



The Hilltop Institute

Medicaid Long-Term Services and Supports in Maryland: FY 2012 to FY 2016 Volume 5

Home and Community-Based Services A Chart Book

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Maryland Department of Health*

UMBC
AN HONORS UNIVERSITY IN MARYLAND

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Chapter 1. Maryland Medicaid Long-Term Services and Supports Overview

Chapter 1. Maryland Medicaid LTSS Overview

Background

Maryland Home and Community-Based Services

The *Medicaid Long-Term Services and Supports (LTSS) in Maryland Chart Book, Volume 5, Home and Community-Based Services (HCBS)* is the fifth chart book in a series that explores utilization and expenditures for Medicaid-funded LTSS in Maryland for state fiscal years (FYs) 2012 through 2016. The focus of this chart book is on Medicaid HCBS, with one chapter dedicated to illustrating Maryland's efforts at providing these services to an increasing number of Medicaid recipients who may otherwise be served in institutions. Medicaid programs and services addressed in this chart book include the following:

- *The Home and Community-Based Options (CO) Waiver*
- *Community First Choice (CFC)*
- *Community Personal Assistance Services (CPAS)*
- *Medical Day Care Services (MDC) Waiver*
- *Money Follows the Person (MFP)*
- *Medicaid Nursing Facility Services*

This chart book summarizes information on demographic and functional characteristics, as well as service utilization and expenditures for Maryland Medicaid HCBS users in FYs 2012 through 2016. Unless otherwise stated, for purposes of this chart book, HCBS users are defined as CO Waiver and MDC Waiver participants and CFC and CPAS participants. Demographic and expenditure data are also provided for nursing facility residents as it relates to Maryland's LTSS

balancing efforts. Following is a brief description of the programs discussed in this chart book.

The Home and Community-Based Options Waiver (formally Older Adults and Living at Home Waivers)

Waiver programs are authorized under §1915(c) of the Social Security Act and approved by the federal Centers for Medicare and Medicaid Services (CMS). The CO Waiver provides community-based services and supports that enable older adults and those with physical disabilities to continue living in their own homes or in assisted living facilities. CO Waiver participants must be 18 years of age or older and meet a nursing facility level of care (NFLOC). Waiver participants transitioning from a nursing facility via MFP do not count against the waiver's legislatively funded waiver slots. CO Waiver services include assisted living services, behavior consultation services, case management, dietitian and nutritionist services, medical day care, and senior center plus.

Medical Day Care Services Waiver

The MDC Waiver, a single-service waiver program, was implemented on July 1, 2008. Prior to that date, medical day care was a state plan service. Under this waiver, approved medical day care agencies provide health, social, and related support services in an organized setting to individuals aged 16 years and older who reside in the community and who are assessed to need a NFLOC. Individuals who were receiving medical day care as a state plan service prior to July 1, 2008, but were not enrolled in another waiver were transitioned into the MDC Waiver.

Chapter 1. Maryland Medicaid LTSS Overview *continued*

Community Personal Assistance Services

CPAS is a state plan program that provides in-home personal assistance services to older adults and individuals with disabilities. To qualify for these services, an individual must meet the financial criteria to receive Medicaid in the community and require assistance to perform activities of daily living (ADLs).

Money Follows the Person

MFP is a federal demonstration program that provides enhanced federal medical assistance funds to states to assist individuals transitioning from an institutional setting to the community. The MFP demonstration provides funding for expenses related to the person's transition into the community, and the state receives an enhanced federal match on qualified services provided to that person for up to 365 days of participation in the program. Typically, MFP participants transition to the community through one of the §1915(c) waivers and continue with uninterrupted waiver services at the completion of the MFP year.

Community First Choice

CFC is a §1915(k) state plan program that provides HCBS to older adults and individuals with disabilities who meet an institutional level of care and qualify financially to receive Medicaid in the community. Participants may be in a waiver and also receive CFC services. CFC services include personal assistance, personal emergency response system, home-delivered meals, items that substitute for human assistance, environmental assessments and adaptations, consumer training, nurse monitoring of personal assistants, and supports planning services.

Medicaid Nursing Facility Residents

For the purposes of this chart book, a Medicaid nursing facility resident is defined as a Medicaid beneficiary who had at least one Medicaid-paid day in a nursing facility, a bed hold payment, or Medicaid cost-sharing payments (premiums, co-payments, etc.). In FY 2016, there were 24,980 Medicaid nursing facility residents in Maryland.

Chapter 1. Maryland Medicaid LTSS Overview *continued*

Chart Book Organization

The data in this chart book are presented in three sections:

- **Maryland HCBS Users:** This section includes data on the number of Maryland Medicaid HCBS users, with breakdowns by program, age, race, and gender. Also included are data on language, dual eligibility status, and service utilization and expenditures. Information for CO Waiver participants who use assisted living services is also provided. Comparisons across programs and care settings are provided where appropriate.
- **Medicaid Expenditures and Service Utilization:** This section provides data on Medicaid expenditures and utilization for HCBS services.
- **Acuity and Clinical Information:** This section provides functional and cognitive information derived from the interRAI, such as level of care and Brief Interview for Mental Status (BIMS) scores. It also discusses wellbeing measures, including living arrangements, survey of environment and safety, health status, pain assessment, and chronic conditions.
- **Balance of HCBS to Institutions:** This section includes information on the state's progress in balancing its HCBS and nursing facility utilization and expenditures.

Data Sources

The information in this chart book was derived from the following data sources:

- **Chronic Conditions Data Warehouse (CCW):** This is the source for national CMS research data. Hilltop utilized the CCW Condition Algorithms and Medicaid claims to identify chronic conditions among the MDC Waiver participants.
- **Maryland Department of Health Decision Support System (DSS):** This system, developed by The Hilltop Institute, provides summary reports based on MMIS2 data and functions as a resource for figures in this chart book.
- **interRAI-Home Care Assessment (interRAI):** The interRAI assessment is Maryland's standardized assessment for determining functional eligibility for home and community-based services. Data from the completed assessments is housed in *LTSSMaryland*.
- **LTSSMaryland:** This web-based, client-centered system contains data for individuals who are enrolled in Maryland's CO Waiver, MDC Waiver, CFC, CPAS, and Increased Community Supports program. Core components of the system include application assistance, program enrollment, plans of service, and personal assistance billing. MMIS2 and Minimum Data Set data are imported into the system on a regular basis.

Chapter 1. Maryland Medicaid LTSS Overview *continued*

Data Sources *continued*

- **MDH Medicaid Management Information System (MMIS2):** This system contains data for all individuals enrolled in Maryland’s Medicaid program during the relevant fiscal years, including Medicaid eligibility category and fee-for-service (FFS) claims. Hilltop warehouses and processes all MMIS2 data on a monthly basis.
- **Maryland Office of Health Care Quality, Minimum Data Set (MDS) 3.0:** The MDS is a federally mandated assessment instrument that is conducted for each nursing facility resident upon admission and at least quarterly thereafter. Hilltop receives MDS 3.0 data for Maryland nursing facilities on a routine basis.

Key Findings

Notable trends in the data include the following.

HCBS Users

- In FY 2016, a total of 16,281 Marylanders were served in the CO Waiver, CFC, and CPAS.
- Most HCBS users were between the ages of 50 and 64, and 75 and 84. The highest percentage of CO Waiver and CFC participants were aged 50 to 64, while the highest percentage of MDC Waiver and CPAS participants were aged 75 to 84.

- Although the majority of FY 2016 participants in each program were English-speaking, the percentage (13% in CO Waiver, 14% in CFC, 15% in MDC Waiver, and 18% in CPAS) of Russian-speaking participants is noteworthy.
- Almost three-fourths of the state’s FY 2016 HCBS users were dually eligible (eligible for both Medicare and Medicaid benefits).
- CO Waiver and MDC Waiver participants were more likely than CFC and CPAS participants to be dually eligible.
- In FY 2016, about one-third (or 1,461) of the CO Waiver participants utilized assisted living services at a cost of \$23.4 million.
- The percentage of assisted living users aged 85 and older decreased sharply, from 30% in FY 2012 to 19% in FY 2016.

Medicaid Expenditures and Service Utilization

- Total Medicaid expenditures for HCBS users were \$542.6 million in FY 2016, an increase of 42% from FY 2012. HCBS expenditures composed 67% of the FY 2016 total Medicaid expenditures for this population.
- HCBS expenditures totaled \$365 million in FY 2016, an increase of 39% from FY 2012. While a full evaluation is required to definitively identify cost-drivers, the increase in the number of HCBS users and increased use of certain services (such as medical day care and personal assistance services) are likely causes.

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Chapter 1. Maryland Medicaid LTSS Overview *continued*

Notable trends continued ...

- Pre-CFC waiver expenditures made up 37% of the FY 2012 HCBS expenditures. Post CFC, the largest percentage (43%) of expenditures were for state plan services because many waiver expenditures were reassigned as state plan CFC services.
- The number of assisted living residents decreased slightly in each of the study periods. On average, HCBS for assisted living services were \$15,374 per year.
- CFC service expenditures totaled \$225 million in FY 2016; of that, 83.6% were for personal assistance services.
- Expenditures for supports planning services peaked at \$4.7 million in FY 2015 before falling by half the following year.
- The largest percentage of non-HCBS expenditures in each of the five study period was for MCO capitation payments. LTC expenditures ranged from a low of 2.5% to a high of 4.7%.

Acuity Levels and Wellbeing

- Maryland Medicaid's assisted living users are more likely than other HCBS users to be independent in performing ADLs.
- Similarly, assisted living users are more likely than other HCBS users to be cognitively intact. In FY 2016, over two-thirds of the assisted living users were cognitively intact (a score of 13 to 15), compared to 46.6% of all HCBS users.

- At the time of their most current interRAI assessment, the highest percentage of HCBS users lived either alone, with a child, or in a board and care setting (a non-institutional community-based setting).
- The majority of the HCBS participants felt safe and that their home environment was not in a state of disrepair. However, nearly all of the participants indicated having no accessibility to a grocery store.
- The highest percentage of HCBS users reported their health status as "fair."
- Hypertension was diagnosed in the highest percentage of FY 2016 CFC, CO Waiver, and CPAS participants.
- Larger percentages of CO Waiver participants were diagnosed with Alzheimer's Disease or dementia, while slightly more CPAS participants were diagnosed with arthritis and hyperlipidemia.

Balance of HCBS to Institutions

- HCBS users increased from 36% of LTSS users in FY 2012 to 39% in FY 2016.
- Between FY 2012 and FY 2016, HCBS expenditures increased an average of 9% per year, while nursing facility expenditures increased an average of 1% each year.
- On average, annual costs for HCBS users were \$25,193 less than they were for nursing facility residents.
- PMPM total Medicaid expenditures for HCBS users were, on average, \$3,998 lower than for nursing facility residents.

Chapter 2. Program Changes for Maryland HCBS Users

Chapter 2. Program Changes for Maryland HCBS Users

Key Findings

HCBS User Demographics

In FY 2016, 16,281 Maryland HCBS users were served (Figure 1). Most of the CO Waiver and MDC Waiver participants received additional services through CFC and CPAS (Figure 2). Most HCBS users were aged 50 to 64 and 75 to 84. Fewer than 6% were aged 0 to 21. In both the CO Waiver and CFC, the highest percentage of participants were ages 50 to 64, while the highest percentage of MDC Waiver and CPAS participants were aged 75 to 84 (Figure 3).

Female HCBS users outnumbered male users almost 2 to 1. Overall, Black individuals made up the largest percentage of FY 2016 HCBS users. Asians are most highly represented in the MDC Waiver. Blacks and Whites made up the largest percentage of participants in the remaining three programs. See Figure 3.

While the majority of the HCBS users were English-speaking, nearly one-fifth of the CPAS participants spoke Russian. CO Waiver and MDC Waiver participants were more likely than participants in the state plan programs to be dually eligible. See Figure 3.

CO Waiver Assisted Living Service Users and Expenditures

Although the number of assisted living residents decreased 7 percentage points from FY 2012 to FY 2016, approximately one-third of CO Waiver participants received at least one day of assisted living services each year on average. Assisted living residents were more likely to be female, but the percentage of males utilizing this service increased in each successive study period. While the use of assisted living services decreased among CO participants overall, there was an increase in the percentage of Blacks using this service (Figure 4).

There was a noteworthy change in the age distribution of the assisted living users; the percentage aged 85 and older decreased sharply between FYs 2012 and 2016: from 30% to 19%. Conversely, in the last two study years, there was an increase in the percentage of assisted living residents under the age of 50 (Figure 4).

