



**The Hilltop Institute**

**Medicaid Long-Term Services  
and Supports in Maryland:  
FY 2012 to FY 2016  
Volume 6**

**Nursing Facility Services  
A Chart Book**

September 20, 2018  
Revised July 8, 2019

*Prepared for the  
Maryland Department of Health*

**UMBC**  
AN HONORS UNIVERSITY IN MARYLAND

## TABLE OF CONTENTS

<b>Chapter 1. Maryland Medicaid Long-Term Services and Supports Overview.....</b>	<b>3</b>
Background	
Data Sources	
Key Findings	
<b>Chapter 2. Nursing Facility Entry.....</b>	<b>8</b>
Pre-Admission Status	
Active Diagnoses at Time of Nursing Facility Admission	
Entry Status	
Acute Care Costs Prior to Nursing Facility Entry	
<b>Chapter 3. Nursing Facility Stay.....</b>	<b>14</b>
Census Counts and Length of Stay	
Demographics	
Geographical Characteristics	
Functional Characteristics	
Chronic Conditions	
Medication Use	
Pain Assessment and Management	
Expenditures	
<b>Chapter 4. Nursing Facility Discharge.....</b>	<b>32</b>
Discharge Status	
HCBS Received in the Community Post-Discharge	
Money Follows the Person	
<b>Chapter 5. In the Community: Comparisons between HCBS Users and Nursing Facility Residents.....</b>	<b>37</b>
Balancing Maryland’s LTSS	
LTSS Expenditures	
<b>List of Figures.....</b>	<b>43</b>

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

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

## Background

### Maryland Home and Community-Based Services

The *Medicaid Long-Term Services and Supports (LTSS) in Maryland Chart Book, Volume 6, Nursing Facility Services* is the sixth 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 nursing facility services, with one chapter that illustrates Maryland's efforts at providing home and community-based services (HCBS)\* to an increasing number of Medicaid recipients who may otherwise be served in nursing facilities. Medicaid programs and services addressed in this chart book include:

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

This chart book summarizes information on demographic, functional, and cognitive characteristics; chronic conditions, pain assessments, and medication use; and service utilization and expenditures for Maryland Medicaid nursing facility

residents in FYs 2012 to 2016. Demographic and expenditure data are also provided for programs that are vital to Maryland's LTSS balancing efforts.

### 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.

\*The HCBS population in this chart book excludes those in the Community Pathways Waiver, Brain Injury Waiver, and Autism Waiver.

## Chapter 1. Maryland Medicaid LTSS Overview continued

### Data Sources

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

- **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. All MMIS2 data, owned by the Maryland Department of Health, are warehoused and processed monthly by The Hilltop Institute.
- **Maryland Department of Health Decision Support System (DSS):** This system, developed by The Hilltop Institute, informs state decision making by providing comprehensive information on Medicaid eligibility, managed care provider enrollment, acute care services and expenditures, and capitation payments.
- **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.
- **Chronic Conditions Data Warehouse (CCW):** This is the source for CMS research data. Hilltop utilizes the CCW Condition Algorithms and Medicaid claims to identify chronic conditions among Medicaid beneficiaries.

## Chapter 1. Maryland Medicaid LTSS Overview *continued*

### Key Findings

Notable trends in the data include the following.

#### Nursing Facility Entry

- The majority of nursing facility residents entered from an acute hospital setting during the study period.
- Hypertension was an active diagnosis in more than 70% of nursing facility admissions from FY 2012 to FY 2016.
- The ratio of admissions to re-entries declined steadily during the study period. In FY 2012, for every 1.81 admissions, there was one re-entry; by FY 2016, for every 1.27 admissions, there was one re-entry.
- Inpatient costs accounted for 64% of acute care costs in the six months prior to admission.

#### Nursing Facility Stay

- The nursing facility population increased 2.3% from FY 2012 to FY 2016.
- Across the study period, 40% to 43% of nursing facility residents had stays of four months or less.
- Female nursing facility residents continued to outnumber males in FY 2016: 63% to 37%, respectively.
- The largest racial group of nursing facility residents continued to be Whites (44% in FY 2016), followed by Blacks (36% in FY 2016) during the study period.

- The percentage of nursing facility residents aged 85 and older decreased from 36% in FY 2012 to 33% in FY 2016, but still remained the largest age group.
- Montgomery County, Baltimore County, and Baltimore City each had over 3,000 nursing facility residents in FY 2016.
- The percentage of residents needing the highest level of assistance with activities of daily living (ADLs) decreased, while the percentage of those needing minimal assistance increased during the study period.
- The percentage of nursing facility residents cognitively intact averaged 43% during the study period.
- Hypertension was diagnosed in the largest percentage of nursing facility residents in FY 2015 and FY 2016.
- A total of 12,331 nursing facility residents were diagnosed with six or more chronic conditions in FY 2016. This represents a 38% increase from FY 2012.
- The percentage of nursing facility residents diagnosed with depression increased from 27% in FY 2012 to 40% in FY 2016.
- In FY 2016, 65% of nursing facility residents indicated that they had no pain in the last five days.

*continued on the next page ...*

## Chapter 1. Maryland Medicaid LTSS Overview *continued*

Notable trends continued ...

- Total Medicaid expenditures for nursing facility residents were lower for those under 65 years compared to those 65 and over for each of the study years.
- On average, from FY 2012 to FY 2016, total Medicaid per member per month (PMPM) expenditures were \$6,500.

### Nursing Facility Discharges

- The percentage of nursing facility residents discharged to the community increased from 32% in FY 2012 to 37% in FY 2016.
- The majority (63%) of nursing facility residents discharged to the community received a CO, CFC, or CPAS service. Of these discharged residents, 44.1% received case management/supports planning assistance.
- The majority of MFP participants were female, Black, and dually eligible.

### In the Community

- HCBS users increased from 36% of LTSS users in FY 2012 to 39% of LTSS users 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 were consistently lower for HCBS users than for nursing facility residents.

# **Chapter 2.**

# **Nursing Facility Entry**



## Chapter 2. Nursing Facility Entry

### Key Findings

#### Pre-Admission Status

The majority of nursing facility residents entered from an acute care hospital: 86% in FY 2012 and 89% in FY 2016 (Figure 1). The percentage of nursing facility residents who entered from the community dropped from 7% in FY 2012 to 5% in FY 2016.

#### Active Diagnoses at Time of Nursing Facility Admission

The top five active diagnoses for all study years were hypertension, diabetes mellitus, anemia, depression, and hyperlipidemia. The MDS defines an active diagnosis as a disease that has a relationship to the resident's current functional, cognitive, mood, or behavior status or medical treatments. The MDS is administered upon admission to a nursing facility and specifically asks for active diagnoses present in the last seven days. Hypertension was present in more than 70% of residents during the study period and steadily increased each year. The percentage of nursing facility residents with an active anemia diagnosis decreased slightly each year, while the percentage of those with an active hyperlipidemia diagnosis increased each year. See Figure 2.

#### Entry Status

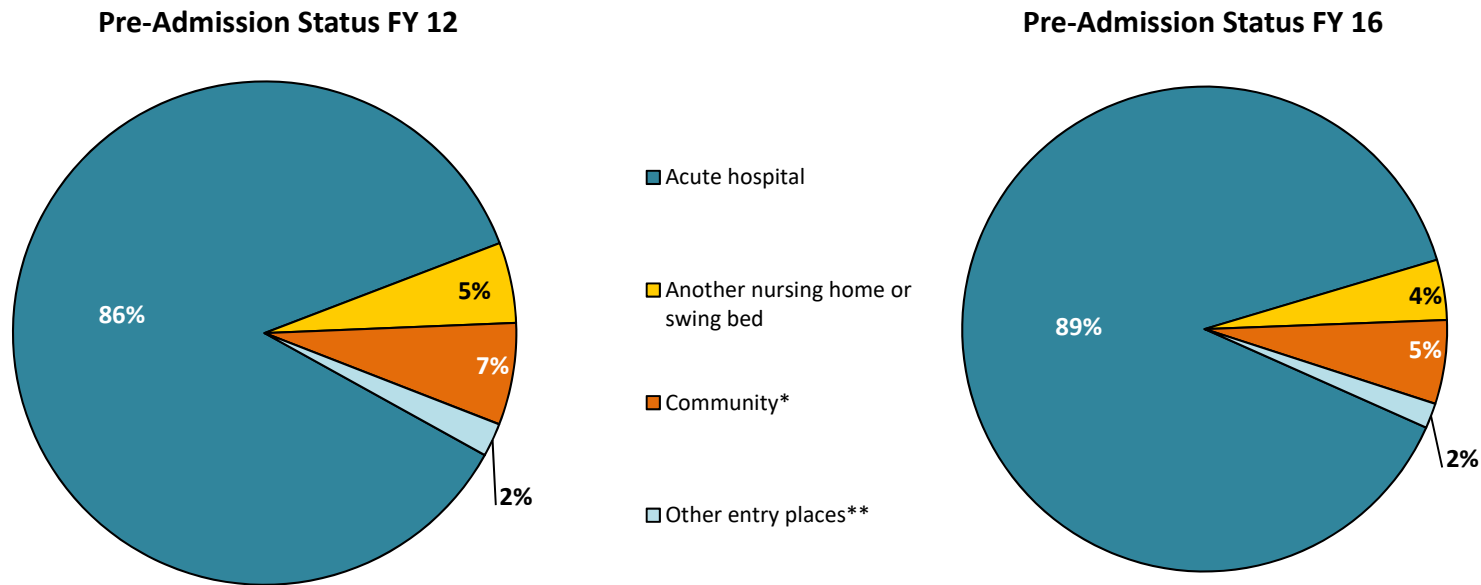
A nursing facility resident can enter the facility as a regular admission or as a re-entry. A re-entry or re-admission occurs if the resident was discharged from a nursing facility within the past 30 days. The ratio of nursing facility admissions to re-admissions declined steadily from FY 2012 to FY 2016. In FY 2012, the ratio was 1.81, meaning for every 1.81 admissions there was one re-entry. By FY 2016, the ratio was 1.27, indicating that the ratio is moving toward one-to-one. See Figure 3.

#### Acute Care Costs Prior to Nursing Facility Entry

During the six months prior to a nursing facility admission, at 64%, inpatient costs accounted for the largest percentage of acute care costs. Acute care costs include services such as inpatient and outpatient services, physician services, and pharmacy services. See Figure 4.

**Figure 1. Pre-Admission Status of Nursing Facility Residents, FY 2012 and FY 2016**

The majority of nursing facility residents entered from an acute hospital during the study period: 86% in FY 2012 and 89% in FY 2016. Only 7% of nursing facility residents came directly from the community in FY 2012, and this dropped to 5% in FY 2016.



