



The Hilltop Institute

UMBC



Health Home Program Evaluation:
CY 2013 to CY 2018

report



March 18, 2021

MENTAL



HEALTH

Suggested Citation: Mohamoud, S., Idala, D., Perez, R., & Malomo-Paris, K. (2021, March 18). *Health Home program evaluation: CY 2013 to CY 2018*. Baltimore, MD: The Hilltop Institute, UMBC.

Health Home Program Evaluation: CY 2013 to CY 2018

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Health Home Program Evaluation: CY 2013 to CY 2018

Executive Summary

The Affordable Care Act (ACA) of 2010¹ presented an opportunity for states to improve care coordination for Medicaid participants with chronic conditions by providing care through the Health Home model. Under this law, each state can develop a program that offers a person-centered approach to providing enhanced care management and care coordination with the integration of primary, acute, behavioral health, and long-term services and supports. The Maryland Department of Health (the Department) responded to this initiative and submitted a Medicaid state plan amendment (SPA) that was approved by the Centers for Medicare & Medicaid Services (CMS) in October 2013.

This report is an update to the 2018 Health Home Evaluation Report² and the 2015 Joint Chairmen’s Report on Patient Outcomes for Participants in Health Homes.³ Its purpose is to describe the characteristics and outcomes of participants in the Maryland Health Home program. The Maryland Health Home program for individuals with chronic conditions builds on statewide efforts to integrate somatic and behavioral health services. The program targets Medicaid participants with a serious and persistent mental illness (SPMI) and/or an opioid substance use disorder (SUD) who are at risk of additional chronic conditions due to tobacco, alcohol, or other non-opioid substance use; as well as children with serious emotional disturbances (SED). Individuals can participate in a Health Home if they are eligible for and engaged with a psychiatric rehabilitation program (PRP), mobile treatment service (MTS), or an opioid treatment program (OTP) that has been approved by the Department to function as a Health Home provider. The goal of the Health Home program is to improve health outcomes for individuals with chronic conditions by providing an enhanced level of care management, care coordination, and health promotion while reducing costs.

¹ Patient Protection and Affordable Care Act of 2010, Pub. L. No. 111–148, § 2703, 124 Stat. 119 (2010) (codified at 42 U.S.C. § 1396w-4).

² Available at <https://hilltopinstitute.org/wp-content/uploads/publications/HealthHomeProgram2018AnnualReport-Jan2019.pdf>.

³ Available at <https://www.hilltopinstitute.org/wp-content/uploads/publications/JointChairmensReport-HealthHomes-Nov2015.pdf>.

Health Home Program Evaluation: CY 2013 to CY 2018

This evaluation summarizes health care utilization patterns while participants were enrolled in the Health Home program and any dual enrollment in both Medicaid and Medicare during calendar year (CY) 2013 through CY 2018. The lengths of enrollment were calculated as of the end of CY 2018. As of December 31, 2018, the average length of enrollment in the Health Home program was 22.1 months. The results of this preliminary analysis suggest that Health Home participants had a strong demand for the Health Home social services, such as care coordination and health promotion. The inpatient utilization rate followed a decreasing trend by length of program enrollment up to three years, after which it remained relatively consistent until declining rapidly for those with the longest enrollment spans. The analysis further shows that longer periods of enrollment in a Health Home were associated with declines in the average number of emergency department (ED) visits and non-emergent ED visits. These trends are consistent for both those enrolled in the Medicaid program only and dual participants (those dually enrolled in both Medicaid and Medicare).

Health Home Program Evaluation: CY 2013 to CY 2018

Introduction

Section 1 of this evaluation provides background information on the Health Home program as a whole, as well as an overview of the implementation of Health Homes in other states. Section 2 details the progress of the Maryland Health Home program, including descriptive statistics of participant characteristics between Health Home program types. Section 3 describes Health Home participants' patterns of health care utilization by length of Medicaid enrollment and any dual enrollment (enrollment in both Medicaid and Medicare).

Section 1. The Health Home Model

Background

Health Homes aim to improve health outcomes for individuals with chronic conditions by providing patients with an enhanced level of care management and care coordination. The Affordable Care Act (ACA) of 2010 created an option for state Medicaid programs to establish Health Homes.⁴ Health Homes provide an integrated model of care that coordinates primary, acute, behavioral health, and long-term care (long-term services and supports for Medicaid participants who have a serious and persistent mental illness (SPMI), two or more chronic conditions, or one chronic condition and are at risk for developing a second chronic condition. In response to this initiative, the Maryland Department of Health (the Department) submitted a Medicaid state plan amendment (SPA) that was approved by the Centers for Medicare & Medicaid Services (CMS) effective October 1, 2013.

The concept of the Health Home evolved from the Medical Home model, introduced by the American Academy of Pediatrics in 1967 to provide more centralized care for children with special health care needs. While a "Medical Home" initially denoted a single source for all of a patient's medical information, it came to refer more broadly to an approach to primary care that is comprehensive, coordinated, and patient- and family-centered (Sia, Tonniges, Osterhus, & Taba, 2004). In 2007, four primary care specialty societies—the American Academy of Physicians, the American Academy of Family Physicians (AAFP), the American College of Physicians, and the American Osteopathic Association (AOA)—agreed on the Joint Principles of the Patient-Centered Medical Home (PCMH) (Higgins, Chawla, Colombo, Snyder, & Nigam, 2014). The PCMH was to include a personal physician, a physician-directed medical practice, a whole-person orientation,

⁴ Patient Protection and Affordable Care Act of 2010, Pub. L. No. 111–148, § 2703, 124 Stat. 119 (2010) (codified at 42 U.S.C. § 1396w-4).

coordination across providers and specialties, safe and high-quality care, enhanced access to care, and payment that recognized the benefit provided to patients who have a patient-centered medical home (AAFP, American Academy of Pediatrics (AAP), American College of Physicians (ACP), & AOA, 2007).

There has been growing recognition of the fragmentation between behavioral health and primary care faced by individuals with serious mental illness (SMI) and/or substance use disorders (SUDs) who are more likely to die prematurely from untreated and preventable chronic illnesses (Scott & Happell, 2011). According to CMS (2014), Medicaid is “the single largest payer for mental health services in the United States and is increasingly playing a larger role in the reimbursement of SUD services.” Additionally, Medicaid beneficiaries with SMI and SUDs are more likely to have co-occurring chronic conditions than similar Medicaid beneficiaries (Dickey, Normand, Weiss, Drake, & Azeni, 2002). These issues provide the motivation to examine the impact of additional care coordination and care management services on the health outcomes of these vulnerable populations.

Health Home Programs Nationwide

As of December 2020, there were 37 unique models of Health Home programs approved by CMS in 21 states and the District of Columbia (CMS, 2020a). Enrollment in these programs varies from less than 1,000 to over 260,000 participants. A slight majority of Health Home programs are focused on participants with an SMI and/or an SUD, with three states having combined SMI and SUD models. A significant proportion of programs have a broad focus, serving participants with chronic conditions and/or SMIs. Two states have programs that are aimed at children with a serious emotional disturbance (SED). One state targets participants with HIV/AIDs. The majority of states (23 out of 35) elected to auto-enroll (opt-out enrollment) all eligible Medicaid participants into the Health Home, and the remainder require participants to actively choose to enroll (opt-in enrollment) and complete an intake process with a provider (CMS, 2019).

States are required by CMS to engage in activities to monitor and evaluate the implementation and outcomes of their Health Home model. CMS established data-reporting requirements common to all states and selected a core set of twelve health care quality measures (CMS, 2020b). These metrics target chronic disease, behavioral health, and appropriate utilization of health care. In order to implement a Health Home program, states submit an initial two-year SPA to CMS, during which time they receive an enhanced Federal Medical Assistance Percentage (FMAP) for the services provided. As part of their SPA, states outline their methodology for monitoring quality improvement, health care utilization, and the cost of care pertinent to their programs.

Most states that implemented a Health Home under the ACA have decided to continue their program past the two-year enhanced match period by CMS, suggesting that they find value in this care model. Seven states that implemented a Health Home SPA are no longer providing services through the program: Alabama, Idaho, Illinois, Kansas, North Carolina, Ohio, and

Oregon. Some reasons include budget limitations and evidence that the program did not demonstrate significant improvements for the participants. However, other states have folded their Health Homes into other policy efforts to improve patient-centered care (Office of the Assistant Secretary for Planning Evaluation (ASPE), 2018; CMS, 2019).

CMS contracted with the Urban Institute and worked with ASPE to conduct a long-term analysis of the Health Home program (Spillman & Allen, 2017; ASPE, 2018). The qualitative component of the report was based on interviews with state officials and Health Home providers. Interviewees reported that participation in the Health Home programs has improved the care Medicaid enrollees receive due to a new approach to integrated care and coordination of services. Implementation facilitators include multidisciplinary care teams, assistance with practice transformation and team-based care, a well-developed care delivery infrastructure, and co-location of behavioral and somatic care. Peer-reviewed publications on the implementation of Medicaid Health Homes have identified barriers to achieving their care coordination goals, such as administrative difficulties with information transfer, staffing capacity, and health IT limitations. These limitations resulted in restricting Health Homes' capacity to improve participants' somatic care (Momany, Damiano, Bentler, McInroy, & Nguyen-Hoang, 2015; Momany, Damiano, & Bentler, 2014; Wholey et al., 2015; Auxier, Hopkins, & Reins, 2015; Clemans-Cope et al., 2017; Golembiewski, Askelson, Bentler, Damiano, & Momany, 2015; McGinty et al., 2018; Scharf et al., 2014).

There have been several quantitative analyses of Health Home programs conducted since the initial program was implemented. The results offer mixed evidence of the program's impact on health care quality, costs, and health outcomes. Reports indicated improvement in certain areas (e.g., reductions in emergency department (ED) visits, lower hospitalization rates, and decreases in per member per month costs), while there is evidence of little or negative impact in other areas (e.g., preventive care visits). In addition, initial optimistic evidence from early adopting states was qualified when reviewing longer-term results. For example, while Iowa saw an initial decrease in ED visits the first year, later reports show that ED visit rates rebounded upwards three years later (Shane, Nguyen-Hoang, Bentler, Damiano, & Momany, 2016; Momany et al., 2017). In addition, initial reports about the Missouri Health Home programs, Community Mental Health Center (CMHC) and Primary Care Health Home (PCHH), estimated reductions in ED visits, hospitalizations, and per member per month costs to the Medicaid program (Department of Mental Health and MO HealthNet, 2014, n.d.a., and n.d.b.). However, the 2017 Health Home Program Evaluation conducted by the Urban Institute did not find cost savings attributable to program enrollment for either Missouri program. The longer-term analyses suggest variations in the program's impact between sub-groups. The report also suggests that individuals in Medicaid who are dually enrolled in Medicare and those with longer periods of program enrollment may accumulate greater benefits from the Health Home program (Spillman & Allen, 2017; ASPE, 2018).

Several peer-reviewed articles describing the performance of Maryland’s Health Home providers have been published. Researchers from Johns Hopkins University conducted interviews with and fielded surveys to program leadership, clinical providers, and frontline staff of psychiatric rehabilitation programs (PRPs) in Maryland. Similar to findings from other states, the overarching implementation challenges were concerning health IT, staffing, and coordination with primary care providers (PCPs). More than half of the Health Homes reported communicating with their participants’ somatic PCPs minimally or only periodically, and nearly half reported care plans lacking in clinical treatment details. Researchers’ results suggest that there is considerable variation between PRPs with respect to the degree of care integration. While almost all respondents believed that PRPs should work with PCPs to improve clients' somatic health, nearly a third reported that consumers' somatic health is better addressed outside of PRPs (Kennedy-Hendricks, Daumit, Choksy, Linden, & McGinty, 2018; McGinty, et al., 2018; Daumit, et al., 2019, Stone, Daumit, Kennedy-Hendricks, & McGinty, 2019).

Health home programs in three states—Maryland, Rhode Island, and Vermont—target people with opioid use disorders (OUDs). The programs aim to improve access to medication-assisted treatment for people diagnosed with OUD through SAMHSA-certified opioid treatment programs (OTPs) certified as Health Homes. Vermont is the only state with a Health Home program focused only on opioid dependency (CMS, 2019). A report examining implementation approaches found that respondents in all three states noted improvements in patient care due to the opioid Health Home model. Some of the key challenges include care coordination limitations due to barriers in information sharing, shortages of PCPs and community resources, and staffing issues (ASPE, 2018; Clemans-Cope et al., 2017).