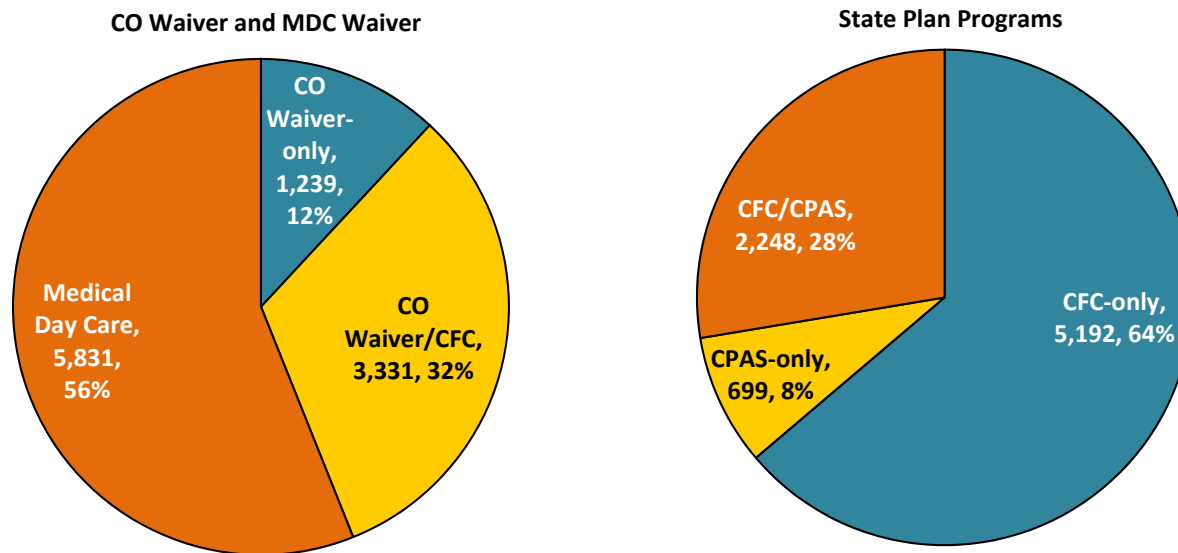
Nearly three-fourth of the assisted living residents in both FY 2012 and FY 2016 received assisted living services without medical day care (Figure 5). In FY 2016, expenditures for assisted living services accounted for 56.3% of the CO Waiver total Medicaid expenditures, down from 61.0% in FY 2012 (Figure 6).

Figure 1. HCBS Users, by Program, FY 2012 – FY 2016

	FY 12	FY 13	FY 14	FY 15	FY 16
CFC			4,582	7,770	10,725
CO/Older Adults/Living at Home Waiver	5,093	5,325	5,135	4,854	4,571
with Assisted Living	1,635	1,606	1,507	1,502	1,461
MAPC/CPAS	5,757	5,593	5,543	5,177	2,949
Medical Day Care Waiver	4,785	4,844	5,061	5,407	5,831
Total Unduplicated Count in Community	13,735	13,961	14,097	14,994	16,281

Source: MMIS2

Figure 2. 1915(c) Waiver and State Plan Program Users, FY 2016



Notes: On January 6, 2014, the Older Adults and Living at Home Waivers were combined to form the CO Waiver. MAPC was renamed CPAS. Both programs service similar populations. Individuals who used only supports planning services (W5524 and W5525) are not included in these counts. CFC was implemented on January 6, 2014.

Source: MMIS2

More Marylanders are receiving HCBS services than in previous years. In FY 2016, over 16,200 individuals received LTSS services in the community. Bolstered by the implementation of CFC, the number of unique HCBS users increased 16% from FY 2014 to FY 2016. The number of MAPC users decreased due to transitions from this program to CFC.

Thirty-two percent of CO Waiver participants also received CFC services—including personal assistance services, home-delivered meals, and personal emergency response systems—to complement their waiver services.

Figure 3. Selected User Demographics, by Program, FY 2016

	CFC	CO Waiver	CPAS	MDC	All
Total	10,725	4,571	2,949	5,831	16,281
Age Group					
0-21	5%	0%	5%	0%	4%
22-49	18%	11%	14%	12%	16%
50-64	22%	25%	21%	21%	23%
65-74	15%	20%	15%	18%	17%
75-84	21%	22%	26%	31%	23%
85+	19%	23%	20%	19%	18%
Gender					
Female	65%	62%	66%	63%	63%
Male	35%	38%	34%	37%	37%
Race					
Asian	10%	3%	13%	31%	15%
Black	42%	44%	45%	33%	41%
White	38%	44%	31%	26%	34%
Other	3%	2%	4%	2%	2%
Unknown	7%	7%	7%	8%	8%
Language					
English	71%	82%	60%	46%	71%
Russian	14%	13%	18%	15%	11%
Chinese	5%	1%	8%	19%	6%
Other	11%	4%	14%	20%	12%
Dual-Eligible	71%	83%	70%	77%	72%

Notes: “Other” in the race category combines Hispanic, Native American, and Pacific Islands/Alaskan due to small cell sizes. Due to rounding, totals may not equal 100%.

Source: MMIS2

Maryland’s HCBS population is becoming increasingly diverse, demographically.

Although Black and White participants combined made up the majority of the HCBS users, Asians made up the largest percentage (31%) of the MDC Waiver participants. Nearly 20% of the CPAS participants are Russian-speaking, and 19% of the MDC participants are Chinese-speaking.

The largest percentage of CO Waiver participants and CFC participants were aged 50 to 64, while the largest percentage of CPAS and MDC Waiver participants tended to be older (75 to 84 years).

For each of the populations, there were nearly twice as many females than males.

Figure 4. Characteristics of CO Waiver Participants Using Assisted Living* Services, FY 2012 – FY 2016

	FY 12	FY 13	FY 14	FY 15	FY 16
Total	1,635	1,606	1,507	1,502	1,461
As a Percentage of CO Waiver Participants					
	39%	38%	30%	31%	32%
Gender					
Female	65%	63%	61%	58%	56%
Male	35%	37%	39%	42%	44%
Race					
Asian	4%	4%	4%	4%	4%
Black	38%	38%	40%	41%	44%
White	50%	48%	47%	44%	43%
Other/Unknown	8%	10%	9%	10%	10%
Age Group					
0-49	0%	0%	0%	2%	3%
50-64	23%	23%	23%	25%	26%
65-74	24%	26%	28%	28%	28%
75-84	23%	22%	22%	24%	23%
85+	30%	29%	26%	22%	19%

* Residents may receive services in one or more assisted living category.

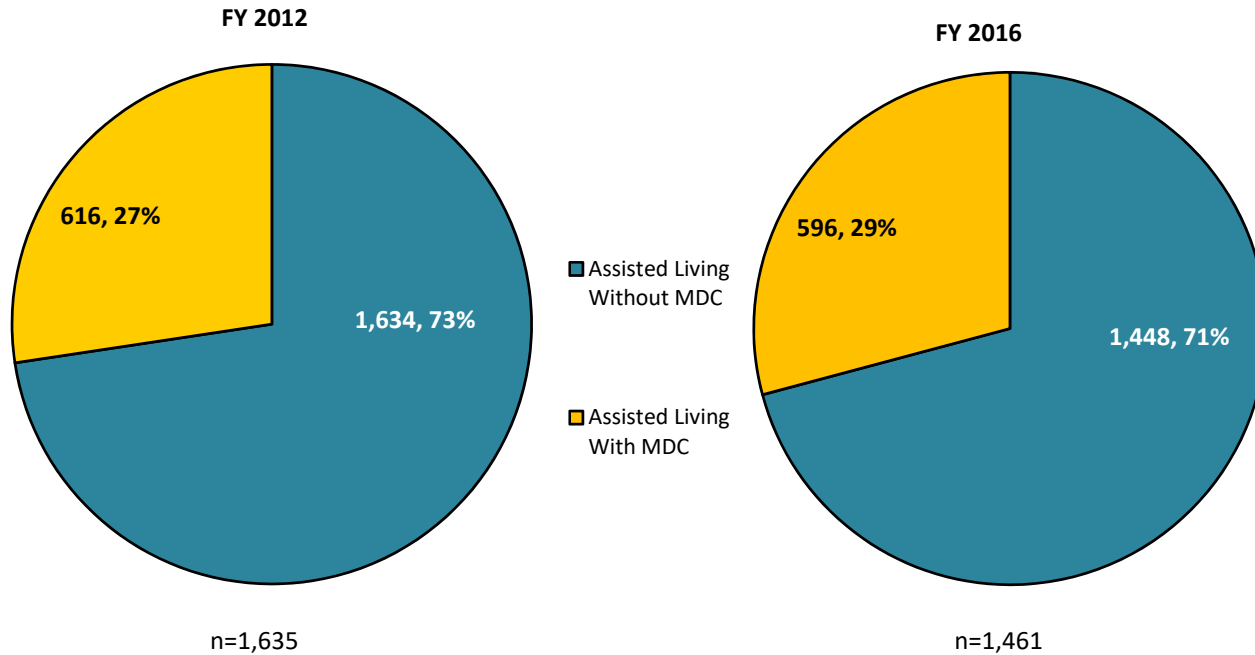
Note: Assisted living is a residential or facility-based residence that provides housing and supportive services, supervision, personalized assistance, health-related services, or a combination of these services to meet the needs of residents who are unable to perform (or who need assistance in performing) ADLs or IADLs. The assisted living levels are determined by the amount of assistance provided. Assisted Living Level I providers are authorized to care for residents with low-level needs. Assisted Living Level II providers care for residents with moderate care needs. Assisted Living Level III providers care for residents with high-level needs. The CO Waiver does not provide Assisted Living Level I services. Reimbursement rates for assisted living services differ for assisted living with medical day care and assisted living without medical day care (i.e., the assisted living facility must claim a lower rate for each day the resident leaves the assisted living facility to attend a medical day care center).

Source: MMIS2

On average, one-third of CO Waiver participants received services in an assisted living setting each year. Generally, the assisted living residents tended to be female and White, although both percentages decreased in each of the study periods.

Residents aged 65 to 74 made up the highest percentage (28%) of service users in the last three study years. A noticeable decrease was seen in the percentage of assisted living residents aged 85 and older: from 30% in FY 2012 to 19% in FY 2016.

Figure 5. Assisted Living Users* by Service, FY 2012 and FY 2016



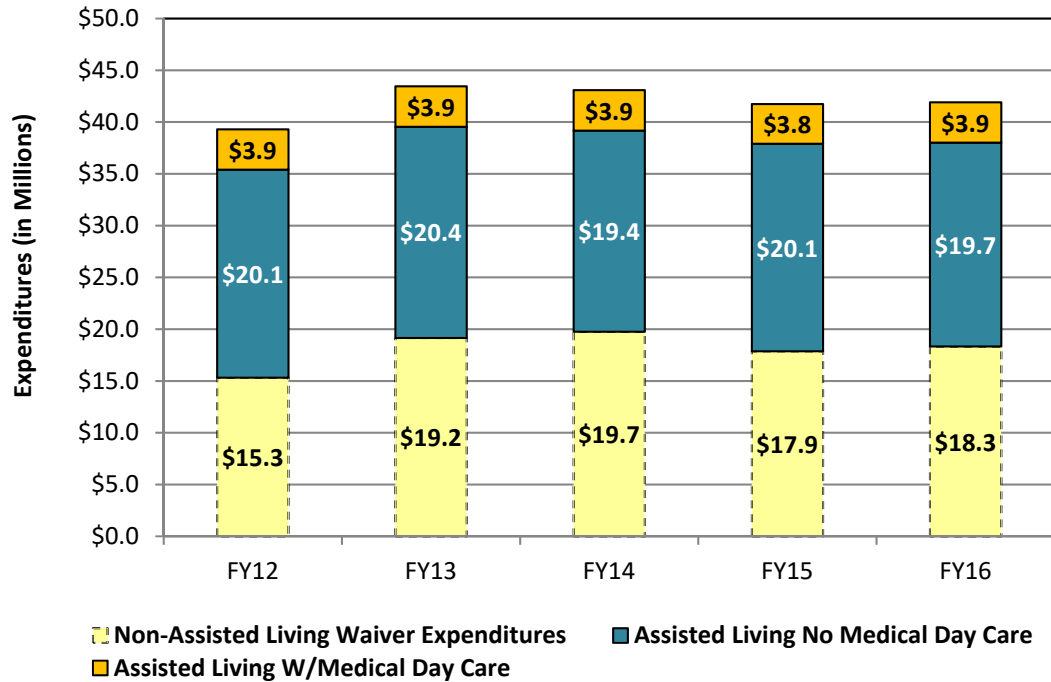
While participants may use these services alternately, in both FY 2012 and FY 2016, the largest percentage of CO Waiver participants used assisted living services without medical day care services. There was a slight increase in the percentage of participants using the medical day care component.

* Residents may receive services in one or more assisted living category.

Note: Assisted living is a residential or facility-based residence that provides housing and supportive services, supervision, personalized assistance, health-related services, or a combination of these services to meet the needs of residents who are unable to perform (or who need assistance in performing) ADLs or IADLs. The assisted living levels are determined by the amount of assistance provided. Assisted Living Level I providers are authorized to care for residents with low-level care needs. Assisted Living Level II providers care for residents with moderate care needs. Assisted Living Level III providers care for residents with high-level care needs. The CO Waiver does not provide Assisted Living Level I services. Reimbursement rates for assisted living services differ for assisted living with medical day care and assisted living without medical day care (i.e., the assisted living facility must claim a lower rate for each day the resident leaves the assisted living facility to attend a medical day care center).