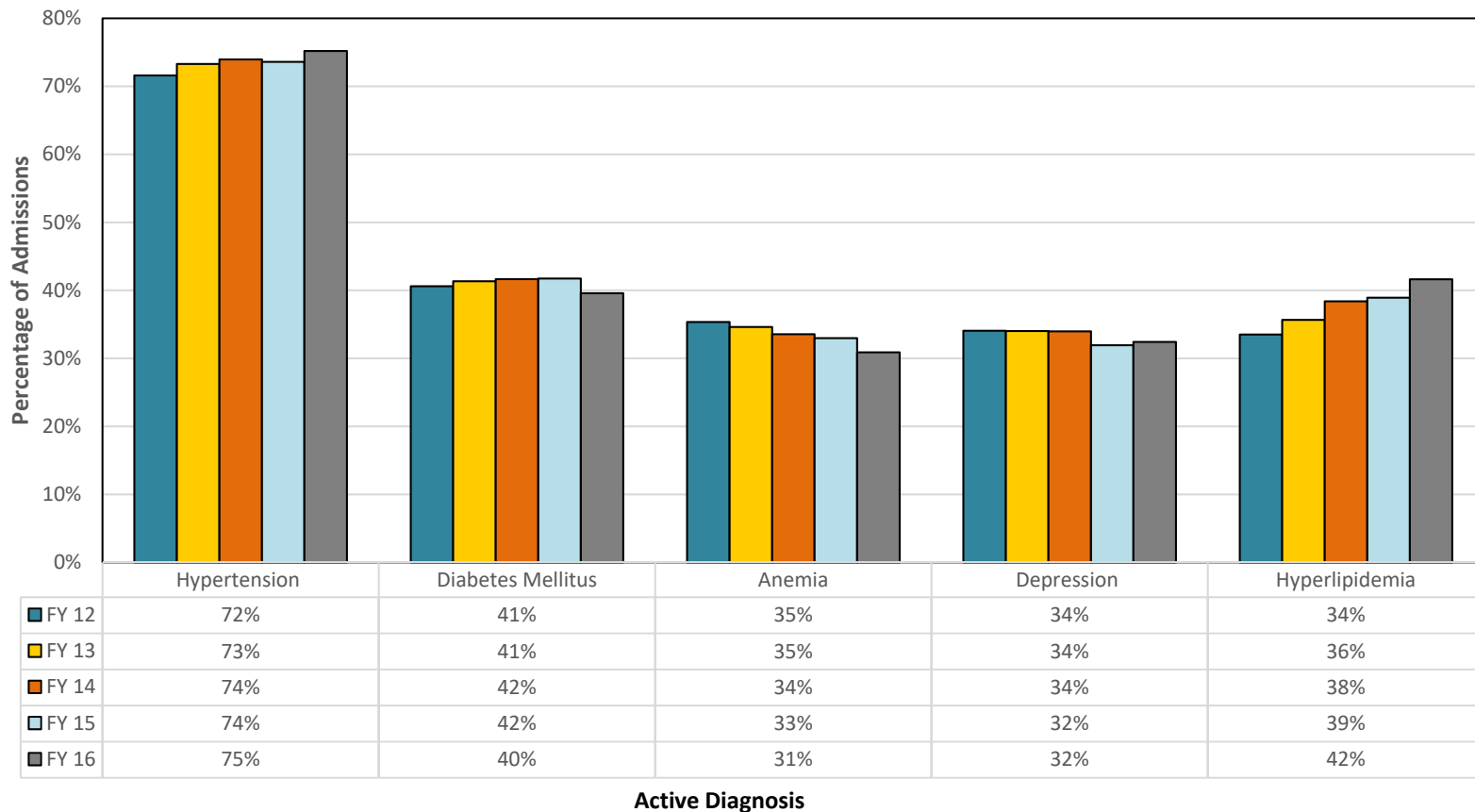
\*Community includes private home/apartment, board/care, assisted living, or group home.

\*\*Other entry places include psychiatric hospital, inpatient rehabilitation facility, ICF/ID, hospice, long-term care hospital, and other.

Source: MDS

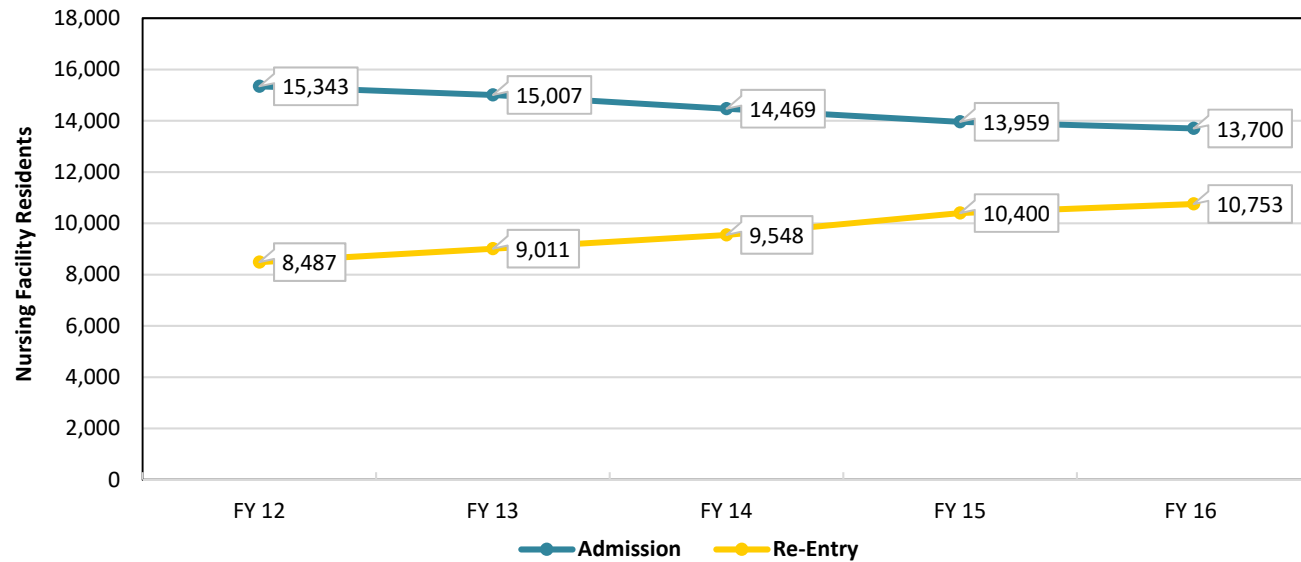
**Figure 2. Top Five Active Diagnoses at Time of Nursing Facility Admission, FY 2012 – FY 2016**

The top five active diagnoses upon admission to a nursing facility are presented below. Hypertension was present in more than 70% of nursing facility admissions in each of the study years and increased each year. There was a slight drop in the percentage of those with an active anemia diagnosis during the study period, while there was an increase in those with an active hyperlipidemia diagnosis upon admission.



Source: MDS

**Figure 3. Admission Type of Nursing Facility Residents, FY 2012 – 2016**

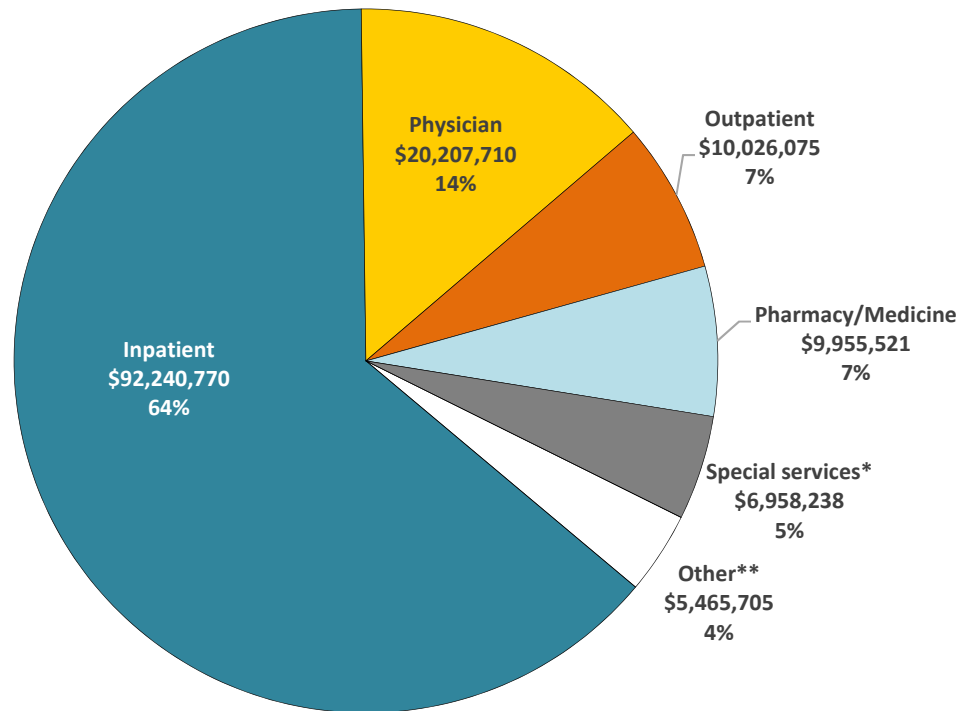


Ratio of Admissions to Re-Entries				
FY 12	FY 13	FY 14	FY 15	FY 16
1.81	1.67	1.52	1.34	1.27

Source: MDS

From FY 2012 to FY 2016, the number of nursing facility admissions decreased, while the number of re-entries increased. As such, the ratio of admissions to re-entries steadily declined over this time period. Specifically, in FY 2012, for every 1.81 admissions, there was one re-entry; by FY 2016, it was 1.27 to one, respectively. A re-entry or re-admission is an admission that occurs within 30 days of a previous nursing facility discharge.

**Figure 4. Acute Care Costs in the Six Months Prior to a Nursing Facility Admission, FY 2016**



Inpatient cost accounted for 64% of acute care costs in the six months prior to a nursing facility admission. Physician costs were the next highest category, at 14% of acute care costs.

\*Special services includes Medicare crossover payments, lab, diagnostic and evaluation services, radiology, ambulance, surgery, durable medical services and equipment, oxygen, and IEP related services.

\*\*Other services include managed care organizations, emergency department, and dental services.

Source: MMIS2

# **Chapter 3.**

## **Nursing Facility Stay**

## Chapter 3. Nursing Facility Stay

### Key Findings

#### Census Counts and Length of Stay

The nursing facility population increased 2.3% from FY 2012 to FY 2016 (Figure 5). The lengths of stay for nursing facility residents remained relatively stable throughout the study period. In FY 2016, 18% of nursing facility residents had a length of stay less than one month, and an additional 23% had a length stay of one to four months (Figure 6).

#### Demographics

The gender, race, and age distribution of the nursing facility residents remained relatively stable during the study period. Females continued to outnumber males; in FY 2016, the distribution was 63% to 37%. Whites continued to make up the largest racial group, followed by Blacks. Residents aged 85 and older made up the largest age group during the study, averaging 35%. The percentage of dual-eligible nursing facility residents (those who have both Medicare and Medicaid coverage) averaged 86%, while the percentage of non-dual-eligible residents (those only covered by Medicaid) averaged 14% for the study period. See Figure 7.

#### Geographical Characteristics

Baltimore City had the largest number of nursing facility residents, followed by Baltimore and Montgomery Counties, respectively (Figure 8).

#### Functional Characteristics

The functional needs of nursing facility residents are assessed using the MDS 3.0. The different levels measure the resident's need for assistance to perform various ADLs, including personal hygiene, toilet use, locomotion, and eating. *Supervision\** requires the least amount of assistance, while *total dependence\** requires the most. Figure 9 indicates that there was an increase in residents requiring the least amount of assistance, from 7% in FY 2012 to 9% in FY 2016. There was also a decrease in those requiring the most assistance, from 15% in FY 2012 to 11% in FY 2016.

Cognitive functioning of nursing facility residents is measured using the Brief Inventory for Mental Status (BIMS). The cognitive functioning of residents changed little during the study period. A multitude of residents continued to be cognitively intact, averaging 43% during the study period (Figure 10).

continued on the next page...

\*From: Morris JN, Fries BN, Morris, SA. (1999). Scaling ADLs within the MDS. *Journals of Gerontology: Medical Sciences* 54(11): M546-M553.

## Chapter 3. Nursing Facility Stay *continued*

Key Findings continued ...

### Chronic Conditions

The top five chronic conditions of nursing facility residents for FYs 2015 and 2016 included hypertension, Alzheimer's disease and related disorders, diabetes, anemia, and depression. The largest percentage of residents were diagnosed with hypertension in both study years. The percentage of nursing facility residents diagnosed with any of the chronic conditions increased each year. The condition with the largest percentage increase from FY 2015 to FY 2016 was depression, at 6%. See Figure 11.

Figure 12 illustrates that the number of residents diagnosed with six or more chronic conditions increased in each of the study years, while those diagnosed with fewer conditions decreased in each of the study years.

Among the top 15 chronic conditions nursing facility residents were diagnosed with, 3 were serious mental illnesses: depression, bipolar disorder, and schizophrenia and other psychotic disorders. While the percentage of residents diagnosed with bipolar disorder and schizophrenia/other psychotic disorders fluctuated in small increments during the study period, the percentage of residents diagnosed with depression increased each year. See Figure 13.

### Medication Use

Figure 14 shows psychotropic medication use at least once during the last seven days among nursing facility residents. While the percentage of residents taking antipsychotics decreased from 20% in FY 2013 to 18% in FY 2016, the percentage of those taking antidepressants increased from 51% in FY 2013 to 54% in FY 2016.