Section 2. The Maryland Health Home Program

The Maryland Health Home program builds on statewide efforts to integrate somatic and behavioral health services, with the aim of improving health outcomes and reducing avoidable hospital utilization. The program targets populations with behavioral health needs who are at high risk for additional chronic conditions, offering them enhanced care coordination and support services by providers from whom they regularly receive care. The program focuses on Medicaid participants with an SPMI; Medicaid participants with an opioid SUD who are at risk of additional chronic conditions due to tobacco, alcohol, or other non-opioid substance use; and children with SED (CMS, 2013). In the Maryland Health Home, the center of a patient’s care, instead of being in a somatic care setting, is a PRP, mobile treatment service (MTS), or an OTP. This service delivery method is intended to include nurses and somatic care consultants in these programs and to make sure individuals in PRPs, MTS, and OTPs receive improved somatic care.

Participating Health Homes receive an initial intake and assessment fee of \$118.62⁵ when they enroll a new individual into the program. Health Home providers are also eligible for a \$118.62 monthly rate per participant for each month in which an enrollee receives at least two qualified Health Home services.⁶ If a participant receives fewer than two services, the Health Home is ineligible for that payment that month. Health home services include care coordination, care management, health promotion, and referrals to community and social support services. The state received a 90 percent enhanced FMAP for the provision of Health Home services during the first eight quarters of the program.

Medicaid participants can enroll in Health Homes if they are eligible for and engaged with a PRP, MTS, or an OTP that the Department has approved to function as a Health Home provider. Instead of auto-enrollment into the program, Maryland requires participants to actively choose to enroll and complete an intake procedure. In order to improve care coordination, when enrolling into the Health Home, Medicaid participants must consent to share their data with the Chesapeake Regional Information System for our Patients (CRISP), a regional health information exchange (HIE) serving Maryland and the District of Columbia. Individuals are excluded from Health Home participation if they are currently receiving other Medicaid-funded services that may duplicate those provided by Health Homes, such as targeted mental health care management.

A Health Home provider must be enrolled as a Maryland Medicaid provider and accredited as a Health Home. A dedicated care manager must be assigned to each participant, and providers are required to maintain certain staffing levels based on the number of participants. The Health Home staff must include a Health Home director, physician, and nurse practitioner. They must notify each participant's other providers of the participant's goals and the types of services the participant is receiving through the Health Home, as well as encourage participation in care coordination efforts.

Health home providers are responsible for documenting all delivered services, participant outcomes, and social indicators in Maryland's eMedicaid care management system. eMedicaid is a secure web-based portal that allows health care practitioners to enroll as a Medicaid provider, verify recipient eligibility, and obtain payment information. It also serves as a care management

⁵ Health Homes are reimbursed at a rate of \$118.62 during state fiscal year (SFY) 2022. Reimbursement was set at \$114.61 in Q1-Q2 of SFY 2021, \$110.19 in SFY 2020, \$106.46 in SFY 2019, \$102.86 in SFY 2018, and \$100.85 in SFY 2017. See <https://mmcp.health.maryland.gov/SiteAssets/pages/Health-Home-Requirement-Information/Provider%20Fee%20Schedule.pdf>

⁶ Previous reports and presentations by the Department have referred to this payment as a "per member per month (PMPM)" payment. Since receipt of the monthly payment is not guaranteed and is contingent on the provision of at least two Health Home services by the enrollee, the characterization of the payment as a PMPM is not strictly accurate. Program staff are in the process of updating the state's SPA, regulations, and related documents to reflect this nuance.

tracking tool for providers participating in Maryland’s Health Home program. Within eMedicaid, providers enroll participants and document participants’ diagnoses, outcomes, and services rendered.

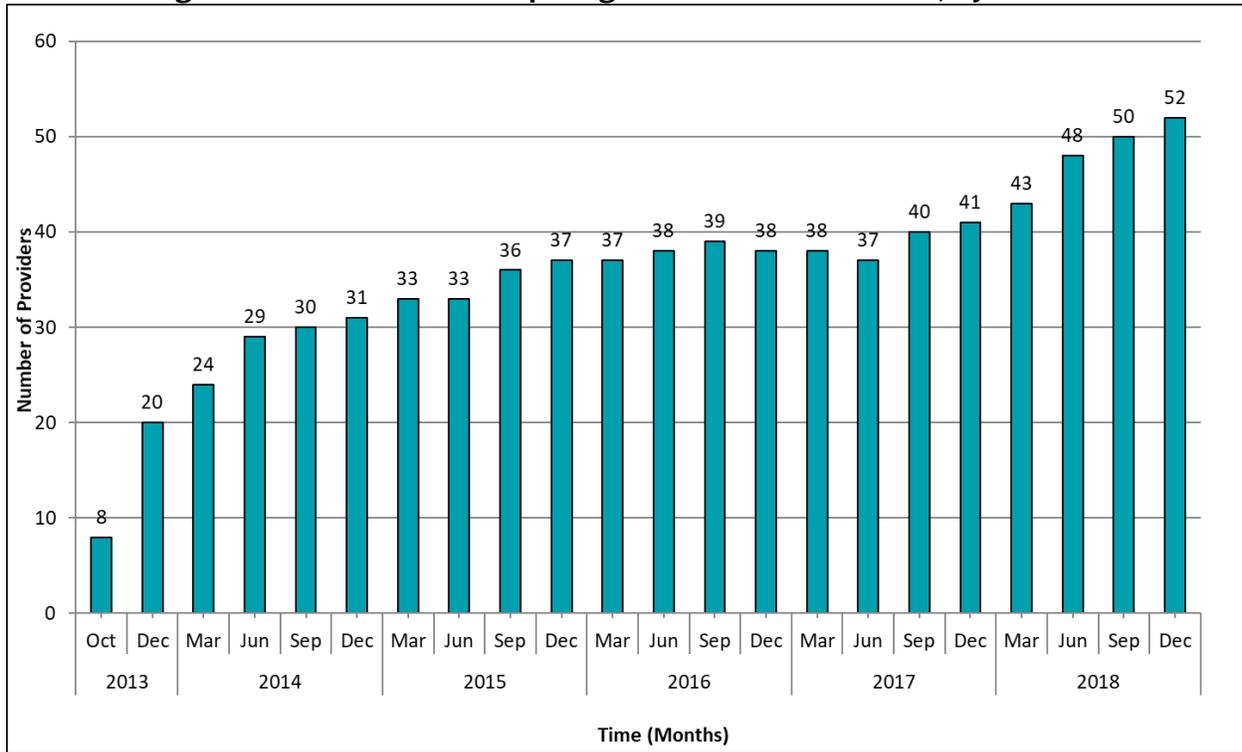
Health Home Data

This evaluation presents measures that were selected to provide a progress report for providers and participants in Health Homes. The measures were calculated using data that Health Home providers entered into eMedicaid and data from the Maryland Medicaid Information System (MMIS2). The data presented are based on the first 21 quarters (63 months, October 2013 through December 2018) of the Health Home program. The figures are presented as abridged versions of the monthly and quarterly trends over time, portraying results from every three months or every other quarter, respectively. The text descriptions of results over time explain the trends that are inclusive of all enrollment periods—even those not shown in the figures.

Health Home Providers

Figures 1a and 1b display the number of individual participating Health Home providers (1a) and provider sites (1b) by month. There are many providers with more than one location or site. These data only include Health Home provider organizations that had at least one participant enrolled during that month. A small number of providers were active at the inception of the program. Within the first year, the number of participating providers more than tripled. The number of providers remained stable for the remainder of CY 2014, increased slowly through CY 2015, and again stabilized from CY 2016 through CY 2017. In CY 2018, the number of participating providers increased by 23.8 percent, the largest increase observed since CY 2014. As of December 2018, there were 52 Health Home providers.

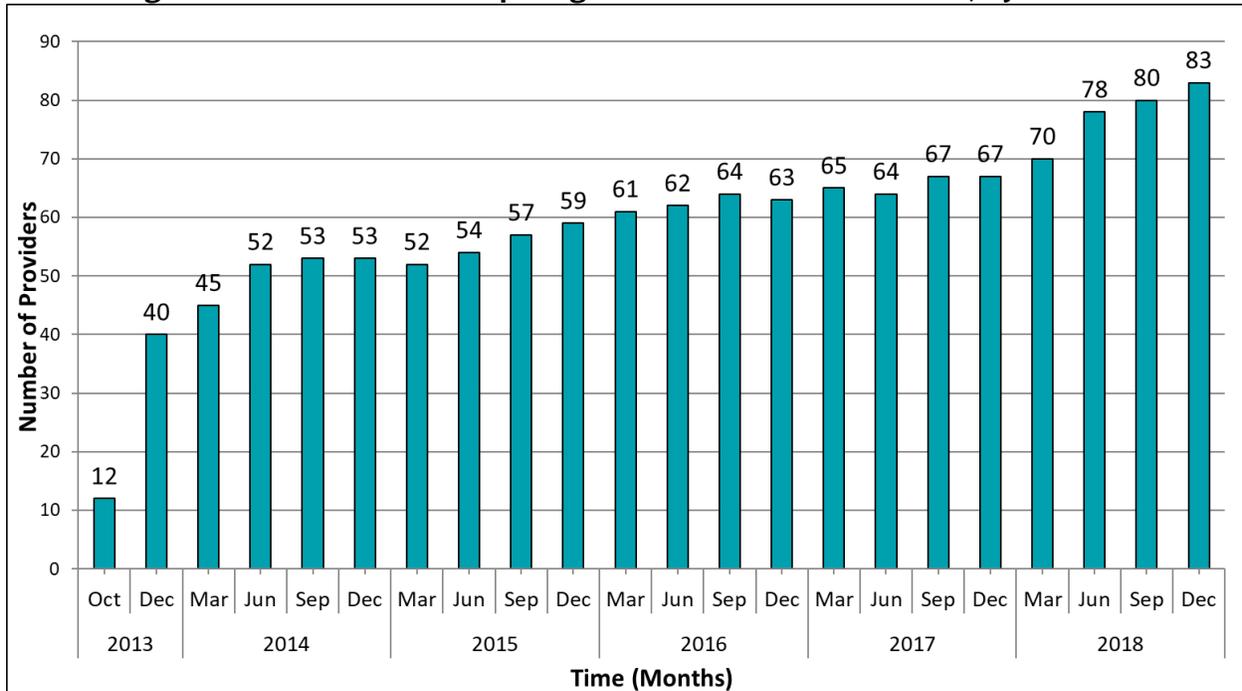
Figure 1a. Number of Participating Health Home Providers, by Month*



*Data are calculated by month and presented in three-month increments.

Figure 1b displays the number of participating Health Home providers by month according to the number of individual sites (some providers have more than one site) that are operational. These data only include Health Home sites that had at least one participant enrolled during that month. A small number of providers were active at the inception of the program: 8 providers across 12 sites. Within the first six months, the number of Health Home provider sites more than tripled, while it took a year for the number of provider organizations to increase by that size. This suggests that the roll out of the program was driven by expansion of previously existing programs, rather than development of new ones. The number of participating sites continued to increase in CY 2014 and gradually increased through CY 2017. In CY 2018, the rate of increase in provider sites grew significantly, as the number of participating sites increased by 22.1 percent—the largest increase since CY 2014. As of December 2018, Health Home programs were offered across 83 sites in Maryland.