Source: MMIS2

Figure 6. Total Medicaid Expenditures for CO Waiver Participants in Assisted Living,* FY 2012 – FY 2016



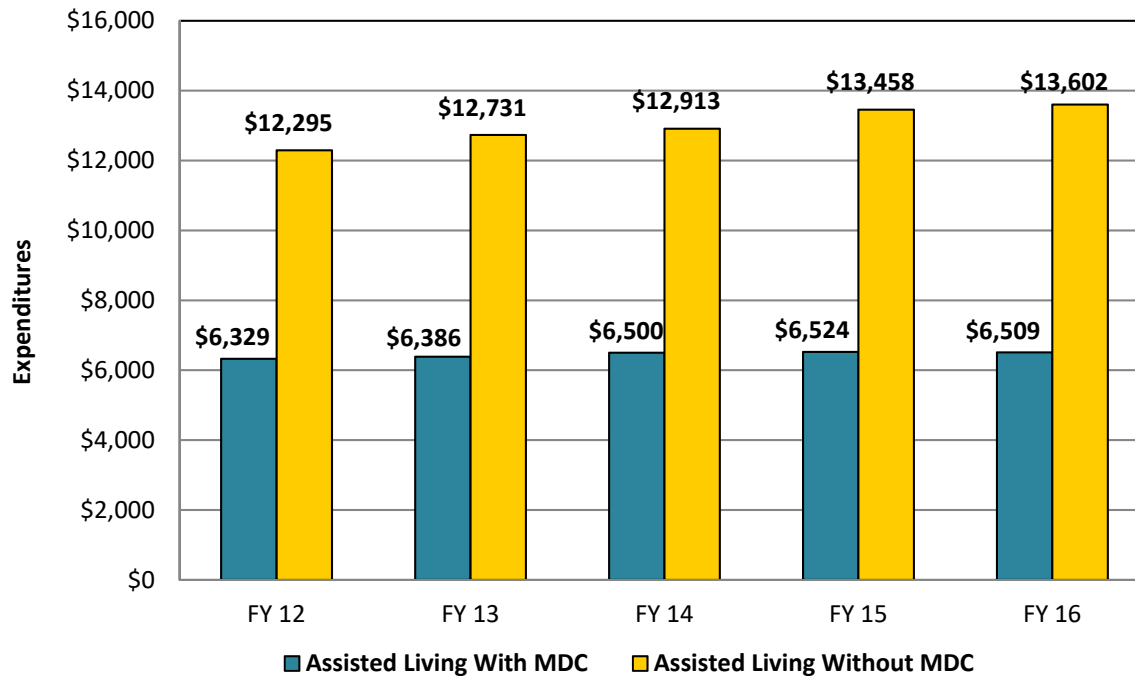
Although the percentage decreased each year, expenditures for assisted living services composed the majority of the CO Waiver service expenditures in each of the study periods. These services accounted for \$23.6 million (or 56.3% of total expenditures) in FY 2016. This is a decrease from \$24 million (or 61.0% of total expenditures) in FY 2012.

* Residents may receive services in one or more assisted living category.

Note: Assisted living is a residential or facility-based residence that provides housing and supportive services, supervision, personalized assistance, health-related services, or a combination of these services to meet the needs of residents who are unable to perform (or who need assistance in performing) ADLs or IADLs. The assisted living levels are determined by the amount of assistance provided. Assisted Living Level I providers are authorized to care for residents with low-level care needs. Assisted Living Level II providers care for residents with moderate care needs. Assisted Living Level III providers care for residents with high-level care needs. The CO Waiver does not provide Assisted Living Level I services. Reimbursement rates for assisted living services differ for assisted living with medical day care and assisted living without medical day care (i.e., the assisted living facility must claim a lower rate for each day the resident leaves the assisted living facility to attend a medical day care center).

Source: MMIS2

Figure 7. Average Annual Cost Per Person for CO Waiver Assisted Living* Services, by Service, FY 2012 – FY 2016



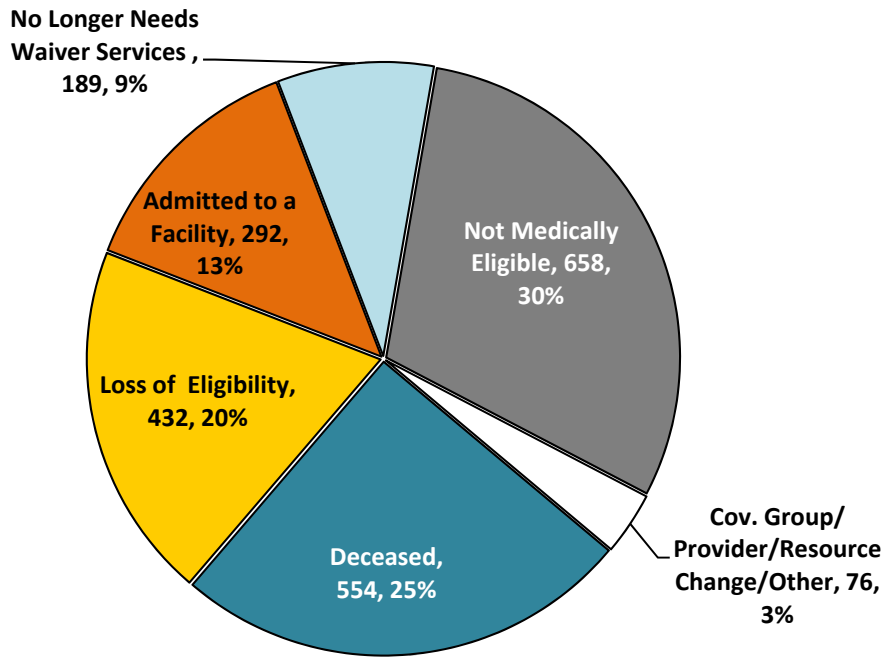
Assisted living services are less costly for CO waiver participants who also receive medical day care services. On average, assisted living services for these participants are \$6,000 less per person per year than for participants not receiving medical day care services.

* Residents may receive services in one or more assisted living category.

Note: Assisted living is a residential or facility-based residence that provides housing and supportive services, supervision, personalized assistance, health-related services, or a combination of these services to meet the needs of residents who are unable to perform (or who need assistance in performing) ADLs or IADLs. The assisted living levels are determined by the amount of assistance provided. Assisted Living Level I providers are authorized to care for residents with low-level needs. Assisted Living Level II providers care for residents with moderate care needs. Assisted Living Level III providers care for residents with high-level needs. The CO Waiver does not provide Assisted Living Level I services. Reimbursement rates for assisted living services differ for assisted living with medical day care and assisted living without medical day care (i.e., the assisted living facility must claim a lower rate for each day the resident leaves the assisted living facility to attend a medical day care center).

Source: MMIS2

Figure 8. Reasons for Leaving the CO Waiver and MDC Waiver, FY 2016

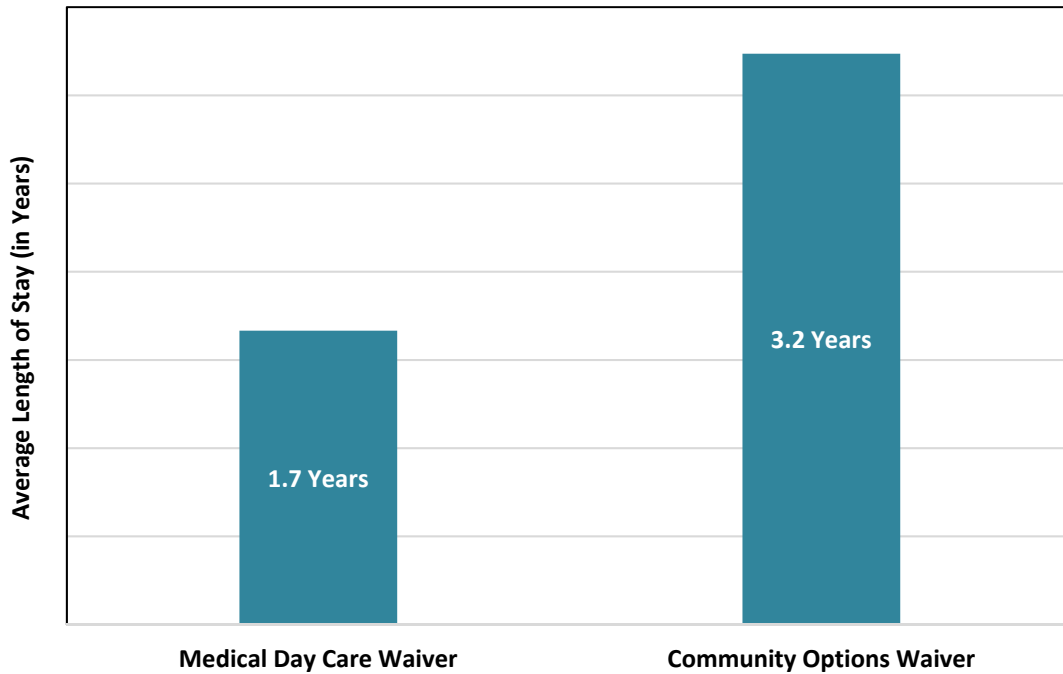


Of the 2,201 disenrollments identified in FY 2016, the highest percentage was due to medical ineligibility. One-quarter were disenrolled due to death. Admission to a long-term care facility was also among the top reasons for disenrollment.

Note: Disenrollment means that a waiver participant had more than a one-day gap between waiver spans or that they were disenrolled from one waiver to enroll into another waiver. CO Waiver and MDC Waiver participants may have one or more disenrollment events recorded in MMIS in a given fiscal year.

Source: MMIS

Figure 9. Length of Stay at Disenrollment by Waiver, FY 2016



MDC Waiver enrollees disenrolled in FY 2016 spent, on average, 1.7 years in the MDC Waiver. Comparatively, CO Waiver participants, on average, were in the waiver nearly twice as long (3.2 years) before their disenrollment in FY 2016.

Note: Disenrollment means that a waiver participant had more than a one-day gap between waiver spans or that they were disenrolled to enroll into another waiver. CO Waiver and MDC Waiver participants may have one or more disenrollment events recorded in MMIS in a given fiscal year.

Source: MMIS

Chapter 3. Medicaid Expenditures and Service Utilization

Chapter 3. Medicaid Expenditures and Service Utilization

Key Findings

Total Medicaid Expenditures for HCBS Users

In FY 2016, total Medicaid expenditures for HCBS users were \$542 million. Of this, \$365 million (or 67%) was expended for HCBS, including waiver services, CFC services, and CPAS services. HCBS service expenditures increased 39% from FY 2012 to FY 2016, with the largest percentage (22%) of this growth occurring post-CFC implementation. See Figure 10.

In both FY 2015 and FY 2016, state plan expenditures composed 43% of the total Medicaid expenditures for HCBS users. On average, non-HCBS expenditures represented 31% of total Medicaid expenditures for this population in each of the five study periods. See Figure 11.

Service Utilization by Program

Figures 12 to 14 show the distribution of users and expenditures for the CO Waiver, MDC Waiver, and state plan programs for FYs 2012 to 2016. The most costly CO Waiver expenditures in each of the five reporting periods were for assisted living services. Combined, day care services expenditures topped \$102.7 million in FY 2016, with the majority of the growth occurring in the MDC Waiver (Figure 12). FY 2016 CFC expenditures increased more than three-fold since the program's inception in FY

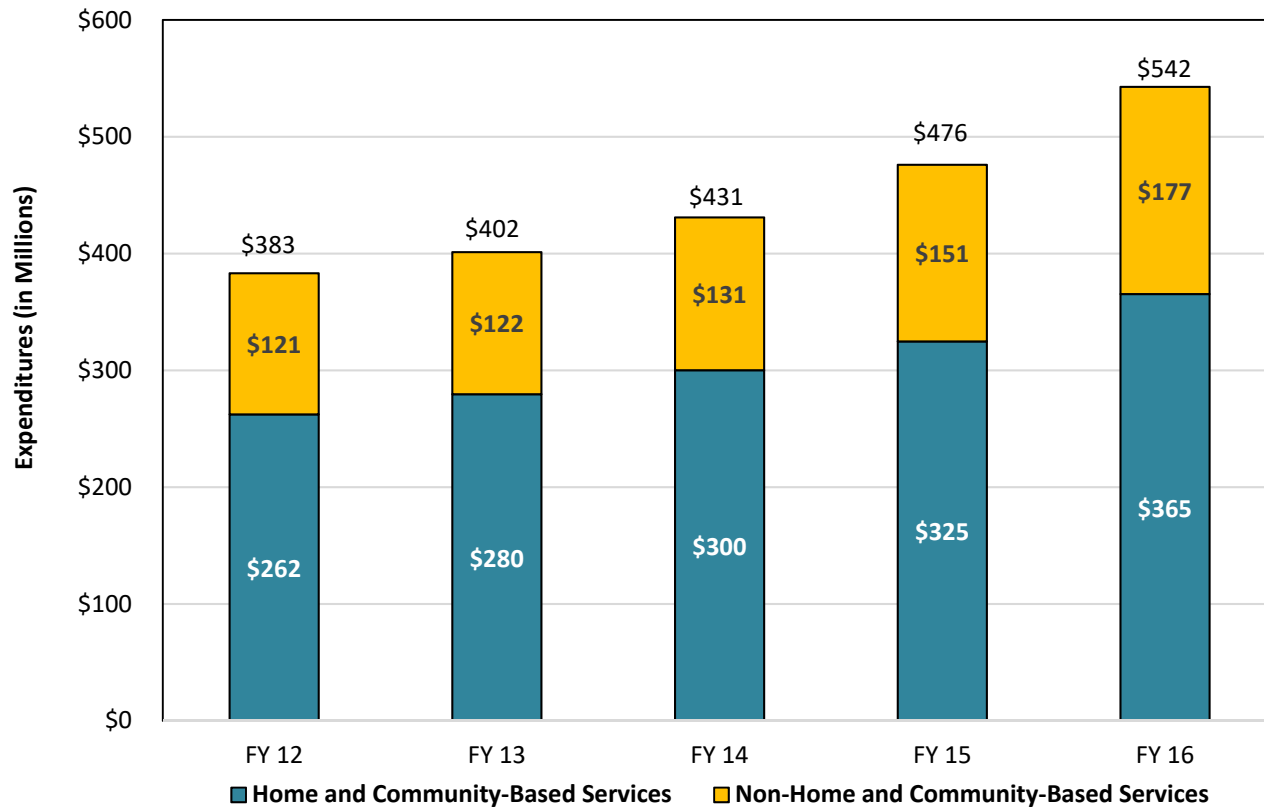
2014. Personal assistance service expenditures have accounted for, on average, 88% of CFC's expenditures each year (Figure 13). CPAS expenditures totaled \$8.4 million in FY 2016, an 80% decrease from \$42.5 million in FY 2012. This decrease reflects the movement of CPAS participants to CFC or to other LTSS programs (Figure 14).

