prioritize population-wide needs and trends?	93%
Have an electronic registry with information about all consumers' needs and services received in the following categories:	
Somatic health needs and services	63%
Mental health needs and services	52%
Substance use needs and services	50%
Social needs and services	39%
Health behavior needs and services	56%
All of the above	35%
<i>Tracking</i>	
Attempt to track lab tests and follow-up on results with participants and providers?	93%
Attempt to track all health home participant referrals and follow-up when necessary?	91%
<i>Two-way communication</i>	
Have effective two-way communication: health home providers consistently send/receive notification of changes in participants' status to/from:	
Primary care providers	46%
Mental health providers	61%
Substance use providers	30%
Supported housing providers	52%
Supported employment providers	41%
Criminal justice system liaisons (i.e. parole or probation officer)	20%
<i>Medical Record Access</i>	
Have electronic medical record access to the majority of Health Home Participants':	
Primary care providers' notes	35%

Co-location of providers:	% Co-located	
Psychiatrists' notes	52%	
Partnerships with external organizations:	% Formal ¹	% Informal
Ambulatory primary care practice/clinic	24%	43%
Hospital	0%	13%
State or local public health agency	15%	43%
State or local human services agency	74%	26%
Crisis intervention team	20%	37%
Criminal justice agency	9%	35%

¹ Co-location was defined as services provided in the same building

² Formal partnerships were defined as involving a MOU or contract

Health Home Leaders' Perceptions of Key Factors Influencing Health Home Implementation (N=72 leaders)

Key Implementation Themes	Summary	Illustrative Quotes
Organizational fit (Mentioned by 54 of 72 leaders interviewed)	Leaders perceived the health home Program as strongly aligned with Psychiatric Rehabilitation Programs' (PRPs) mission and experience, including their focus on addressing all aspects of clients' wellbeing and their experience developing meaningful provider-consumer relationships and coordinating services for people with SMI. Leaders noted that the fact that many clients with SMI attend PRPs multiple times per week as a facilitator of health home implementation.	<i>...you got to really wrap around people to give them the support that they need. And I feel like those wrap around supports are going to come from something like a PRP. You can't wrap around a person the same way in a community mental health center.</i>
Geographic proximity (Mentioned by 50 of 72 leaders interviewed)	Leaders consistently viewed geographic proximity of service providers involved in health home implementation as facilitating service coordination for clients with SMI. While co-location was viewed as optimal, geographic proximity more generally, e.g. in the same section of town, was also perceived as helpful. However, leaders noted that geographic proximity alone, including co-location, was insufficient to prompt effective coordination and that other communication and coordination strategies, like standing meetings and shared access to clients' EMRs, were needed.	<i>What's nice about having the primary care here and the psychiatrists here is that when there is an issue we can coordinate between the two of them, and sometimes we can even get them to talk to each other.</i>
Coordination with external providers (Mentioned by 56 of 72 leaders interviewed)	Leaders identified coordination with external providers as a key component of implementation success. They viewed this component as consistently challenging, noting difficulty engaging providers – particularly primary care providers – in the community. Leaders mentioned strategies to overcome this barrier including use of standard letters introducing the health home program to external providers and accompanying clients with SMI to appointments with community providers.	<i>A lot of physicians don't want to hear from you...any client who's going to a primary physician, I have a letter that says, "So-and-so is part of our health home." And if I see that their labs need updating, I send the letter.</i>
Health IT (Mentioned by 51 of 72 leaders interviewed)	Leaders identified Health IT as a key component of effective implementation. They viewed Maryland's Chesapeake Regional Information System for our Patients ("CRISP")—which sends providers alerts of hospital and ED admissions/discharges—as a facilitator of health home transitional care services. While 27 of the 46 sites had access to population health management software designed to help programs track and address unmet health needs in their population, leaders reported problems with the usability of the software; specifically, an interface many staff found challenging to use, the need to enter a lot of data by hand due to the software's inability to connect with EMRs, and delays in Medicaid data transmissions intended to populate the software with information on services received by clients. Many sites, including those with and without the population health management software, developed their own tracking systems. Leaders also noted lack of complete access to participants' EMRs as an implementation barrier.	<i>We use CRISP for our notifications on a daily basis, of hospitalizations, ER visits. I have not fully understood how to use [the population health management software] for population health management. It would be different if the different health IT tools spoke to each other... there's like triplicate data entry everywhere.</i>
Population health management capacity (Mentioned by 60 of 72 leaders interviewed)	Leaders viewed a tension between direct clinical care and population health management as an implementation challenge. Leaders noted challenges finding nurses who were competent in and enthusiastic about conducting population health management as opposed to delivery of direct clinical care. Leaders also noted that the requirement to deliver two health home services per month to all participants, regardless of health status, prevented them from using population health management best practices related to triaging and tailoring implementation of health home services to client groups with differing levels of need.	<i>They [nurses] do not want to simply do population health management...they want to bandage things and poke at things. I have a 24-year-old that's healthy...why do I need to see him every month? It seems like a waste. Are we making inroads with people that really have things that are going on?</i>
Shifting staff roles to support implementation (Mentioned by 63 of 72 leaders interviewed)	Leaders reported that shifting the roles of existing PRP staff, e.g. case managers and counselors, to include health home service delivery was a key part of health home implementation. Leaders felt this approach was necessary in order to provide the 2 required health home services per client per month.	<i>When it comes to the majority of the actual health homes services it is the staff at the programs who do those services.</i>

Table 4

Staff members' perceptions of integrating delivery and coordination of somatic services into the psychiatric rehabilitation program setting (N=627)

	% Agree
Somatic Health Needs of Psychiatric Rehabilitation Program Clients:	
Our clients need help improving their overall cardiovascular health	89%
Our clients need help losing weight	93%
Our clients need help improving their diets	97%
Our clients need help managing their medical conditions, like diabetes or HIV	92%
Organizational Fit of the Health Home Program within Psychiatric Rehabilitation Programs: <i>Psychiatric rehabilitation programs are good places to:</i>	
Implement physical activity interventions for clients, for example exercise classes	88%
Implement dietary interventions for clients	86%
Monitor and manage health conditions, like diabetes and hypertension	85%
Implement smoking cessation programs	89%
Implement individualized plans/interventions to improve physical health of clients	93%
Implement group interventions to improve the physical health of clients	93%
Consistency of Health Home Program and Psychiatric Rehabilitation Program Missions: <i>Psychiatric rehabilitation programs should:</i>	
Provide medical advice to clients when they are sick	58%
Work with psychiatrists to improve clients' mental health	97%
Work with substance use treatment providers to address clients' substance use disorders	96%
Work with primary care providers to improve clients' physical health	94%
Focus on addressing all of clients' health and social needs	90%
Focus more on social services than on healthcare services	37%
Focus on psychiatric rehabilitation only, not physical health	20%
Improving the physical health of clients should be part of our organization's mission	93%
Clients' physical health is better addressed outside of psychiatric rehabilitation settings	32%
Staff Members' Perceptions of Accountability for Health Home Participant Outcomes	
I feel accountable for clients' overall well-being	83%
I feel accountable for clients' mental health outcomes	71%
I feel accountable for clients' physical health outcomes	54%
I feel accountable for clients' health behavior outcomes, like smoking & weight loss	45%
I feel accountable for clients' social outcomes, like housing and employment	66%