Figure 1b. Number of Participating Health Home Provider Sites, by Month*

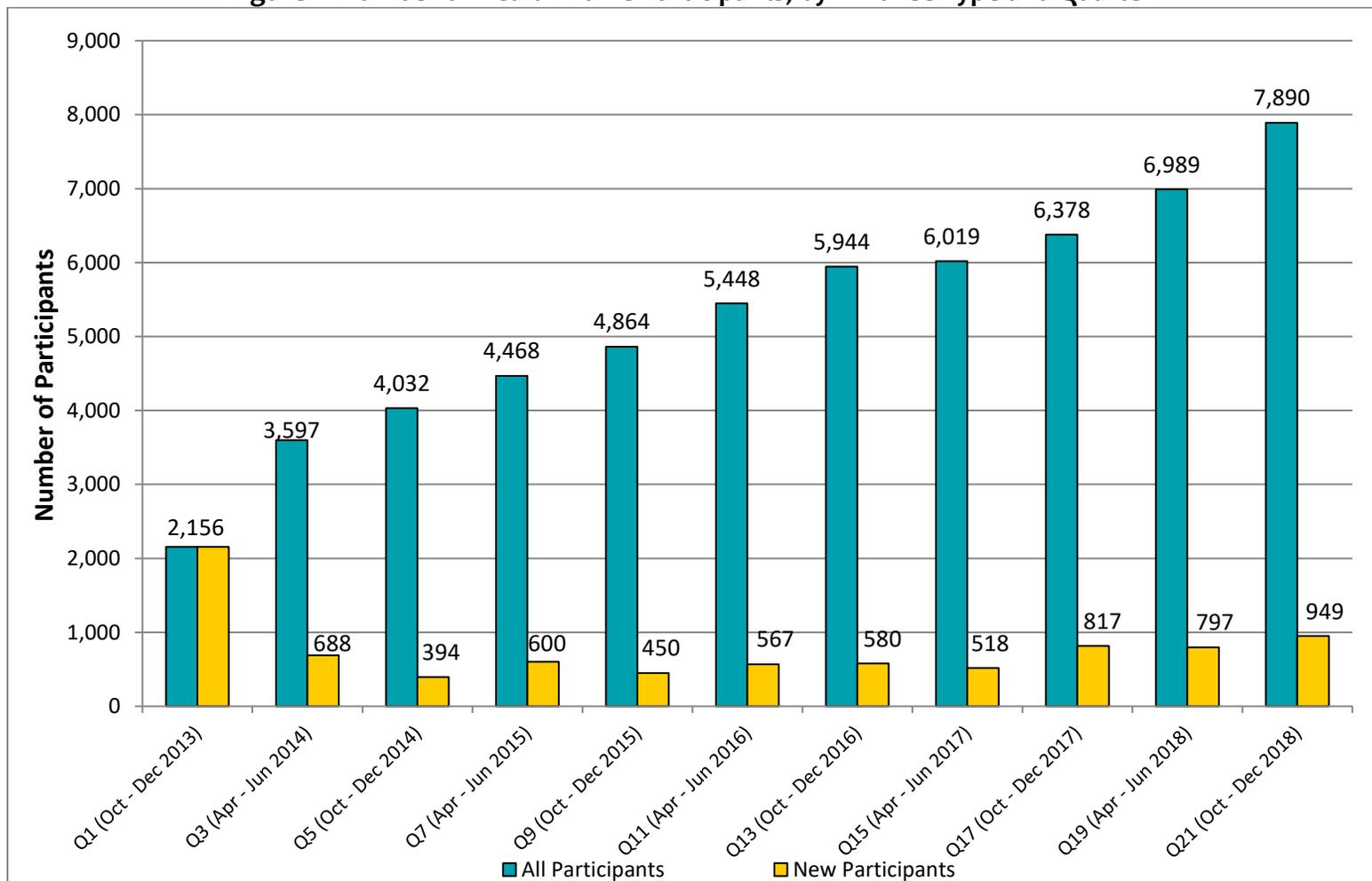


*Data are calculated by month and presented in three-month increments.

Participant Characteristics

Figure 2 presents enrollment data for the first 21 quarters of the program. Enrollment is determined using data Health Home providers entered into the eMedicaid care management system as of December 31, 2018. Figure 2 shows that a large portion of participants enrolled near the start of the program. While the enrollment of new participants dropped after the months immediately following implementation, new participants were continuously added every quarter, resulting in enrollment more than doubling between Quarters 1 and 7. Since the first quarter of the program through Quarter 21, an average of over 630 new participants joined the program each quarter. This increase in Health Home enrollment is primarily due to the introduction of new provider sites, as the sizes of individual provider sites tended to remain stable after an initial ramp-up period. The numbers of new participants joining the program has increased dramatically since Quarter 17, after which an average of over 800 new participants joined the program every quarter through the end of CY 2018.

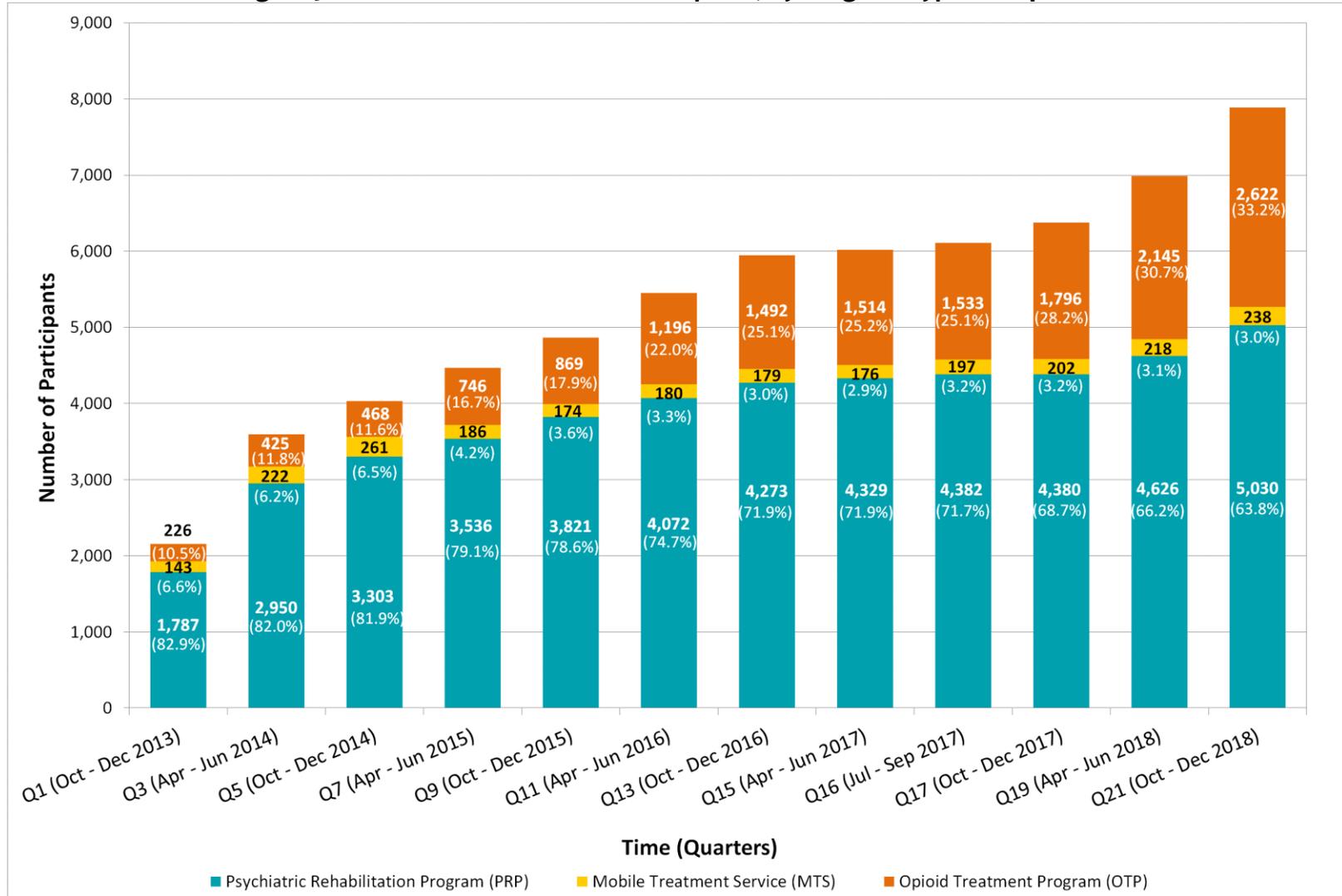
Figure 2. Number of Health Home Participants, by Enrollee Type and Quarter*



*Data are calculated by quarter and presented by every other quarter.

Figure 3 presents enrollment data by program type: PRP, MTS, or OTP. PRP providers consistently enrolled the largest share of Health Home participants: between 63.8 and 82.9 percent of participants across all 21 quarters. The percentage of participants enrolled in the MTS program ranged between 2.9 and 6.6 percent across the intervention quarters. The OTP proportion of enrollment drastically increased across all quarters, starting at 10.5 percent in Quarter 1 and increasing to 33.2 percent in Quarter 21. As of Quarter 21, only 5 of the 52 providers offered care to participants through multiple program types. The majority of providers offered services through one program type.

Figure 3. Number of Health Home Participants, by Program Type and Quarter*



*Data are calculated by quarter and presented by every other quarter.

Table 1 presents the percentage of Health Home participants enrolled as of December 31, 2018, by various demographic characteristics and by dual enrollment. Overall, the largest proportion of participants was aged 40 to 64 years (54.0 percent), followed by those aged 21 to 39 years (26.9 percent). Approximately 13 percent of the participants were under the age of 21 years. Table 1 also shows that the vast majority of the Health Home population identified as either Black (49.6 percent) or White (37.7 percent). Those who identified as Other/Unknown, Asian, or Hispanic made up a small proportion (12.7 percent) of total participants.⁷ A slight majority of Health Home participants were male (55 percent). The region with the majority (69.9 percent) of participants was the Baltimore metropolitan area. The next most common areas of residence were the Eastern Shore (15.3 percent), and Montgomery and Prince George’s Counties (7.7 percent, combined). Similar demographic breakdowns were observed among Health Home participants who are and are not dually enrolled, but there are some key differences. Dually eligible Health home participants are more likely than the non-dual participants to be older, non-Hispanic White, male, and live in the following regions: Eastern Shore, Montgomery and Prince George’s Counties, or Western Maryland.

A person’s comorbidity level is estimated based on the Johns Hopkins Adjusted Clinical Groups (ACG) methodology, which uses claims data to classify individuals based on their projected and/or actual utilization of health care services. Approximately 56.8 percent of participants were categorized as having a very high or high comorbidity level, 35.9 percent were classified as having a moderate comorbidity level, and only 7.3 percent were classified as having a low comorbidity level. A higher proportion of dual eligibles (individuals eligible for both Medicare and Medicaid benefits) were categorized as having a very high or high comorbidity level (63.7 percent) compared to those who are not dually enrolled (54.2 percent).

⁷ There was a substantial change to the quality of race and ethnicity information in MMIS2 data beginning in CY 2014, most likely due to changes in race reporting requirements. After CY 2014, the number of individuals reporting their race or ethnicity decreased and the proportion represented as “Other/Unknown” increased sharply.

Table 1. Demographic and Clinical Characteristics of Health Home Participants by Dual Enrollment**

Demographic/Clinical Characteristics	All Participants		Non-Duals		Duals	
	Number	Percentage	Number	Percentage	Number	Percentage
Age Group (Years)						
3 to 9	204	1.4%	*	*	*	*
10 to 14	834	5.6%	*	*	*	*
15 to 20	860	5.8%	*	*	*	*
21 to 39	3,973	26.9%	3,128	29.2%	845	20.8%
40 to 64	7,982	54.0%	5,548	51.7%	2,434	59.8%
65 and older	938	6.3%	157	1.5%	781	19.2%
Race Ethnicity						
Asian	119	0.8%	71	0.7%	48	1.2%
Black	7,335	49.6%	5,663	52.8%	1,672	41.1%
Hispanic	133	0.9%	88	0.8%	45	1.1%
Other	1,623	11.0%	1,044	9.7%	579	14.2%
White	5,581	37.7%	3,856	36.0%	1,725	42.4%
Gender						
Female	6,659	45.0%	4,918	45.9%	1,741	42.8%
Male	8,132	55.0%	5,804	54.1%	2,328	57.2%
Region						
Baltimore Metro	10,339	69.9%	8,076	75.3%	2,263	55.6%
Eastern Shore	2,257	15.3%	1,471	13.7%	786	19.3%
Montgomery & Prince George's Counties	1,137	7.7%	567	5.3%	570	14.0%
Out of State	63	0.4%	45	0.4%	18	0.4%
Southern Maryland	93	0.6%	61	0.6%	32	0.8%
Western Maryland	902	6.1%	502	4.7%	400	9.8%
Adjusted Comorbidity						
Low Comorbidity	1,086	7.3%	867	8.1%	219	5.4%
Moderate Comorbidity	5,307	35.9%	4,046	37.7%	1,261	31.0%
High Comorbidity	3,983	26.9%	2,817	26.3%	1,166	28.7%
Very High Comorbidity	4,415	29.9%	2,992	27.9%	1,423	35.0%
Total	14,791	100.0%	10,722	100.0%	4,069	100.0%

*Cell values of 10 or less have been suppressed.

**Dual status is defined as having any enrollment in Medicare during CY 2018, not necessarily during the time of the event summarized above.