Expenditures for administrative supports planning services peaked in FY 2015 at \$4.8 million. This was followed by a decrease of more than one-half (\$2.3 million) the following year (See Figure 15).

Non-HCBS Service Utilization

At about 80%, HCBS users were highly likely to utilize physician services. While a large percentage of this population received this service, physician services accounted for only 12% of the total non-HCBS spending in both FY 2012 and FY 2016 (Figure 16).

Figure 10. Total Medicaid Expenditures for HCBS Users, FY 2012 – FY2016



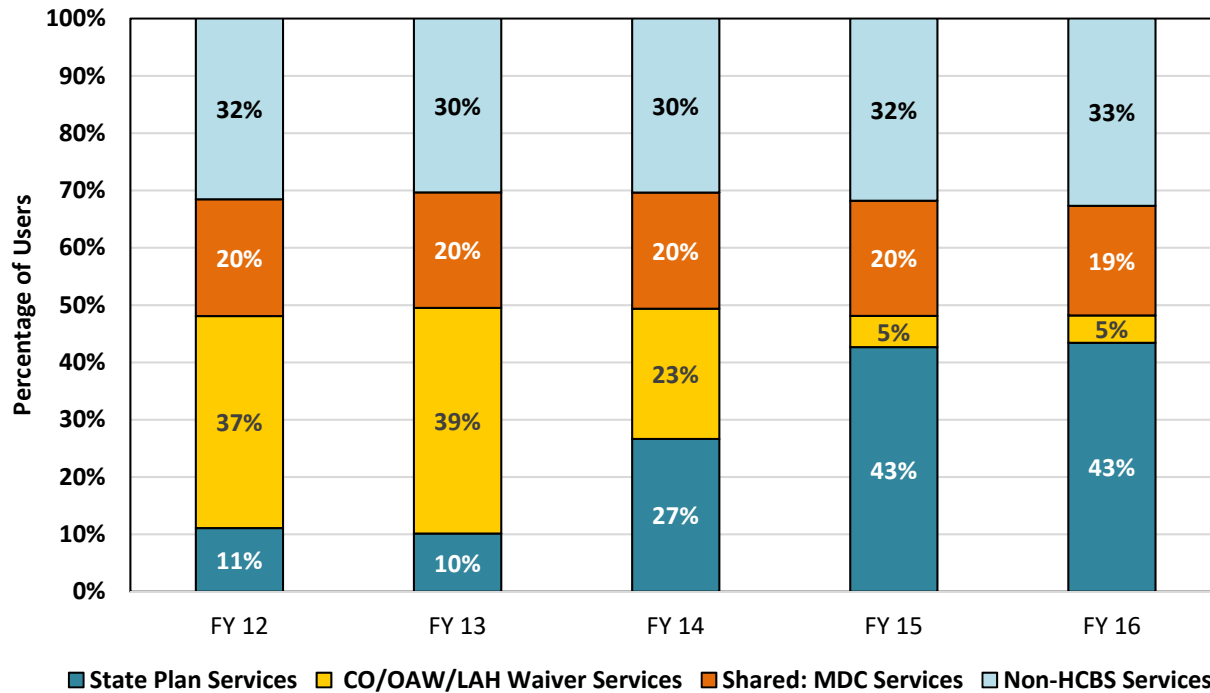
Total Medicaid expenditures for HCBS users totaled \$542.6 million in FY 2016, an increase of 42% over FY 2012 levels.

HCBS expenditures—as a percentage of total Medicaid expenditures for HCBS users—have decreased slightly since FY 2013. In FY 2016, HCBS expenditures composed 67.3% of the total Medicaid expenditures for this population, down from 68.4% in FY 2012.

Note: Medicaid expenditure totals may be slightly different from other counts in this chart book due to updates made to MMIS.

Source: MMIS2

Figure 11. Total Medicaid Expenditures for HCBS Users, by Program, FY 2012 – FY 2016



Prior to the implementation of CFC, state plan services (MAPC and CPAS) accounted for 11% of total Medicaid expenditures for HCBS users. After the implementation of CFC in FY 2014, state plan service expenditures more than tripled as the services under this program expanded to include services other than personal care. Conversely, waiver service expenditures decreased as many of these services were transferred to the CFC program.

Note: Maryland Medicaid receives an additional 6% federal match for CFC services expenditures.

Source: MMIS2

Figure 12. Distribution of CO Waiver and MDC Waiver Services, FY 2012 – FY 2016

Figure 12 shows CO Waiver and MDC Waiver service users and expenditures from FYs 2012 through 2016. Pre-CFC, personal assistance services accounted for the largest percentage of the CO Waiver expenditures. Post-CFC, combined CO and MDC Waiver medical day care services were the highest percentage as personal assistance service expenditures were reassigned to the CFC state plan program.

Service	FY 12		FY 13		FY 14		FY 15		FY 16	
	Users	Expenditures	Users	Expenditures	Users	Expenditures	Users	Expenditures	Users	Expenditures
Assisted Living Services	1,635	\$23,988,112	1,606	\$24,296,820	1,507	\$23,328,018	1,502	\$23,691,165	1,461	\$23,400,138
Assistive Technology	2,137	\$759,902	2,305	\$850,066	1,722	\$414,387				
Behavior Consultation	158	\$50,367	122	\$33,384	104	\$34,265	106	\$39,464	95	\$37,952
Case Management	2,705	\$4,597,796	5,257	\$8,202,183	5,053	\$5,745,946	3,384	\$1,948,300	3,161	\$2,069,168
Dietitian/Nutritionist	*	\$844	*	\$1,036	*	\$500	*	\$574	*	\$192
Environmental Assessment/Adaptation	530	\$123,584	541	\$719,184	332	\$563,826				
Consumer Training	*	\$2,134	*	\$1,610	*	\$469				
Home-Delivered Meals	1,233	\$2,319,655	1,374	\$2,738,703	1,251	\$1,690,721				
Medical Day Care	5,935	\$78,782,042	6,002	\$79,591,523	6,235	\$87,335,434	6,545	\$94,959,443	6,866	\$102,701,306
CO/LAH Waivers	1,349	\$15,530,425	1,367	\$15,904,549	1,349	\$16,195,770	1,274	\$15,383,404	1,233	\$15,341,612
MDC Waiver	4,673	\$63,251,617	4,733	\$65,155,932	4,899	\$71,139,664	5,271	\$79,576,039	5,633	\$87,359,694
PERS Purchase/Monitoring	2,011	\$23,773	2,044	\$860,835	1868	\$532,010				
Personal Assistance	3,344	\$108,590,371	3,593	\$120,368,733	3,399	\$65,608,926				
Respite Care	517	\$556,568	622	\$750,793	403	\$344,088	15	\$14,072	12	\$8,920
Senior Center Plus	57	\$188,526	45	\$186,596	35	\$150,336	34	\$132,110	35	\$167,788
Transition Services							84	\$106,548	115	\$165,787
Total		\$221,126,306		\$240,070,424		\$185,748,926		\$120,891,676		\$128,551,251

* Cell values of 10 or less have been suppressed.

Source: MMIS2

Figure 13. Distribution of CFC Service Expenditures, CFC Program, FY 2014 – FY 2016

CFC Services	FY 14		FY 15		FY 16	
	Users	Expenditures	Users	Expenditures	Users	Expenditures
Consumer Training	*	\$3,785	*	\$511	*	\$2,698
Environmental Assessment	111	\$45,244	903	\$370,889	1,138	\$466,019
Environmental Adaptations	67	\$194,884	208	\$526,910	400	\$1,513,611
Home-Delivered Meals	1,102	\$1,263,112	1,402	\$2,446,689	1,474	\$2,400,282
Items that Substitute for Human Assistance	85	\$1,485	55	\$618	21	\$366
Nurse Monitoring	2,674	\$973,735	5,369	\$3,077,435	7,877	\$4,875,829
Personal Assistance	3,323	\$60,962,683	6,841	\$144,271,555	9,861	\$188,257,000
Personal Emergency Response Systems	101	\$6,144	950	\$70,912	1,208	\$97,957
PERS-Monitoring	1,761	\$313,385	2,712	\$996,209	3,687	\$1,421,885
Supports Planning (Ongoing)	4,442	\$2,686,527	7,630	\$10,588,457	10,548	\$17,970,478
Technology	79	\$33,933	525	\$258,515	1,008	\$754,271
Transition Services	31	\$57,131	99	\$138,181	128	\$187,558
Total		\$66,542,047		\$162,746,879		\$225,159,124

Figure 13 shows the distribution of users and expenditures for CFC services in FYs 2014 through 2016. Personal assistance services made up the largest percentage of the CFC service expenditures each year, averaging 88% of service expenditures over the three-year period.

* Cell values of 10 or less have been suppressed.

Source: MMIS2

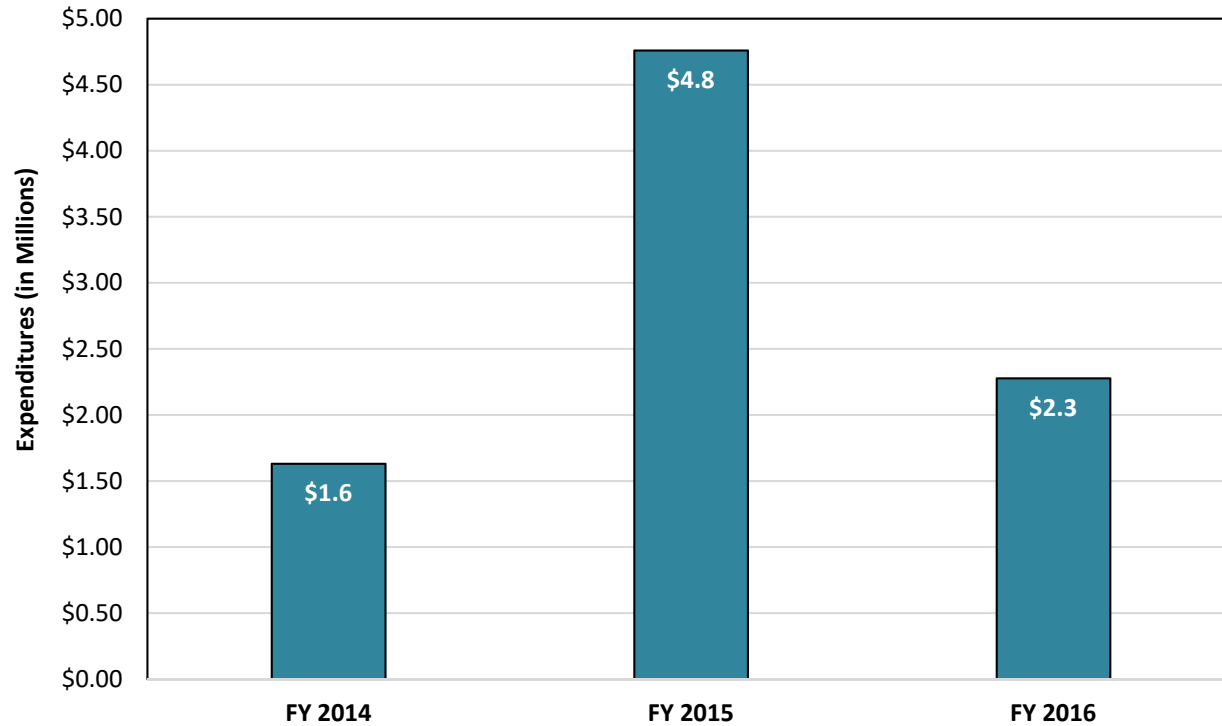
Figure 14. Distribution of CPAS Services, CPAS Program, FY 2012 – FY 2016

Figure 14 shows the changes in personal assistance service utilization and expenditures incurred when the state implemented its CPAS program in October 2015. The decrease in MAPC/CPAS service use and expenditures from FY 2015 to FY 2016 is due to the movement of participants from MAPC/CPAS to the CFC program.

