



The Hilltop Institute

analysis to advance the health of vulnerable populations

Medicaid Long-Term Services and Supports in Maryland:

FY 2011 to FY 2014
Volume 3

The Model Waiver
A Chart Book

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

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

The Maryland Long-Term Services and Supports Chart Book, Volume 3, The Model Waiver is the third chart book in a series of three that explores service utilization and expenditures for Medicaid-funded long-term services and supports in Maryland. Volume 1 in this series explores service utilization and expenditures for Maryland's Autism Waiver. Volume 2 provides this information for the Brain Injury Waiver.

The Model Waiver, which began in 1985, allows individuals with medically complex needs and who have a chronic hospital or nursing facility level of care to receive needed services in their home. The Model Waiver is authorized under Section 1915(c) of the Social Security Act and approved by the federal Centers for Medicare and Medicaid Services. It is operated by the Maryland Medicaid Program. Waiver participant enrollment is capped at 200 slots per year and enrollment must occur before the participant reaches 22 years of age.

Services covered under the waiver include case management, assessment, nurse supervisory visit, medical day care services, principal physician attended care plan conferences, and private duty nursing (PDN) services provided by registered nurses (RNs), licensed practical nurses (LPNs), certified nursing assistants (CNAs), and home health aides (HHAs). For participants aged 21 and older, nursing services are considered waiver services. Nursing services for participants under the age of 21 are considered non-waiver services. Waiver participants receive

full Medicaid benefits and are entitled to receive other services under the Maryland Medicaid State Plan.

In FY 2014, the Model Waiver served a total of 219 participants, with Medicaid expenditures totaling \$27.2 million.

Key Findings

This chart book summarizes demographic, service utilization, and expenditure data for Model Waiver participants for state fiscal years (FYs) 2011 through 2014. The data are presented through a series of figures that illustrate trends in Model Waiver utilization with accompanying narrative text.

Notable trends in the data include the following:

- The Model Waiver served a total of 219 participants in FY 2014, the same number as in FY 2013 and five more than in FY 2011.
- Model Waiver participants aged 6 to 14 made up the largest percentage of participants in FY 2014. The average age of participants was 12 years and 4 months.

continued on next page ...

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

Notable trends continued ...

- The average length of stay in the Model Waiver for FY 2014 was five years and two months.
- Total Medicaid expenditures for Model Waiver participants decreased 1.7% from \$27.6 million in FY 2011 to \$27.2 million in FY 2014.
- In FY 2014, non-waiver expenditures accounted for 91% of the waiver's total Medicaid expenditures.
- FY 2014 average annual total Medicaid expenditures for Model Waiver participants were \$124,056—a 1.8% increase from the previous year.
- Second and subsequent month administration and LPN services were the most widely used waiver services in each of the four reporting periods.
- Ranging from \$19.6 million in FY 2012 to \$20.8 million in FY 2014, PDN services for waiver participants under the age of 21 were the most costly of the non-waiver services.

Chart Book Organization

The data in this chart book are presented in two sections.

- **Waiver Participants:** This section includes data on the number of Model Waiver participants with breakdowns by age, race, gender, county of residence, and average length of stay in the waiver.

- **Medicaid Expenditures and Service Utilization:** This section provides data on expenditures for waiver, non-waiver, and pharmacy services used by participants in the Model Waiver program. This section also includes information on inpatient hospitalizations.

Data Sources

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

- **Maryland Department of Health and Mental Hygiene (DHMH) Medicaid Management Information System (MMIS2):** This system contains data for all individuals enrolled in Maryland Medicaid during the relevant fiscal year, including Medicaid eligibility category and fee-for-service claims. All MMIS2 data are warehoused and processed monthly by The Hilltop Institute.
- **DHMH 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.

Chapter 2.

Model Waiver Participants

Chapter 2. Model Waiver Participants

Model Waiver Participant Demographics

In FY 2014, 219 individuals were served in the Model Waiver. There has been only a slight increase (five) in the number of waiver participants since FY 2011. There was no increase in the number of participants from FY 2013 to FY 2014. See Figure 1.

The Model Waiver population continues to age as a result of the low turnover rate among its participants. In FY 2014, 43% of all participants were aged 6 to 14, and 23% were aged 15 to 18 (Figure 2). In each of the four reporting periods, male Model Waiver participants slightly outnumbered females (Figure 3). In FY 2014, nearly half (49%) of all Model Waiver participants were White (Figure 4).

In FY 2014, Maryland's Model Waiver participants were concentrated in 20 of the state's 23 counties and Baltimore City (Figure 5). The largest number of waiver participants resided in Montgomery County, Prince George's County, and Baltimore County.

