



The Hilltop Institute

analysis to advance the health of vulnerable populations

Medicaid Long-Term Services and Supports in Maryland:

FY 2012 to FY 2016
Volume 1

The Autism Waiver
A Chart Book

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UMBC
AN HONORS UNIVERSITY IN MARYLAND

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

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The *Maryland Medicaid Long-Term Services and Supports Chart Book, Volume 1, The Autism Waiver* is the first chart book in a series that explores service utilization and expenditures for Medicaid-funded long-term services and supports in Maryland.

Background

This chart book provides information about Maryland Medicaid participants who received services through the Autism Waiver in fiscal years (FYs) 2012 to 2016. The Autism Waiver, which became effective July 1, 2001, provides community-based services to individuals from the age of one year through the end of the school year in which they turn 21. The waiver enables individuals who have Autism Spectrum Disorder and who meet an institutional level of care (Intermediate Care Facility for Individuals with Intellectual Disabilities, or ICF-ID) to be supported in their own homes, community-based settings, or school-based settings. The waiver is authorized under §1915(c) of the Social Security Act and approved by the federal Centers for Medicare and Medicaid Services. It is operated by the Maryland State Department of Education and overseen by Maryland's Medicaid Program.

Services covered under the Autism Waiver include adult life planning, environmental accessibility adaptation, family leave,* family training, intensive individual support services (IISS), residential habilitation, respite care, and therapeutic integration. Waiver participants receive full Medicaid benefits and are entitled to receive other services under the Maryland Medicaid State Plan. The number of authorized Autism Waiver slots increased from 900 in FY 2013 to 1,000 in FY 2014.

In FY 2016, the Autism Waiver served a total of 1,068 participants, with Medicaid expenditures totaling \$51.3 million, including both state and federal spending. Due to the high demand for Autism Waiver services and a defined number of available waiver slots, Maryland residents wishing to receive waiver services must place their names on the Autism Waiver Registry List of Interested Families (registry list). As slots become available, invitations to apply are sent to interested families as their names approach the top of the list.

*Referred to as "family leave" throughout this chart book, although in FY 2016 the name changed to "retainer payment."

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

Key Findings

This chart book summarizes demographic, expenditure, and service utilization data for Autism Waiver participants for FYs 2012 to 2016. The data are presented through a series of figures that illustrate trends in Autism Waiver utilization with accompanying narrative text.

Notable trends in the data include the following:

- FY 2016 Autism Waiver participants tend to be White and male. Ninety-nine percent were aged 11 or older.
- The average age of newly enrolled Autism Waiver participants was 14 years, while the average of those disenrolled was 20 years in FY 2016.
- The average length of stay in the Autism Waiver for FY 2016 was 6 years and 5 months.
- Total Medicaid expenditures for Autism Waiver participants increased 5% from \$48.8 million in FY 2015 to \$51.3 million in FY 2016. The majority (71%, or \$36.4 million) of these expenditures were for the provision of waiver services.
- FY 2016 average annual total Medicaid expenditures for Autism Waiver participants were \$48,019—an increase of \$1,377 from the previous year.
- Total annual Medicaid expenditures were slightly higher for males than for females (\$48,172 versus \$47,436).
- Total annual Medicaid expenditures were almost 25% higher for participants aged 16 and older than for participants aged 6 to 15 years (\$52,024 versus \$41,793).
- IISS accounted for the largest percentage (43%) of FY 2016 total Medicaid expenditures for Autism participants.
- Per member per month (PMPM) waiver expenditures generally increase the longer a participant has been receiving waiver services.
- At \$5.1 million in FY 2016, Medicaid capitation payments continue to make up the largest proportion of non-waiver services.
- At \$124,555, intensive residential habilitation had the highest average per user cost of the waiver services in FY 2016.
- Eighty-three Autism Waiver participants aged 20 years and older in FY 2015 transitioned to the Community Pathways Waiver in FY 2016.
- The average FY 2016 residential habilitation user was 16 years old the first time he or she used this service; the average time spent in the waiver prior to first residential habilitation service use was eight years.

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

Chart Book Organization

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

- **Waiver Participants:** This section includes data on the number of Autism Waiver participants with breakdowns by age, race, gender, county of residence, and average length of stay in the waiver. This section also presents information regarding participant enrollment and disenrollment, as well as data on the number of individuals on the registry list.
- **Medicaid Expenditures and Service Utilization:** This section provides data on expenditures for waiver, non-waiver, and pharmacy services used by Autism Waiver participants. It also contains data on regional waiver service use and expenditures, as well as PMPM expenditures by participant length of stay in the waiver.

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 Medicaid during the relevant fiscal year, including Medicaid eligibility category and fee-for-service 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 Department of Health Long-Term Care and Waiver Services:** This includes the Autism Waiver Registry List of Interested Families.

Chapter 2.

Autism Waiver Participants

Chapter 2. Autism Waiver Participants

Autism Waiver Participant Demographics

From FY 2015 to FY 2016, the number of Autism Waiver participants increased 2% (from 1,047 to 1,068). However, from FY 2012 to FY 2016, the increase was 19%, likely due to the number of waiver slots increasing to 1,000 in FY 2014. (Figure 1).

The Autism Waiver population continues to age as a result of the low turnover rate among its participants. In FY 2016, 60% of all participants were aged 16 to 21, and 39% were aged 11 to 15 (Figure 2). There were no waiver participants under the age of six from FY 2012 to FY 2016. Male Autism Waiver participants continue to outnumber females by a ratio of nearly four to one (Figure 3). This closely mirrors the general population of boys outnumbering girls with Autism by a ratio of nearly five to one.* In FY 2016, almost half (47%) of all Autism Waiver participants were Caucasian (Figure 4). Interestingly, the percentage of Caucasians decreased slightly over the last five years, while the percentage of Blacks and Asians increased slightly (Figure 4).

The average age of newly enrolled waiver participants steadily increased over the last four years of the study period—to 14.5 years in FY 2015—before dropping slightly to 14.3 years in FY 2016 (Figure 5).

The average age of those disenrolled in FY 2016 was 20.3 years (Figure 6).

In FY 2016, the largest number of waiver participants resided in Montgomery County, followed by Baltimore County (Figure 7).

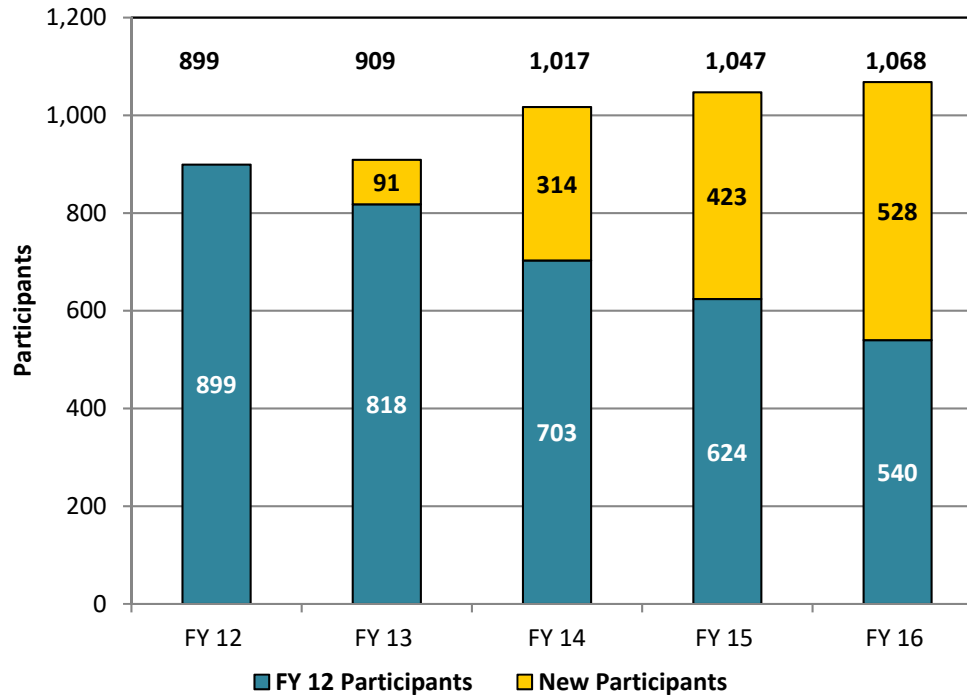
The average length of stay for current Autism Waiver participants was 6 years and 5 months in FY 2016 (Figure 8).