	FY 12		FY 13		FY 14		FY 15		FY 16		
	Service	Users	Expenditures	Users	Expenditures	Users	Expenditures	Users	Expenditures	Users	Expenditures
CPAS	Personal Assistance (Agency, Shared)									551	\$2,848,812
	Nurse Monitoring									358	\$139,019
	Supports Planning Ongoing									578	\$690,000
MAPC	Level 1 Day Personal Care	938	\$2,214,499	888	\$2,211,621	825	\$2,125,013	565	\$1,409,328	198	\$181,705
	Level 2 Day of Personal Care	4,612	\$27,395,484	4,606	\$29,504,262	4,506	\$31,523,971	3,804	\$23,516,847	1,487	\$2,798,761
	Level 3 Day of Personal Care	149	\$1,430,155	168	\$1,700,310	187	\$1,940,927	134	\$1,371,836	35	\$163,045
	Day of Training	1,241	\$20,087	1,219	\$20,460	1,008	\$24,987	292	\$5,324	12	\$263
	Month of Case Monitoring (Agency)	5,692	\$11,477,470	5,250	\$7,319,372	5,455	\$11,060,690	5,136	\$9,461,701	2,625	\$1,602,195
Total		\$42,537,695		\$40,756,025		\$46,675,588		\$35,765,036		\$8,423,800	

Source: MMIS2

Figure 15. Administrative Supports Planning Service Costs, FY 2014 – FY 2016



Expenditures for administrative supports planning services peaked in FY 2015 at \$4.8 million. This was followed by a decrease of more than one-half (\$2.3 million) the following year.

Source: MMIS2

Figure 16. Proportion of HCBS Users Accessing Non-HCBS, FY 2012 and FY 2016

Service Category	FY 2012		FY 2016	
	Users	Expenditures	Users	Expenditures
Home Health	14%	10%	15%	18%
Inpatient	24%	15%	21%	14%
Long Term Care	4%	3%	5%	3%
MCO Capitation	18%	27%	21%	23%
Outpatient	45%	8%	44%	8%
Pharmacy	49%	9%	42%	9%
Physician	80%	12%	82%	12%
Special Programs	75%	16%	77%	14%

Source: MMIS2

Figure 16 shows the relationship between the proportion of HCBS users in both FY 2012 and FY 2016 to the proportion of HCBS expenditures by service category. Notably, a high percentage (80% in FY 2012 and 82% in FY 2016) of HCBS users received physician services; however, the percentage of the total non-HCBS expenditures was relatively low.

Chapter 4.

Acuity and Clinical Information

Chapter 4. Acuity and Clinical Information

Key Findings

Activities of Daily Living

In this chart book, interRAI assessments were used to provide a snapshot of the acuity and wellbeing of CO Waiver, MDC Waiver, and CFC and CPAS participants. This snapshot includes information such as ADLs, cognitive status, living environment, physical safety, and chronic conditions.

Maryland's HCBS participants are assigned a level of care (e.g., NFLOC or CPAS level of care) based on 1) the need for skilled nursing and rehabilitation services, such as suctioning, extensive physical therapy, or ventilator care, or 2) the need for support in ADLs, instrumental activities of daily living (IADLs), cognition, and behavioral issues. The percentage of HCBS users who received NFLOC based on the need for skilled nursing and rehabilitation services was higher among CFC and CO Waiver participants (Figure 17).

Overall, based on their most recent interRAI assessment, nearly half of the FY 2016 HCBS users required an extensive (or higher) level of assistance with ADLs. However, assisted living users tended to require lower levels of assistance with ADLs than other HCBS users. See Figure 18.

On average, 3,300 HCBS users per year had at least one acute care hospital admission. The number of HCBS users with at least one admission to a institutional setting has increased 65%—from slightly less than 500 in FY 2012 to 812 in FY 2016 (Figure 20).

Brief Interview for Mental Status

The BIMS, which is a section in the interRAI, is used to assess cognitive functioning. With a score of 13 to 15, nearly half of the FY 2016 HCBS users were found to be cognitively intact. However, 20% of the HCBS users were found to have a severe cognitive impairment (Figure 19).

Living Environment and Safety

Most (32% of) HCBS users live (Figure 21). In general, participants felt safe in their homes and felt that their homes were in an adequate state of repair. Over half of the CO Waiver participants lived in a home that had been structurally re-engineered for accessibility. Over 90% of the participants in each of the three programs lacked accessibility to a grocery store, and nearly half of the CO Waiver and CFC participants lacked access to a grocery home delivery service. See Figure 22.

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Chapter 4. Acuity Level and Clinical Information continued

Key findings continued ...

Health Status and Pain Control

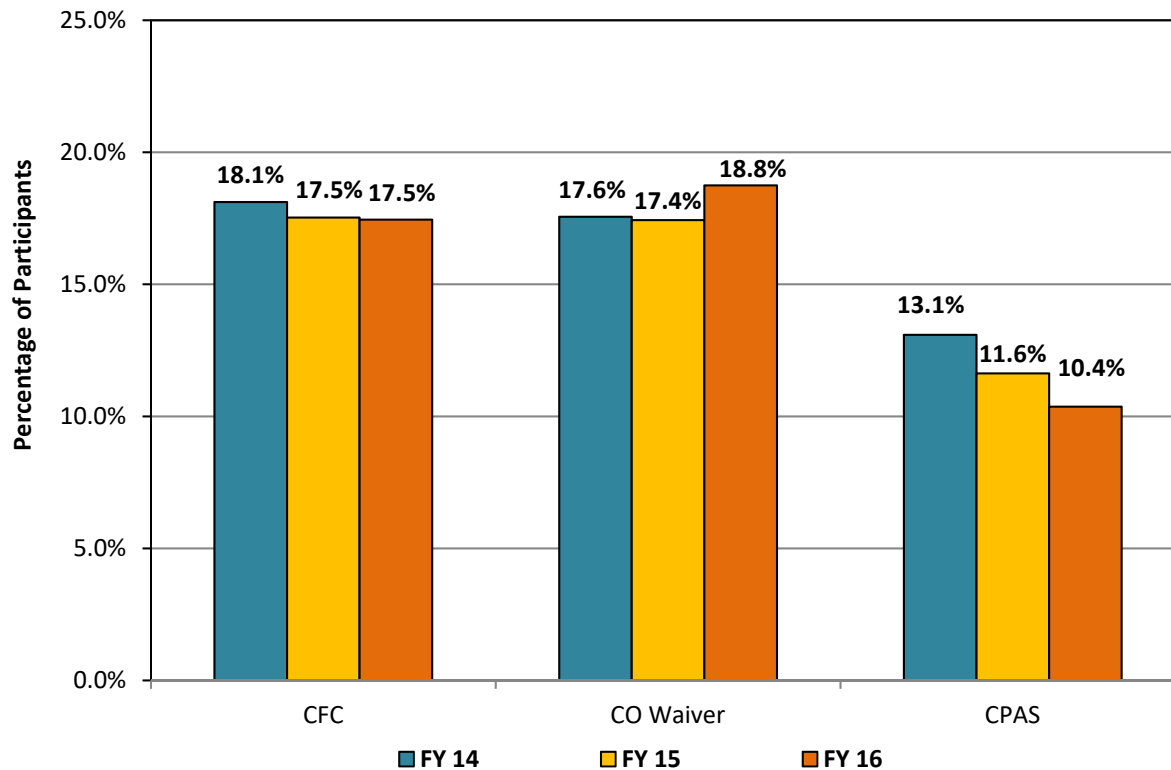
Less than 5% of the FY 2016 participants in each program self-reported “excellent” health status. Instead, the highest percentage of participants in each of the programs rated their health status as “fair” (Figure 23). Over half of the CPAS and CFC participants exhibited daily pain in the three days preceding their assessment (Figure 24).

Chronic Conditions

In FY 2016, hypertension was diagnosed in the highest percentage of the CFC, CO Waiver, and CPAS participants. A similar distribution pattern across the three programs was noted for diabetes. Larger percentages of CO Waiver participants were diagnosed with Alzheimer’s Disease/dementia and chronic kidney disease, while a slightly larger percentage of CPAS participants were diagnosed with arthritis and hyperlipidemia (Figure 26).

Unless otherwise noted—with the exception of the chronic conditions information, which comes from MMIS2—the information in this chapter is derived from each participant’s last 2016 interRAI assessment.

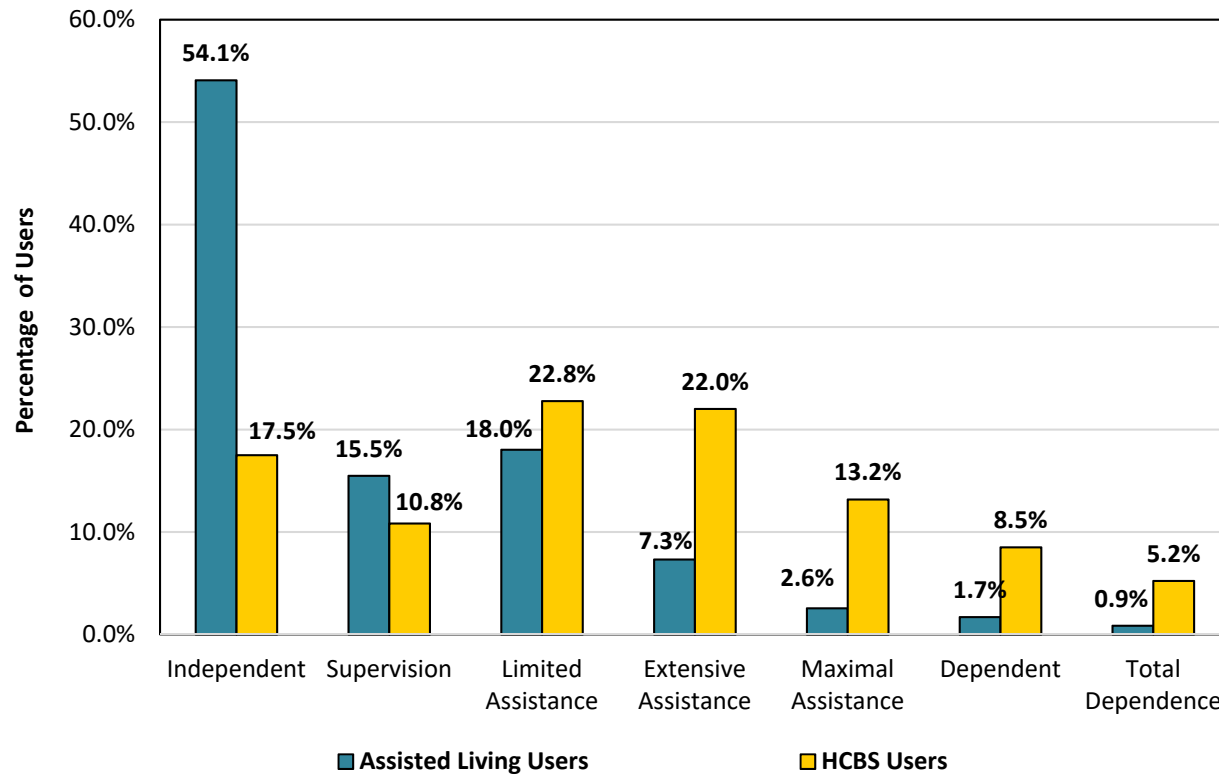
Figure 17. Percentage of Participants Receiving Eligibility Based on Skilled Nursing and Rehabilitation Services, by Program, FY 2014 – FY 2016



The percentage of HCBS users who received NFLOC based on limitations in skilled nursing and rehabilitation services—such as the need for suctioning, extensive physical therapy, or ventilator care—was higher among CFC and CO Waiver participants than it was among CPAS participants.

Source: LTSSMaryland/interRAI

Figure 18. Activities of Daily Living Score: Assisted Living Users and HCBS Users Compared, FY 2016



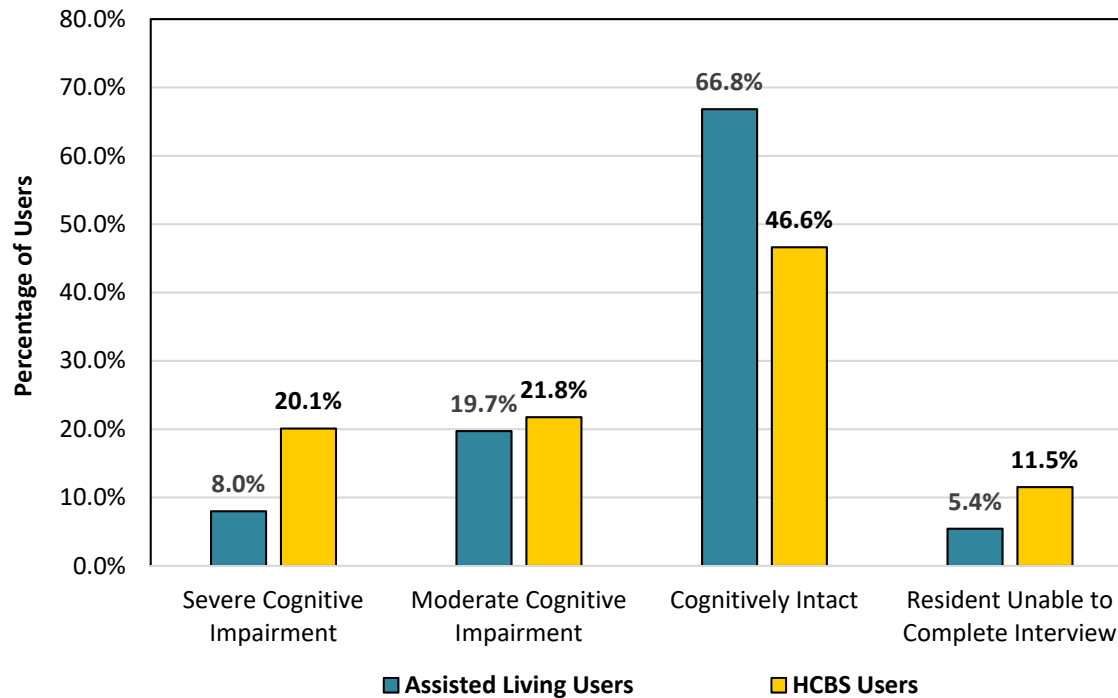
Assisted living users are far more likely to be independent in performing activities such as personal hygiene, toileting, eating, and locomotion than other HCBS users. This group is also less likely to require extensive or higher levels of assistance with the above-mentioned ADLs.