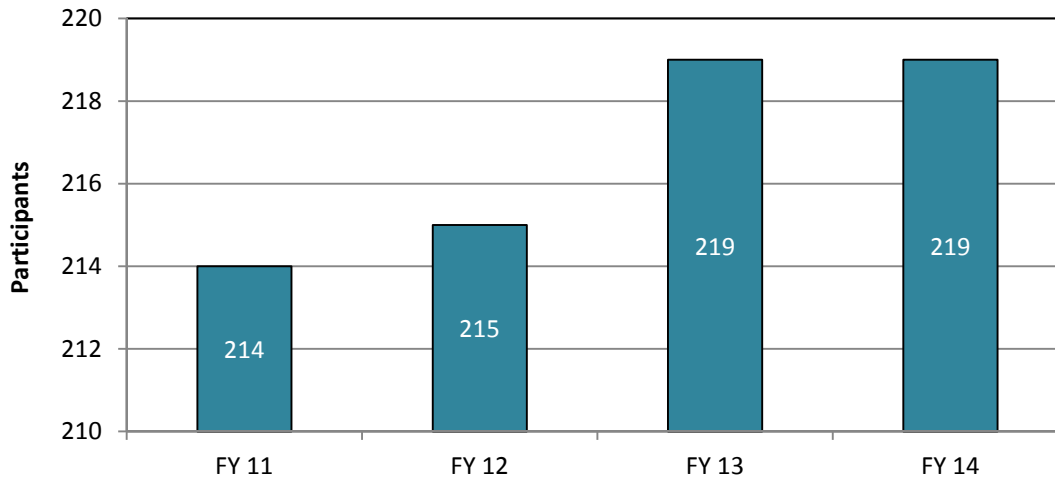
Average Lengths of Stay in the Waiver

In FY 2014, the average length of stay for Model Waiver participants was five years and two months (Figure 6).

Model Waiver Registry List

Due to the high demand for Model Waiver services and a defined number of available waiver slots, Marylanders wishing to receive Model Waiver services must place their names on the Model Waiver Registry of Interested Families and are asked to apply as openings arise and their names approach the top of the list.

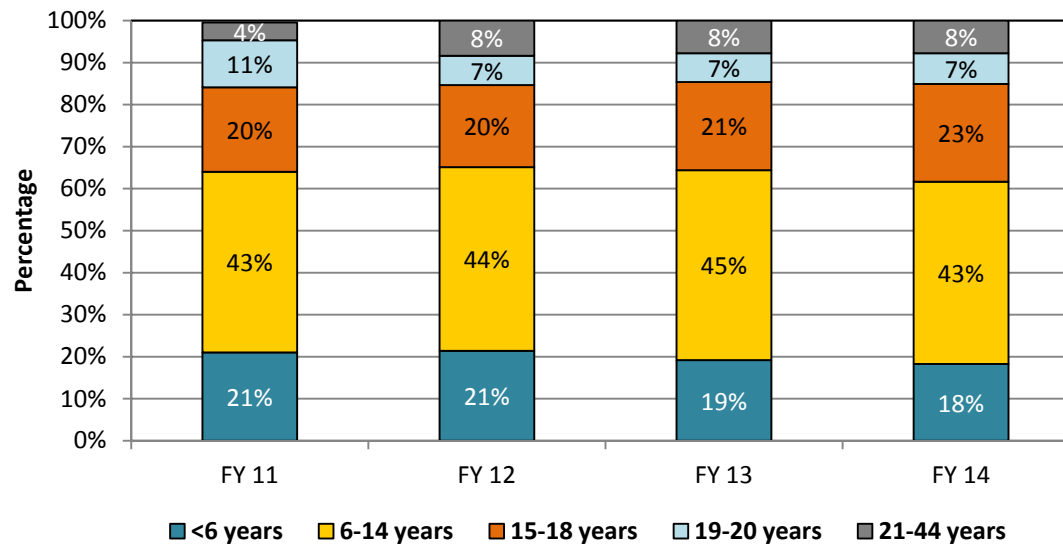
Figure 1. Unduplicated Number of Model Waiver Participants



Source: MMIS2

Due to the limited number of waiver slots, there has been little growth in the number of Model Waiver participants since FY 2011. The number of participants has only increased by five persons since FY 2011.

Figure 2. Model Waiver Participants, by Age Group



Source: MMIS2

Note: Not all percentages will add up to 100% due to rounding.