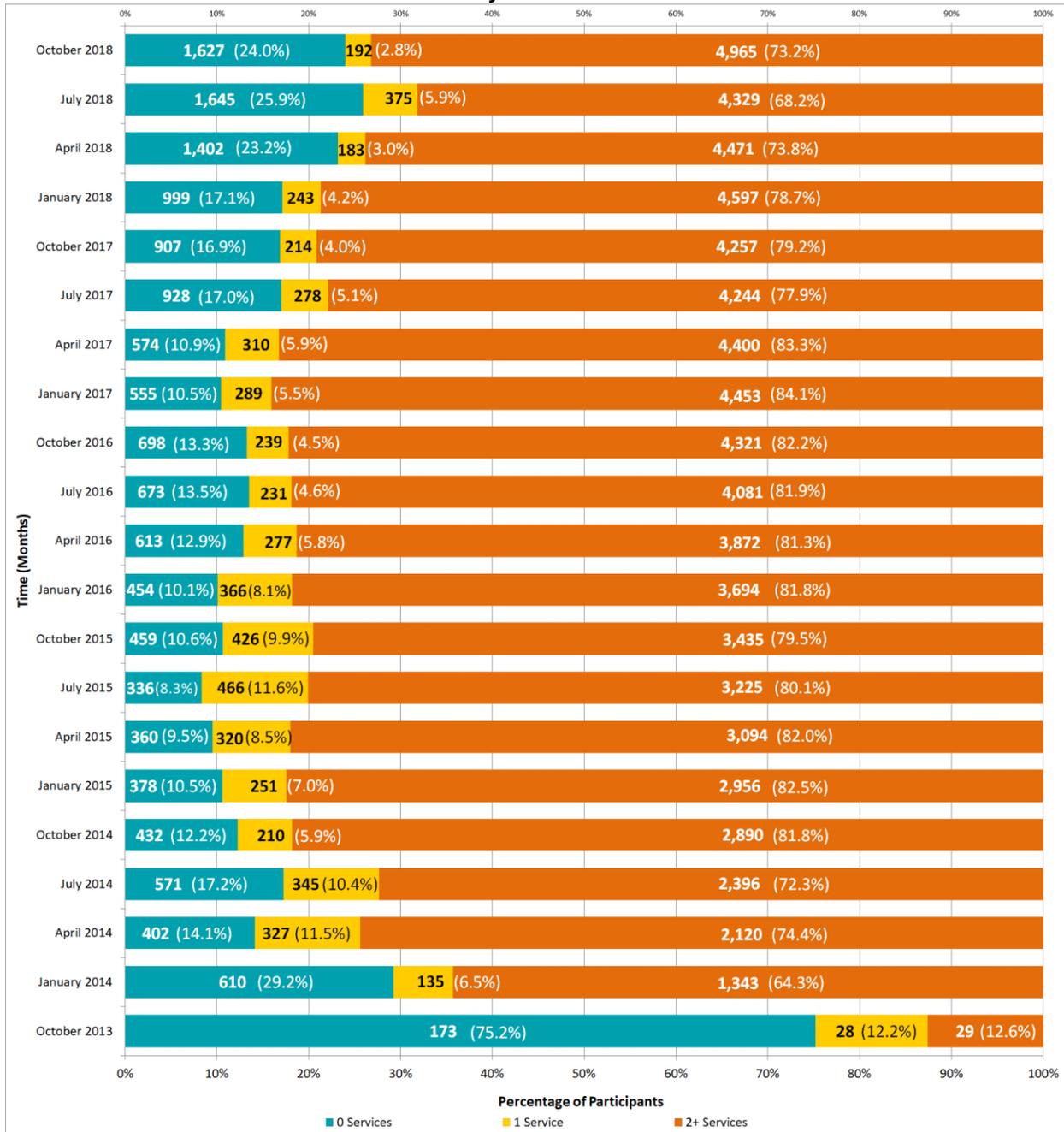
Health Home Services

Health Homes are required to provide at least two services to a participant in a given month in order to qualify for monthly reimbursement. Health home services include care coordination, care management, health promotion, and referrals to community and social support services. Categories of services include the following:

- Comprehensive care management to assess, plan, monitor, and report on participant health care needs and outcomes
- Care coordination to ensure appropriate linkages, referrals, and appointment scheduling across different providers
- Health promotion to aid participants in implementation of their care plans
- Comprehensive transitional care to ease the transition when discharged from inpatient settings and ensure appropriate follow-up
- Individual and family support services to provide support and information that is language, literacy, and culturally appropriate
- Referral to community and social support services

Figure 4 displays the percentage of participants by the number of services (comprehensive care management, care coordination, health promotion, comprehensive transitional care, individual and family support, referral to community and social support) received per month. During the first month of the program, 12.6 percent of participants received two or more services, and 75.2 percent of participants did not receive any services. As time progressed, the number of participants receiving two or more services per month ranged from 63.1 to 84.1 percent. The number of participants who did not receive any services decreased steadily after implementation until the middle of CY 2017, at which point the number of participants receiving no services began to increase.

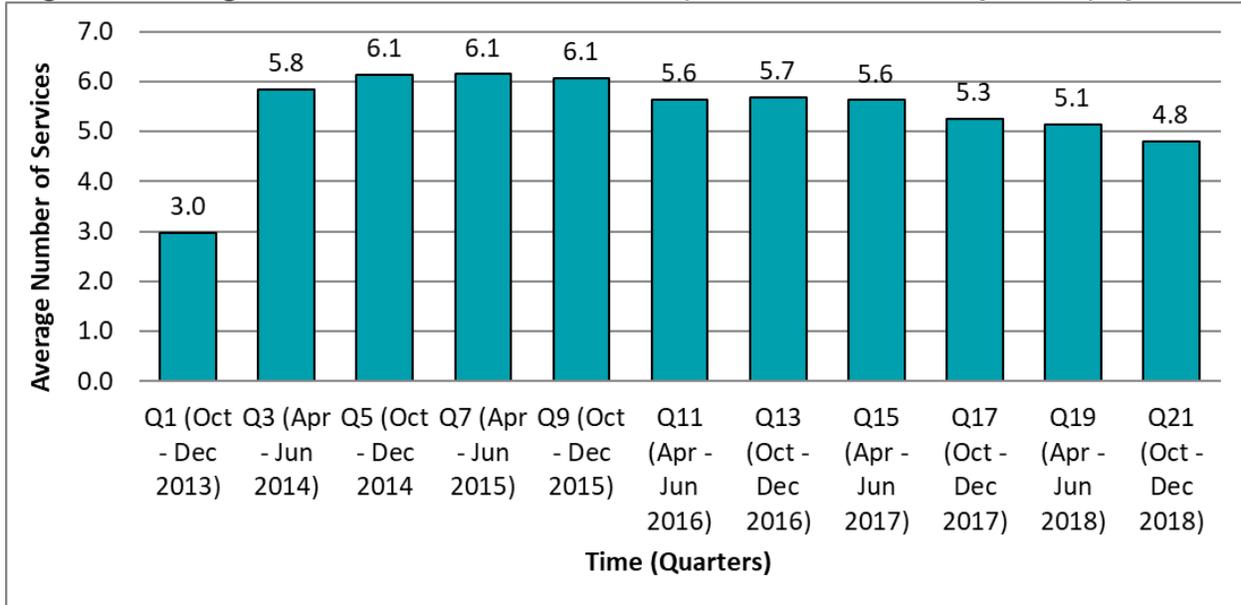
Figure 4. Percentage of Health Home Participants Receiving 0, 1, or 2 or More Services, by Month*



*Data are calculated by month and presented in three-month increments.

Figure 5 presents the average number of services among Health Home participants who received at least one service during the quarter. The average number of services increased during the first two years of program implementation, growing from 3.0 in Quarter 1 to 6.3 in Quarter 8. After Quarter 8, the average number of services participants received fell steadily to 4.8 in Quarter 21.

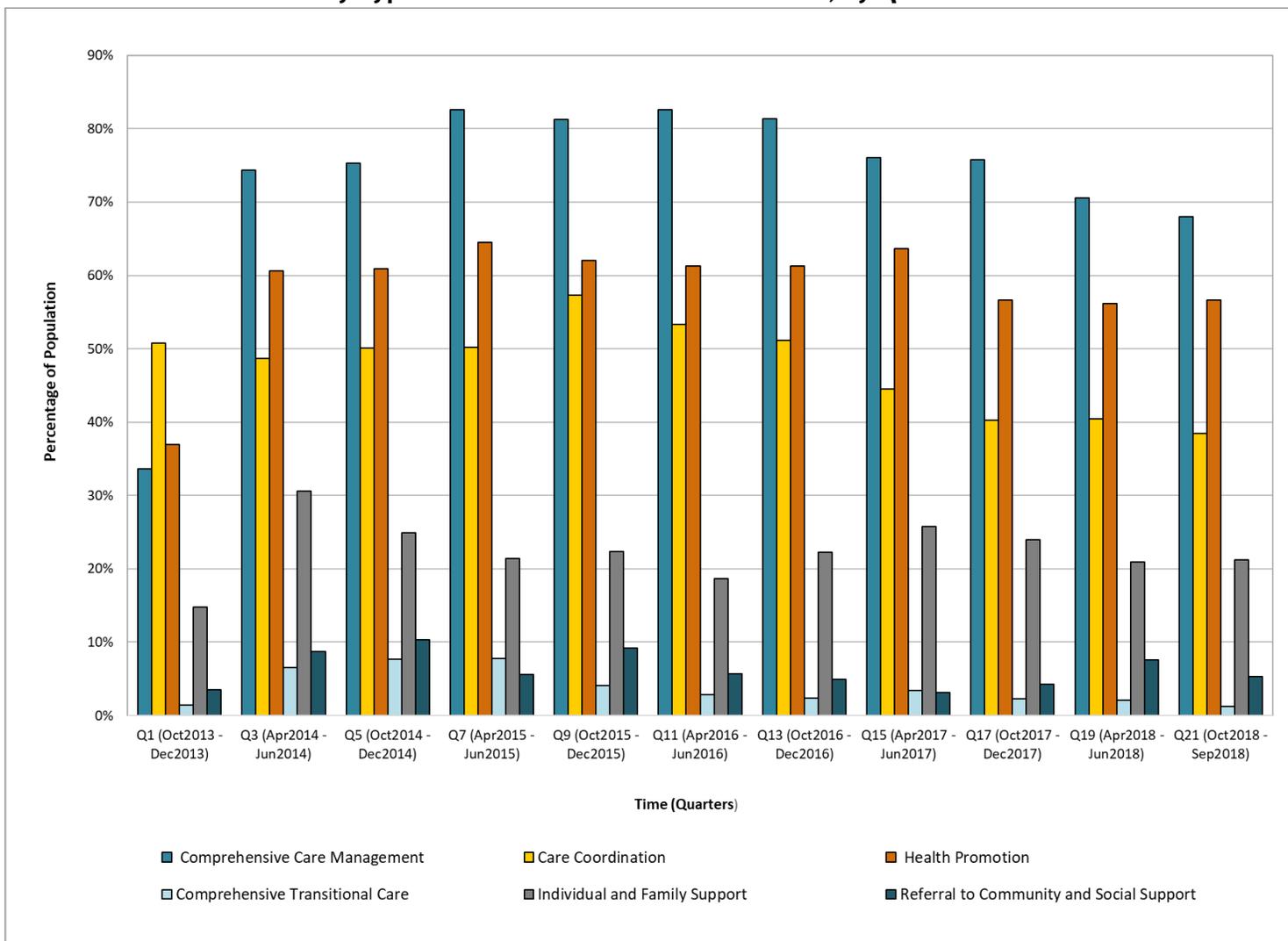
Figure 5. Average Number of Services Received by Health Home Participants, by Quarter*



*Data are calculated by quarter and presented by every other quarter.

Figure 6 displays the percentage of participants who received each of the six types of Health Home services, by quarter. The data show that there is a strong demand for the social services offered by the program. Care coordination was consistently received at least once per quarter by more than 50 percent of the participants through CY 2016, and thereafter by approximately 40 percent of participants. The proportion of participants receiving a comprehensive care management service increased from 33.6 percent in Quarter 1 to 80.7 percent in Quarter 4 and remained the most frequently delivered social service from then on. From Quarter 5 through Quarter 21, the percentage of participants receiving comprehensive care management ranged between 66.4 percent and 84.7 percent. Receipt of health promotion services was 36.9 percent in Quarter 1 and ranged between 54.7 and 66.5 percent for the remainder of the Health Home program. Comprehensive transitional care and referral to community and social support services were consistently received by the smallest proportion of participants.

Figure 6. Percentage of Health Home Participants by Type of Health Home Services Received, by Quarter*



*Data are calculated by quarter and presented by every other quarter.

Section 3. Health Home Participants' Health Care Utilization by Length of Enrollment

The tables in this section summarize health care utilization patterns while participants were enrolled in the Health Home program by length of Medicaid enrollment and any dual Medicare enrollment. The lengths of enrollment were calculated as of the end of CY 2018. As of December 31, 2018, the average length of enrollment in the Health Home program was 22.1 months.