Autism Waiver Registry List of Interested Families

The number of Marylanders on the registry list as of June 30, 2016, was 4,829 (Figure 9). Nearly half of the individuals on the list were aged 0 to 5 at the time of registration. As of June 30, 2016, 42% of those registrants were aged 6 to 10 and made up the largest proportion of the registry (Figure 10). At 21.2%, Montgomery County had the highest percentage of individuals on the registry list (Figure 11).

*See <https://www.autismspeaks.org/what-autism/facts-about-autism>

Figure 1. Unduplicated Number of Autism Waiver Participants, FY 2012 – FY 2016

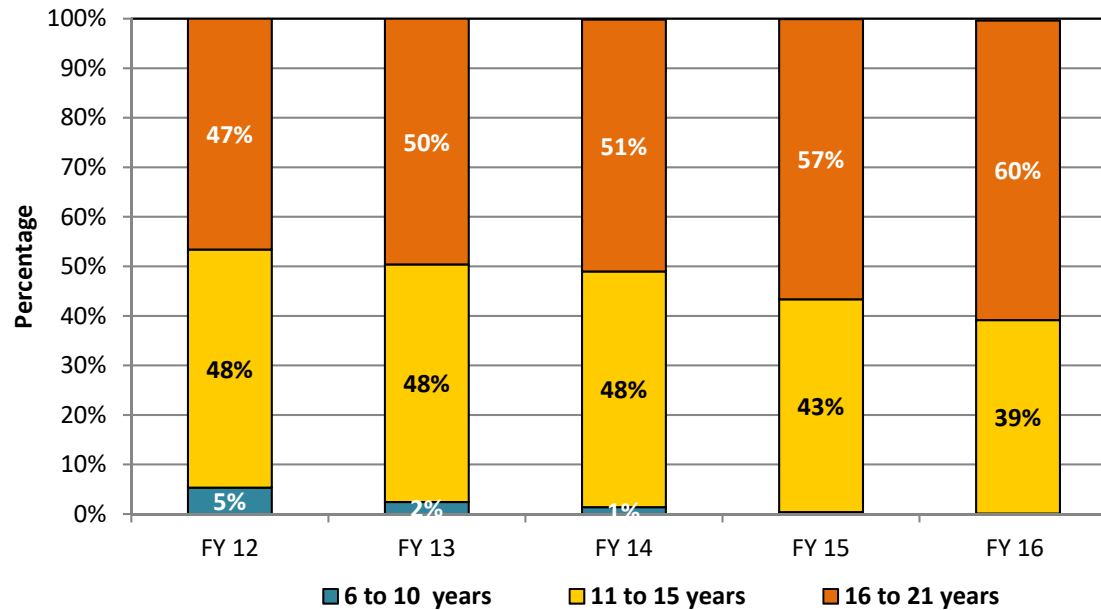


Source: MMIS2

Figure 1 illustrates the total number of Autism Waiver participants, broken down by FY 12 participants and new participants for FYs 2013 to 2016. For example, of the 899 participants in FY 2012, 818 remained in the waiver in FY 2013, with 91 new participants entering the waiver. FY 2014 had the highest number of new participants—314—likely due to the addition of 100 new waiver slots that year.

The total number of Autism Waiver participants increased 2% from 1,047 in FY 2015 to 1,068 in FY 2016.

Figure 2. Autism Waiver Participants, by Age Group, FY 2012 – FY 2016



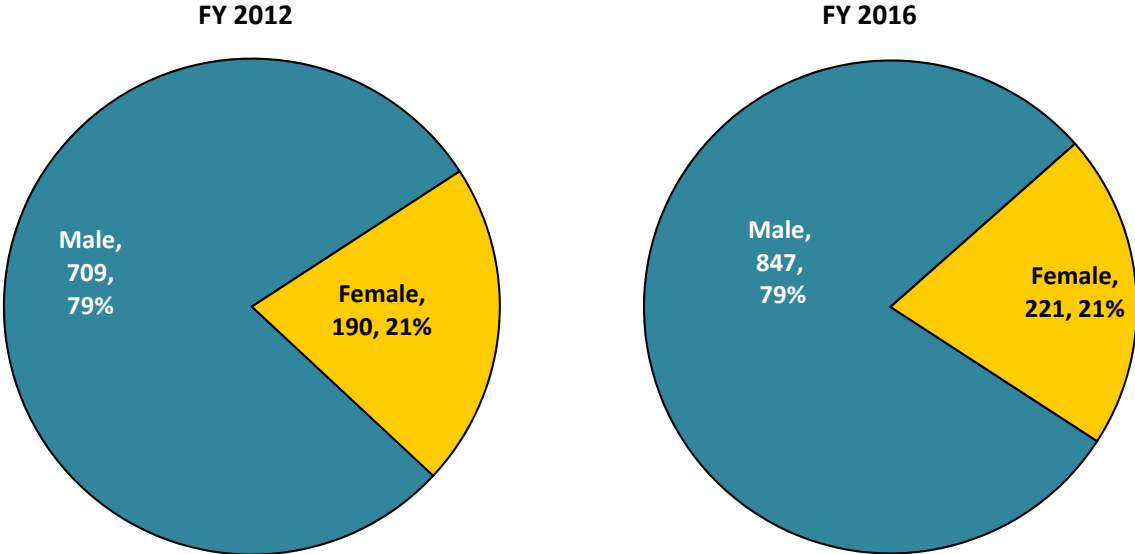
As a result of the low turnover rates among Autism Waiver participants, the waiver population is aging. In fact, 60% of the FY 2016 waiver participants were aged 16 to 21, up from 47% in FY 2012. As Figure 2 shows, there have been no waiver participants younger than six in the past five years.

The average age of Autism Waiver participants in FY 2016 was 16.5 years.

Note: There was a small number of FY 2014 to FY 2016 waiver participants over the age of 21 and a small number of FY 2015 and FY 2016 participants aged 6 to 10 years. These numbers are not recorded due to HIPAA regulations.