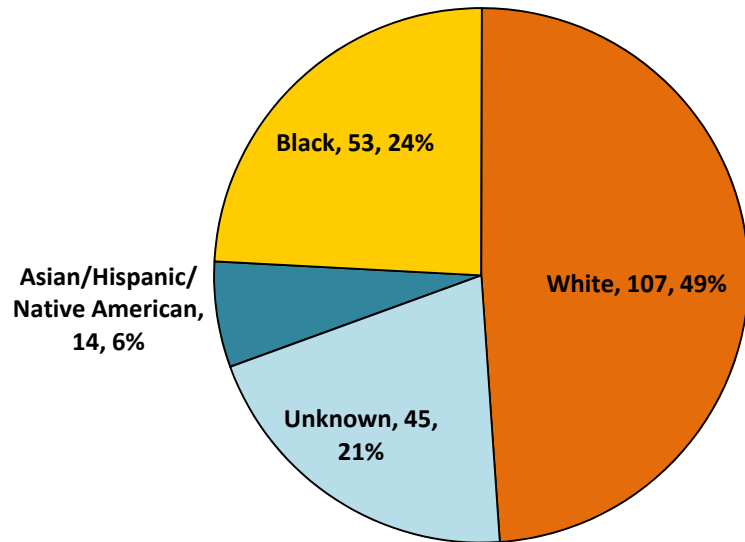
Low turnover rates among Model Waiver participants has resulted in an aging waiver population. The percentage of participants aged 15 and older increased from 35% in FY 2011 to 38% in FY 2014.

Figure 3. Model Waiver Participants, by Gender

Gender	FY 11	FY 12	FY 13	FY 14
Female	95	99	99	92
Male	119	116	120	127
Total	214	215	219	219

Source: MMIS2

Figure 4. Model Waiver Participants, by Race, FY 2014

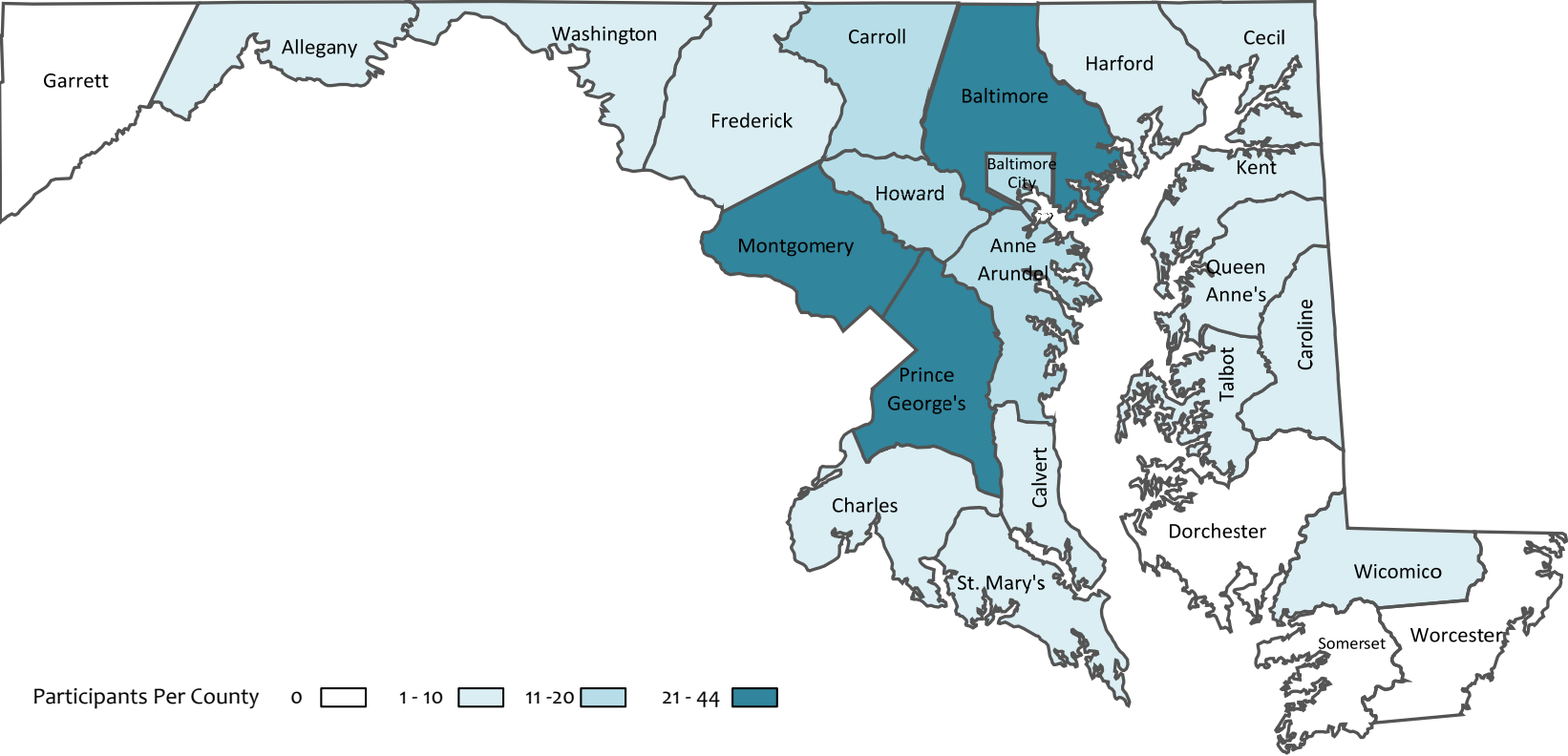


Source: MMIS2

As Figure 3 shows, Model Waiver participants are more likely to be male than female.