Note: HCBS participants include CO and MDC Waiver participants, and CPAS and CFC participants. Acuity levels are based on the level of assistance required in the personal hygiene, toilet transfer, locomotion, and eating ADLs. Acuity levels are calculated based on the last interRAI completed in FY 2016 for HCBS participants.

Acuity levels: Independent=independent in the four ADLs; Supervision=at least supervision is required in one ADL; Limited=limited assistance is required in at least one or more of the four ADLs; Extensive=at least extensive assistance in personal hygiene or toileting (and less than extensive in both eating and locomotion); Maximal=extensive assistance in eating or locomotion; Dependent=total dependence in eating and/or locomotion; Total Dependence=total dependence in all four ADLs.

Source: LTSSMaryland/interRAI

Figure 19. BIMS: Assisted Living Users and HCBS Users Compared, FY 2016



Note: The BIMS is used to assess cognitive skills in the area of attention, orientation, and ability to register and recall new information.

Source: LTSSMaryland/interRAI

The BIMS is used to determine cognitive functioning.

Maryland’s assisted living users are more likely to be cognitively intact than other HCBS users. In FY 2016, over two-thirds of the assisted living users were cognitively intact (a score of 13 to 15), compared to 46.6% of all HCBS users.

Less than 10% of the assisted living users were determined to have a severe cognitive impairment (e.g., immediate recall, orientation or awareness of oneself and one’s surroundings, and/or short-term memory).

CO Waiver participants were slightly more likely than participants in the other HCBS groups to have a severe cognitive impairment (not shown).

Figure 20. HCBS Users’ Acute Care Hospital and Institutional Admissions, FY 2012 – FY 2016

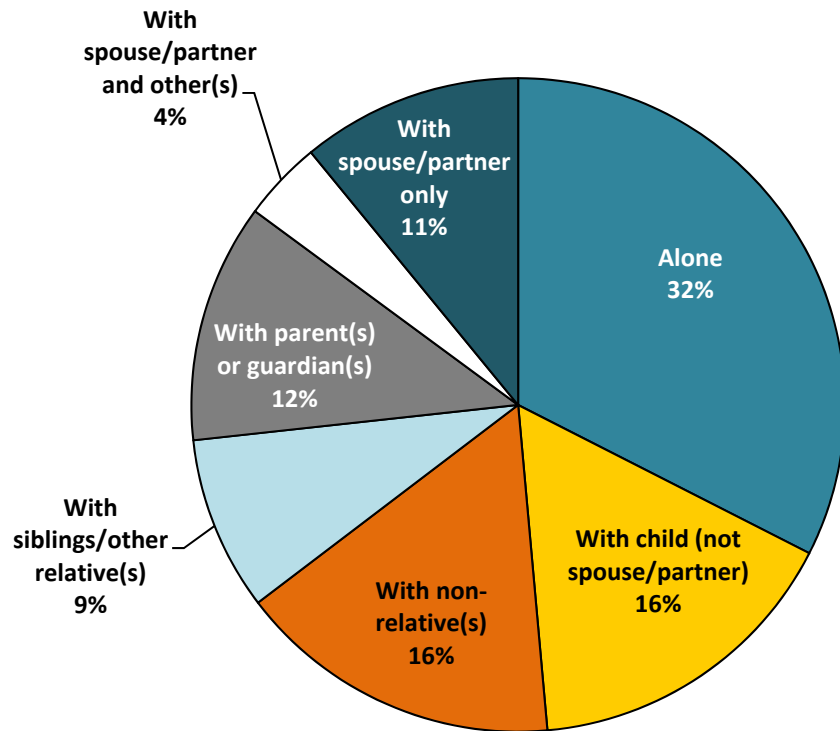
Fiscal Year	Acute Care Admissions	Percentage of HCBS Users	Institutional Admissions	Percentage of HCBS Users
FY 12	3,283	24%	492	4%
FY 13	3,419	24%	516	4%
FY 14	3,286	23%	623	4%
FY 15	3,479	23%	797	5%
FY 16	3,443	21%	812	5%

Source: MMIS2

On average, 3,300 HCBS users per year had at least one acute care hospital admission. The overall percentage of users with a hospital admission decreased slightly from FY 2012.

The number of HCBS users with at least one admission to an institutional setting increased 65%—from slightly less than 500 in FY 2012 to 812 in FY 2016. However, the overall percentage of users with an admission to an institutional setting remained relatively stable.

Figure 21. HCBS Users' Living Arrangements, FY 2016



Notes: Chart does not include MDC Waiver participants. “Living alone” includes persons who are living with a pet, living on the street, or who are homeless and may or may not be living in a shelter.

Source: LTSSMaryland/interRAI

Nearly one-third of the HCBS users lived alone at the time of their assessment. The highest percentage (39%) of these users were CPAS participants (not shown).

Sixteen percent of HCBS users lived with non-relative(s) in a group setting, such as a boarding/group home or with a roommate. CO Waiver participants made up 37% of the persons living with non-relatives; this is likely due to assisted living use (not shown).

Figure 22. Survey of Environment and Safety, FY 2016

Area	CFC		CO Waiver		CPAS	
	Yes	No	Yes	No	Yes	No
Home Environment						
Disrepair of the home	4.5%	95.5%	2.4%	97.3%	3.6%	96.3%
Squalid conditions	2.4%	97.5%	1.1%	98.5%	2.3%	97.6%
Inadequate heating or cooling	1.1%	98.9%	0.3%	99.2%	1.2%	98.7%
Personal Safety						
Lack of Personal Safety	1.2%	98.7%	0.6%	98.9%	1.2%	98.8%
Availability of emergency assistance	94.6%	5.3%	95.9%	4.0%	94.0%	6.0%
Accessibility						
Limited access to home or rooms in home	10.2%	89.6%	6.9%	92.4%	5.6%	94.3%
Lives in a home re-engineered for accessibility	38.4%	61.4%	50.1%	48.5%	43.3%	56.5%
Grocery Accessibility						
Accessibility to grocery store	6.2%	93.8%	6.5%	93.9%	7.8%	92.1%
Accessibility to grocery home delivery	51.7%	48.3%	57.9%	42.0%	45.1%	54.9%

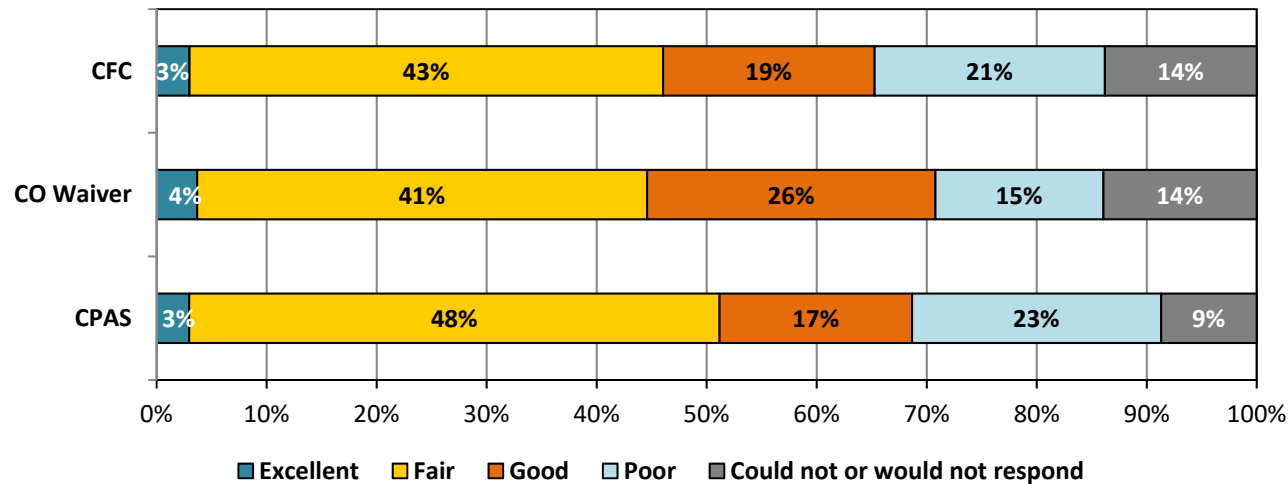
Note: Percentages may not equal 100% due to rounding and missing data.

Source: LTSSMaryland/interRAI

In general, participants or their designees in each of the programs reported feeling safe in their homes. Based on the interviewer’s assessment of the home, the majority of the home environments were in an adequate state of repair, with over half of the CO Waiver participants living in a home that had been structurally re-engineered for accessibility.

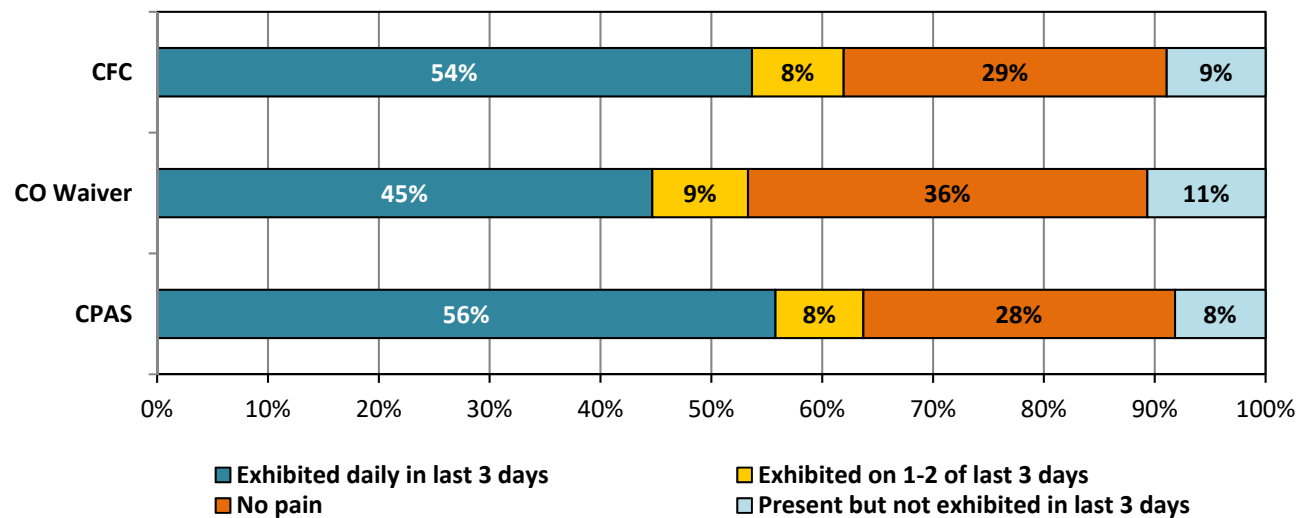
Regarding grocery accessibility, nearly all of the participants or their designee in each of the three programs reported a lack of accessibility to a grocery store. Specifically, over 90% of the participants in each of the three programs lacked accessibility to a grocery store, and nearly half of the CO Waiver and CFC participants lacked access to a grocery home delivery service.

Figure 23. Self-Reported Health Status, FY 2016



Source: LTSSMaryland/interRAI

Figure 24. Frequency of Complaints or Showing Evidence of Pain, FY 2016



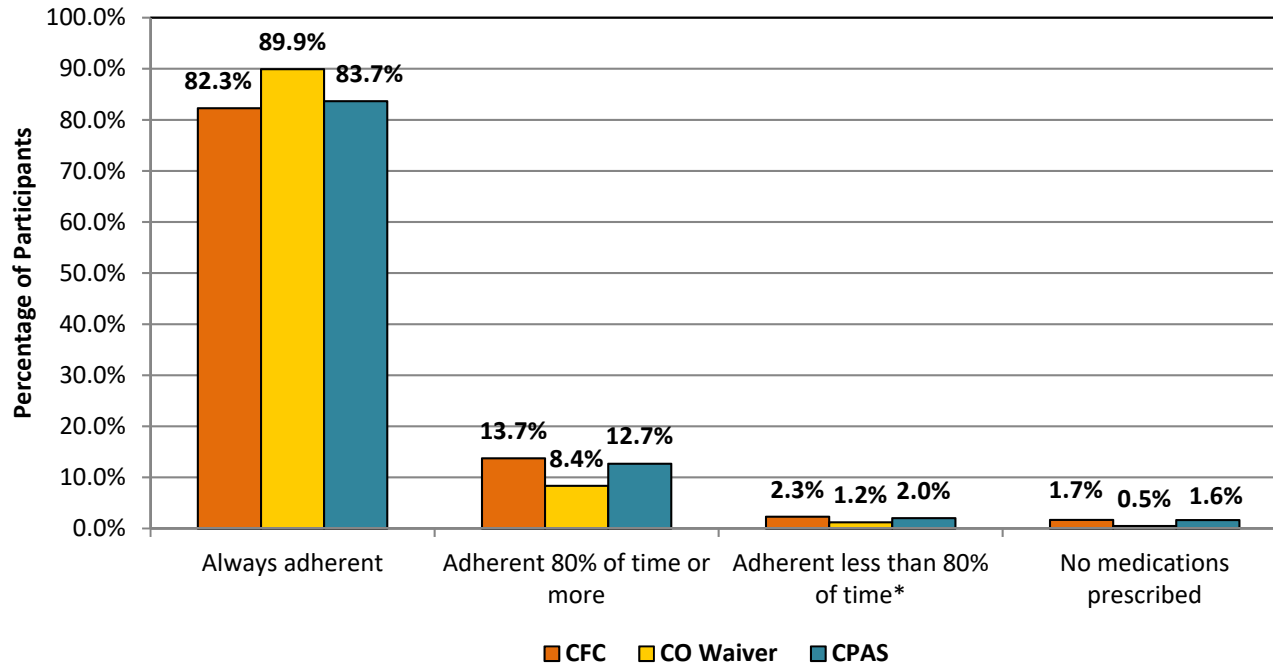
Source: LTSSMaryland/interRAI

The highest percentage of participants in each of the programs self-reported a health status of “fair.” CO Waiver participants were more likely than participants of the other two programs to self-report a health status of “good.” Less than 5% of the participants in each program rated their health status as “excellent.”