Source: DSS

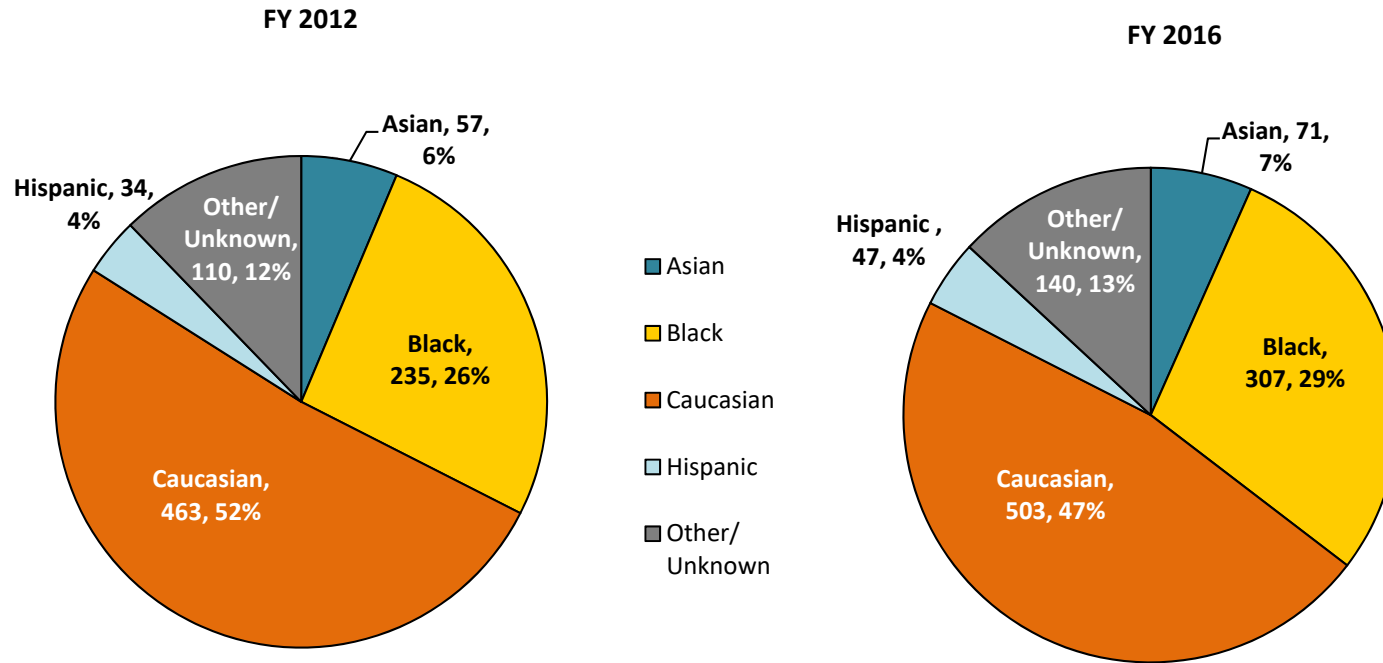
Figure 3. Autism Waiver Participants, by Gender, FY 2012 and FY 2016



As noted in earlier versions of this chart book, male Autism Waiver participants continue to outnumber female participants. The ratio of male to female participants was nearly four to one in each fiscal year of this study. Figure 3 shows that, while the number of male and female participants has increased, the ratio of males to females was the same in FY 2016 as it was in FY 2012.

Source: DSS

Figure 4. Autism Waiver Participants, by Race, FY 2012 and FY 2016

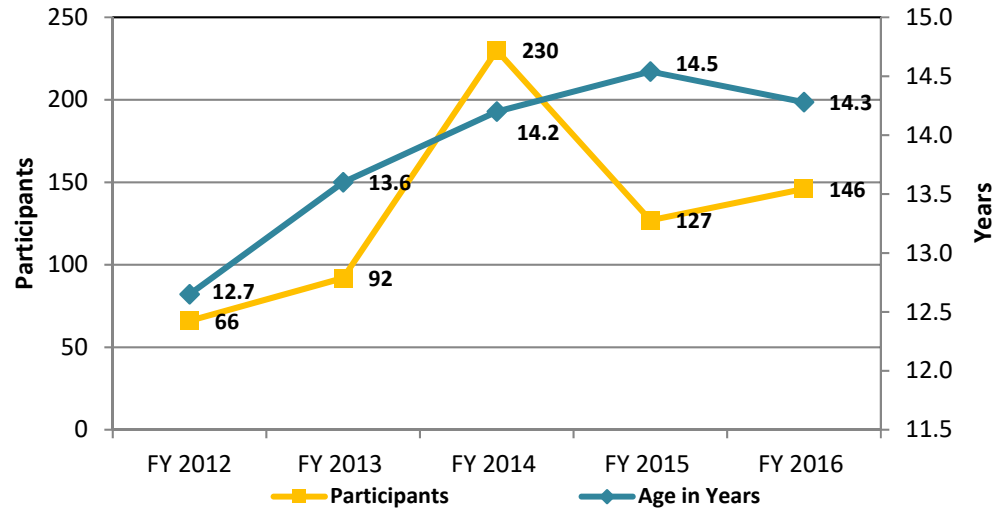


The racial distribution of Autism Waiver participants changed slightly during the study period. Caucasians (47% in FY 2016) continue to make up the largest percentage of Autism Waiver participants. However, from FY 2012 to FY 2016, the percentage of Caucasians decreased by 5%, while the percentage of Blacks and Asians increased slightly.

Note: “Other/Unknown” includes Other/Unknown, Pacific Islanders, and Native American participants. The three groups were combined due to the small number of participants.

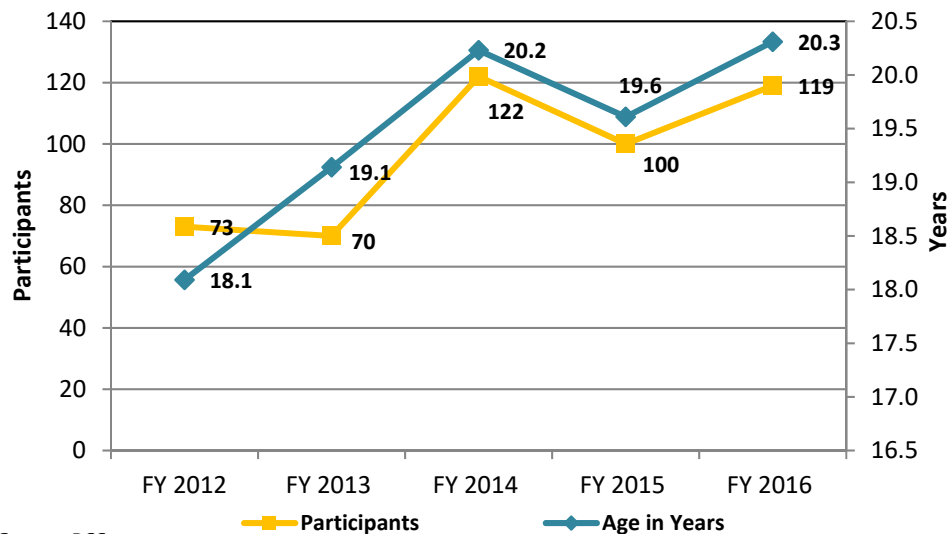
Source: DSS

Figure 5. Average Age and Number of Newly Enrolled Autism Waiver Participants, FY 2012 – FY 2016



Source: DSS

Figure 6. Average Age and Number of Autism Waiver Participants Disenrolled, FY 2012 – FY 2016