### Pain Assessment and Management

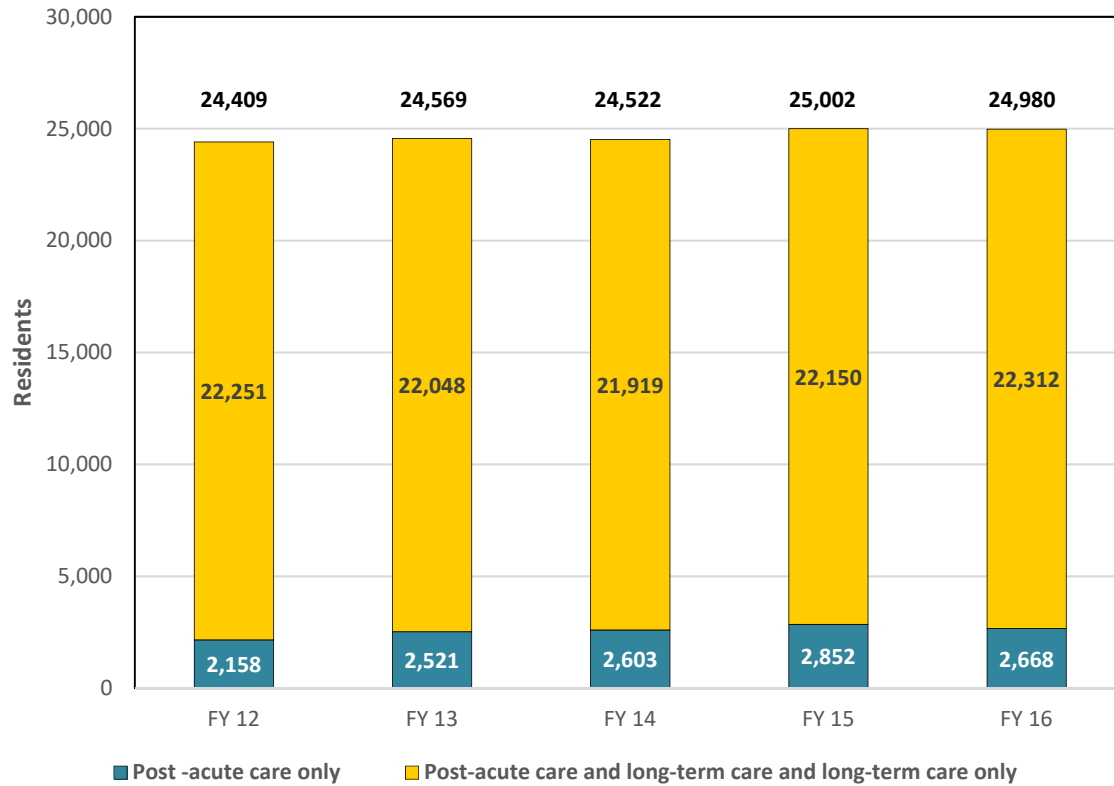
Nursing facility residents are asked a series of questions regarding their pain in the last five days during their MDS assessments. In FY 2016, the majority (53%) of nursing facility residents were NOT on a regular pain medication schedule, and the majority (65%) indicated no pain (Figure 15). Of the residents who did experience pain, 18.5% indicated a pain level of 5 on a scale of 0 to 10 (Figure 16).

### Expenditures

Total Medicaid expenditures increased yearly from FY 2012 to FY 2015 for those 65 years and over, but decreased from FY 2015 to FY 2016. Those under 65 years saw a decrease in expenditures from FY 2012 to FY 2013, but an increase in each of the remaining years (Figure 17). Nursing facility expenditures accounted for 95% of total Medicaid expenditures for nursing facility residents (Figure 18).



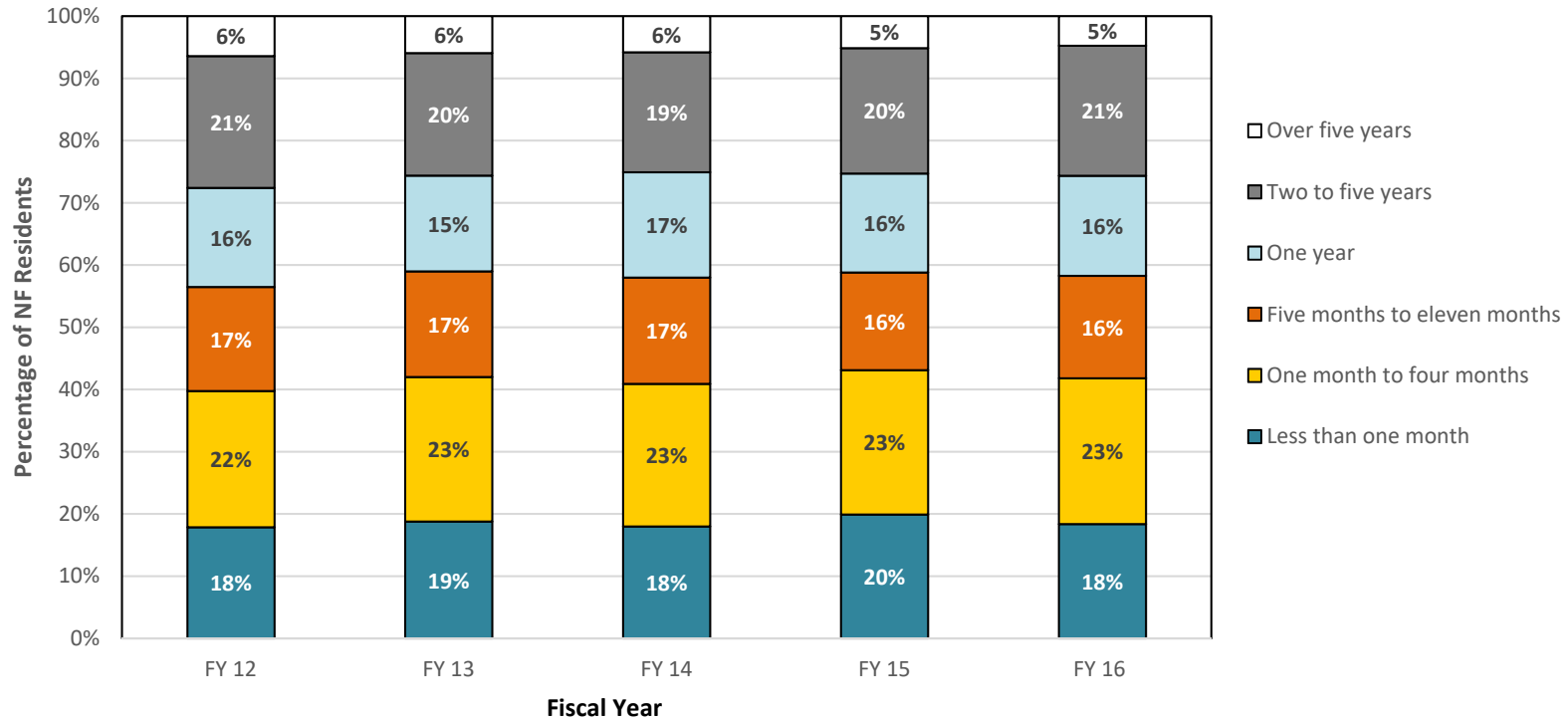
**Figure 5. Nursing Facility Annual Census Count, by Type of Care, FY 2012 – FY 2016**



The average number of nursing facility residents with post-acute care only stays versus all other stays was 2,560 for the study period. The average percentage of post-acute care only residents was 10% throughout the study period.

Source: MMIS2

**Figure 6. Length of Stay of Nursing Facility Residents, FY 2012 – FY 2016**



Source: MDS

The length of stay for nursing facility residents remained relatively stable during the study period. Approximately 20% of residents had stays less than one month, while a slightly higher percentage (22% to 23%) of residents had stays between one to four months. About a quarter of nursing facility residents had stays between two to five years, while a small percentage (5% to 6%) had stays over five years.

**Figure 7. Nursing Facility Residents by Gender, Race, Age, and Dual-Eligibility Status, FY 2012 and FY 2016**

Demographic		FY 12	FY 16
Gender	Female	66%	63%
	Male	34%	37%
	<b>Total</b>	<b>100%</b>	<b>100%</b>
Race	Asian	2%	2%
	Black	36%	36%
	White	45%	44%
	Hispanic	1%	1%
	Other/Unknown*	16%	16%
	<b>Total</b>	<b>100%</b>	<b>100%</b>
Age	0 to 49	5%	5%
	50 to 64	16%	18%
	65 to 74	17%	19%
	75 to 84	25%	24%
	85 and older	36%	33%
	<b>Total</b>	<b>100%</b>	<b>100%</b>
Dual-Eligibility	Dual-Eligible	86%	86%
	Medicaid-Only	14%	14%
	<b>Total</b>	<b>100%</b>	<b>100%</b>

Females continued to outnumber males during the study period: 63% to 37% for FY 2016.

Throughout the study period, Whites made up the largest racial group, followed Blacks.

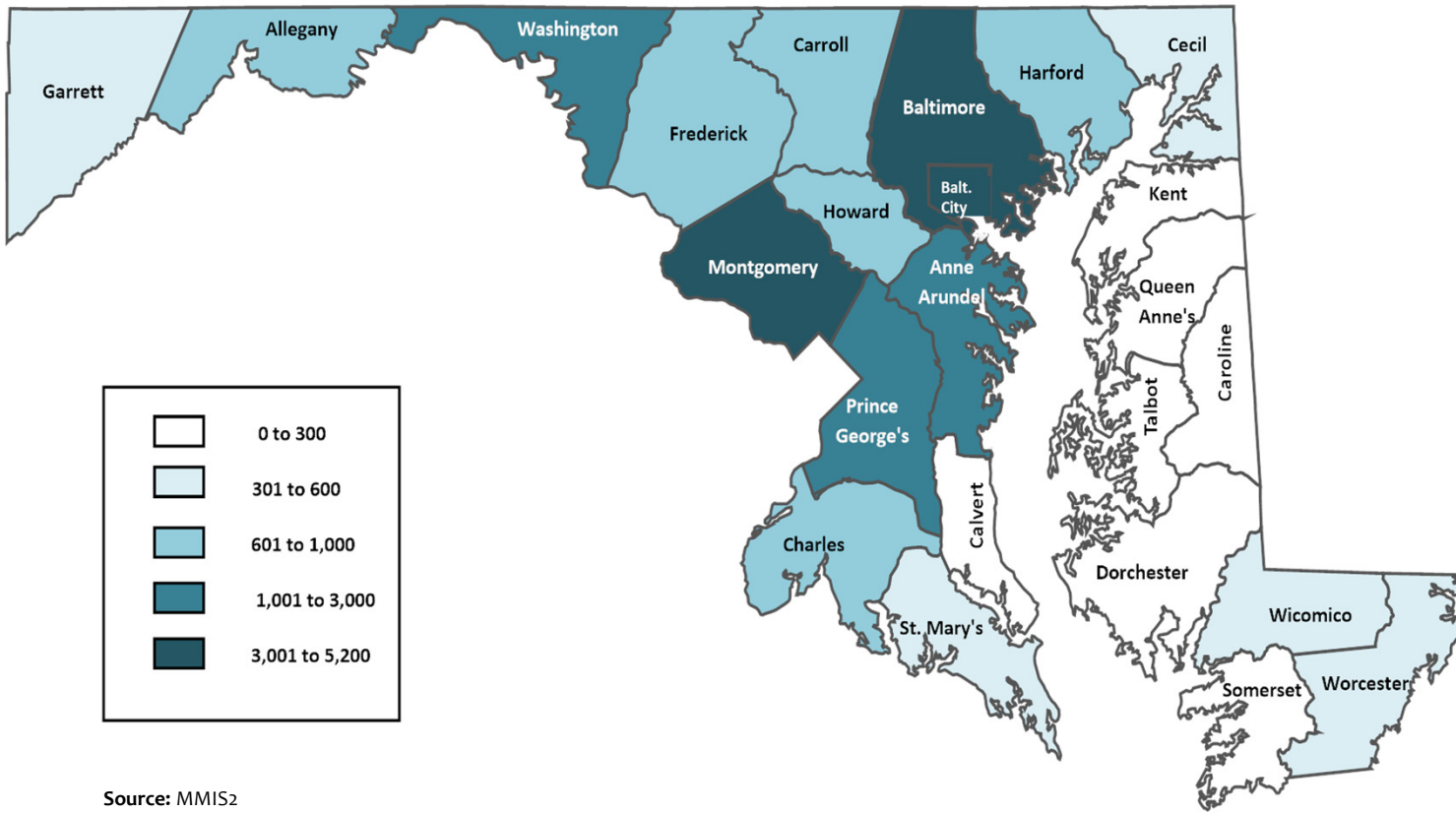
Nursing facility residents aged 85 and older were the largest age group during the five-year period, despite dropping from 36% in FY 2012 to 33% in FY 2016. The percentage of 65- to 74-year-olds increased from 17% in FY 2012 to 19% in FY 2016.

The percentage of dual-eligible residents compared to Medicaid-only residents remained relatively consistent over the study period: 86% to 14% in both FYs 2012 and 2016.

\* Other/Unknown includes Native American and Pacific Islander/Alaskan and Unknown.