The enrollment spans were estimated using the first enrollment date of each participant, even if there were gaps in the overall Health Home enrollment. If a person had no gaps in enrollment, then their enrollment span equals the number of days from their enrollment date until December 31, 2018. For the participants with gaps in enrollment (that is, those having more than one enrollment span), the total enrollment was calculated by combining time periods of each of the enrollment spans. For example, if a participant enrolled in a Health Home program, left the program after six months of enrollment, rejoined three months later for four months, and left again before the end of CY 2018, then the total length of enrollment for this person at the end of CY 2018 would be ten months. This person would be counted in the category of participants with “7 to 12 months” of enrollment and also in the category of participants with “0 to 6 months” of enrollment.⁸

Emergency Department Visits

Table 2 presents ED utilization rates per participant by length of enrollment in a Health Home program and dual enrollment and average number of ED visits per participant and per user. The average number of visits per participant is calculated by the total number of visits for each participant and the average number of visits per user is calculated by the total number of visits for each participant that had an ED visit. ED utilization rates were highest during a participant’s first six months of enrollment, with 38.9 percent of participants visiting the ED at least one time during that enrollment span. Overall, ED utilization rates declined the longer participants were enrolled; participants who were in a Health Home program since the outset—61 to 66 months—had the lowest ED utilization rate, at 13.6 percent. Furthermore, the average number of ED visits per participant decreased the longer participants were enrolled in the program; from 1.01 during the first six months of enrollment to 0.23 when participants were enrolled 61 to 66 months. ED utilization rates for both non-duals and dual eligibles follow a declining trend the longer the Health Home participants were enrolled in the program. Non-duals initially had higher ED utilization rates than duals, the differences narrow as enrollment lengths grow, and then the rates converge at 43 to 48 months of enrollment. Health home participants not dually enrolled in Medicare have a higher average number of ED visits per user (of service) and per participant for the majority of enrollment spans.

⁸ If a participant was discharged from the Health Home program, later had a visit, and subsequently re-enrolled in the program, then that visit is not included in the tables below.

Table 2. ED Utilization Rates per Participant, by Length of Health Home Participation and Dual* Enrollment, CY 2013–CY 2018

Length of Enrollment	All Participants						Non-Duals						Duals					
	Total	Any ED Visit	ED Rates	Number of ED Visits	Average ED Visits per User	Average ED Visits per Participant	Total	Any ED Visit	ED Rates	Number of ED Visits	Average ED Visits per User	Average ED Visits per Participant	Total	Any ED Visit	ED Rates	Number of ED Visits	Average ED Visits per User	Average ED Visits per Participant
0 to 6 Months	13,377	5,209	38.9%	13,488	2.59	1.01	9,738	3880	39.8%	10,281	2.65	1.06	3,639	1329	36.5%	3,207	2.41	0.88
7 to 12 Months	10,186	3,618	35.5%	9,007	2.49	0.88	7,048	2554	36.2%	6,498	2.54	0.92	3,138	1064	33.9%	2,509	2.36	0.80
13 to 18 Months	7,712	2,577	33.4%	6,206	2.41	0.80	5,095	1729	33.9%	4,331	2.50	0.85	2,617	848	32.4%	1,875	2.21	0.72
19 to 24 Months	5,948	1,949	32.8%	4,828	2.48	0.81	3,718	1285	34.6%	3,230	2.51	0.87	2,230	662	29.7%	1,598	2.41	0.72
25 to 30 Months	4,846	1,543	31.8%	3,802	2.46	0.78	2,889	967	33.5%	2,495	2.58	0.86	1,957	572	29.2%	1,307	2.28	0.67
31 to 36 Months	3,951	1,278	32.3%	3,118	2.44	0.79	2,271	753	33.2%	1,939	2.58	0.85	1,680	510	30.4%	1,179	2.31	0.70
37 to 42 Months	3,252	1,087	33.4%	2,661	2.45	0.82	1,791	612	34.2%	1,594	2.60	0.89	1,461	454	31.1%	1,067	2.35	0.73
43 to 48 Months	2,664	818	30.7%	2,117	2.59	0.79	1,429	425	29.7%	1,224	2.88	0.86	1,235	369	29.9%	893	2.42	0.72
49 to 54 Months	1,995	644	32.3%	1,670	2.59	0.84	991	314	31.7%	932	2.97	0.94	1,004	297	29.6%	738	2.48	0.74
55 to 60 Months	1,558	432	27.7%	1,125	2.60	0.72	729	181	24.8%	563	3.11	0.77	829	217	26.2%	562	2.59	0.68
61 to 66 Months	838	114	13.6%	190	1.67	0.23	349	37	10.6%	63	1.70	0.18	489	66	13.5%	127	1.92	0.26

*Dual status is defined as having any enrollment in Medicare during CY 2018—not necessarily during the time of the event summarized above.

Inpatient Hospital Admissions

Table 3 presents the inpatient admission rates per participant by length of enrollment in a Health Home program and dual enrollment in Medicare. Average inpatient visit rates are calculated per user, meaning the average number for each participant that had an inpatient admission, as well as per participant. Inpatient utilization rates were highest during participants' first six months in the program: 12.2 percent of total participants had a hospital stay during that enrollment span. The inpatient utilization rate followed a decreasing trend by length of enrollment up to three years, after which it remained relatively consistent until declining rapidly for those with the longest enrollment spans. The average number of inpatient admissions per participant decreased the longer participants were enrolled in the program; from 0.17 during the first six months of enrollment to 0.04 when participants were enrolled for 61 to 66 months.

Those dually enrolled in Medicare have higher inpatient admission rates than non-dual eligibles across all enrollment spans, except for those enrolled 61 to 66 months. Inpatient admission rates for both non-duals and duals follow similar trends during the shorter enrollment spans, but those rates begin to rise for duals enrolled three years or longer, reaching their maximum for people enrolled 49 to 54 months. On the other hand, Health Home participants not dually enrolled in Medicare have a higher average number of inpatient admissions per user and per participant for the majority of enrollment spans.

Table 3. Inpatient Admission Rates per Participant, by Length of Enrollment and Any Dual* Enrollment, CY 2013–CY 2018

Length of Enrollment	All Participants						Non-Duals						Duals					
	Total	Any Inpatient Visit	Inpatient Rates	Number of Inpatient Visits	Average Inpatient Visits per User	Average Inpatient Visits per Participant	Total	Any Inpatient Visit	Inpatient Rates	Number of Inpatient Visits	Average Inpatient Visits per User	Average Inpatient Visits per Participant	Total	Any Inpatient Visit	Inpatient Rates	Number of Inpatient Visits	Average Inpatient Visits per User	Average Inpatient Visits per Participant
0 to 6 Months	13,377	1,628	12.2%	2,242	1.38	0.17	9,738	1,140	11.7%	1,668	1.46	0.17	3,639	488	13.4%	574	1.18	0.16
7 to 12 Months	10,186	1,228	12.1%	1,638	1.33	0.16	7,048	802	11.4%	1,163	1.45	0.17	3,138	426	13.6%	475	1.12	0.15
13 to 18 Months	7,712	800	10.4%	1,071	1.34	0.14	5,095	494	9.7%	737	1.49	0.14	2,617	306	11.7%	334	1.09	0.13
19 to 24 Months	5,948	655	11.0%	853	1.30	0.14	3,718	390	10.5%	557	1.43	0.15	2,230	265	11.9%	296	1.12	0.13
25 to 30 Months	4,846	487	10.0%	653	1.34	0.13	2,889	280	9.7%	420	1.50	0.15	1,957	207	10.6%	233	1.13	0.12
31 to 36 Months	3,951	438	11.1%	554	1.26	0.14	2,271	235	10.3%	332	1.41	0.15	1,680	203	12.1%	222	1.09	0.13
37 to 42 Months	3,252	373	11.5%	436	1.17	0.13	1,791	187	10.4%	239	1.28	0.13	1,461	186	12.7%	197	1.06	0.13
43 to 48 Months	2,664	305	11.4%	390	1.28	0.15	1,429	159	11.1%	235	1.48	0.16	1,235	146	11.8%	155	1.06	0.13
49 to 54 Months	1,995	252	12.6%	286	1.13	0.14	991	111	1.1%	143	1.29	0.14	1,004	141	14.0%	143	1.01	0.14
55 to 60 Months	1,558	158	10.1%	182	1.15	0.12	729	67	9.2%	92	1.37	0.13	829	91	11.0%	90	0.99	0.11
61 to 66 Months	838	33	3.9%	30	0.91	0.04	349	18	5.2%	16	0.89	0.05	489	15	3.1%	14	0.93	0.03

* Dual status is defined as having any enrollment in Medicare during CY 2018—not necessarily during the time of the event summarized above.

Ambulatory Care Visits

An ambulatory care visit is defined as contact with a doctor, nurse practitioner, or physician assistant in a clinic, physician's office, or hospital outpatient department.⁹ Ambulatory care utilization often serves as a measure of access to care. Higher rates of ambulatory care can offer an alternative to less efficient care for non-emergent conditions in an ED visit setting, as well as prevent a condition from becoming exacerbated to the extent that it requires an inpatient admission.

Table 4 presents ambulatory care visit rates per participant by length of enrollment in a Health Home program and dual enrollment in Medicare. Average ambulatory care rates are calculated per user, meaning the average number for each participant that had an ambulatory care visit, as well as per participant. Ambulatory care rates were the highest from 49 to 54 months of enrollment, with 91.6 percent of total participants having at least one ambulatory care visit during that time. The average number of visits per participant followed a similar trend, with the highest average of 6.14 observed for participants enrolled for 31 to 36 months. Ambulatory care utilization rates for both non-duals and dual eligibles show a similar trend over the enrollment month spans. Health home participants dually enrolled in Medicare have higher ambulatory utilization rates and average number of ambulatory visits per participant and per user than non-duals for all enrollment spans except 61 to 66 months.

⁹ This definition excludes ED visits, hospital inpatient services, substance use treatment, mental health, home health, x-ray, and laboratory services.

Table 4. Ambulatory Care Visit Rates per Participant, by Length of Medicaid Enrollment and Any Dual* Enrollment, CY 2013–CY 2018

Length of Enrollment	All Participants						Non-Duals						Duals					
	Total	Any Amb Visit	Amb Rates	Number of Amb Visits	Average Amb Visits per User	Average Amb Visits per Participant	Total	Any Amb Visit	Amb Rates	Number of Amb Visits	Average Amb Visits per User	Average Amb Visits per Participant	Total	Any Amb Visit	Amb Rates	Number of Amb Visits	Average Amb Visits per User	Average Amb Visits per Participant
0 to 6 Months	13,377	11,599	86.7%	79,596	6.86	5.95	9,738	8,305	85.3%	53,928	6.49	5.54	3,639	3,294	90.5%	25,668	7.79	7.05
7 to 12 Months	10,186	8,466	83.1%	57,943	6.84	5.69	7,048	5,723	81.2%	37,009	6.47	5.25	3,138	2,743	87.4%	20,934	7.63	6.67
13 to 18 Months	7,712	6,417	83.2%	43,787	6.82	5.68	5,095	4,117	80.8%	26,290	6.39	5.16	2,617	2,300	87.9%	17,497	7.61	6.69
19 to 24 Months	5,948	4,983	83.8%	35,636	7.15	5.99	3,718	3,039	81.7%	20,257	6.67	5.45	2,230	1,944	87.2%	15,379	7.91	6.90
25 to 30 Months	4,846	4,100	84.6%	28,465	6.94	5.87	2,889	2,386	82.6%	15,727	6.59	5.44	1,957	1,714	87.6%	12,738	7.43	6.51
31 to 36 Months	3,951	3,386	85.7%	24,246	7.16	6.14	2,271	1,894	83.4%	12,938	6.83	5.70	1,680	1,492	88.8%	11,308	7.58	6.73
37 to 42 Months	3,252	2,839	87.3%	19,714	6.94	6.06	1,791	1,532	85.5%	10,030	6.55	5.60	1,461	1,307	89.5%	9,684	7.41	6.63
43 to 48 Months	2,664	2,307	86.6%	15,190	6.58	5.70	1,429	1,203	84.2%	7,495	6.23	5.24	1,235	1,104	89.4%	7,695	6.97	6.23
49 to 54 Months	1,995	1,827	91.6%	12,188	6.67	6.11	991	891	89.9%	5,613	6.30	5.66	1,004	936	93.2%	6,575	7.02	6.55
55 to 60 Months	1,558	1,376	88.3%	8,066	5.86	5.18	729	628	86.1%	3,505	5.58	4.81	829	748	90.2%	4,561	6.10	5.50
61 to 66 Months	838	579	69.1%	1,389	2.40	1.66	349	243	69.6%	578	2.38	1.66	489	336	68.7%	811	2.41	1.66

*Dual status is defined as having any enrollment in Medicare during CY 2018—not necessarily during the time of the event summarized above.