Whites made up the largest percentage (49%) of Model Waiver participants in FY 2014. At 24%, Blacks made up the next largest percentage of participants.

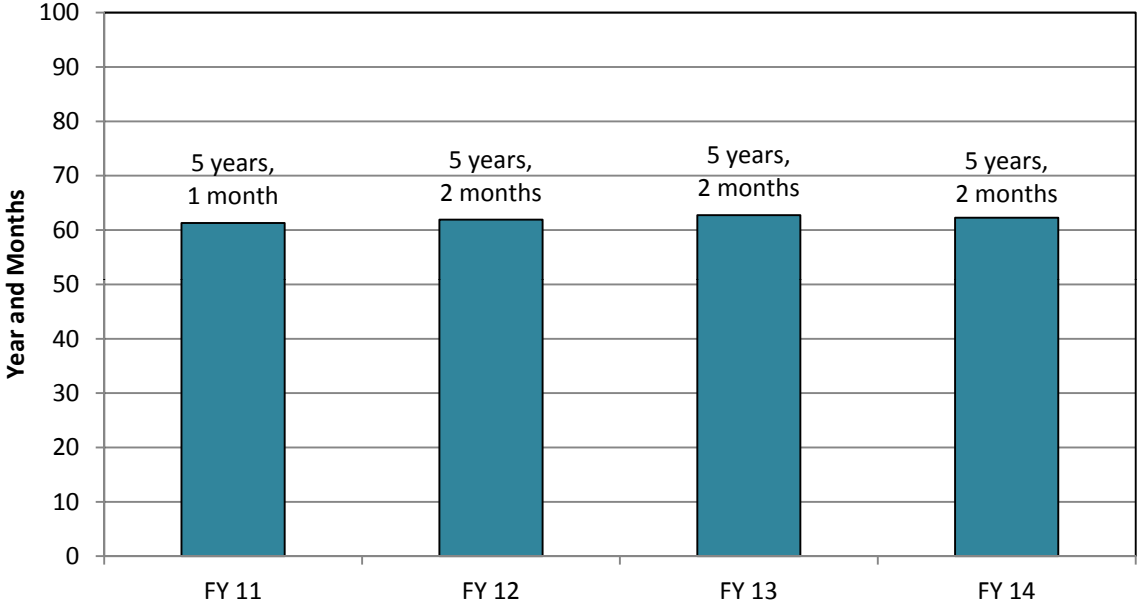
Figure 5. Number of Model Waiver Participants, by County, FY 2014



In FY 2014, Maryland’s Model Waiver participants were concentrated in 20 of the state’s 23 counties and Baltimore City. The majority of waiver participants reside in Montgomery County, Prince George’s County, and Baltimore County.

Sources: MMIS2

Figure 6. Average Length of Stay in the Model Waiver, in Years, for Current Model Waiver Participants



The average length of stay for Model Waiver participants—five years—has remained relatively the same over the study period. This is likely due to the low turnover rate among waiver participants.

Note: Participants enrolled in the Model Waiver in each fiscal year were identified using each participant’s last Medicaid Model Waiver eligibility span. Individual participant lengths of stay were calculated from the beginning date of the participant’s last Model Waiver eligibility span to the last day of each fiscal year (June 30). The lengths of stay for persons still in the waiver on June 30 in a given year were totaled and averaged to obtain the average length of stay for all participants in the waiver on June 30 of that fiscal year.

Source: MMIS2

Chapter 3. Model Waiver Medicaid Expenditures and Service Utilization

Chapter 3. Model Waiver Medicaid Expenditures and Service Utilization

Total Medicaid expenditures for Model Waiver participants decreased 1.7% from \$27.6 million in FY 2011 to \$27.2 million in FY 2014 (Figure 7). Average annual per person Medicaid expenditures for Model Waiver participants decreased 3.9% from \$129,157 in FY 2011 to \$124,056 in FY 2014 (Figure 8).

Waiver Service Utilization

There are three items worth noting in this chapter. First, PDN services (LPN, RN, HHA, CAN, and nursing assessments) are considered waiver services only for those participants aged 21 or older. Second, a service provider typically provides PDN services to a single participant; however, there are instances in which the service is “shared” (i.e., a single provider provides services to two or more participants during the same visit). Shared services have not been widely used and therefore, due to small cell sizes, are not reported separately. Lastly, some data points are not reported due to small cell sizes (i.e., fewer than or equal to seven participants).