Source: MMIS2

Figure 8. Nursing Facility Residents by County, FY 2016



Montgomery County, Baltimore County, and Baltimore City each had over 3,000 nursing facility residents. Seven counties—Caroline, Dorchester, Calvert, Somerset, Talbot, Queen Anne’s, and Kent—had 300 or fewer residents.

**Figure 9. Functional Levels of Nursing Facility Residents, FY 2012 and FY 2016**

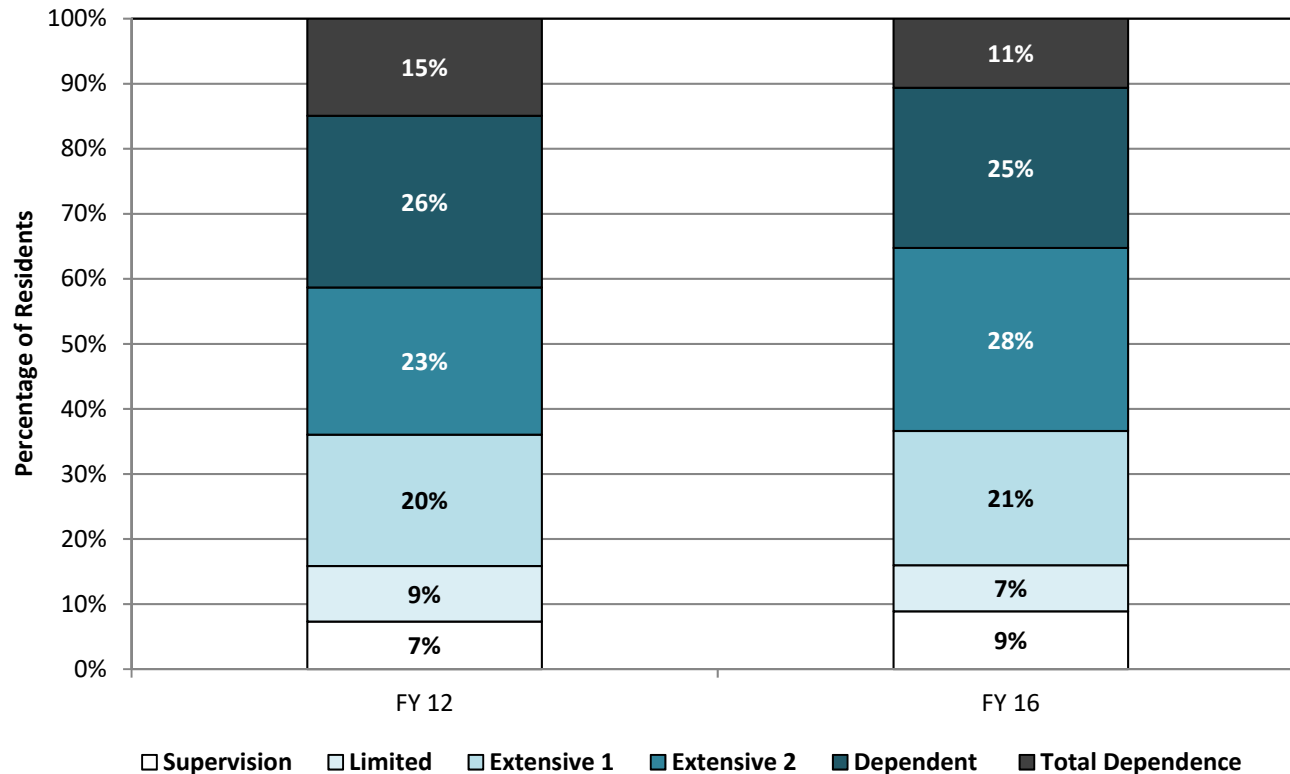


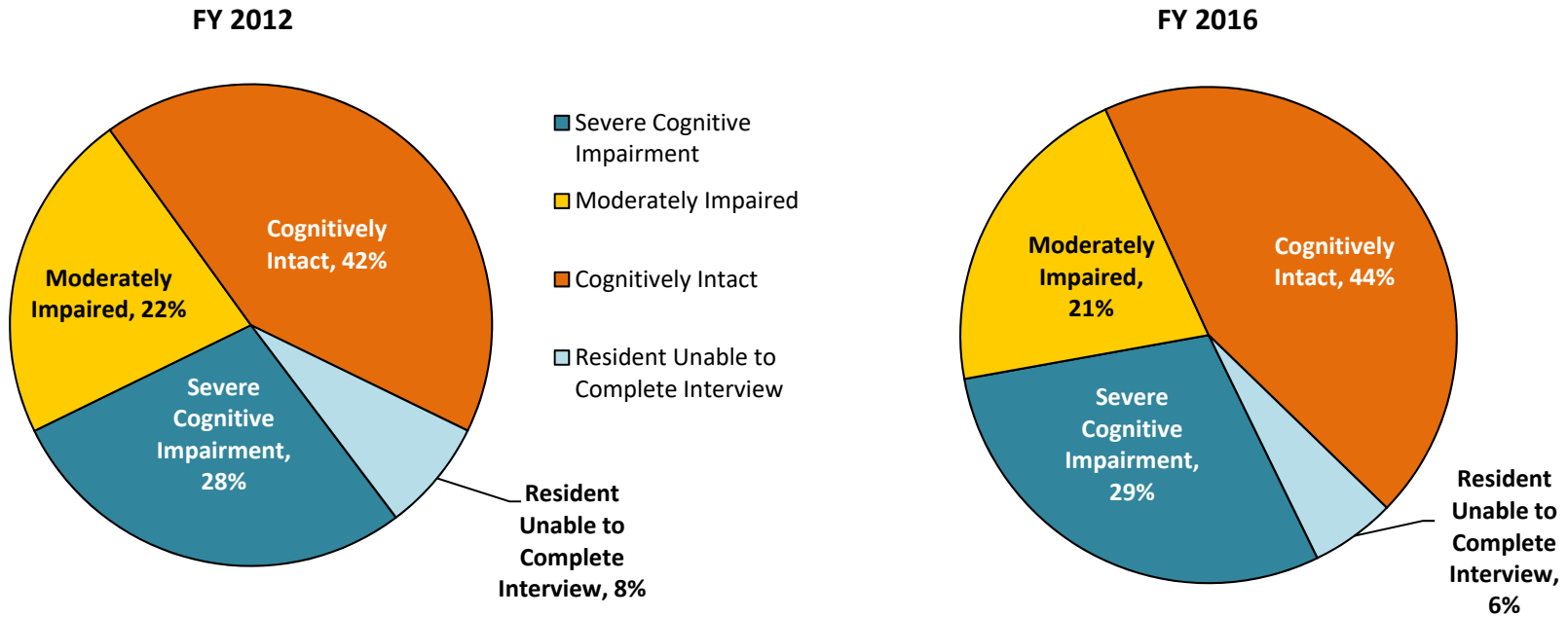
Figure 9 illustrates the functional levels of nursing facility residents in FY 2012 and FY 2016. The different levels measure the resident’s need for assistance to perform various ADLs. *Supervision* requires the least amount of assistance (i.e., supervision with one ADL such as personal hygiene, toilet use, locomotion, or eating), while *total dependence* requires the most. *Total dependence* refers to a person needing complete assistance in four ADLs.\*

Over the five-year study period, the percentage of residents requiring *supervision* increased from 7% (FY 2012) to 9% (FY 2016), and the percentage of residents who were *totally dependent* decreased from 15% (FY 2012) to 11% (FY 2016).

\*From Morris JN, Fries BN, Morris, SA. (1999). Scaling ADLs within the MDS. *Journals of Gerontology: Medical Sciences* 54(11): M546-M553.

Source: MDS

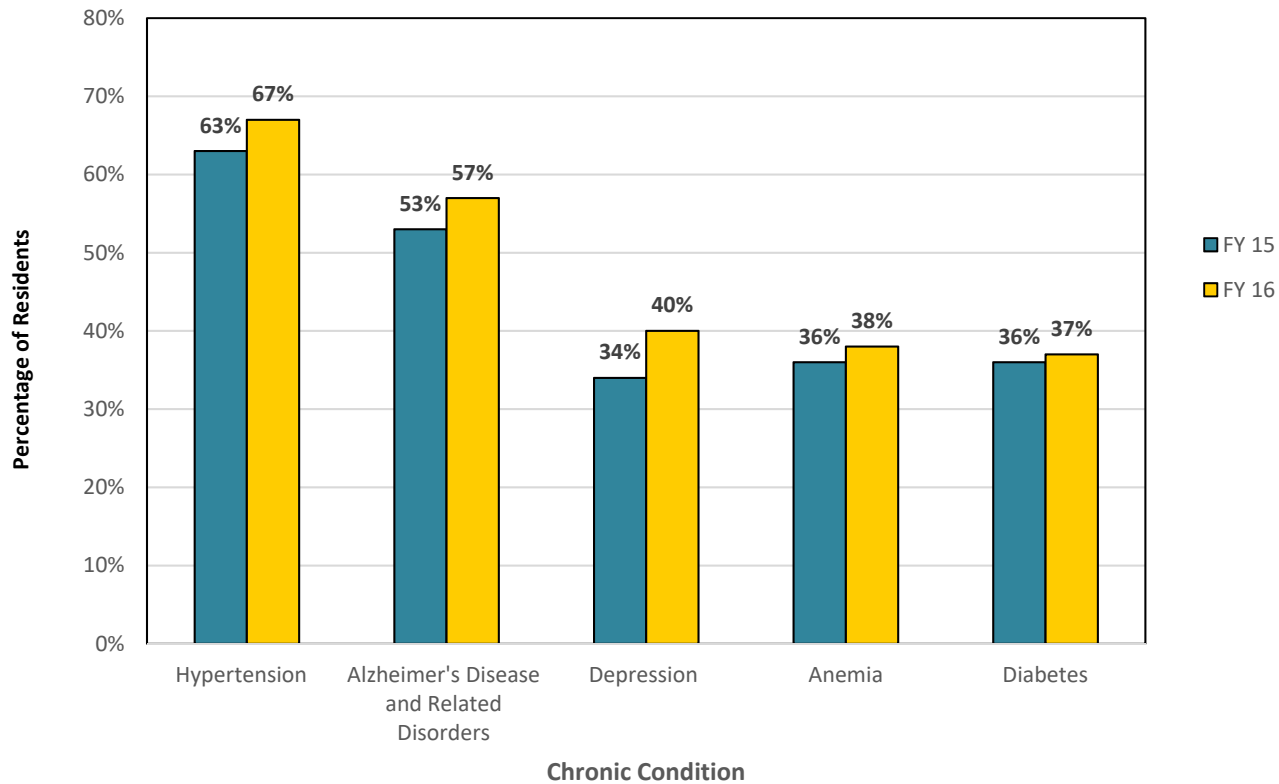
**Figure 10. Cognitive Function of Nursing Facility Residents, FY 2012 and FY 2016**



Source: MDS

The BIMS measures the cognitive functioning of nursing facility residents. There were slight changes between FY 2012 and FY 2016; specifically, the percentage of residents unable to complete the interview decreased by 2%, while those cognitively intact increased by 2%. Similarly, residents with a moderate impairment decreased by 1%, while those with a severe cognitive impairment increased by 1%. The percentage of residents cognitively intact averaged 43% during the study.