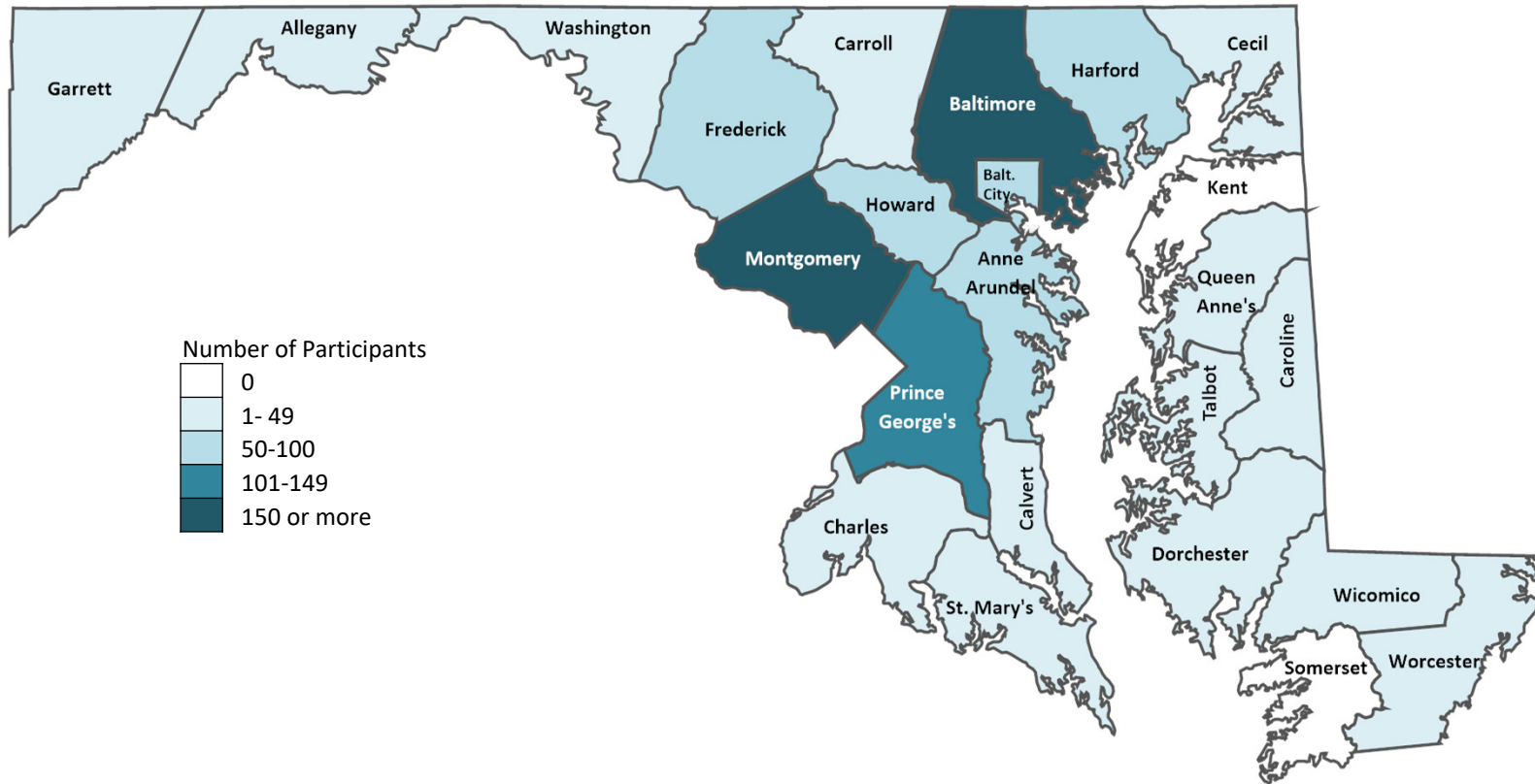


Source: DSS

Figure 5 shows the average age and number of newly enrolled Autism Waiver participants. The spike in new enrollees in FY 2014 reflects the increase in the number of authorized Autism Waiver slots that year.

Figure 6 illustrates the average age and number of Autism Waiver participants who disenrolled. The number of participants and the average age of those disenrolled were especially close for FYs 2014 and 2016.

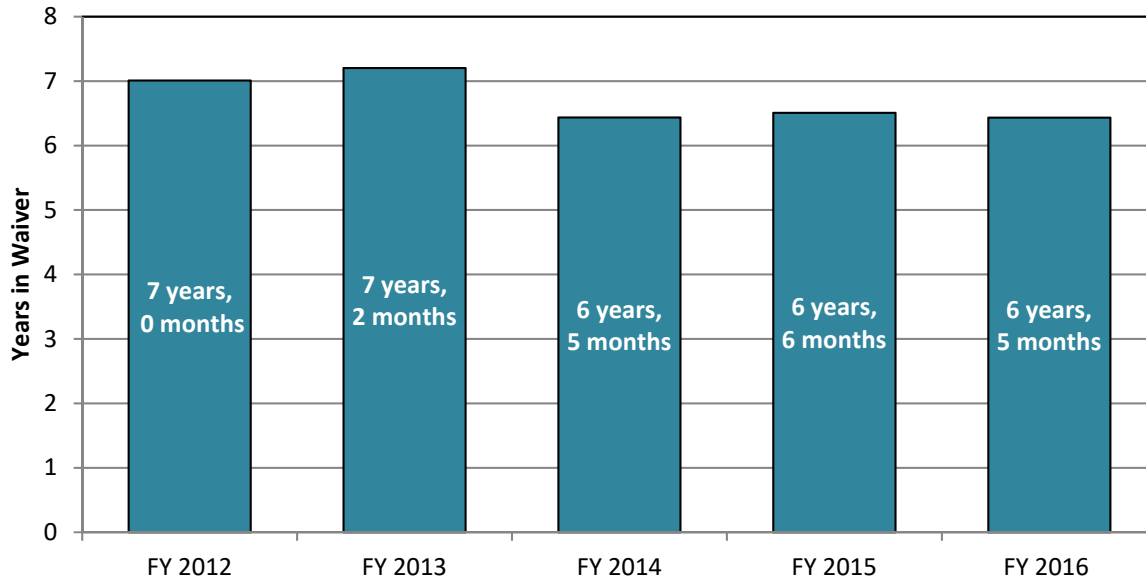
Figure 7. Number of Autism Waiver Participants, by County, FY 2016



In FY 2016, the largest number of Autism Waiver participants resided in Montgomery and Baltimore Counties. Sixteen counties had fewer than 50 participants. No participants resided in Kent or Somerset Counties.

Source: DSS

Figure 8. Average Length of Stay in the Autism Waiver, in Years, for Current Participants, FY 2012 – FY 2016

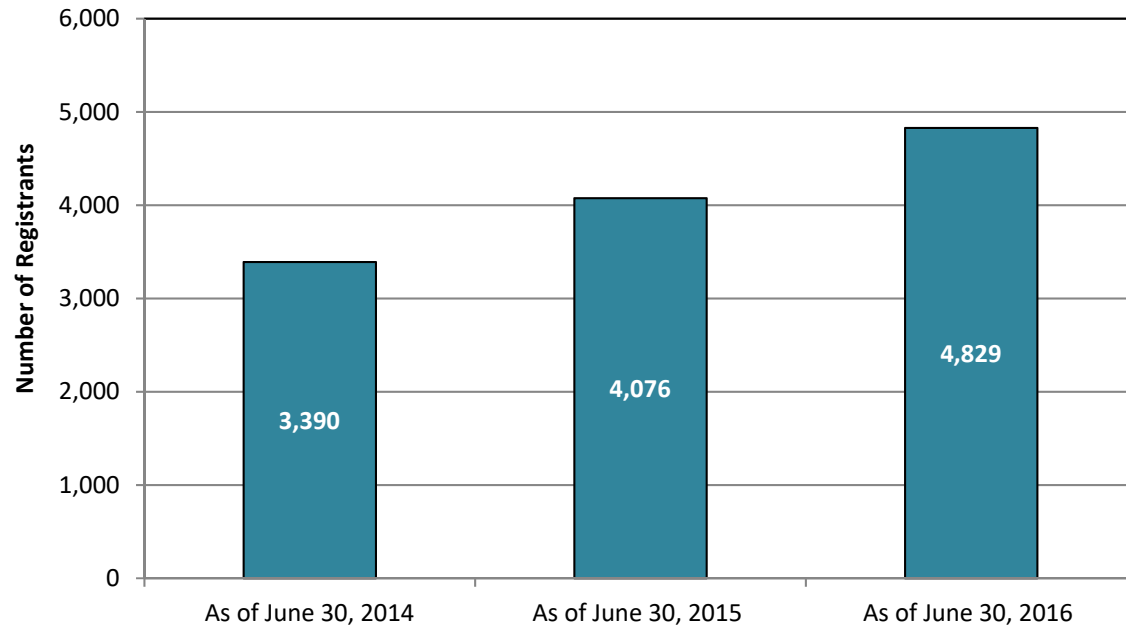


The average length of stay for Autism Waiver participants was six years and five months in FY 2016. The average length of stay decreased slightly since FY 2012, likely a result of participants entering the waiver at older ages.