Waiver expenditures accounted for only 9% of the total Model Waiver expenditures in FY 2014. Overall, LPN services (i.e., LPN services up to 15 minutes and LPN services with two or more recipients) and second and subsequent month administration expenditures were the most costly Model Waiver services used in FY 2014, representing 96% of total waiver expenditures. The least costly Model Waiver service was case management team conferences, which composed less than 1% of waiver expenditures in FY 2014.

Other services that were not widely utilized in FY 2014 were waiver enrollment administration and RN services (i.e., RN services up to 15 minutes and RN supervisory visits), each representing approximately 2% of waiver expenditures. See Figure 9.

FY 2011 to FY 2014 user counts and expenditures by waiver service are shown in Figures 10 through 13. The number of participants receiving LPN services (up to 15 minutes) increased over the four reporting periods from fewer than 7 in FY 2011 to 12 in FY 2014. Average annual per person expenditures for LPN services decreased from \$131,104 in FY 2011 to \$91,322 in FY 2014.

Model Waiver participants using waiver enrollment administration services ranged in number—between 20 and 26—during the four reporting periods. Average annual per person expenditures were relatively stable, ranging from \$1,727 to \$1,885 (Figures 10 through 13).

Second and subsequent month administration was widely used by Model Waiver participants, with the number of participants slightly increasing in each of the four fiscal years (Figures 10 through 13). In FY 2014, 215 (99%) of the 218 waiver participants receiving at least one waiver service used this service, at a cost of \$1.2 million. The average FY 2014 expenditures per participant were \$5,356 (Figure 13).

FY 2014 expenditures for LPN services (with two or more recipients) totaled \$68,768, with average expenditures per participant of \$17,192 (Figure 13).

Chapter 3. Model Waiver Medicaid Expenditures and Service Utilization continued

While RN supervisory visits—a new service in FY 2014—did not compose a significant portion of the waiver expenditures, 46% (101 participants) of the 218 participants utilized this service in FY 2014. The total cost was \$12,650, or \$125 per person (Figure 13).

Fewer than seven Model Waiver participants utilized RN services (up to 15 minutes) in FY 2014. Expenditures for this service were \$40,216 in FY 2014.

Several services were not used across every fiscal year or by many participants. Medical day care was only utilized in FY 2013. Home Health Aide Services provided by HHAs or CNAs were only used in FYs 2011 through 2013. Due to HIPAA requirements, expenditures for these services are not reported.

Non-Waiver Expenditures

Non-waiver expenditures made up the vast majority of Medicaid expenditures for Model Waiver participants, ranging from 90% to 92% of total expenditures (Figure 7). Non-waiver expenditures totaled \$24.7 million in FY 2014, up slightly from \$24.1 million in FY 2013 but down from \$25.5 million in FY 2011 (Figure 7).

At \$20.8 million, PDN services were the costliest of the FY 2014 non-waiver services. Expenditures for PDN services each year ranged from 81% of non-waiver expenditures in FYs 2011 and 2012 to 84% in FY 2014. The majority of FY 2014 waiver participants were under the age of 21, which contributed to the large non-waiver PDN service expenditures (Figure 14).

Several services experienced notable changes in expenditures across the four reporting periods. Case management services increased from less than \$700 in FYs 2011 to 2013 to nearly \$50,000 in FY 2014. Evaluation and management services increased 31% from \$64,613 in FY 2011 to \$84,770 in FY 2014. Durable medical equipment (DME) and durable medical supplies (DMS) experienced a 39% decrease: from \$1,244,658 in FY 2011 to \$756,122 in FY 2014 (Figure 14).

Model Waiver Hospital Stays

Medicaid-paid inpatient hospital stays for Model Waiver participants totaled 21 in FY 2014. There were a total of 328 hospital service days, but the number of days per person ranged from 1 to 90. Hospital expenditures totaled \$1.2 million, or an average cost of \$56,832 per person (Figure 15).

Figure 7. Medicaid Expenditures for Model Waiver Participants, by Expenditure Category

	FY11	Percentage	FY12	Percentage	FY13	Percentage	FY14	Percentage
Waiver Expenditures	\$2,178,861	8%	\$2,481,555	9%	\$2,561,483	10%	\$2,421,092	9%
Non-Waiver Expenditures*	\$25,460,755	92%	\$24,133,124	91%	\$24,121,838	90%	\$24,747,182	91%
Total Expenditures	\$27,639,616	100%	\$26,614,678	100%	\$26,683,321	100%	\$27,168,274	100%