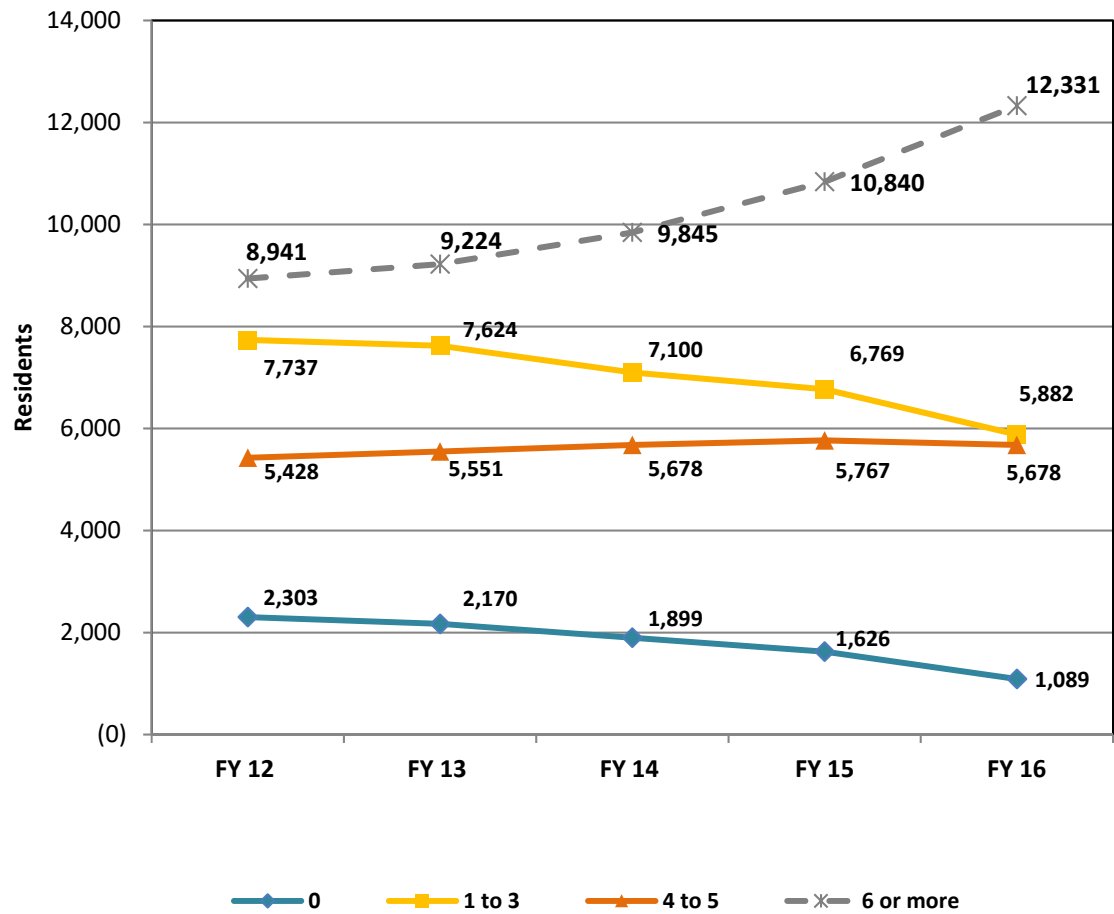
Figure 11. Top Five Chronic Conditions of Nursing Facility Residents, FY 2015 and FY 2016



Sources: CCW and MMIS2

Hypertension was diagnosed in the largest percentage of nursing facility residents in FYs 2015 and 2016, followed by Alzheimer's disease and related disorders. The percentage of residents diagnosed with each of the chronic conditions increased from FY 2015 to FY 2016. The largest increase was seen in residents diagnosed with depression; this percentage jumped from 34% in FY 2015 to 40% in FY 2016.

**Figure 12. Number of Chronic Conditions of Nursing Facility Residents, FY 2012 – FY 2016**



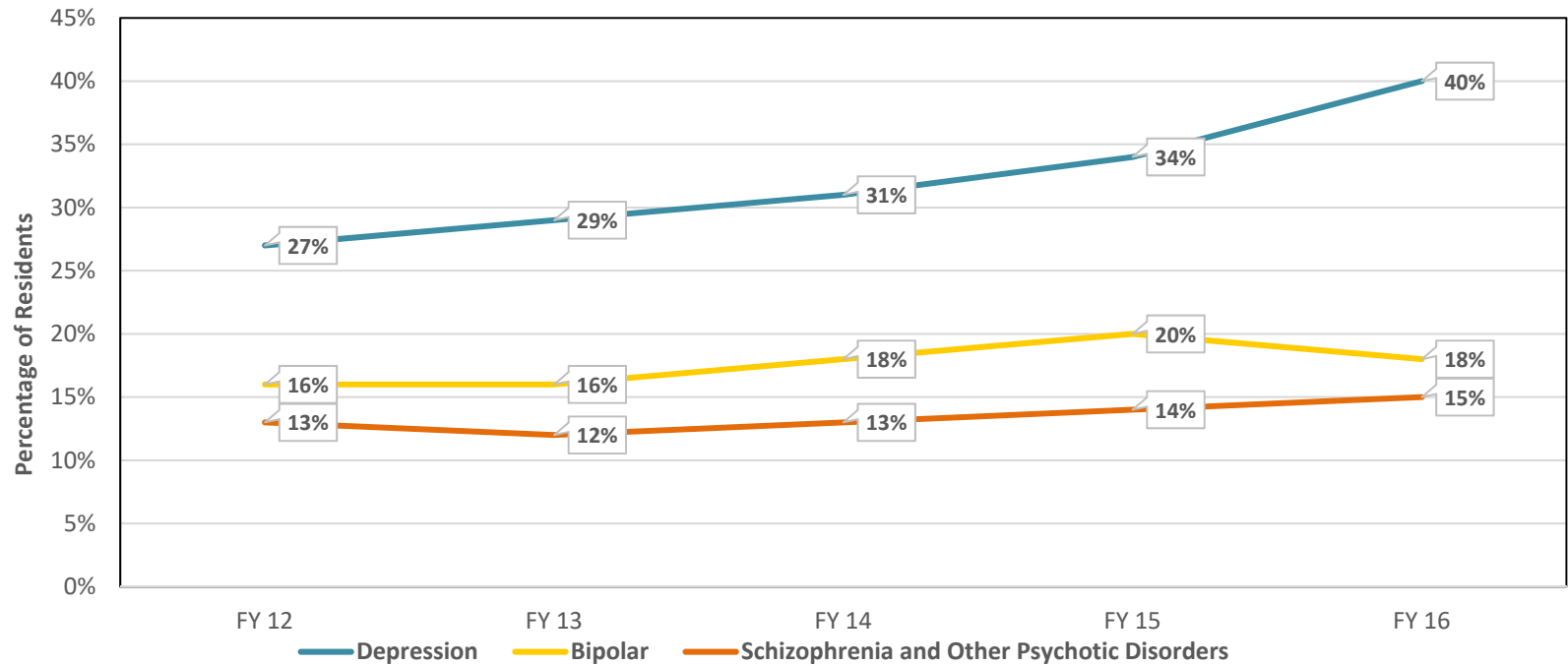
From FY 2012 to FY 2016, the number of nursing facility residents diagnosed with six or more chronic conditions increased 38%, and the number of residents diagnosed with zero conditions decreased 53%.

It is worth noting that a nursing facility resident could be considered to have zero chronic conditions due to another insurance provider paying the claims.

Sources: CCW and MMIS2



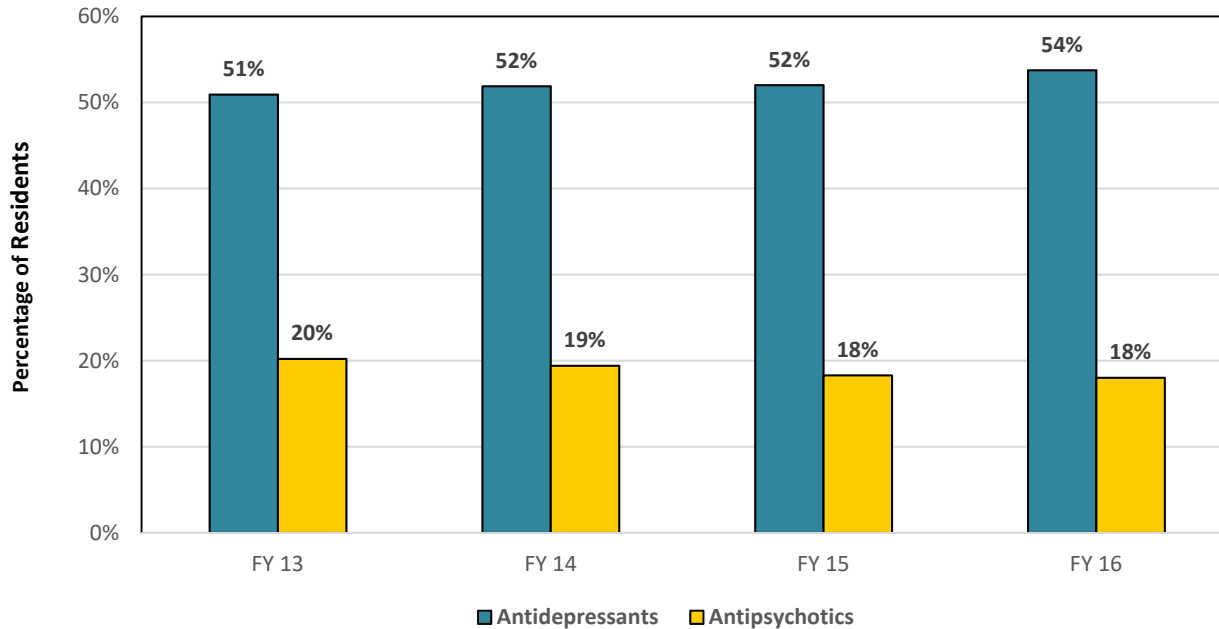
**Figure 13. Serious Mental Illnesses among Nursing Facility Residents, FY 2012 – FY 2016**



Sources: CCW and MMIS2

Three serious mental illnesses were among the top 15 chronic conditions that residents were diagnosed with during the study period. Of the three serious mental illnesses, the percentage of residents diagnosed with depression increased from 27% in FY 2012 to 40% in FY 2016. The percentage of residents diagnosed with bipolar and schizophrenia and other psychotic disorders fluctuated during the study period. Most recently, there was a drop in the percentage of residents diagnosed with bipolar disorder, while there was a minor increase in those diagnosed with schizophrenia and other psychotic disorders from FY 2015 to FY 2016.

Figure 14. Psychotropic Medication Use among Nursing Facility Residents, FY 2013 – FY 2016



The percentage of residents receiving an antidepressant drug at least once in the previous seven days increased slightly from 51% in FY 2013 to 54% in FY 2016. This coincides with the increased number of residents diagnosed with depression in FY 2016, shown in Figure 13. The percentage of residents receiving an antipsychotic drug dropped slightly from 20% in FY 2013 to 18% in FY 2016.

Source: MDS

**Figure 15. Pain Assessment and Management, FY 2016**

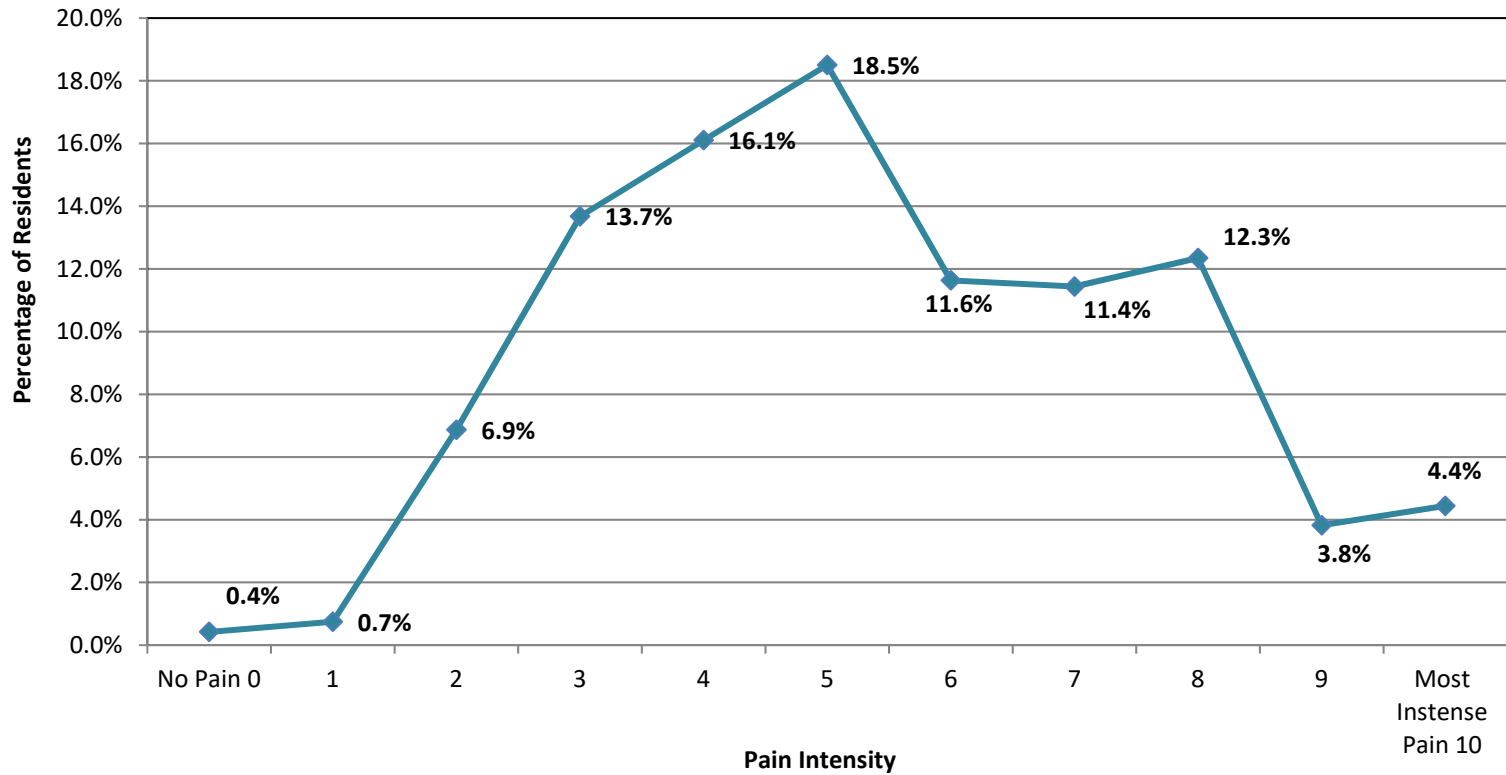
MDS 3.0 Question Regarding Pain	Response	FY 16
Received scheduled pain medication regimen	No	53%
	Yes	47%
Received PRN pain medication OR was offered and declined	No	71%
	Yes	29%
Received non-medication intervention for pain	No	89%
	Yes	11%
Presence of pain	No	65%
	Yes	27%
	Unable to answer	8%
Pain frequency	Rarely	10%
	Occasionally	57%
	Frequently	24%
	Almost Constantly	8%
	Unable to answer	2%
Pain impacts activities	No	79%
	Yes	19%
	Unable to answer	2%

Nursing facility residents are asked a series of questions about their pain in the last five days when assessed with the MDS. All residents are asked the first four questions in the table, while only those responding “Yes” to the presence of pain question are asked about pain frequency and its impact on daily activities.