Nursing Home Stays

Table 5 presents nursing home (NH) stays per participant by length of enrollment in a Health Home program and dual enrollment in Medicare. Average NH visit rates are calculated per user, meaning the average number for each participant that had a NH stay, as well as per participant. NH utilization rates remained between 1.0 and 1.1 percent for the first 30 months of enrollment. Thereafter, rates increased slightly to a high of 1.7 percent for participants enrolled for 49 to 54 months before declining to 0.8 percent for participants enrolled for 61 to 66 months. The average number of stays per participant remained low and stable across all enrollment spans. The average number of stays per user did not demonstrate consistent trends by length of enrollment. Average nursing home stays per user and per participant for non-duals and dual eligibles experienced similar trends. NH utilization rates were higher for non-duals, while the average number of nursing home stays were higher for duals, suggesting that there are episodes of care not recorded in Medicaid data.

Table 5. Nursing Home Stays per Participant, by Length of Medicaid Enrollment and Any Dual Enrollment, CY 2013–CY 2018**

Length of Enrollment	All Participants						Non-Duals						Duals					
	Total	Any NH Stay	NH Rates	Number of NH Stays	Average NH Stays per User	Average NH Stays per Participant	Total	Any NH Stay	NH Rates	Number of NH Stays	Average NH Stays per User	Average NH Stays per Participant	Total	Any NH Stay	NH Rates	Number of NH Stays	Average NH Stays per User	Average NH Stays per Participant
0 to 6 Months	13,377	133	1.0%	300	2.26	0.02	9,738	104	1.1%	233	2.24	0.02	3,639	29	0.8%	67	2.31	0.02
7 to 12 Months	10,186	106	1.0%	276	2.60	0.03	7,048	76	1.1%	191	2.51	0.03	3,138	30	1.0%	85	2.83	0.03
13 to 18 Months	7,712	83	1.1%	206	2.48	0.03	5,095	59	1.2%	143	2.42	0.03	2,617	24	0.9%	63	2.63	0.02
19 to 24 Months	5,948	67	1.1%	171	2.55	0.03	3,718	42	1.1%	96	2.29	0.03	2,230	25	1.1%	75	3.00	0.03
25 to 30 Months	4,846	52	1.1%	154	2.96	0.03	2,889	31	1.1%	75	2.42	0.03	1,957	21	1.1%	79	3.76	0.04
31 to 36 Months	3,951	53	1.3%	136	2.57	0.03	2,271	34	1.5%	69	2.03	0.03	1,680	19	1.1%	67	3.53	0.04
37 to 42 Months	3,252	36	1.1%	108	3.00	0.03	1,791	22	1.2%	48	2.18	0.03	1,461	14	1.0%	60	4.29	0.04
43 to 48 Months	2,664	39	1.5%	101	2.59	0.04	1,429	19	1.3%	42	2.21	0.03	1,235	20	1.6%	59	2.95	0.05
49 to 54 Months	1,995	33	1.7%	99	3.00	0.05	991	14	1.4%	34	2.43	0.03	1,004	19	1.9%	65	3.42	0.06
55 to 60 Months	1,558	20	1.3%	53	2.65	0.03	729	*	1.2%	21	2.33	0.03	829	11	1.3%	32	2.91	0.04
61 to 66 Months	838	*	0.8%	*	1.43	0.01	349	*	0.6%	*	1.50	0.01	489	*	1.0%	*	1.40	0.01

* Cell values of 10 or less have been suppressed.

**Dual status is defined as having any enrollment in Medicare during CY 2018—not necessarily during the time of the event summarized above.

Non-Emergent Emergency Department Visits

One widely used methodology to evaluate the appropriateness of care in the ED setting is based on classifications developed by the New York University (NYU) Center for Health and Public Service Research (Billings, Parikh, & Mijanovich, 2000). The algorithm assigns probabilities of the likelihood that the ED visit falls into one of the following categories:

1. *Non-emergent*: Immediate care was not required within 12 hours based on patient's presenting symptoms, medical history, and vital signs
2. *Emergent but primary care treatable*: Treatment was required within 12 hours, but it could have been provided effectively in a primary care setting (e.g., CAT scan or certain lab tests)
3. *Emergent but preventable/avoidable*: Emergency care was required, but the condition was potentially preventable/avoidable if timely and effective ambulatory care had been received during the episode of illness (e.g., asthma flare-up)
4. *Emergent, ED care needed, not preventable/avoidable*: Ambulatory care could not have prevented the condition (e.g., trauma or appendicitis)
5. *Injury*: Injury was the principal diagnosis
6. *Alcohol-related*: The principal diagnosis was related to alcohol
7. *Drug-related*: The principal diagnosis was related to drugs
8. *Mental-health related*: The principal diagnosis was related to mental health
9. *Unclassified*: The condition was not classified in one of the above categories

Table 6 presents the “non-emergent” ED visit rates, according to the NYU classification, by length of enrollment in a Health Home program and dual enrollment in Medicare. If a visit is classified as more than 50 percent likely to fall into Categories 1 or 2 as described above, then it is considered “non-emergent.” The estimates presented in the table therefore show the percentage of participants who went to the ED when either immediate care was not required within 12 hours or when it could have been provided in a primary care setting. Average non-emergent ED visit rates are calculated per user, meaning the average number for each participant that had a non-emergent ED visit, as well as per participant.

Non-emergent ED utilization rates were highest during a participant's first six months of enrollment in a Health Home program; 20 percent of total participants had a non-emergent ED visit during that enrollment span. Overall, non-emergent ED utilization rates declined the longer participants were enrolled; participants who were enrolled for 61 to 66 months had the lowest ED utilization rate, at 6.1 percent. Furthermore, the average number of non-emergent ED visits per participant decreased the longer participants were enrolled in the program: from 0.36 during the first six months of enrollment to 0.08 when participants were enrolled 61 to 66 months. Non-dual eligibles had consistently higher non-emergent ED utilization rates than dual eligibles across all enrollment spans. Non-emergent ED utilization rates for both non-duals and duals show a decreasing trend the longer the Health Home participants were enrolled in the program.

Table 6. Non-Emergent ED Visits per Participant, by Length of Enrollment and Any Dual* Enrollment, CY 2013–CY 2018

Length of Enrollment	All Participants						Non-Duals						Duals					
	Total	Any Non-Emergent ED Visits	Non-Emergent ED Rates	Number of Non-Emergent ED Visits	Average Non-Emergent ED Visits per User	Average Non-Emergent ED Visits per Participant	Total	Any Non-Emergent ED Visits	Non-Emergent ED Rates	Number of Non-Emergent ED Visits	Average Non-Emergent ED Visits per User	Average Non-Emergent ED Visits per Participant	Total	Any Non-Emergent ED Visits	Non-Emergent ED Rates	Number of Non-Emergent ED Visits	Average Non-Emergent ED Visits per User	Average Non-Emergent ED Visits per Participant
0 to 6 Months	13,377	2,670	20.0%	4,801	1.80	0.36	9,738	2,042	21.0%	3,712	1.82	0.38	3,639	628	17.3%	1,089	1.73	0.30
7 to 12 Months	10,186	1,787	17.5%	3,111	1.74	0.31	7,048	1,303	18.5%	2,274	1.75	0.32	3,138	484	15.4%	837	1.73	0.27
13 to 18 Months	7,712	1,282	16.6%	2,207	1.72	0.29	5,095	889	17.4%	1,538	1.73	0.30	2,617	393	15.0%	669	1.70	0.26
19 to 24 Months	5,948	953	16.0%	1,650	1.73	0.28	3,718	627	16.9%	1,071	1.71	0.29	2,230	326	14.6%	579	1.78	0.26
25 to 30 Months	4,846	740	15.3%	1,293	1.75	0.27	2,889	481	16.6%	837	1.74	0.29	1,957	259	13.2%	456	1.76	0.23
31 to 36 Months	3,951	625	15.8%	1,095	1.75	0.28	2,271	395	17.4%	675	1.71	0.30	1,680	230	13.7%	420	1.83	0.25
37 to 42 Months	3,252	493	15.2%	877	1.78	0.27	1,791	293	16.4%	530	1.81	0.30	1,461	200	13.7%	347	1.74	0.24
43 to 48 months	2,664	391	14.7%	686	1.75	0.26	1,429	218	15.3%	377	1.73	0.26	1,235	173	14.0%	309	1.79	0.25
49 to 54 months	1,995	313	15.7%	543	1.73	0.27	991	176	17.8%	279	1.59	0.28	1,004	137	13.6%	264	1.93	0.26
55 to 60 months	1,558	216	13.9%	371	1.72	0.24	729	108	14.8%	159	1.47	0.22	829	108	13.0%	212	1.96	0.26
61 to 66 months	838	51	6.1%	71	1.39	0.08	349	25	7.2%	28	1.12	0.08	489	26	5.3%	43	1.65	0.09

*Dual status is defined as having any enrollment in Medicare during CY 2018, not necessarily during the time of the event summarized above.

Avoidable Hospitalizations

Hospital stays for ambulatory care-sensitive conditions, also referred to as potentially avoidable hospitalizations, are inpatient admissions that may have been prevented if proper ambulatory care had been provided in a timely and effective manner to prevent complications or more severe diseases. The Department monitors potentially avoidable admissions using the Agency for Healthcare Research and Quality's (AHRQ's) Prevention Quality Indicators (PQIs) methodology. The AHRQ methodology reviews hospital admission records for specific diagnoses related to conditions that could feasibly have been managed in outpatient settings or by the patient. High numbers of avoidable admissions may indicate problems with access to primary care services or deficiencies in outpatient management and follow-up.

Table 7 presents PQI rates per participant by length of enrollment in a Health Home program and dual enrollment in Medicare. Average PQI rates are calculated per user, meaning the average number for each participant that had a PQI, as well as per participant. Overall, among the first 12 quarters of enrollment, PQI rates follow an increasing trend the longer participants were enrolled; 0.5 percent of participants enrolled 0 to 6 months have a PQI, and 1.3 percent of those enrolled 43 to 48 months have a PQI. The percentage of participants with at least one PQI decreases thereafter. The average number of avoidable admissions per participant remained stable throughout the enrollment spans, while those per user vary but do not suggest a clear trend according to enrollment length. PQI rates for non-dual eligibles were consistently higher than those for duals. Health home participants not dually enrolled in Medicare have a higher average number of PQI visits per user and per participant for the majority of enrollment spans.

Table 7. Avoidable Hospitalization Rates per Participant, by Length of Medicaid Enrollment and Any Dual* Enrollment, CY 2013–CY 2018

Length of Enrollment	All Participants						Non-Duals						Duals					
	Total	Any PQI Visit	PQI Rates	Number of PQI Visits	Average PQI Visits per User	Average PQI Visits per Participant	Total	Any PQI Visit	PQI Rates	Number of PQI Visits	Average PQI Visits per User	Average PQI Visits per Participant	Total	Any PQI Visit	PQI Rates	Number of PQI Visits	Average PQI Visits per User	Average PQI Visits per Participant
0 to 6 Months	13,377	69	0.5%	86	1.25	0.01	9,738	62	0.6%	78	1.26	0.01	3,639	*	0.2%	*	1.14	0.00
7 to 12 Months	10,186	45	0.4%	64	1.42	0.01	7,048	41	0.6%	58	1.41	0.01	3,138	*	0.1%	*	1.50	0.00
13 to 18 Months	7,712	26	0.3%	33	1.27	0.00	5,095	25	0.5%	31	1.24	0.01	2,617	*	0.0%	*	2.00	0.00
19 to 24 Months	5,948	21	0.4%	28	1.33	0.00	3,718	19	0.5%	26	1.37	0.01	2,230	*	0.1%	*	1.00	0.00
25 to 30 Months	4,846	22	0.5%	30	1.36	0.01	2,889	22	0.8%	30	1.36	0.01	1,957	*	0.0%	*	0.00	0.00
31 to 36 Months	3,951	17	0.4%	24	1.41	0.01	2,271	15	0.7%	20	1.33	0.01	1,680	*	0.1%	*	2.00	0.00
37 to 42 Months	3,252	24	0.7%	25	1.04	0.01	1,791	23	1.3%	24	1.04	0.01	1,461	*	0.1%	*	1.00	0.00
43 to 48 months	2,664	35	1.3%	51	1.46	0.02	1,429	32	2.2%	48	1.50	0.03	1,235	*	0.2%	*	1.00	0.00
49 to 54 months	1,995	18	0.9%	21	1.17	0.01	991	18	1.8%	21	1.17	0.02	1,004	*	0.0%	*	0.00	0.00
55 to 60 months	1,558	*	0.5%	*	1.13	0.01	729	*	1.1%	*	1.13	0.01	829	*	0.0%	*	0.00	0.00
61 to 66 months	838	*	0.7%	*	1.33	0.01	349	*	1.7%	*	1.33	0.02	489	*	0.0%	*	0.00	0.00

*Cell values of 10 or less have been suppressed.

*Dual status is defined as having any enrollment in Medicare during CY 2018—not necessarily during the time of the event summarized above.