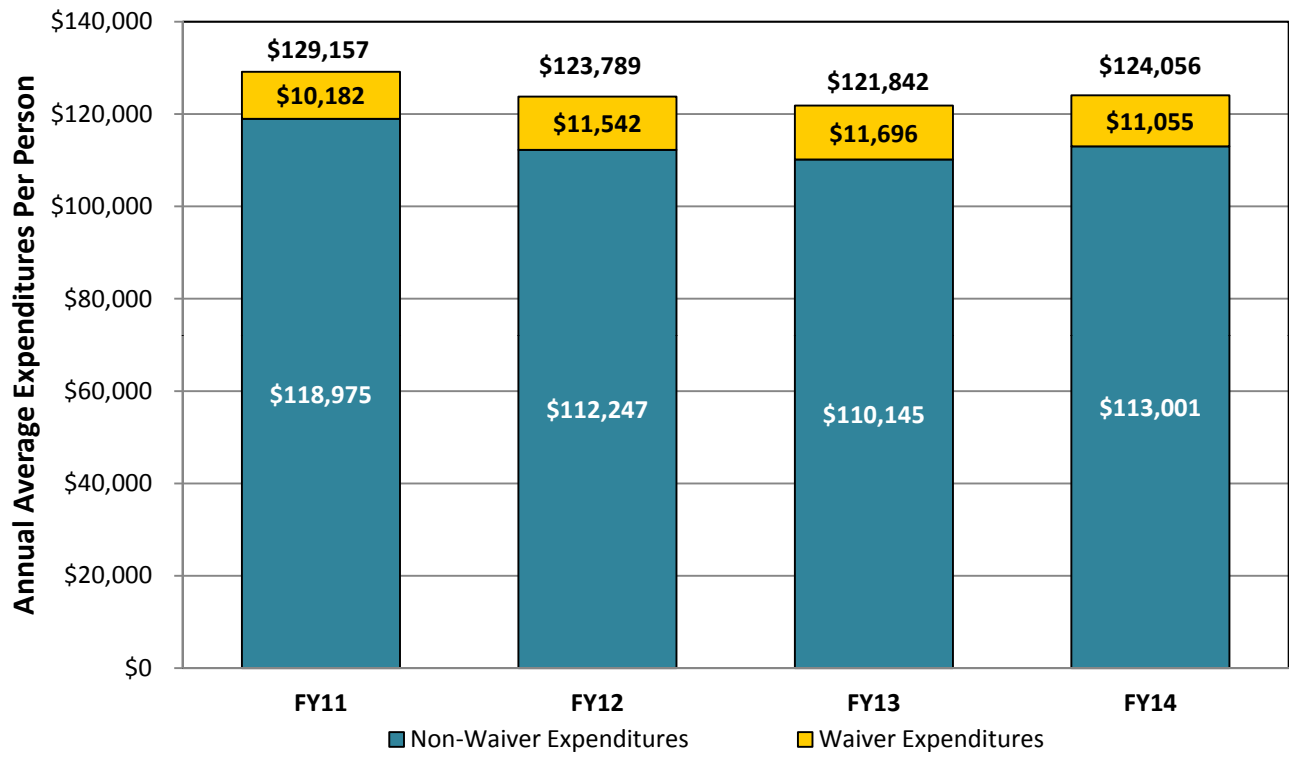
Note: Does not include administrative costs.

*Non-waiver expenditures includes pharmacy costs.

Source: MMIS2

Total Medicaid expenditures for Model Waiver participants were highest in FY 2011 but have remained relatively stable across fiscal years. Medicaid expenditures totaled \$27.2 million in FY 2014, up slightly from \$26.7 million in FY 2013 but down from \$27.6 million in FY 2011. Non-waiver expenditures composed the vast majority of the total Medicaid expenditures for Model Waiver participants, varying between 90% and 92% of total expenditures.

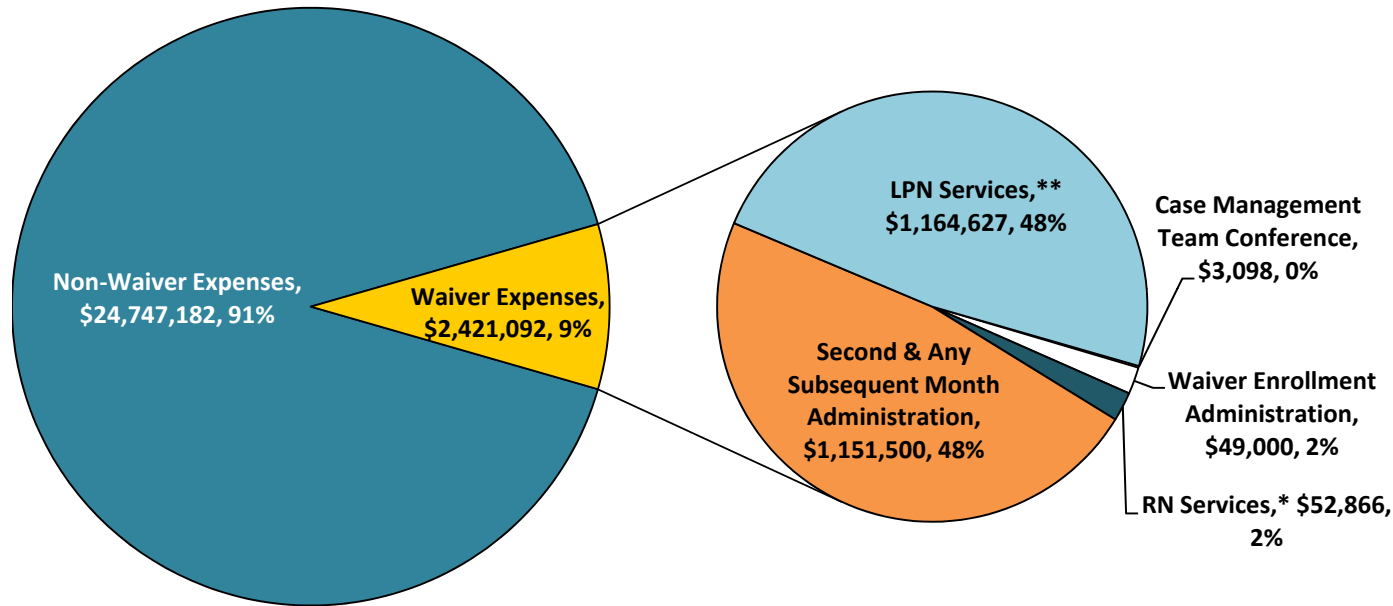
Figure 8. Average Annual Medicaid Expenditures per Person for Model Waiver Participants