Note: Participants enrolled in the Autism Waiver in each fiscal year were identified using each participant’s last Medicaid Autism Waiver eligibility span. Individual participant lengths of stay were calculated from the beginning date of the participant’s last Autism 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

Figure 9. Number of Individuals on the Autism Waiver Registry List, FY 2014 – FY 2016



As of June 30, 2016, there were 4,829 individuals on the registry list. This is an increase of 1,439 registrants since June 30, 2014.

Source: Maryland Department of Health Long-Term Care and Waiver Services

Figure 10. Number of Individuals on the Autism Waiver Registry List, by Age Group, FY 2016

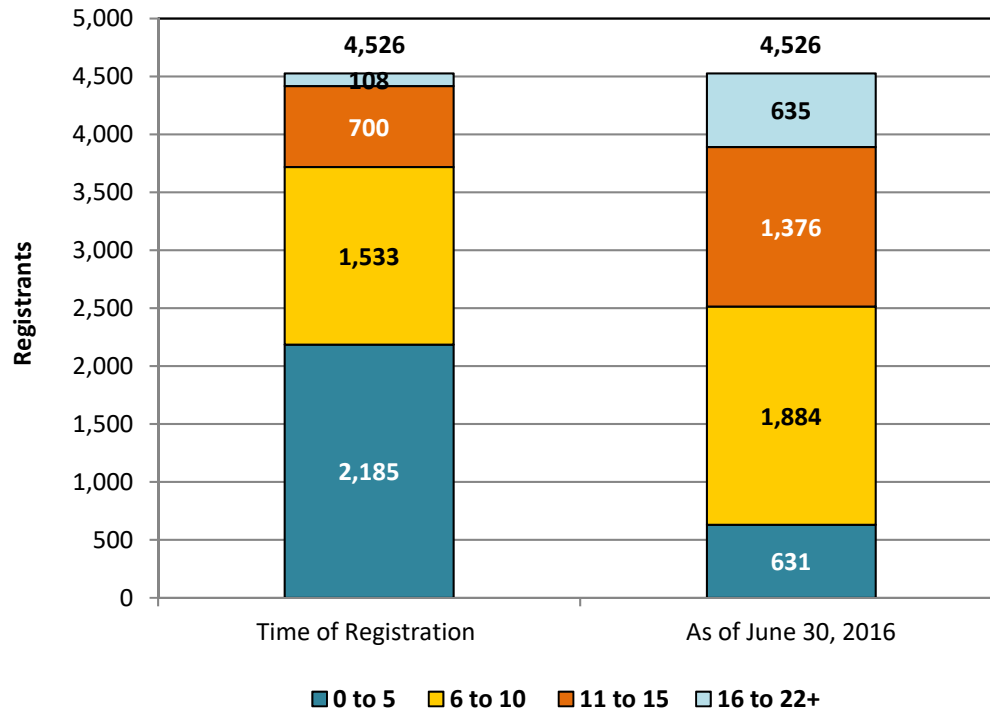


Figure 10 shows the age distribution of individuals on the registry list at the time of registration and as of June 30, 2016. Nearly half of all registrants were aged five or younger when they were placed on the list.

On average, individuals have been on the registry list for 3 1/3 years; some have been on the list less than a year and others as long as eight years.

Note: Total excludes the 303 individuals without an available or valid birth date.

Source: Maryland Department of Health Long-Term Care and Waiver Services

Figure 11. Number of Individuals on the Autism Waiver Registry List, by County,* FY 2016

County	Number on Registry	Percentage
Allegany	24	0.5%
Anne Arundel	343	7.1%
Baltimore City	466	9.7%
Baltimore County	781	16.2%
Calvert	51	1.1%
Caroline	12	0.2%
Carroll	132	2.7%
Cecil	49	1.0%
Charles	77	1.6%
Dorchester	17	0.4%
Frederick	260	5.4%
Harford	239	4.9%
Howard	306	6.3%
Montgomery	1,019	21.1%
Prince George's	769	15.9%
Queen Anne's	22	0.5%
Somerset	11	0.2%
St. Mary's	41	0.8%
Talbot	12	0.2%
Washington	99	2.1%
Wicomico	46	1.0%
Worcester	24	0.5%
Other **	29	0.6%
Total	4,829	100.0%

Montgomery County had the highest concentration of registrants (1,019), followed by Baltimore County (781), and Prince George's County (769).

* Registrants on list as of June 30, 2016.

** "Other" includes registrants with missing county information, out-of-state residents, and counties with 10 or fewer registrants.

Source: Maryland Department of Health Long-Term Care and Waiver Services

Chapter 3. Autism Waiver Medicaid Expenditures and Service Utilization

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Waiver Expenditures

Total Medicaid expenditures for Autism Waiver participants increased 5% from \$48.8 million in FY 2015 to \$51.2 million in FY 2016 (Figure 12).

IISS accounted for the highest percentage of total Medicaid expenditures in FY 2016 (Figure 13). This is likely due to IISS providing one-on-one assistance to participants in their homes and communities.

Average annual Medicaid expenditures per person for Autism Waiver participants decreased in FYs 2013 and 2014 but increased in FYs 2015 and 2016. The average annual per person Medicaid expenditure in FY 2016 was \$48,019 (Figure 14).

In FY 2016, males had slightly higher average annual Medicaid expenditures than females: \$48,172 and \$47,436, respectively (Figure 15).

Average annual Medicaid expenditures of participants aged 16 and older were 24.5% higher than those aged 6 to 15 years in FY 2016 (Figure 16).

Hispanics had the highest average annual Medicaid expenditures in FY 2016 compared to all other racial groups (Figure 17).

In FY 2016, PMPM expenditures for waiver services generally increased the longer a participant was enrolled in the waiver (Figure 18).

Non-Waiver Expenditures

Non-waiver Medicaid expenditures increased slightly (2.1%) from \$14.6 million in FY 2015 to \$14.9 million in FY 2016. At \$5.1 million, Medicaid capitation payments—fixed monthly amounts paid to managed care organizations (MCOs) to provide services to Medicaid beneficiaries who are enrolled in the Maryland HealthChoice program—were the costliest of the FY 2016 non-waiver services, accounting for 36% of non-waiver expenditures. The second most costly non-waiver service was waiver coordination (\$2.09 million), followed by medication (\$2.07 million). See Figure 19.

Total Medicaid expenditures for waiver coordination services (initial, ongoing, and reassessment) continued the trend of increasing each fiscal year. The largest percentage increase—almost 10%—occurred from FY 2013 to FY 2014. This is not surprising given the increase in waiver slots in FY 2014. Ongoing assessments continued to make up approximately 85% of total waiver service coordination assessment costs during each of the study years. See Figure 20.

Chapter 3. Autism Waiver Medicaid Expenditures and Service Utilization continued

Service Utilization

The number of IISS users increased in each fiscal year studied. In FY 2016, 1,012 (95%) of the Autism Waiver participants utilized this service, at a cost of \$21.9 million and an average annual per user cost of \$21,631 (Figure 21).