Related to health status, over half of the CPAS and CFC participants self-reported experiencing daily pain in the three days preceding their assessment. CO Waiver participants were more likely to show evidence of no pain than their counterparts.

For self-reported responses, if the person is unable to respond, then someone who is in frequent contact with the person may respond on their behalf.

Figure 25. Adherence to Medications Prescribed by a Physician, FY 2016

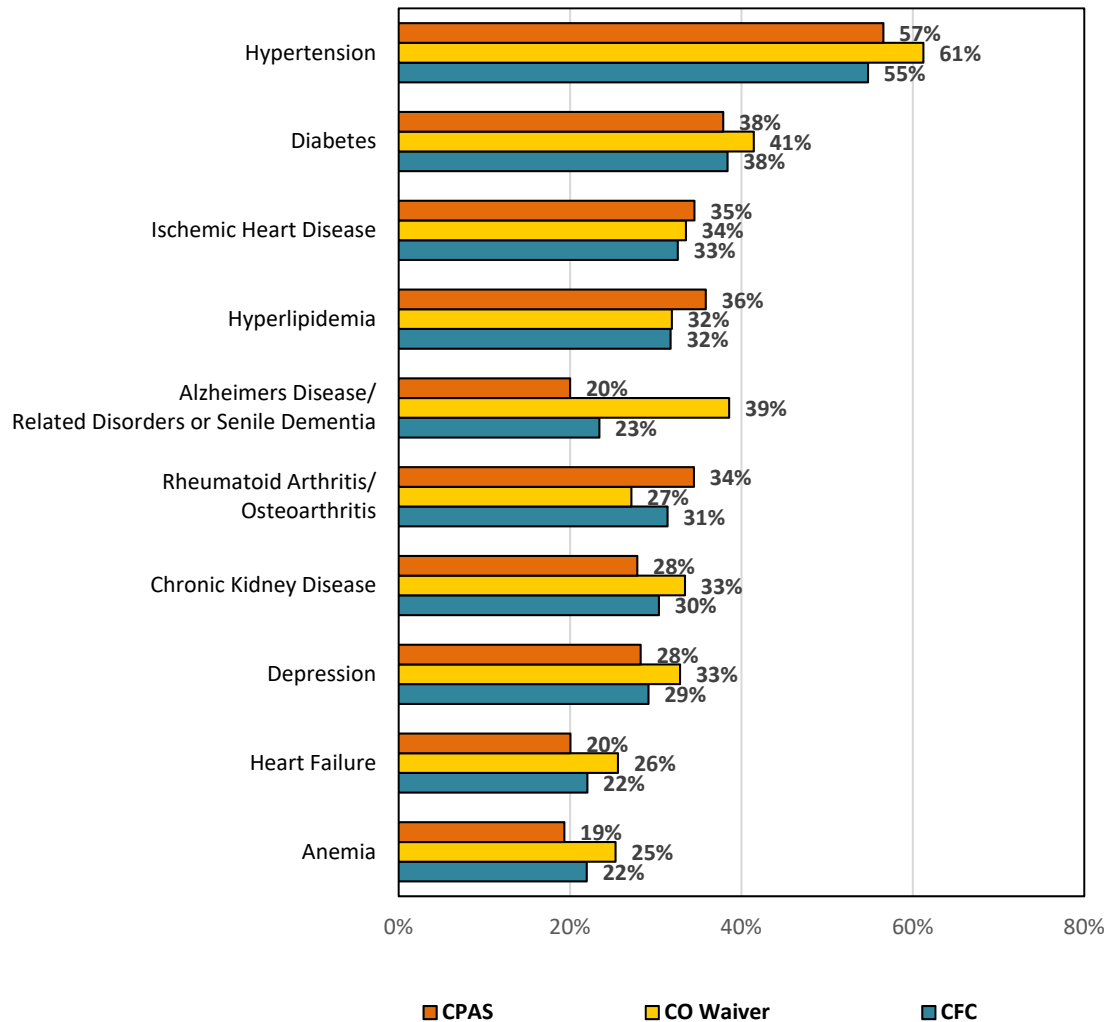


In FY 2016, the majority of participants in each of the programs were reportedly always adherent in taking their medications as prescribed.

* Including failure to purchase prescribed medications.

Source: LTSSMaryland/interRAI

Figure 26. Top Chronic Conditions, by Program, FY 2016



In FY 2016, hypertension was diagnosed in the highest percentage of the CFC, CO Waiver, and CPAS participants. The percentage of participants was similar for diabetes. Larger percentages of CO Waiver participants were diagnosed with Alzheimer's Disease or dementia, heart failure, or chronic kidney disease, while more CPAS participants were diagnosed with arthritis and hyperlipidemia.

Source: MMIS2

Chapter 5. Maryland LTSS Users: Comparisons between HCBS Users and Nursing Facility Residents

Chapter 5. Maryland LTSS Users: Comparisons between HCBS Users and Nursing Facility Residents

Key Findings

Balancing Maryland's LTSS

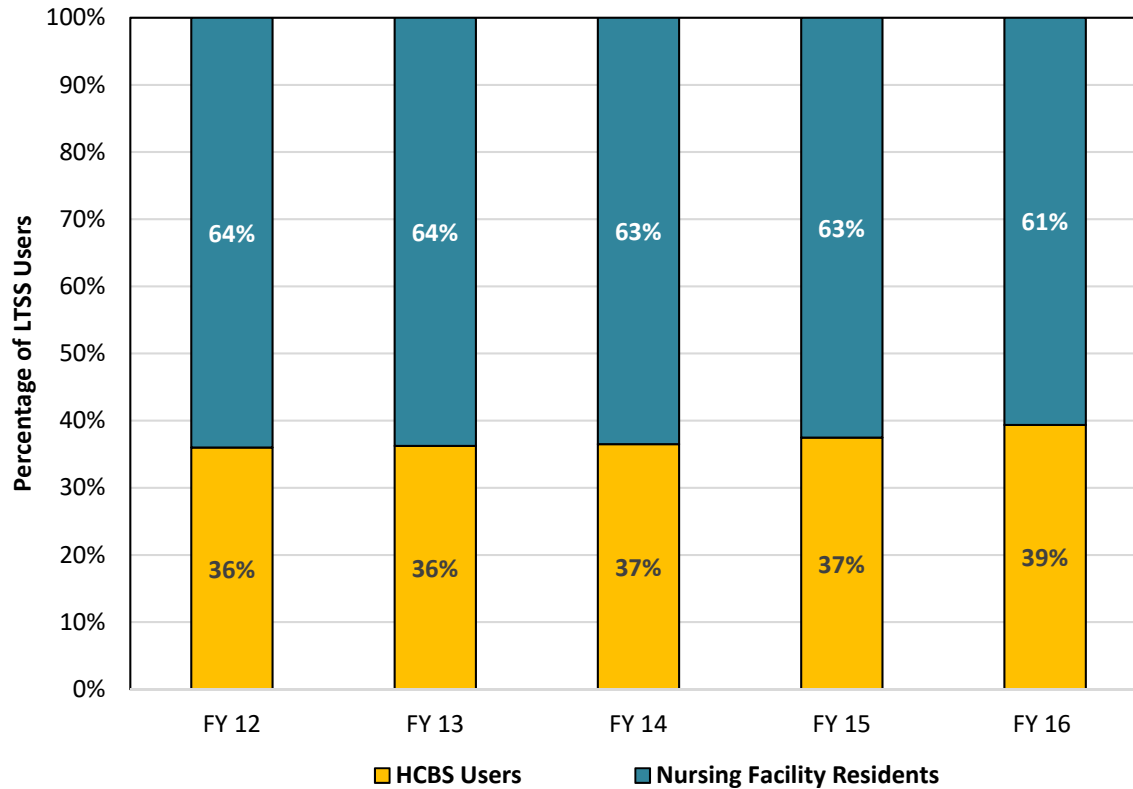
Historically, higher percentages of Maryland Medicaid LTSS users received services in nursing facilities than in the community. To balance the HCBS-to-nursing facility LTSS users, Maryland implemented a number of initiatives such as the Money Follows the Individual (MFI) Act of 2003, MFP, 1915(c) waivers, and the Balancing Incentives Program (BIP). Figure 27 shows that these incentives appear to be working; the percentage of nursing facility residents decreased from 64% of the LTSS population in FY 2012 to 61% by FY 2016. At the same time, the HCBS users increased from 36% of the LTSS population to 39%.

LTSS Expenditures

As a portion of LTSS expenditures, HCBS expenditures increased from 19% in FY 2012 to 24% in FY 2016. HCBS expenditures steadily increased each year during the study period. The HCBS expenditures increased 7% from FY 2012 to FY 2013 but then increased 12% from FY 2015 to FY 2016. On average, nursing facility expenditures increased approximately 1% each year. See Figure 28.

During the study period, average annual costs were \$46,092 for nursing facility residents and \$20,899 for HCBS users. As such, HCBS users' average annual costs were 45% of nursing facility residents' average annual costs (Figure 29). Similarly, total Medicaid PMPM expenditures were \$3,998 less on average for HCBS users than for nursing facility residents (Figure 31).

Figure 27. Medicaid HCBS and Nursing Facility Residents as a Percentage of LTSS Users, FY 2012 – FY 2016

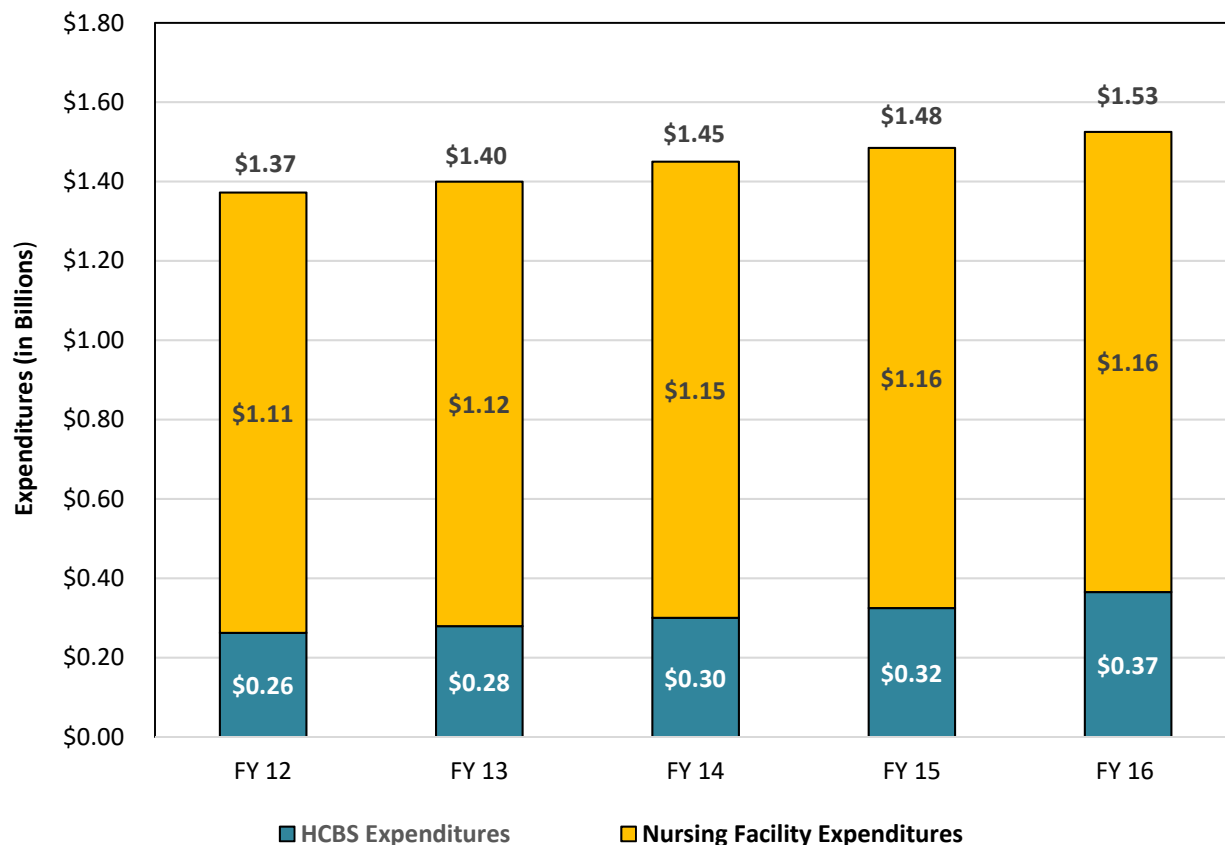


Historically, a larger percentage of Marylanders received Medicaid LTSS in a nursing facility. Between 2012 and 2016, the percentage of LTSS users receiving services in the community increased from 36% to 39%.