Average annual per person total Medicaid expenditures dropped 3.9% from \$129,157 in FY 2011 to \$124,056 in FY 2014.

Source: MMIS2

Figure 9. Distribution of Total Medicaid Expenditures for Model Waiver Participants, FY 2014



At \$1.2 million each in FY 2014, LPN services and second/subsequent month administration costs accounted for the largest percentages of Medicaid waiver expenditures. Together, case management team conferences, waiver enrollment administration, and RN services contributed to approximately 4% of the waiver expenditures.

* Includes RN services up to 15 minutes and RN supervisory visits.

**Includes LPN services up to 15 minutes and LPN services with two or more recipients.

Source: MMIS2

Figure 10. Model Waiver Service Utilization, by Service, FY 2011

	Participants	Expenditures	Average Expenditures per Participant
Case Management Team Conference	74	\$4,237	\$57
Enrollment Administration	22	\$38,000	\$1,727
Second and Subsequent Month Administration	208	\$1,172,500	\$5,637
HHA Services, up to 15 minutes **	*	*	*
LPN Services, up to 15 minutes **	*	\$917,727	\$131,104
RN Services, up to 15 minutes **	*	\$43,052	\$21,526
Totals	214	\$2,178,861	\$10,182

Second and subsequent month administration expenditures were the most costly Model Waiver service in FY 2011; however, LPN services (up to 15 minutes) had a much higher average annual cost per person than all other services.

Note: RN, LPN, and HHA services are provided as waiver services only for waiver participants aged 21 and over.

* Below HIPAA-mandated cell size.

** Includes single and shared services.

Source: MMIS2

Figure 11. Model Waiver Service Utilization, by Service, FY 2012

	Participants	Expenditures	Average Expenditures per Participant
Case Management Team Conference	60	\$3,558	\$59
Enrollment Administration	20	\$36,000	\$1,800
Second and Subsequent Month Administration	212	\$1,176,000	\$5,547
HHA Services, up to 15 minutes **	*	*	*
LPN Services, up to 15 minutes **	12	\$1,234,144	\$102,845
RN Services, up to 15 minutes **	*	\$25,776	\$8,592
Totals	214	\$2,481,555	\$11,596

At \$1.2 million, LPN services (up to 15 minutes) were the most costly of the waiver services in FY 2012. On average, this service cost \$102,845 per person in FY 2014.

Note: RN, LPN, and HHA services are provided as waiver services only for waiver participants aged 21 and over.

*Below HIPAA-mandated cell size. .

** Includes single and shared services.

Source: MMIS2

Figure 12. Model Waiver Service Utilization, by Service, FY 2013

	Participants	Expenditures	Average Expenditures per Participant
Case Management Team Conference	71	\$3,688	\$52
Enrollment Administration	22	\$39,000	\$1,773
Second and Subsequent Month Administration	214	\$1,172,000	\$5,477
HHA Services, up to 15 minutes**	*	*	*
LPN Services, up to 15 minutes **	13	\$1,248,836	\$96,064
RN Services, up to 15 minutes **	*	\$90,902	\$45,451
Medical Day Care	*	*	*
Totals	219	\$2,561,483	\$11,696

Note: RN, LPN, and HHA services are provided as waiver services only for waiver participants aged 21 and over.

*Below HIPAA-mandated cell size. .

** Includes single and shared services.

Source: MMIS2

Across the four reporting periods, waiver expenditures for LPN services (up to 15 minutes) were highest in FY 2013. At \$1.2 million, this service was also the most costly of the waiver services in FY 2013. On average, this service cost \$96,064 per person in FY 2013.