In FY 2016, 36 waiver participants received intensive residential habilitation services, which is a slight increase from the previous year. At an average cost of \$124,555 per user, this was the most costly service provided. The second most widely used service was family training, with 902 (84.5% of) waiver participants using this service in FY 2016. Total expenditures for this service were \$1.4 million, with an average annual per user expenditure of \$1,563. Respite care followed closely behind, with 892 (83.5% of) waiver participants using this service. Total expenditures for respite care were \$3.4 million, with an average annual per user expenditure of \$3,813. Intensive family leave was the least used service (only 24 participants used this service), at a total cost of \$88,349. See Figure 21.

Waiver service expenditures and utilization were also analyzed by region. All regions spent the highest proportion of their waiver service dollars on IISS and also had the highest percentage of waiver participants using this service (Figures 22 and 23). There was variation in regional spending for the remaining waiver services; for example, Western Maryland spent 14.7% for regular therapeutic

integration while the Eastern Shore spent 1.9% (Figure 22). Interestingly, the highest proportions of service use across all regions are seen in IISS, family training, and respite care (Figure 23).

Special Analyses

Additional analyses were done on the waiver service use of participants who then transitioned to the Community Pathways Waiver in order to gain a better understanding of this group, as well as the service use for those who later utilized residential habilitation services in the Autism Waiver.

In FY 2016, 83 Autism Waiver participants aged 20 years and older transitioned to the Community Pathways Waiver (Figures 24 and 25).

The average age of first residential habilitation use was 16 years for the 36 FY 2016 users (Figure 26). Respite care had the highest average units of service use per user per day (Figure 27), while IISS had the highest per member per year (PMPY) service expenditures at \$20,866 (Figure 28).

Figure 12. Medicaid Expenditures for Autism Waiver Participants, by Expenditure Category, FY 2012 – FY 2016

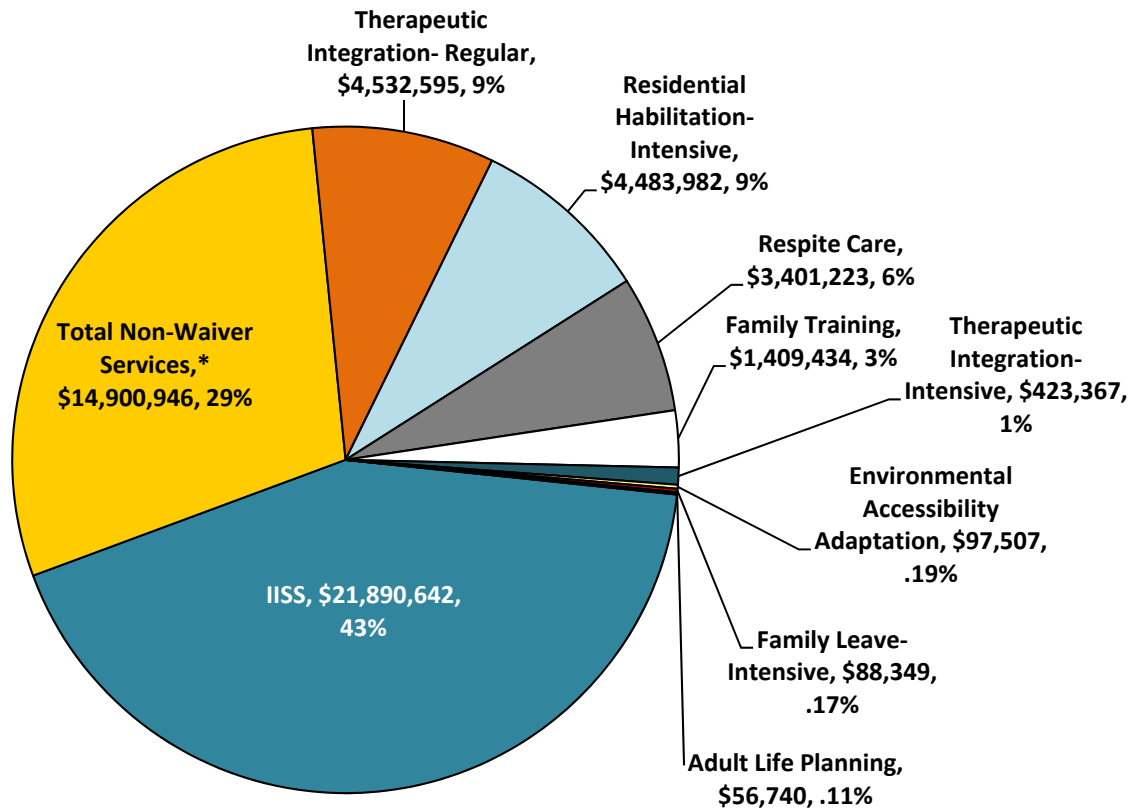
Fiscal Year	Waiver Expenditures	Percentage of Waiver Expenditure Change	Non-Waiver Expenditures	Percentage of Non-Waiver Expenditure Change	Total Expenditures	Percentage of Total Expenditures Change
FY 2012	\$30,757,300		\$11,177,809		\$41,935,109	
FY 2013	\$29,104,648	(-5.4%)	\$11,127,699	(-0.4%)	\$40,232,348	(-4.1%)
FY 2014	\$31,116,318	6.9%	\$12,650,699	13.7%	\$43,767,017	8.8%
FY 2015	\$34,234,984	10.0%	\$14,599,258	15.4%	\$48,834,242	11.6%
FY 2016	\$36,383,838	6.3%	\$14,900,946	2.1%	\$51,284,784	5.0%

Note: Non-Waiver expenditures include pharmacy expenditures but not administrative costs.

Source: DSS

FY 2016 total Medicaid expenditures for Autism Waiver participants increased 5% from the previous year, while waiver expenditures increased 6.3% from the previous year. FY 2015 had the largest percentage increase (15.4%) in non-waiver expenditures. The only year that experienced a decrease (noted in parentheses in the table) in waiver and non-waiver expenditures was FY 2013.

Figure 13. Distribution of Total Medicaid Expenditures for Autism Waiver Participants, FY 2016