In FY 2016, 27% of the residents noted the presence of pain. Of these residents, 57% reported that the pain occurred occasionally, and 79% responded that there was no impact on their day-to-day activities during the last five days.

Source: MDS

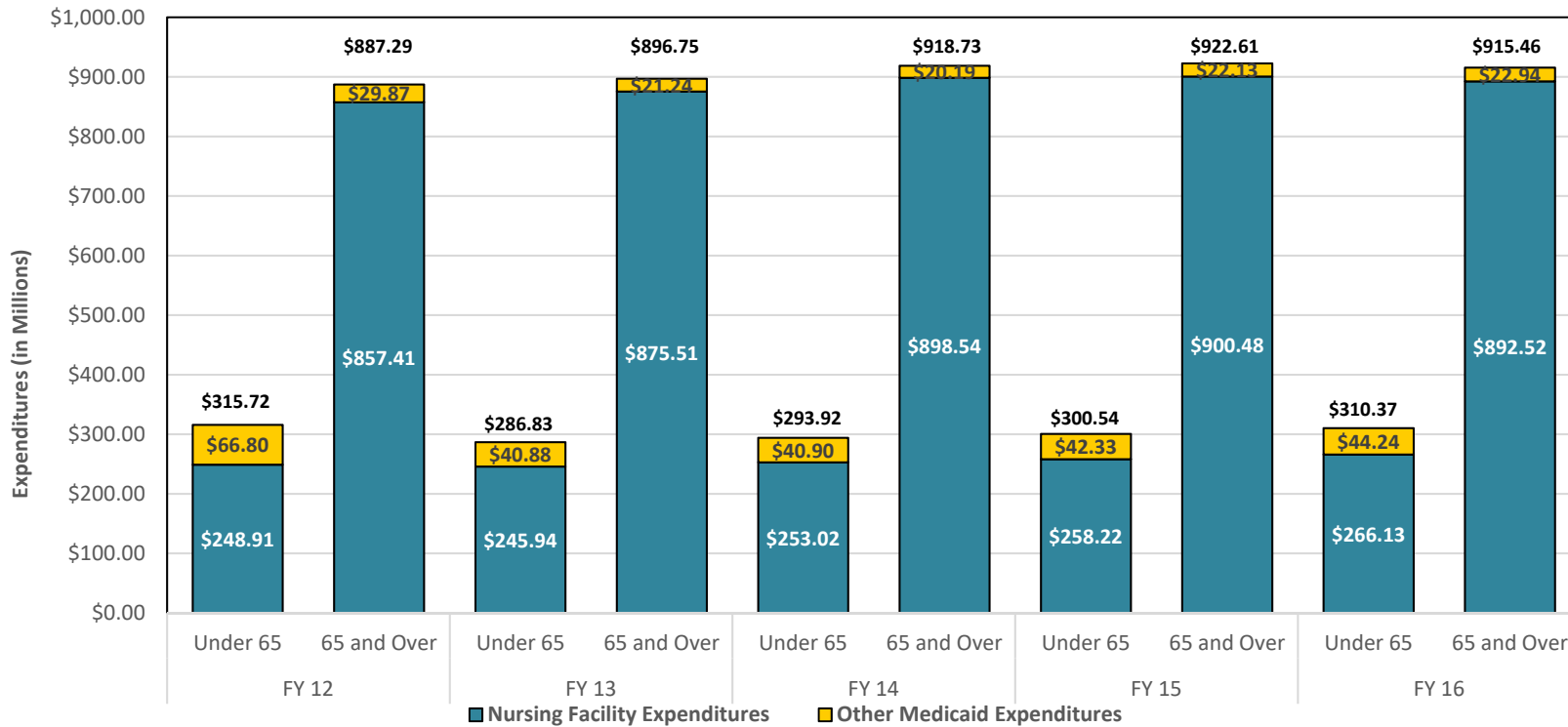
Figure 16. Intensity of Pain among Nursing Facility Residents, FY 2016



Source: MDS

On a scale of 0 to 10—0 being no pain and 10 being the worst pain—of those residents who reported having pain, almost 19% indicated a pain level of 5 during the previous five days.

**Figure 17. Total Medicaid Expenditures (in Millions) for Nursing Facility Residents, by Age, FY 2012 – FY 2016**



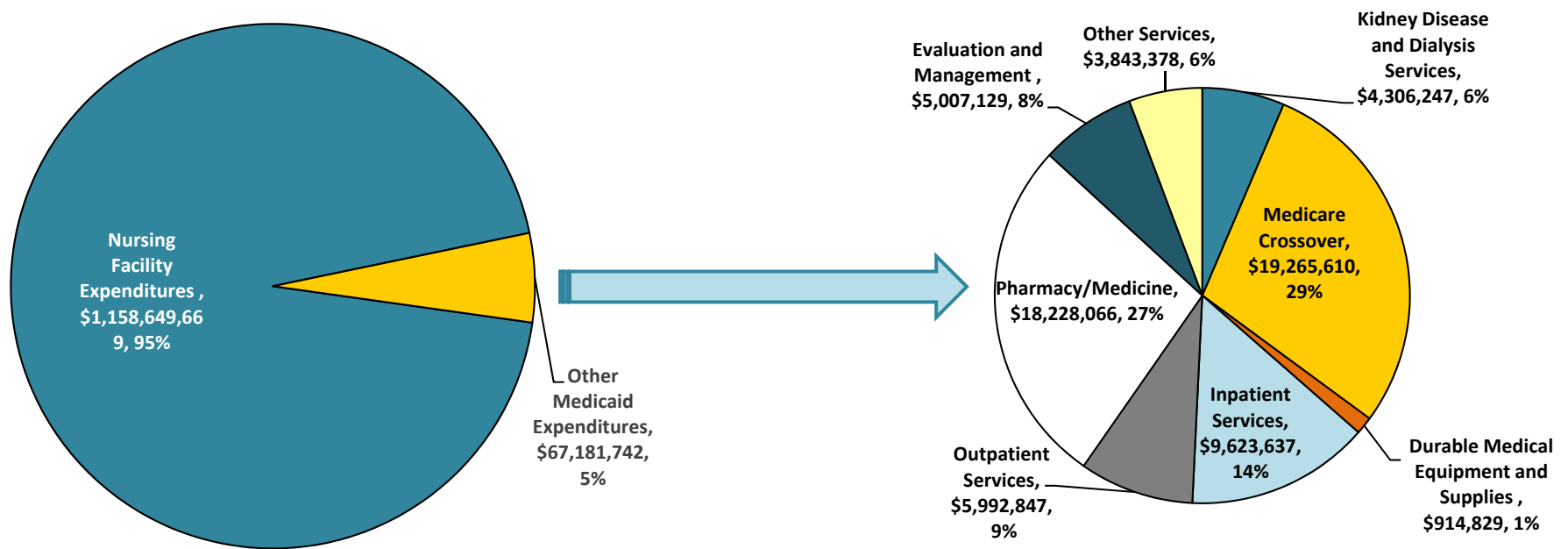
Source: MDS

Total Medicaid expenditures for those under 65 years were consistently much lower compared to those 65 years and over, due to there being fewer nursing facility residents under 65 years. There was a decrease in total Medicaid expenditures from FY 2012 to FY 2013 for residents under 65 years but an increase for those 65 years and older. Interestingly, the reverse happened in FY 2015 to FY 2016: there was an increase in total Medicaid expenditures for those under 65 years but a decrease for those 65 years and over.

For nursing facility residents whose length of stay was less than one year, average annual nursing facility expenditures was approximately \$32,200; for residents whose stay was one year or longer, this amount was approximately \$66,600 (data not shown).

**Figure 18. Total Medicaid Expenditures for Nursing Facility Residents, with Other Medicaid Expenditures Breakdown, FY 2016**

Total Medicaid expenditures for nursing facility residents were \$1.23 billion dollars in FY 2016. Of this, 95% was for nursing facility services, while 5% was for other Medicaid expenditures. The chart below illustrates the breakdown of this 5%, with the largest expense category being Medicare crossover payments (\$19.2 million), followed by pharmacy/medicine expenditures (\$18.2 million).



**Note:** Other Medicaid service expenditures include Medicaid expenditures with dates of service concurrent to a resident’s nursing facility claims and Medicaid expenditures for an intervening hospital stay (i.e., the beginning day of the hospital claim coincides with the last day of a nursing facility claim, and the last day of the hospital claim coincides with the beginning day of a nursing facility claim).

Source: MMIS2

**Figure 19. PMPM Medicaid Expenditures for Nursing Facility Residents, by Age Group, FY 2012 – FY 2016**

	FY 12	FY 13	FY 14	FY 15	FY 16
<b>All Ages</b>					
<b>Total PMPM</b>	\$6,410	\$6,401	\$6,526	\$6,564	\$6,600
<b>Nursing Facility Expenditures PMPM</b>	\$5,895	\$6,065	\$6,198	\$6,218	\$6,238
<b>Other Medicaid Expenditures PMPM</b>	\$515	\$336	\$329	\$346	\$362
<b>Under 65 Years</b>					
<b>Total PMPM</b>	\$8,609	\$8,016	\$8,183	\$8,200	\$8,192
<b>Nursing Facility Expenditures PMPM</b>	\$6,787	\$6,874	\$7,044	\$7,045	\$7,024
<b>Other Medicaid Expenditures PMPM</b>	\$1,822	\$1,143	\$1,139	\$1,155	\$1,168
<b>65 and Older</b>					
<b>Total PMPM</b>	\$5,876	\$6,014	\$6,129	\$6,163	\$6,191
<b>Nursing Facility Expenditures PMPM</b>	\$5,678	\$5,871	\$5,995	\$6,015	\$6,036
<b>Other Medicaid Expenditures PMPM</b>	\$198	\$142	\$135	\$148	\$155

**Note:** PMPM calculations were made by dividing the annual expenditures by the total number of member months (defined as a count of months with at least one Medicaid paid day for each Medicaid nursing facility resident) in each year. Medicare costs for nursing facility residents are not included in this analysis.

**Source:** MMIS2

Total PMPM expenditures for all ages of nursing facility residents on average increased less than 1% each year. Nursing facility expenditures for all ages followed a similar pattern, with an average increase across the study years of slightly higher than 1%. Interestingly, other Medicaid expenditures saw a larger percentage of change on average across the all ages category: -6.79%.

The vast majority of expenditures for both age groups were for nursing facility expenditures.

Other Medicaid expenditures for persons ages 65 and older were far lower than those for the younger age group. This is likely due to Medicare payment of services.

# **Chapter 4.**

# **Nursing Facility Discharge**



## Chapter 4. Nursing Facility Discharge

### Key Findings

#### Discharge Status

Of the residents discharged, in both FYs 2012 and 2016, 37% died at the facility. However, the percentage of residents discharged to the community increased from 32% in FY 2012 to 37% in FY 2016. See Figure 20.