30-Day All-Cause Hospital Readmissions

The 30-day all-cause hospital readmission, or plan all-cause readmission (PCR) rate, based on National Committee for Quality Assurance (NCQA) definitions, was calculated as the percentage of acute inpatient stays during the measurement year that were followed by an unplanned acute inpatient readmission for any diagnosis within 30 days. The HEDIS 2019 specifications identify inclusion criteria for types of stays and hospitals. The HEDIS specifications also limit the population to people continuously enrolled in Medicaid with respect to the date of discharge.

Table 8 presents hospital readmission rates per participant by length of enrollment in a Health Home program and dual enrollment in Medicare. Average readmission rates are calculated per user, meaning the average number for each participant that had a hospital readmission, as well as per participant. The likelihood of having at least one hospital readmission was highest during a participant's first six months of enrollment, at 2.1 percent of total participants. Overall, readmission rates follow a decreasing trend the longer participants were enrolled, and participants who were in a Health Home program 61 to 66 months had the lowest readmission rate, at 0.2 percent. The average number of readmissions per user and per participant varied across participant enrollment spans, but results did not suggest a clear trend according to the amount of time in the program. Readmission rates were consistently higher for those Health Home participants not dually enrolled in Medicare. Readmission rates for dual eligibles suggest a decreasing trend the longer Health Home participants are enrolled in the program. Health Home participants not dually enrolled in Medicare have higher average number of readmissions per user and per participant.

Table 8. Readmission Rates per Participant, by Length of Health Home Participation and Dual* Enrollment, CY 2013–CY 2018

Length of Enrollment	All Participants						Non-Duals						Duals					
	Total	Any Re-admission	Re-admission Rates	Number of Re-admissions	Average Re-admissions per User	Average Re-admissions per Participant	Total	Any Re-admission	Re-admission Rates	Number of Re-admissions	Average Re-admissions per User	Average Re-admissions per Participant	Total	Any Re-admission	Re-admission Rates	Number of Re-admissions	Average Re-admissions per User	Average Re-admissions per Participant
0 to 6 Months	13,377	280	2.1%	457	1.63	0.03	9,738	240	2.5%	407	1.70	0.04	3,639	40	1.1%	50	1.25	0.01
7 to 12 Months	10,186	196	1.9%	382	1.95	0.04	7,048	176	2.5%	353	2.01	0.05	3,138	20	0.6%	29	1.45	0.01
13 to 18 Months	7,712	135	1.8%	255	1.89	0.03	5,095	122	2.4%	238	1.95	0.05	2,617	13	0.5%	17	1.31	0.01
19 to 24 Months	5,948	98	1.6%	166	1.69	0.03	3,718	88	2.4%	151	1.72	0.04	2,230	*	0.4%	15	1.50	0.01
25 to 30 Months	4,846	97	2.0%	161	1.66	0.03	2,889	87	3.0%	146	1.68	0.05	1,957	*	0.5%	15	1.50	0.01
31 to 36 Months	3,951	56	1.4%	93	1.66	0.02	2,271	45	2.0%	78	1.73	0.03	1,680	11	0.7%	15	1.36	0.01
37 to 42 Months	3,252	46	1.4%	64	1.39	0.02	1,791	42	2.3%	55	1.31	0.03	1,461	*	0.3%	*	2.25	0.01
43 to 48 Months	2,664	46	1.7%	72	1.57	0.03	1,429	42	2.9%	66	1.57	0.05	1,235	*	0.3%	*	1.50	0.00
49 to 54 Months	1,995	26	1.3%	38	1.46	0.02	991	20	2.0%	30	1.50	0.03	1,004	*	0.6%	*	1.33	0.01
55 to 60 Months	1,558	13	0.8%	21	1.62	0.01	729	12	1.6%	20	1.67	0.03	829	*	0.1%	*	1.00	0.00
61 to 66 Months	838	*	0.2%	*	1.00	0.00	349	*	0.3%	*	2.00	0.01	489	*	0.2%	*	0.00	0.00

*Dual status is defined as having any enrollment in Medicare during CY 2018—not necessarily during the time of the event summarized above.

Section 4. Health Home Cost Analysis

Health Care Cost Outcomes

The tables in this section present data on the costs¹⁰ of health care services by length of Medicaid enrollment in a Health Home program. The cost analysis includes actual Medicaid payments to providers reported in fee-for-service (FFS) claims, as well as Medicaid managed care capitation payments. Hilltop included managed care capitation payments in the analysis because MCOs do not reliably report the payments they make to providers. Therefore, the costs reported are actual payments from the Medicaid program to FFS providers or MCOs.

Table 9 presents FFS costs per participant by length of enrollment in a Health Home program by type of service. Hilltop categorized all FFS claims into the following groups: professional fee services, inpatient, outpatient, home health, dental, long-term care (LTC), special services (e.g., labs, therapies, and DME), and pharmacy. The costs calculated include the total costs, costs per person, and costs per user, by length of enrollment and type of service. The users of services are defined as the unique individuals utilizing a type of service, while the cost per person includes both users and non-users of services in the analysis.

Total FFS costs were highest for both inpatient and outpatient services during participants' first six months in the program and consistently decreased the longer people were enrolled in the program. FFS inpatient costs were \$1,080 per person and \$11,583 per user among those enrolled for 0 to 6 months. Those same costs decreased for participants enrolled 61 to 66 months: \$510 per person and \$4,909 per user.

FFS outpatient costs per person and per user were \$789 and \$2,794 among those enrolled for 0 to 6 months, respectively; those same costs for those enrolled 61 to 66 months decreased to \$304 and \$1,080, respectively. It is worth noting that while total costs per service type decreased the longer people were enrolled in the program for inpatient admissions, outpatient visits, home health, dental, special services, and pharmacy claims, costs per person and per user for LTC fluctuated across the enrollment span periods. Additionally, FFS professional fee (physician costs) increased the longer participants were enrolled. The FFS professional fee cost per person was \$7,406 among those enrolled for 0 to 6 months and \$12,240 among those enrolled 61 to 66 months.

¹⁰ Please note that these are actual Medicaid FFS costs for participants enrolled in the Health Home program.

Table 9. Costs per Provider Category, by Length of Health Home Participation, CY 2013–CY 2018

Length of Enrollment	All Participants	FFS Inpatient Claims		Cost per Person	Cost per User	FFS Outpatient Claims		Cost per Person	Cost per User	FFS Home Health Claims		Cost per Person	Cost per User	FFS Dental Claims		Cost per Person	Cost per User
	Total	Users	Costs			Users	Costs			Users	Costs			Users	Costs		
	0 to 6 Months	13,377	1,247			\$14,444,396	\$1,080			\$11,583	3,777			\$10,554,232	\$789		
7 to 12 Months	10,186	970	\$10,382,813	\$1,019	\$10,704	2,804	\$7,182,906	\$705	\$2,562	613	\$4,352,913	\$427	\$7,101	732	\$234,462	\$23	\$320
13 to 18 Months	7,712	685	\$6,154,296	\$798	\$8,984	2,070	\$4,761,013	\$617	\$2,300	495	\$3,617,408	\$469	\$7,308	536	\$178,074	\$23	\$332
19 to 24 Months	5,948	563	\$4,786,281	\$805	\$8,501	1,630	\$3,408,659	\$573	\$2,091	414	\$2,968,150	\$499	\$7,169	318	\$103,975	\$17	\$327
25 to 30 Months	4,846	431	\$3,812,189	\$787	\$8,845	1,318	\$2,531,470	\$522	\$1,921	348	\$2,533,778	\$523	\$7,281	186	\$61,593	\$13	\$331
31 to 36 Months	3,951	343	\$3,423,753	\$867	\$9,982	1,104	\$1,982,446	\$502	\$1,796	288	\$2,185,560	\$553	\$7,589	142	\$45,197	\$11	\$318
37 to 42 Months	3,252	315	\$2,637,263	\$811	\$8,372	891	\$1,575,549	\$484	\$1,768	262	\$2,030,551	\$624	\$7,750	98	\$33,734	\$10	\$344
43 to 48 Months	2,664	274	\$2,372,586	\$891	\$8,659	729	\$1,293,012	\$485	\$1,774	214	\$1,576,234	\$592	\$7,366	66	\$25,722	\$10	\$390
49 to 54 Months	1,995	212	\$1,637,659	\$821	\$7,725	538	\$909,037	\$456	\$1,690	165	\$1,251,338	\$627	\$7,584	28	\$11,790	\$6	\$421
55 to 60 Months	1,558	152	\$1,145,788	\$735	\$7,538	405	\$582,979	\$374	\$1,439	133	\$1,073,063	\$689	\$8,068	16	\$4,725	\$3	\$295
61 to 66 Months	838	87	\$427,098	\$510	\$4,909	236	\$255,062	\$304	\$1,081	70	\$539,081	\$643	\$7,701	*	\$359	\$0	\$180

*Cell values of 10 or less have been suppressed.

Table 9. (continued) Costs per Provider Category, by Length of Health Home Participation, CY 2013–CY 2018

Length of Enrollment	All Participants	FFS Long-Term Care Claims		Cost per Person	Cost per User	FFS Special Services Claims		Cost per Person	Cost per User	FFS Pharmacy Claims		Cost per Person	Cost per User
	Total	Users	Costs			Users	Costs			Users	Costs		
0 to 6 Months	13,377	65	\$792,935	\$59	\$12,199	5,853	\$3,601,729	\$269	\$615	8,727	\$17,257,401	\$1,290	\$1,977
7 to 12 Months	10,186	78	\$1,097,831	\$108	\$14,075	4,361	\$2,523,680	\$248	\$579	6,170	\$13,271,076	\$1,303	\$2,151
13 to 18 Months	7,712	75	\$1,184,628	\$154	\$15,795	3,306	\$1,752,545	\$227	\$530	4,531	\$10,549,285	\$1,368	\$2,328
19 to 24 Months	5,948	53	\$684,567	\$115	\$12,916	2,558	\$1,211,916	\$204	\$474	3,421	\$7,931,347	\$1,333	\$2,318
25 to 30 Months	4,846	53	\$903,689	\$186	\$17,051	2,025	\$928,743	\$192	\$459	2,651	\$6,444,416	\$1,330	\$2,431
31 to 36 Months	3,951	33	\$588,203	\$149	\$17,824	1,751	\$708,169	\$179	\$404	2,102	\$5,351,003	\$1,354	\$2,546
37 to 42 Months	3,252	37	\$436,304	\$134	\$11,792	1,452	\$566,014	\$174	\$390	1,700	\$4,081,051	\$1,255	\$2,401
43 to 48 Months	2,664	38	\$624,319	\$234	\$16,429	1,215	\$407,004	\$153	\$335	1,344	\$3,090,417	\$1,160	\$2,299
49 to 54 Months	1,995	35	\$607,383	\$304	\$17,354	939	\$284,106	\$142	\$303	976	\$2,237,706	\$1,122	\$2,293
55 to 60 Months	1,558	28	\$554,849	\$356	\$19,816	721	\$209,940	\$135	\$291	694	\$1,725,531	\$1,108	\$2,486
61 to 66 Months	838	13	\$236,732	\$282	\$18,210	419	\$140,670	\$168	\$336	367	\$955,997	\$1,141	\$2,605

Table 9. (continued) Costs per Provider Category, by Length of Health Home Participation, CY 2013–CY 2018

Length of Enrollment	All Participants	FFS Professional Fee Claims		Cost per Person	Cost per User
	Total	Users	Costs		
0 to 6 Months	13,377	13,276	\$99,067,626	\$7,406	\$7,462
7 to 12 Months	10,186	9,812	\$73,750,997	\$7,240	\$7,516
13 to 18 Months	7,712	7,405	\$58,347,213	\$7,566	\$7,879
19 to 24 Months	5,948	5,690	\$48,484,880	\$8,151	\$8,521
25 to 30 Months	4,846	4,624	\$40,925,839	\$8,445	\$8,851
31 to 36 Months	3,951	3,774	\$35,160,998	\$8,899	\$9,317
37 to 42 Months	3,252	3,099	\$30,130,331	\$9,265	\$9,723
43 to 48 Months	2,664	2,539	\$25,937,183	\$9,736	\$10,216
49 to 54 Months	1,995	1,928	\$20,972,482	\$10,513	\$10,878
55 to 60 Months	1,558	1,478	\$17,089,105	\$10,969	\$11,562
61 to 66 Months	838	805	\$10,257,510	\$12,240	\$12,742

Table 10 presents total FFS costs for Health Home participants by service type with and without professional fees, by length of enrollment, to demonstrate the impact of FFS professional fee claims on the total costs. During the initial enrollment span of 0 to 6 months, total FFS professional fee costs were \$99 million, making up 65.6 percent of the total FFS costs. The proportion of costs incurred by FFS professional services increased the longer participants were enrolled in the Health Home program. Among those enrolled 61 to 66 months, FFS professional fee costs accounted for 80 percent of the total FFS costs.