Figure 13. Model Waiver Service Utilization, by Service, FY 2014

	Participants	Expenditures	Average Expenditures per Participant
Case Management Team Conference	66	\$3,098	\$47
Enrollment Administration	26	\$49,000	\$1,885
Second and Subsequent Month Administration	215	\$1,151,500	\$5,356
RN Supervisory Visit	101	\$12,650	\$125
RN Services (1 recipient)	*	\$40,216	\$20,108
LPN Services (1 recipient)	12	\$1,095,859	\$91,322
LPN Services (two or more recipients)	*	\$68,768	\$17,192
Totals	218**	\$2,421,092	\$11,106

Note: RN, LPN and HHA services are provided as waiver services only for waiver participants aged 21 and over.

*Below HIPAA-mandated cell size.

**One individual did not utilize waiver services.

Source: MMIS2

Second and subsequent month administration was widely used by Model Waiver participants, with the number of participants slightly increasing in each of the four fiscal years. In FY 2014, 215 (98%) of the 218 waiver participants utilized this service, at a cost of \$1.2 million. The average annual per participant cost for this service was \$5,356.

Figure 14. Medicaid Non-Waiver Expenditures for Model Waiver Participants

Service Category	FY11	FY12	FY13	FY14
Ambulance Services	\$700	\$425	\$600	\$600
Anesthesiology	\$6,975	\$6,622	\$3,905	\$6,568
Ongoing Case Management	\$650	\$350	\$400	N/A
Resource Coordination – Assessment	N/A	N/A	N/A	\$1,800
Resource Coordination	N/A	N/A	N/A	\$47,498
Dental	\$12,388	\$12,350	\$13,211	\$16,019
DME/DMS	\$1,244,658	\$1,180,188	\$990,017	\$756,122
Private Duty Nursing	\$20,617,044	\$19,551,332	\$20,012,495	\$20,771,716
ER Services	\$5,613	\$7,069	\$6,166	\$8,599
Evaluation and Management	\$64,613	\$62,063	\$71,882	\$84,770
Federally Qualified Health Centers	\$167	\$239	\$369	\$61
Home Health Services	\$21,601	\$8,623	\$12,235	\$13,716
Hospice	\$2,440	\$200	\$0	\$0
IEP/FSP School Health-Related Services	\$155,575	\$132,900	\$126,075	\$128,725
Inpatient Services	\$1,056,308	\$1,073,886	\$913,815	\$882,877
Lab Services	\$9,003	\$9,030	\$7,818	\$4,348
Medicare Crossover	\$12,762	\$12,836	\$9,275	\$9,161
Medicine*	\$246,892	\$141,690	\$108,156	\$123,292
Outpatient Services	\$426,849	\$494,489	\$448,705	\$424,286
Oxygen	\$258,340	\$212,680	\$160,915	\$226,640
Pharmacy	\$1,269,490	\$1,176,206	\$1,206,292	\$1,194,787
Radiology	\$4,669	\$5,196	\$3,811	\$4,279
Surgery	\$21,422	\$17,250	\$10,438	\$22,957
Transportation	\$22,450	\$27,388	\$13,888	\$10,525
Other**	\$146	\$112	\$1,370	\$7,834
Total	\$25,460,755	\$24,133,124	\$24,121,838	\$24,747,180

Non-waiver expenditures ranged from \$25.5 million in FY 2011 to \$24.7 million in FY 2014. Private duty nursing services were the costliest of the non-waiver services, primarily due to the composition of the Model Waiver participants (i.e., the majority are under 21 years of age).

*Medicine received from a source other than a pharmacy (i.e., inpatient hospitalization, clinic).
 ** “Other” includes Medicaid non-waiver services other than those listed above and those provided under the waiver that are paid by Medicaid on behalf of Medicaid waiver participants.

Figure 15. Model Waiver Participants' Medicaid-Paid Inpatient Hospital Stays, FY 2014

	Total	Mean	Minimum Number	Maximum Number
Hospital Stays	21	1.5	1	5
Hospital Length of Stay, in Days	328	15.6	1	90
Cost of Hospital Stays	\$1,193,472	\$56,832	\$105	\$259,068

Note: Hospital inpatient stays were identified using MMIS2 inpatient claims with either an “inpatient” or “Medicare crossover – inpatient” claim type. Separate stays with a span of one day between admission and discharge were counted as a single stay.

Source: MMIS2

In FY 2014, 21 Model Waiver participants had at least one Medicaid-paid inpatient hospital stay. At least one participant had five stays during this period. The number of inpatient stay days totaled 328, with average number of hospital days being 15.6 per person. However, at least one person had a stay of 90 days. Total hospital expenditures for the 21 stays were \$1.2 million, or an average of \$56,832 per person.

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