#### HCBS Received in the Community Post-Discharge

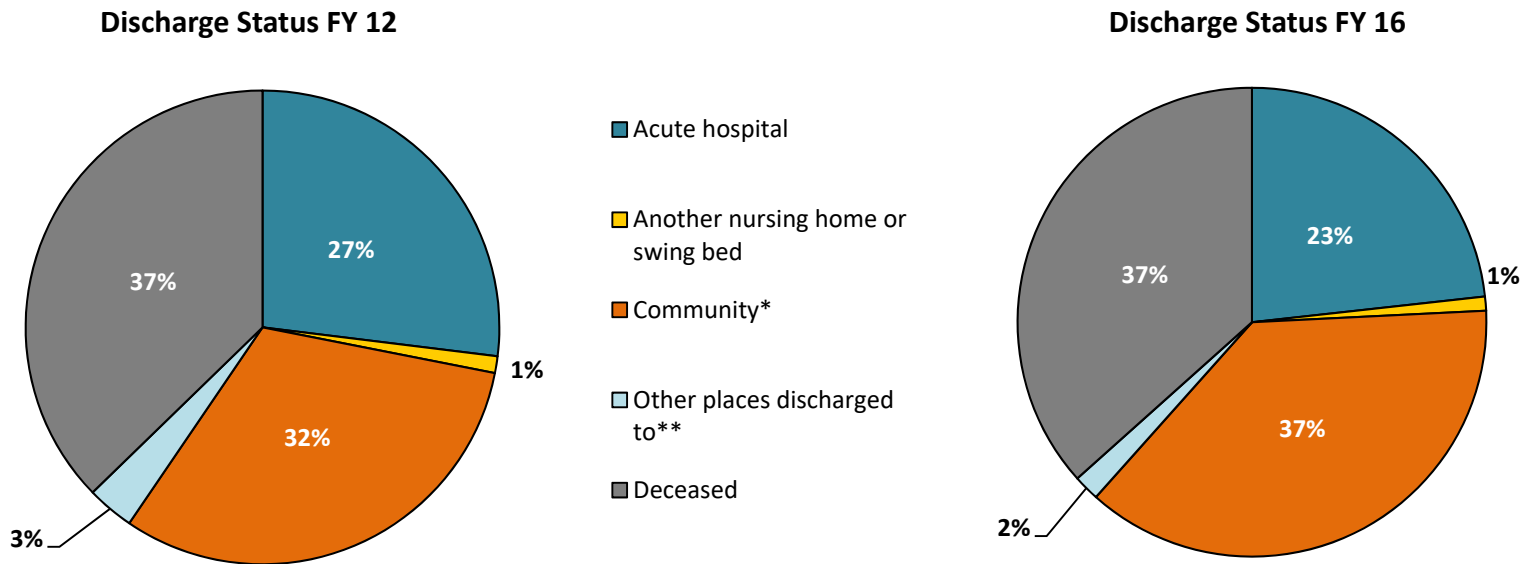
Sixty-three percent of nursing facility residents discharged to the community in FY 2016 received a CO, CFC, or CPAS service. Case management/supports planning was received by the highest percentage of those discharged, 41.1%. Sixteen percent of those discharged to the community received personal assistance services, while almost 10% received assisted living facility services. Personal assistance services accounted for 47.1% of expenditures for HCBS for those discharged to the community. See Figure 21.

#### Money Follows the Person

During each of the study years, over 70% of MFP participants were dually eligible. Additionally, over half were female and/or Black. Each year participants aged 51 to 64 years were the largest age category, averaging 32% of the MFP participant population for this study. See Figure 22.

**Figure 20. Discharge Status of Nursing Facility Residents, FY 2012 and FY 2016**

With respect to discharge, 37% of residents died while in the nursing facility in both FYs 2012 and 2016. The percentage of residents discharged to the community increased during the study period. In FY 2012, the percentage was 32% and increased each year, ending at 37% in FY 2016. Twenty-three percent were discharged to an acute hospital, down from 27% in FY 2012. One percent were discharged to another nursing home or swing bed, down from 1% in FY 2012. Three percent were discharged to other places, down from 3% in FY 2012.



\*Community includes private home/apartment, board/care, assisted living, or group home.

\*\*Other places discharged to include psychiatric hospital, inpatient rehabilitation facility, ICF/ID, hospice, long-term care hospital, and other.

Source: MDS

**Figure 21. HCBS Received 30 Days Post Discharge by Nursing Facility Residents Discharged to the Community, FY 2016**

Sixty-three percent of nursing facility residents discharged to the community received a CO, CFC, or CPAS service in the 30 days after discharge. While personal assistance services accounted for the largest percentage of costs (47.1%), the largest percentage of participants (44.1%) received case management/supports planning services.

Service	Total Cost	Percentage of Total Costs	Percentage of Participants
Assisted living facility	\$434,660	17.8%	9.7%
Behavior consultation*	*	*	*
Case management/supports planning	\$421,742	17.3%	44.1%
Environmental assessments, accessibility adaptations, and technology	\$44,015	1.8%	2.3%
Home-delivered meals	\$14,786	0.6%	2.1%
Medical day care	\$234,840	9.6%	6.5%
Nurse monitoring	\$36,049	1.5%	6.8%
Personal assistance	\$1,146,961	47.1%	16.5%
Personal emergency responses system and monitoring	\$17,096	0.7%	9.4%
Senior center plus*	*	*	*
Transition services	\$85,652	3.5%	2.4%
<b>Total</b>	<b>\$2,436,153</b>	<b>100.0%</b>	<b>100.0%</b>

\* Cell values of 10 or less have been suppressed.

Source: MDS and MMIS2

**Figure 22. Characteristics of Money Follows the Person Program Participants, FY 2013 – FY 2016**

	FY 13	FY 14	FY 15	FY 16
<b>Total</b>	<b>242</b>	<b>244</b>	<b>204</b>	<b>190</b>
<b>Gender</b>				
Female	58%	56%	54%	59%
Male	42%	44%	46%	41%
<b>Dual Status</b>				
Medicaid-Only	21%	20%	22%	27%
Dual-Eligible	79%	80%	78%	73%
<b>Race</b>				
Black	53%	61%	51%	58%
White	31%	30%	35%	27%
Other/Unknown*	16%	9%	14%	15%
<b>Age Group</b>				
0-50	19%	20%	20%	21%
51-64	29%	33%	29%	35%
65-74	18%	14%	22%	21%
75-84	19%	19%	16%	15%
85+	16%	13%	14%	8%

\*Due to small cell sizes, the racial categories Asian, Hispanic, Native American, and Unknown have been combined.

Source: MMIS2

From FY 2012 to FY 2016, 880 Marylanders in this study transitioned from a nursing facility to the community through the MFP program. In each of the study years, over half of these MFP participants were female, over half were Black, and the majority were dually eligible. Finally, participants aged 51 to 64 years made up the largest percentage of MFP participants.

**Chapter 5.**  
**In the Community:**  
**Comparisons between HCBS Users**  
**and Nursing Facility Residents**

## Chapter 5. In the Community: Comparisons between HCBS Users and Nursing Facility Residents

### Key Findings

#### Balancing Maryland's LTSS

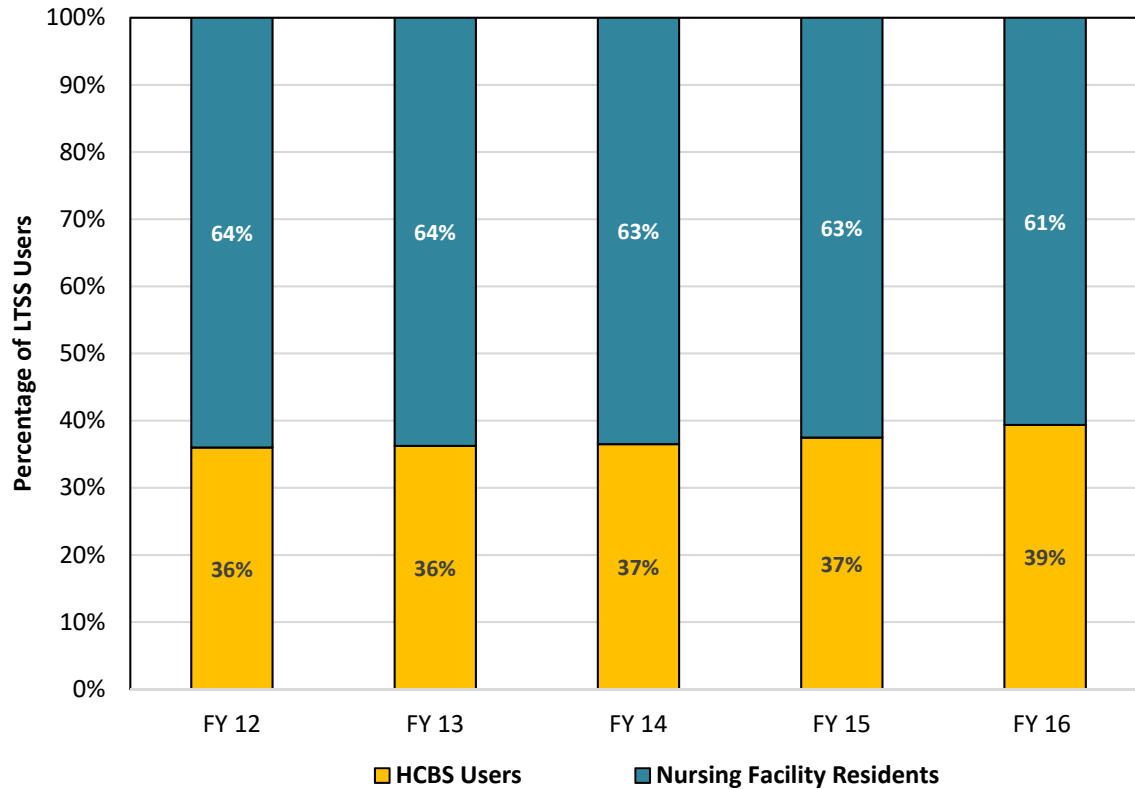
Historically, higher percentages of Maryland Medicaid LTSS users received services in nursing facilities than in the community. To balance the HCBS-to-nursing facility LTSS users, Maryland implemented a number of initiatives such as the Money Follows the Individual (MFI) Act of 2003, MFP, 1915(c) waivers, and the Balancing Incentives Program (BIP). Figure 23 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 24.

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 25). Similarly, total Medicaid PMPM expenditures were \$3,998 less on average for HCBS users than for nursing facility residents (Figure 26).

**Figure 23. Medicaid HCBS and Nursing Facility Residents as a Percentage of LTSS Users, FY 2012 – FY 2016**

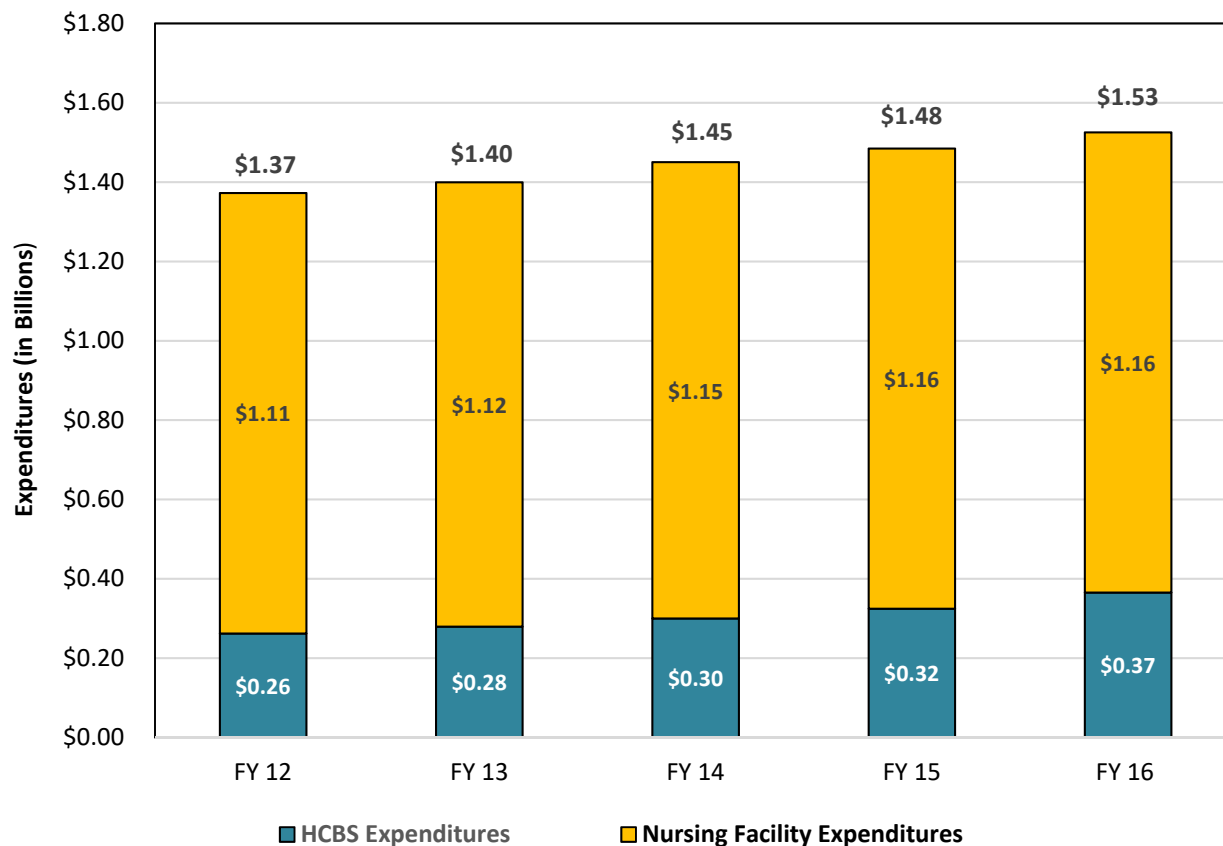


Historically, a larger percentage of Marylanders received Medicaid LTSS in a nursing facility. Between 2012 and 2016, the percentage of LTSS users receiving services in the community increased from 36% to 39%.