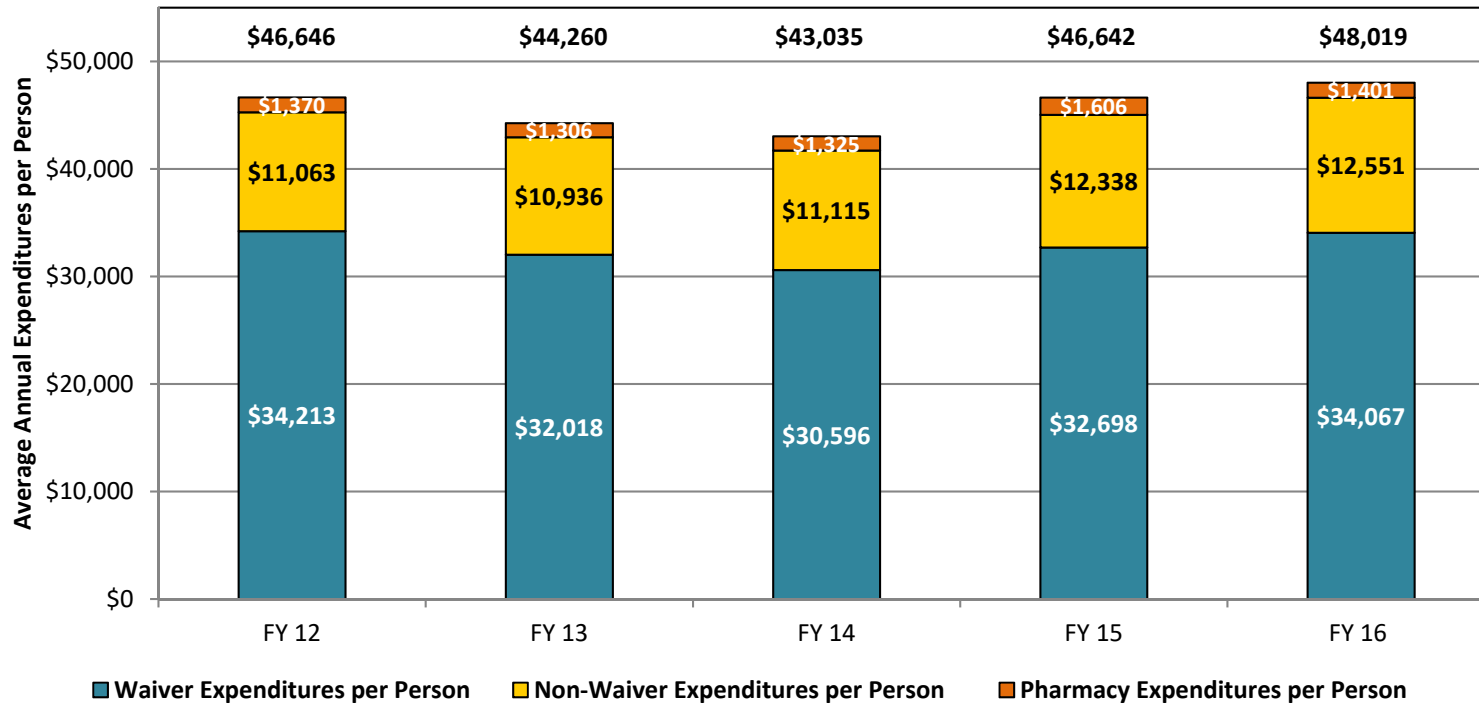
At \$21.9 million in FY 2016, IISS accounted for the largest percentage of Medicaid waiver expenditures. Together, environmental accessibility adaptation, intensive family leave, and adult life planning services totaled less than 1% of Autism Waiver expenditures.

* Includes pharmacy expenditures.

Note: May not total 100% due to rounding.

Source: DSS

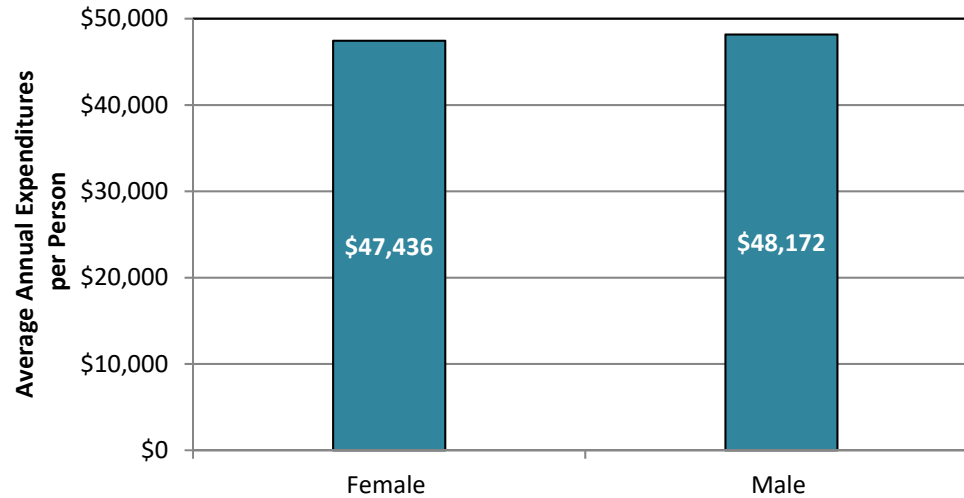
Figure 14. Average Annual Medicaid Expenditures per Person for Autism Waiver Participants, FY 2012 – FY 2016



Source: DSS

Figure 14 shows the average annual per person Medicaid expenditures by waiver, non-waiver, and pharmacy expenditures. Waiver expenditures averaged 72% of total per person costs, while non-waiver expenditures averaged 25%, and pharmacy just 3%. The average annual per person total Medicaid expenditures for Autism Waiver participants increased \$1,377 from FY 2015 to FY 2016: from \$46,642 to \$48,019.

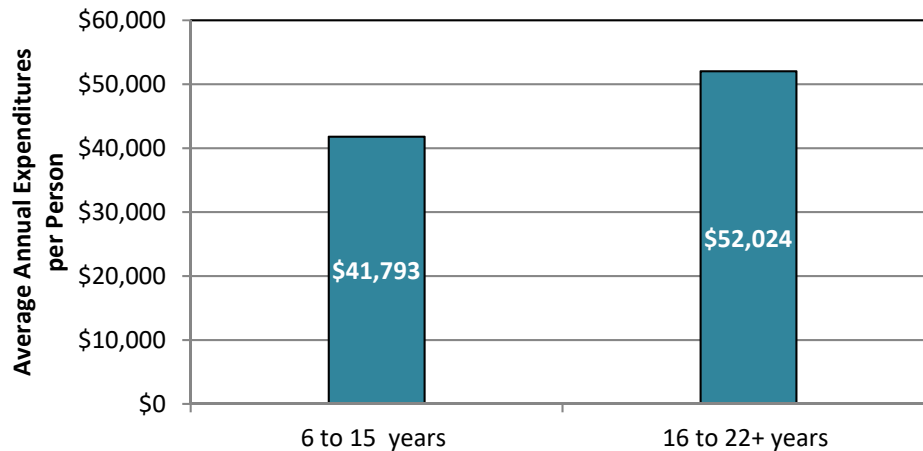
Figure 15. Average Annual Medicaid Expenditures per Person, by Gender, for Autism Waiver Participants, FY 2016



Source: DSS

In FY 2016, annual per-person Medicaid expenditures for female Autism Waiver participants were \$47,436, while per-person male expenditures were slightly higher at \$48,172.

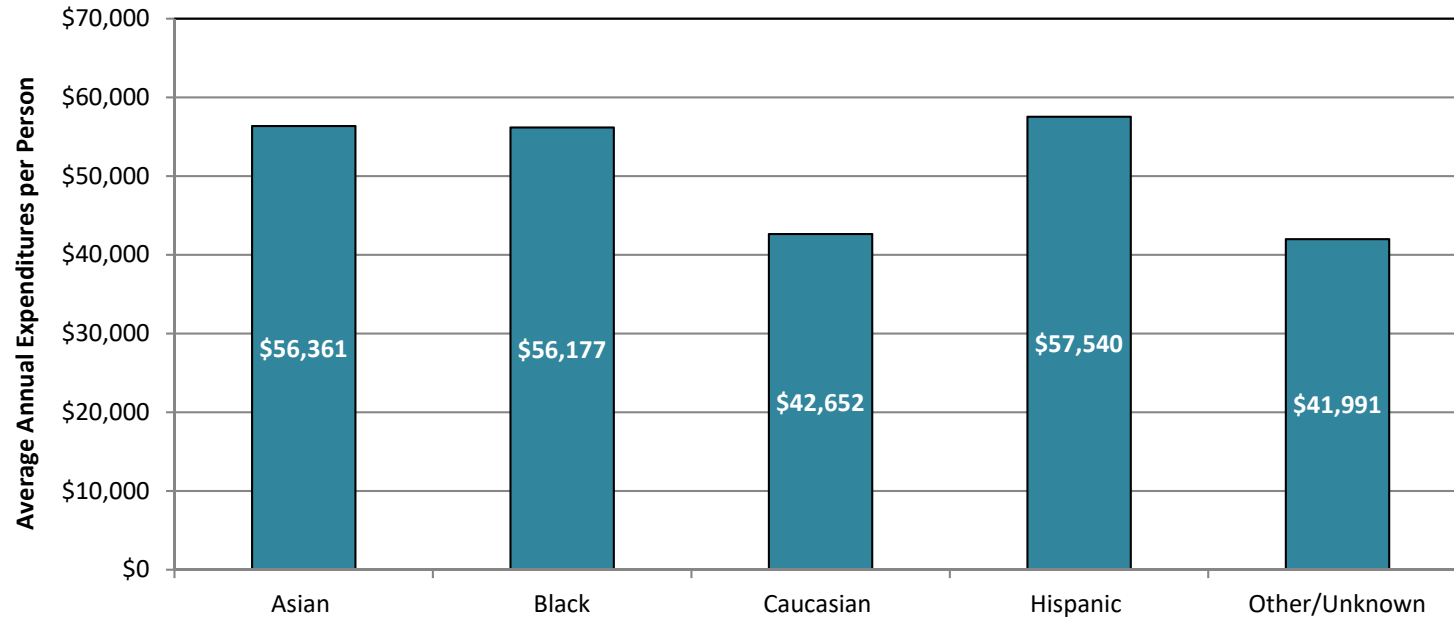
Figure 16. Average Annual Medicaid Expenditures per Person, by Age, for Autism Waiver Participants, FY 2016