Note: Home and community-based programs include Maryland’s 1915(c) waivers—Community Options (previously Older Adults and Living at Home) and Medical Day Care—and state plan personal care programs—Medical Assistance Personal Care (now Community Personal Assistance Services) and Community First Choice.

Source: MMIS2

Figure 28. Medicaid HCBS and Nursing Facility Expenditures (in Billions), FY 2012 – FY 2016

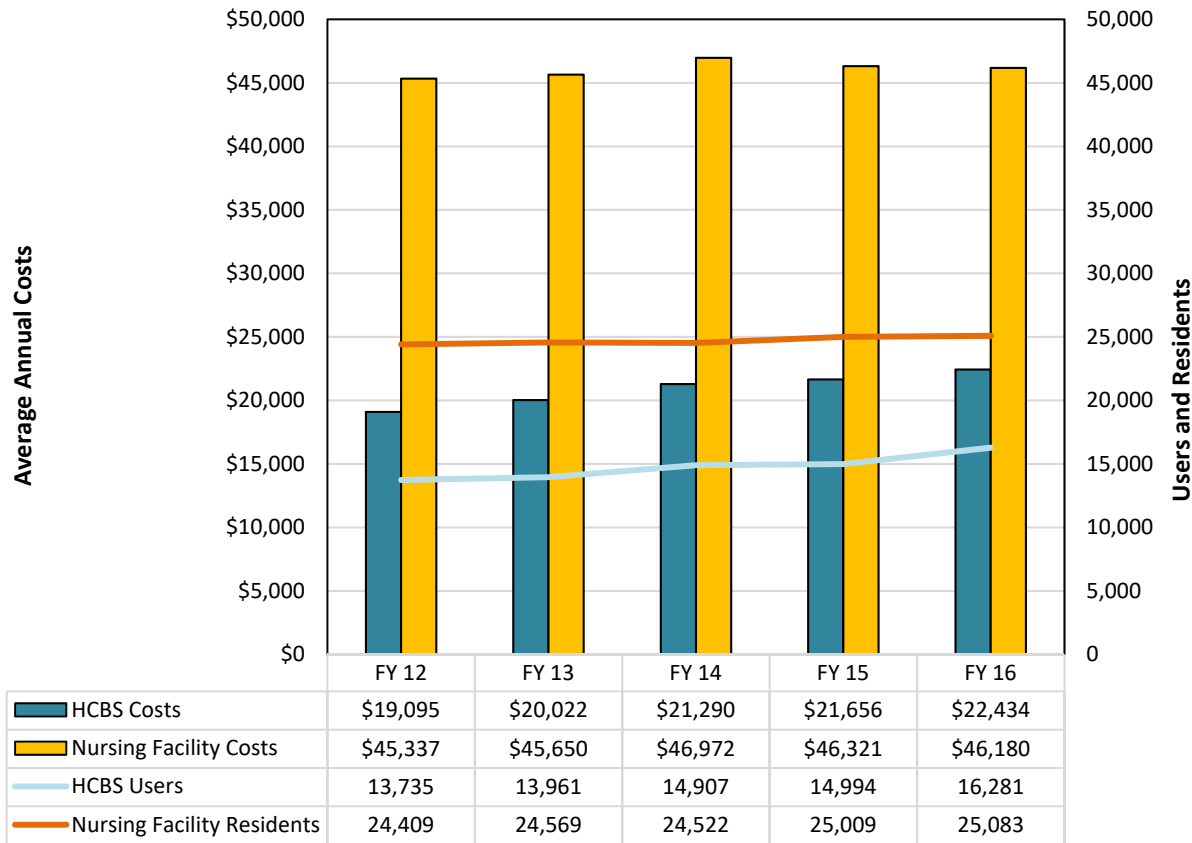


Total LTSS expenditures were \$1.53 billion in FY 2016, an increase of 11% from FY 2012. In FY 2012, HCBS accounted for 19% of total LTSS spending, but by FY 2016, it was 24% of LTSS spending. Additionally, HCBS expenditures increased an average of 9% each year during the study period, while nursing facility expenditures increased an average of 1% each year.

Note: Home and community-based programs include Maryland’s 1915(c) waivers—Community Options (previously Older Adults and Living at Home) and Medical Day Care—and state plan personal care programs—Medical Assistance Personal Care (now Community Personal Assistance Services) and Community First Choice. Expenditures do not include non-waiver services.

Source: MMIS2

Figure 29. Comparison of Average Annual Costs for HCBS Users and Nursing Facility Residents, FY 2012 – FY 2016*



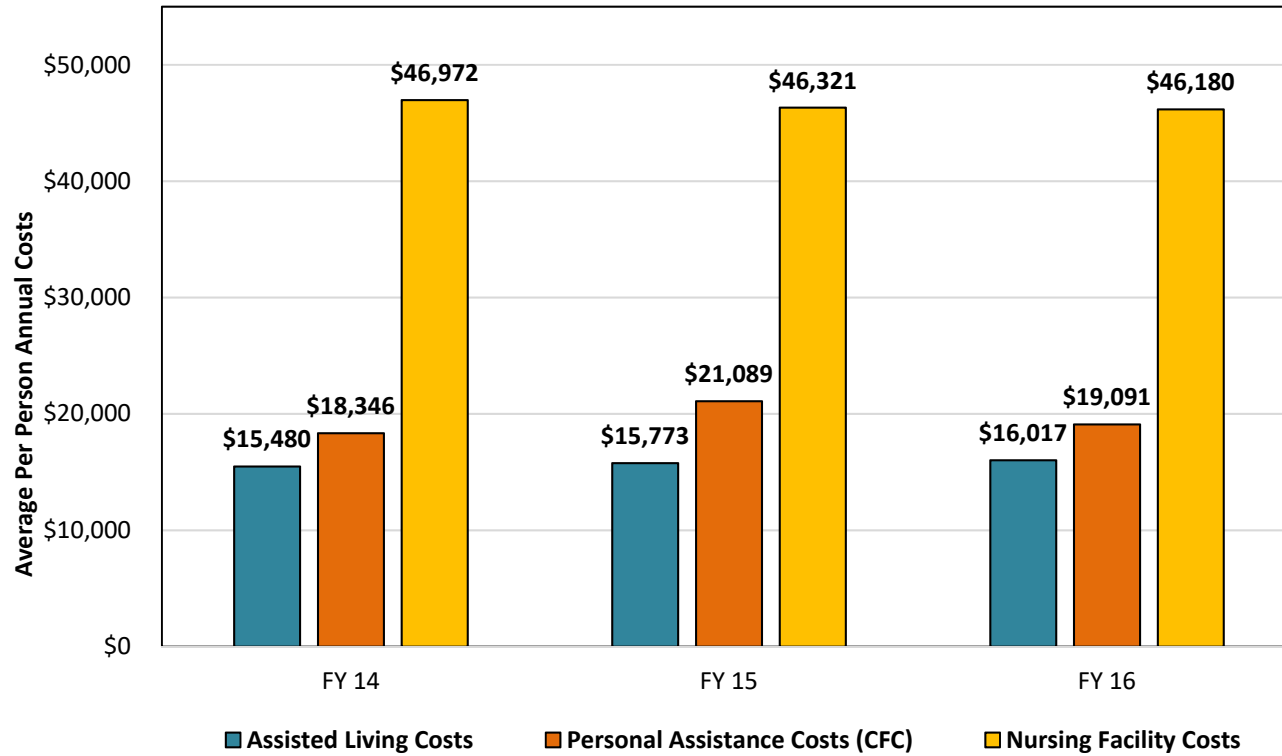
Annual per-person LTSS expenditures for HCBS have historically been less costly than those provided in a nursing facility. Between 2012 and 2016, HCBS users’ average annual costs per person were \$25,193 less than the costs for nursing facility residents.

*FYs 15 and 16 nursing facility residents are slightly different from other counts in this chart book due to updates made to MMIS.

Note: Home and community-based programs include Maryland’s 1915(c) waivers—Community Options (previously Older Adults and Living at Home) and Medical Day Care—and state plan personal care programs—Medical Assistance Personal Care (now Community Personal Assistance Services) and Community First Choice. Expenditures do not include non-waiver services. A nursing facility annual stay is 7 to 8 months.

Source: MMIS2

Figure 30. Comparison of Average Per Person Annual Costs for Selected HCBS and Nursing Facility Services, FY 2014 – FY 2016

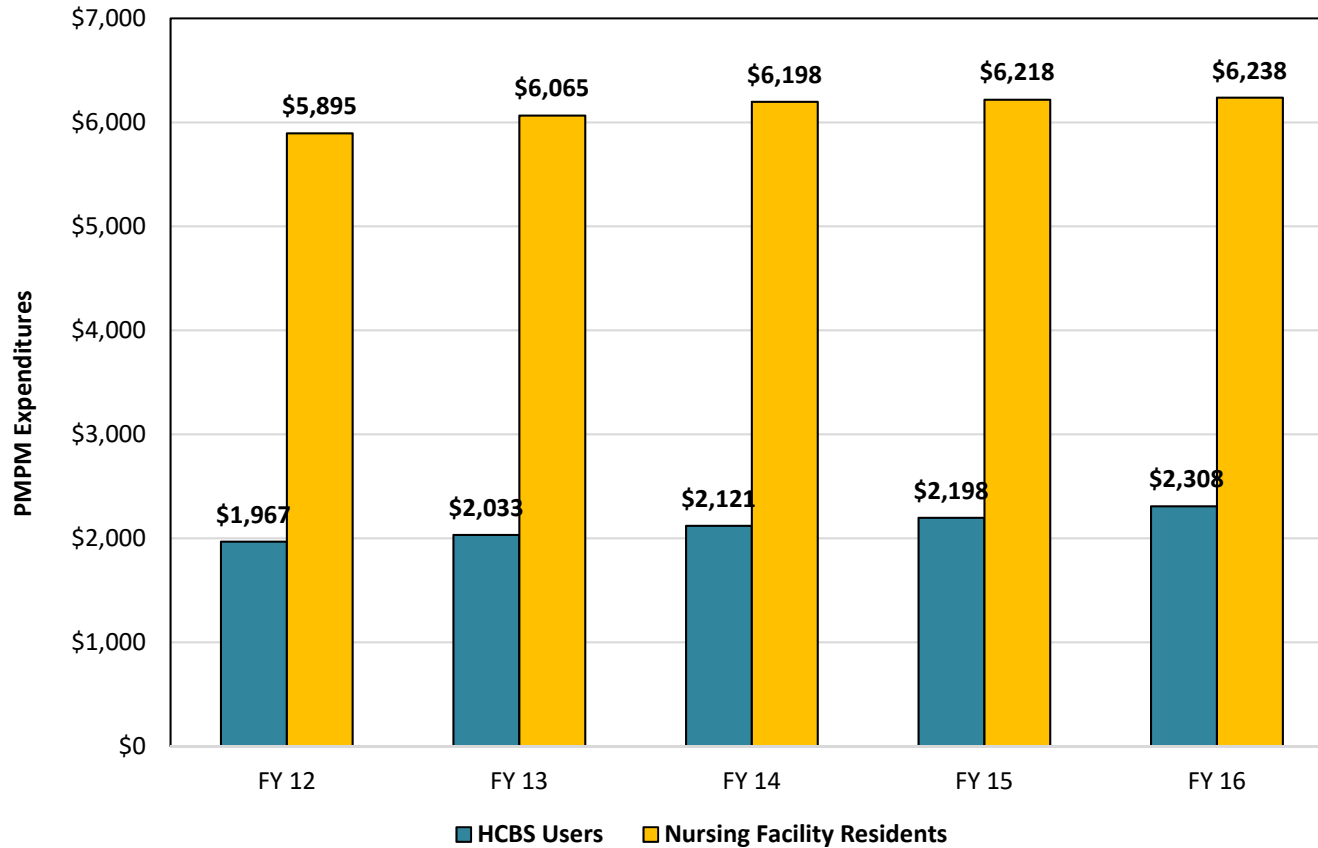


On average, costs for CFC personal assistance services were \$3,700 higher than costs for services provided to assisted living residents. The average per-person cost of the two services combined was much less than the cost for nursing facility residents.

Note: Assisted Living costs are costs for services provided to CO Waiver assisted living residents. Personal Assistance Services costs are costs for personal assistance services provided under the CFC program. The average annual nursing facility stay is seven to eight months in length.

Source: MMIS2

Figure 31. PMPM Medicaid HCBS Expenditures and Nursing Facility Expenditures, FY 2012 – FY 2016



The PMPM total Medicaid expenditures for HCBS users were, on average, \$3,998 lower than for nursing facility residents.

Note: Home and community-based programs include Maryland’s 1915(c) waivers—Community Options (previously Older Adults and Living at Home), and Medical Day Care—and state plan personal care programs—Medical Assistance Personal Care (now Community Personal Assistance Services) and Community First Choice. Expenditures do not include non-waiver services. The average annual nursing facility stay is seven to eight months in length.

Source: MMIS2

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