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



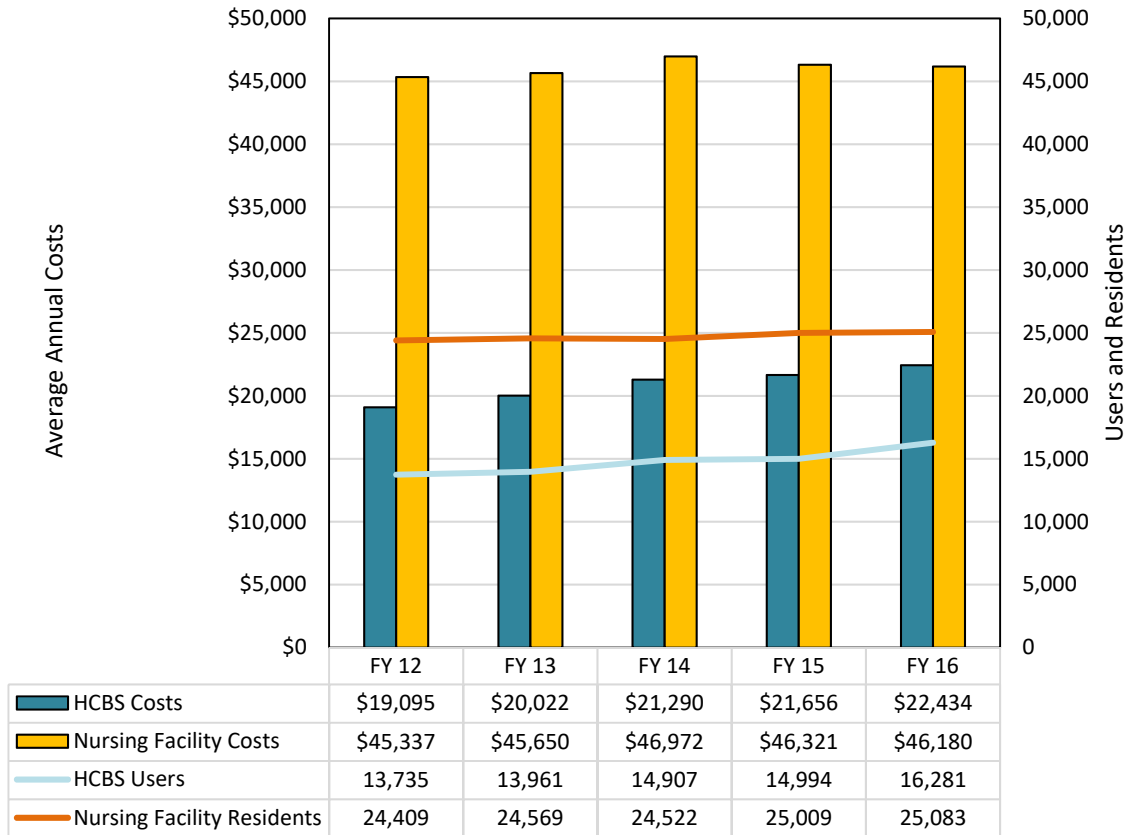
Total LTSS expenditures were \$1.53 billion in FY 2016, an increase of 11% from FY 2012. In FY 2012, HCBS accounted for 19% of total LTSS spending, but by FY 2016, it was 24% of LTSS spending. Additionally, HCBS expenditures increased an average of 9% each year during the study period, while nursing 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 25. Comparison of Average Annual Costs for HCBS Users and Nursing Facility Residents, FY 2012 – FY 2016\***



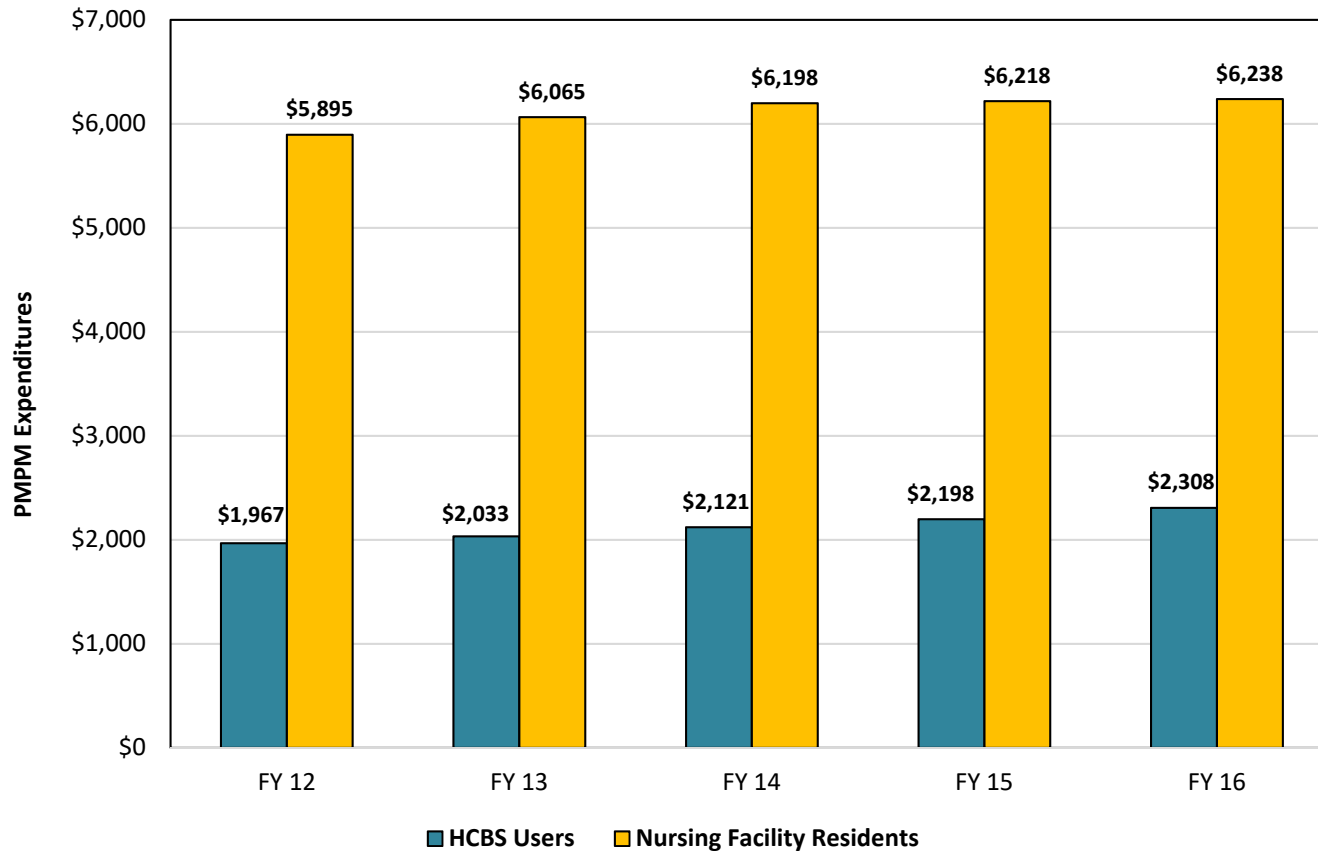
Annual per-person LTSS expenditures for HCBS have historically been less costly than those provided in a nursing facility. Between 2012 and 2016, HCBS users’ average annual costs per person were \$25,193 less than for nursing facility residents.

\*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 26. 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. A nursing facility annual stay is 7 to 8 months.

Source: MMIS2

## LIST OF FIGURES

### Chapter 2. Nursing Facility Entry

Figure 1. Pre-Admission Status of Nursing Facility Residents, FY 2012 and FY 2016.....	10
Figure 2. Top Five Active Diagnoses at Time of Nursing Facility Admission, FY 2012 – FY 2016.....	11
Figure 3. Admission Type of Nursing Facility Residents, FY 2012 – FY 2016.....	12
Figure 4. Acute Care Costs in the Six Months Prior to a Nursing Facility Admission, FY 2016.....	13

### Chapter 3. Nursing Facility Stay

Figure 5. Nursing Facility Annual Census Count, by Type of Care, FY 2012 – FY 2016.....	17
Figure 6. Length of Stay of Nursing Facility Residents, FY 2012 – FY 2016.....	18
Figure 7. Nursing Facility Residents by Gender, Race, Age, and Dual-Eligibility Status, FY 2012 and FY 2016.....	19
Figure 8. Nursing Facility Residents by County, FY 2016.....	20
Figure 9. Functional Levels of Nursing Facility Residents, FY 2012 and FY 2016.....	21
Figure 10. Cognitive Function of Nursing Facility Residents, FY 2012 and FY 2016.....	22
Figure 11. Top Five Chronic Conditions of Nursing Facility Residents, FY 2015 and FY 2016.....	23
Figure 12. Number of Chronic Conditions of Nursing Facility Residents, FY 2012 – FY 2016.....	24
Figure 13. Serious Mental Illnesses among Nursing Facility Residents, FY 2012 – FY 2016	25
Figure 14. Psychotropic Medication Use among Nursing Facility Residents, FY 2013 – FY 2016.....	26
Figure 15. Pain Assessment and Management, FY 2016.....	27
Figure 16. Intensity of Pain among Nursing Facility Residents, FY 2016.....	28
Figure 17. Total Medicaid Expenditures (in Millions) for Nursing Facility Residents, by Age, FY 2012 – FY 2016.....	29
Figure 18. Total Medicaid Expenditures for Nursing Facility Residents, with Other Medicaid Expenditures Breakdown, FY 2016.....	30
Figure 19. PMPM Medicaid Expenditures for Nursing Facility Residents, by Age Group, FY 2012 – FY 2016.....	31

**LIST OF FIGURES** continued

**Chapter 4. Nursing Facility Discharge**

Figure 20. Discharge Status of Nursing Facility Residents, FY 2012 and FY 2016.....	34
Figure 21. HCBS Received 30 Days Post Discharge by Nursing Facility Residents Discharged to the Community, FY 2016.....	35
Figure 22. Characteristics of Money Follows the Person Program Participants, FY 2013 – FY 2016.....	36

**Chapter 5. In the Community: Comparison between HCBS Users and Nursing Facility Residents**

Figure 23. Medicaid HCBS and Nursing Facility Residents as a Percentage of LTSS Users, FY 2012 – FY 2016.....	39
Figure 24. Medicaid HCBS and Nursing Facility Expenditures (in Billions), FY 2012 – FY 2016.....	40
Figure 25. Comparison of Average Annual Costs for HCBS Users and Nursing Facility Residents, FY 2012 – FY 2016.....	41
Figure 26. PMPM Medicaid HCBS and Nursing Facility Expenditures, FY 2012 – FY 2016.....	42



## **The Hilltop Institute**

University of Maryland, Baltimore County  
Sondheim Hall, 3rd Floor  
1000 Hilltop Circle  
Baltimore, MD 21250

[www.hilltopinstitute.org](http://www.hilltopinstitute.org)