When FFS professional fee costs are not included in the total, cost per person decreased the longer a participant was enrolled, from \$3,883 during the first six months to \$3,049 among those enrolled 61 to 66 months. Once FFS professional fee costs are included, the trend reverses and there is an increasing trend in FFS costs the longer a participant is enrolled in the program. The total FFS costs per person increased from \$11,289 for those enrolled 0 to 6 months to \$15,289 for those enrolled 61 to 66 months.

Table 10. Fee-For-Service Costs for Health Home Enrollees, without and with Professional Claims, by Length of Enrollment, CY 2013–CY 2018

Length of Enrollment	FFS Inpatient Claims		FFS Outpatient Claims		FFS Home Health Claims		FFS Dental Claims		FFS Long-Term Care Claims		FFS Special Services Claims		FFS Pharmacy Claims		FFS w/o Professional	FFS Professional Fee Claims		FFS Professional	All FFS
	Users	Costs	Users	Costs	Users	Costs	Users	Costs	Users	Costs	Users	Costs	Users	Costs	Cost per Person	Users	Costs	Cost per Person	Cost per Person
0 to 6 Months	1,247	\$14,444,396	3,777	\$10,554,232	708	\$4,978,758	1,043	\$311,475	65	\$792,935	5,853	\$3,601,729	8,727	\$17,257,401	\$3,883	13,276	\$99,067,626	\$7,406	\$11,289
7 to 12 Months	970	\$10,382,813	2,804	\$7,182,906	613	\$4,352,913	732	\$234,462	78	\$1,097,831	4,361	\$2,523,680	6,170	\$13,271,076	\$3,833	9,812	\$73,750,997	\$7,240	\$11,074
13 to 18 Months	685	\$6,154,296	2,070	\$4,761,013	495	\$3,617,408	536	\$178,074	75	\$1,184,628	3,306	\$1,752,545	4,531	\$10,549,285	\$3,656	7,405	\$58,347,213	\$7,566	\$11,222
19 to 24 Months	563	\$4,786,281	1,630	\$3,408,659	414	\$2,968,150	318	\$103,975	53	\$684,567	2,558	\$1,211,916	3,421	\$7,931,347	\$3,547	5,690	\$48,484,880	\$8,151	\$11,698
25 to 30 Months	431	\$3,812,189	1,318	\$2,531,470	348	\$2,533,778	186	\$61,593	53	\$903,689	2,025	\$928,743	2,651	\$6,444,416	\$3,553	4,624	\$40,925,839	\$8,445	\$11,998
31 to 36 Months	343	\$3,423,753	1,104	\$1,982,446	288	\$2,185,560	142	\$45,197	33	\$588,203	1,751	\$708,169	2,102	\$5,351,003	\$3,615	3,774	\$35,160,998	\$8,899	\$12,515
37 to 42 Months	315	\$2,637,263	891	\$1,575,549	262	\$2,030,551	98	\$33,734	37	\$436,304	1,452	\$566,014	1,700	\$4,081,051	\$3,493	3,099	\$30,130,331	\$9,265	\$12,759
43 to 48 Months	274	\$2,372,586	729	\$1,293,012	214	\$1,576,234	66	\$25,722	38	\$624,319	1,215	\$407,004	1,344	\$3,090,417	\$3,525	2,539	\$25,937,183	\$9,736	\$13,261
49 to 54 Months	212	\$1,637,659	538	\$909,037	165	\$1,251,338	28	\$11,790	35	\$607,383	939	\$284,106	976	\$2,237,706	\$3,478	1,928	\$20,972,482	\$10,513	\$13,991
55 to 60 Months	152	\$1,145,788	405	\$582,979	133	\$1,073,063	*	\$4,725	*	\$554,849	721	\$209,940	694	\$1,725,531	\$3,400	1,478	\$17,089,105	\$10,969	\$14,368
61 to 66 Months	87	\$427,098	236	\$255,062	70	\$539,081	*	\$359	*	\$236,732	419	\$140,670	367	\$955,997	\$3,049	805	\$10,257,510	\$12,240	\$15,289

*Cell values of 10 or less have been suppressed.

Table 11 presents aggregate costs for total FFS claims and MCO capitation payments for Health Home participants per person and per user by length of enrollment. Total costs for FFS claims were more than twice the amount of MCO capitation payments for Health Home participants. For total FFS claims, the cost per person and per user among those enrolled for 0 to 6 months were \$11,289 and \$11,357, respectively; those same costs for those enrolled 61 to 66 months were \$15,289 and \$15,896. For total MCO capitation payments, the cost per person and per user among those enrolled for 0 to 6 months were \$4,297 and \$5,672, respectively; those same costs for those enrolled 61 to 66 months were \$2,888 and \$8,148. The scale of the differences in total as well as per person and per user costs between FFS claims and MCO capitation payments demonstrates that FFS claims payments drive aggregate costs for this population.

It is worth noting that this analysis does not exclude outliers with extremely high or low total costs. Given the small sample size for some of the sub-populations, those outliers may have a significant effect on the average costs by the various sub-groups. Additionally, MCO capitation payments are typically set based on prior Medicaid utilization and may not reflect current service use.

Table 11. Fee-for-Service and Managed Care Costs for Health Home Participants, by Length of Enrollment, CY 2013–CY 2018

Length of Enrollment	All Participants	Any FFS Claim		Cost per Person	Cost per User	MCO Capitation		Cost per Person	Cost per User	Any FFS/MCO Capitation		Cost per Person	Cost per User
	Total	Users	Cost			Users	Cost			Users	Cost		
0 to 6 Months	13,377	13,297	\$151,008,551	\$11,289	\$11,357	10,134	\$57,476,759	\$4,297	\$5,672	13,338	\$208,485,310	\$15,585	\$15,631
7 to 12 Months	10,186	9,927	\$112,796,678	\$11,074	\$11,363	7,273	\$43,105,153	\$4,232	\$5,927	10,066	\$155,901,831	\$15,306	\$15,488
13 to 18 Months	7,712	7,484	\$86,544,462	\$11,222	\$11,564	5,182	\$32,036,144	\$4,154	\$6,182	7,571	\$118,580,606	\$15,376	\$15,662
19 to 24 Months	5,948	5,751	\$69,579,774	\$11,698	\$12,099	3,732	\$24,027,490	\$4,040	\$6,438	5,822	\$93,607,264	\$15,738	\$16,078
25 to 30 Months	4,846	4,666	\$58,141,717	\$11,998	\$12,461	2,836	\$19,615,914	\$4,048	\$6,917	4,719	\$77,757,631	\$16,046	\$16,478
31 to 36 Months	3,951	3,812	\$49,445,328	\$12,515	\$12,971	2,189	\$15,265,763	\$3,864	\$6,974	3,840	\$64,711,091	\$16,378	\$16,852
37 to 42 Months	3,252	3,137	\$41,490,796	\$12,759	\$13,226	1,699	\$12,367,792	\$3,803	\$7,279	3,163	\$53,858,588	\$16,562	\$17,028
43 to 48 Months	2,664	2,564	\$35,326,477	\$13,261	\$13,778	1,321	\$9,918,709	\$3,723	\$7,508	2,587	\$45,245,186	\$16,984	\$17,489
49 to 54 Months	1,995	1,935	\$27,911,500	\$13,991	\$14,425	886	\$6,997,321	\$3,507	\$7,898	1,945	\$34,908,821	\$17,498	\$17,948
55 to 60 Months	1,558	1,487	\$22,385,980	\$14,368	\$15,054	636	\$4,569,882	\$2,933	\$7,185	1,496	\$26,955,862	\$17,302	\$18,019
61 to 66 Months	838	806	\$12,812,507	\$15,289	\$15,896	297	\$2,419,826	\$2,888	\$8,148	808	\$15,232,333	\$18,177	\$18,852

Table 12 shows the FFS professional costs for visits to psychiatric rehab providers (PRPs) compared to other types of providers. The costs for visits to PRPs make up almost three-fourths of the total FFS professional costs. The costs per person and per user for PRP FFS professional costs ranged from almost two times to more than seven times larger than non-PRP FFS professional costs, depending on the length of enrollment. The costs for PRP FFS professional claims increased by length of enrollment, while costs for non-PRP FFS professional claims decreased by length of enrollment. For those enrolled 0 to 6 months, the cost for PRP FFS professional claims was \$4,754 per person and \$7,422 per user; for those enrolled 61 to 66 months, this cost was \$10,659 per person and \$12,706 per user. For those enrolled 0 to 6 months, the cost for non-PRP FFS professional claims was \$2,652 per person and \$2,676 per user; for those enrolled 61 to 66 months, this cost was \$1,581 per person and \$1,686 per user. PRP professional claim costs make up the majority of FFS professional costs. Since there is a decreasing trend in non-PRP professional costs, this analysis suggests that PRP visits drive increasing costs by length of enrollment in the Health Home program.

Table 12. Professional Costs for Health Home Participants, by Psychiatric Rehab Program Provider Type, by Length of Enrollment, CY 2013–CY 2018

Length of Enrollment	All Participants	FFS PRP Professional Claims		Cost per Person	Cost per User	FFS Non-PRP Professional Claims		Cost per Person	Cost per User	All FFS Professional Claims		Cost per Person	Cost per User
	Total	Users	Cost			Users	Cost			Users	Cost		
0 to 6 Months	13,377	8,568	\$63,588,836	\$4,754	\$7,422	13,259	\$35,478,789	\$2,652	\$2,676	13,276	\$99,067,626	\$7,406	\$7,462
7 to 12 Months	10,186	6,417	\$51,018,666	\$5,009	\$7,951	9,784	\$22,732,331	\$2,232	\$2,323	9,812	\$73,750,997	\$7,240	\$7,516
13 to 18 Months	7,712	4,976	\$41,692,697	\$5,406	\$8,379	7,370	\$16,654,516	\$2,160	\$2,260	7,405	\$58,347,213	\$7,566	\$7,879
19 to 24 Months	5,948	4,035	\$36,061,059	\$6,063	\$8,937	5,666	\$12,423,821	\$2,089	\$2,193	5,690	\$48,484,880	\$8,151	\$8,521
25 to 30 Months	4,846	3,359	\$31,130,274	\$6,424	\$9,268	4,605	\$9,795,565	\$2,021	\$2,127	4,624	\$40,925,839	\$8,445	\$8,851
31 to 36 Months	3,951	2,822	\$27,368,203	\$6,927	\$9,698	3,757	\$7,792,795	\$1,972	\$2,074	3,774	\$35,160,998	\$8,899	\$9,317
37 to 42 Months	3,252	2,377	\$23,785,607	\$7,314	\$10,007	3,078	\$6,344,724	\$1,951	\$2,061	3,099	\$30,130,331	\$9,265	\$9,723
43 to 48 Months	2,664	1,979	\$20,933,910	\$7,858	\$10,578	2,503	\$5,003,273	\$1,878	\$1,999	2,539	\$25,937,183	\$9,736	\$10,216
49 to 54 Months	1,995	1,577	\$17,445,154	\$8,744	\$11,062	1,905	\$3,527,328	\$1,768	\$1,852	1,928	\$20,972,482	\$10,513	\$10,878
55 to 60 Months	1,558	1,239	\$14,490,998	\$9,301	\$11,696	1,460	\$2,598,108	\$1,668	\$1,780	1,478	\$17,089,105	\$10,969	\$11,562
61 to 66 Months	838	703	\$8,932,331	\$10,659	\$12,706	786	\$1,325,179	\$1,581	\$1,686	805	\$10,257,510	\$12,240	\$12,742

Conclusion

Health Homes are intended to improve health outcomes for individuals with chronic conditions by providing them an enhanced level of care management and care coordination. The Maryland Health Home program focuses on Medicaid participants with an SPMI and/or an opioid SUD who are at high risk of additional chronic conditions due to tobacco, alcohol, or other non-opioid SUD; as well as children with SED. The information presented in this report provides evidence that Health Homes successfully tie these extremely vulnerable populations to social and somatic care services, improving their access to preventive care.

The results of this analysis suggest that Health Home participants had a strong demand for the Health Home social services, such as care coordination and health promotion. This analysis further shows that longer enrollment in a Health Home is associated with a decrease in average costs of inpatient admissions, outpatient visits, home health, dental, special services, and pharmacy claims. The costs per person and per user for LTC fluctuated across the enrollment span periods, while the FFS professional fee (physician costs) increased the longer participants were enrolled in the program. The declines in the inpatient and outpatient costs were erased by the increase in average costs of professional fee services, which was largely driven by PRP services.

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