Source: DSS

In FY 2016, annual Medicaid expenditures per person were higher for the 16 and older age group than for participants aged 6 to 15 years: \$52,024 and \$41,793, respectively.

Figure 17. Average Annual Medicaid Expenditures per Person, by Race, for Autism Waiver Participants, FY 2016

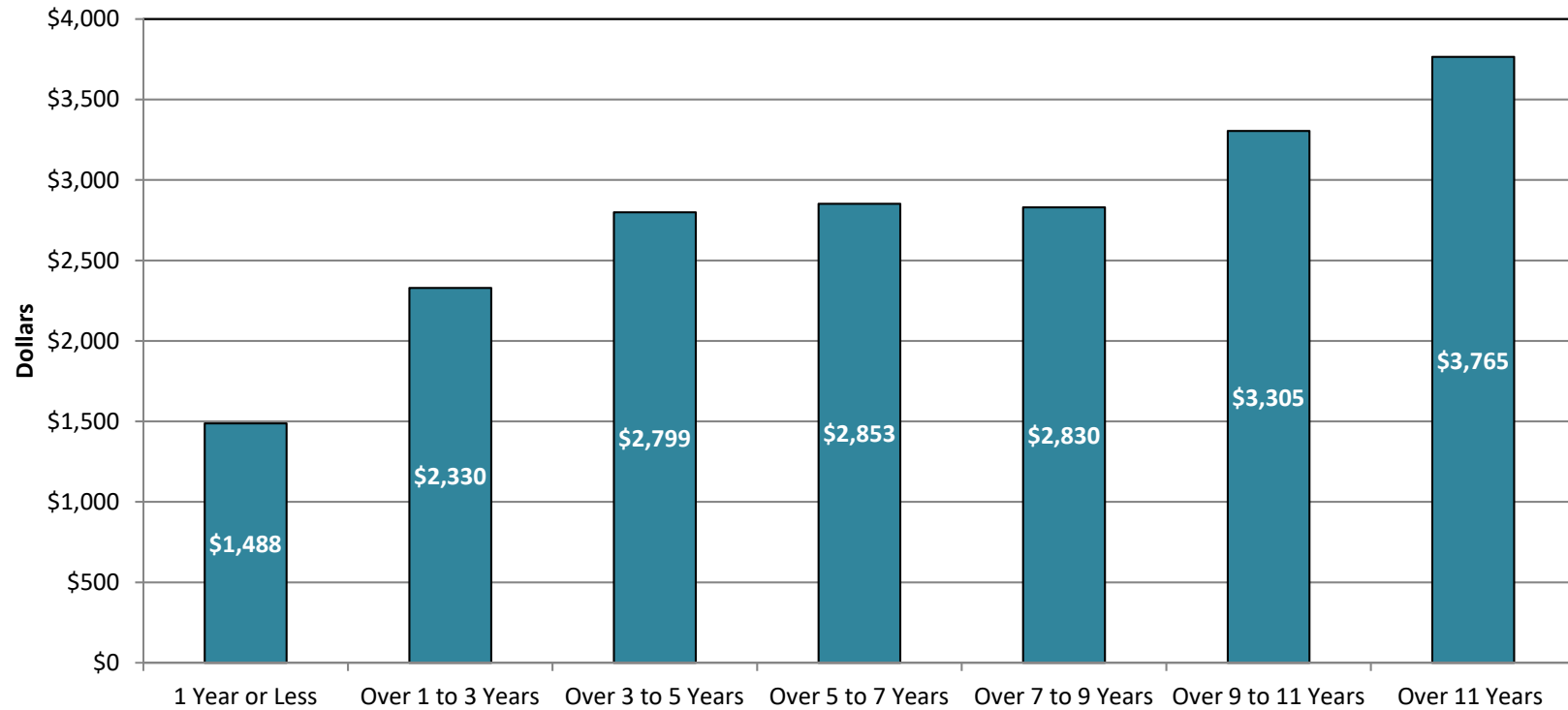


Note: “Other/Unknown” includes Other/Unknown, Pacific Islanders, and Native American participants. The three groups were combined due to the small number of participants.

Source: DSS

At \$57,540, annual Medicaid expenditures per person for Autism Waiver participants were highest for Hispanics than for all other racial groups.

Figure 18. PMPM Waiver Service Expenditures, by Number of Years in Waiver, FY 2016



Source: MMIS2

PMPM waiver service expenditures in FY 2016 were generally higher the longer a participant had been receiving services in the waiver. Participants who had been in the waiver for one year or less had the lowest PMPM expenditures.

Figure 19. Medicaid Non-Waiver Expenditures for Autism Waiver Participants, FY 2012 – FY 2016

Service	FY 12	FY 13	FY 14	FY 15	FY 16
Dental	\$119,053	\$95,602	\$120,517	\$124,089	\$151,006
DME/DMS	\$90,359	\$56,415	\$71,571	\$108,571	\$104,879
Emergency Room	\$1,887	\$4,371	\$2,994	\$8,095	\$4,752
EPSDT Therapeutic Nursery and Private Duty Nursing	\$70,563	\$46,145	\$88,833	\$133,656	\$152
Home Health/Personal Care	\$119,787	\$185,376	\$224,576	\$167,331	\$294,839
IEP/IFSP School Health Related	\$737,525	\$818,500	\$923,075	\$902,225	\$881,850
Inpatient	\$501,595	\$602,442	\$379,324	\$1,210,199	\$1,103,244
MCO Capitation Payments*	\$4,513,745	\$4,242,279	\$4,696,483	\$4,841,871	\$5,123,536
Medicare Crossover	\$7,296	\$4,717	\$3,729	\$2,504	\$6,577
Medications**	\$1,464,334	\$1,463,359	\$1,728,934	\$1,872,486	\$2,068,149
Mental Health	\$8,001	\$9,420	\$11,793	\$10,291	\$14,919
Other***	\$76,477	\$106,496	\$557,672	\$754,397	\$792,197
Outpatient	\$579,258	\$591,005	\$626,724	\$799,237	\$715,707
Pharmacy	\$1,232,042	\$1,187,038	\$1,347,162	\$1,681,217	\$1,496,614
Transportation	\$61,363	\$56,388	\$46,138	\$50,538	\$51,350
Waiver Coordination	\$1,594,525	\$1,658,150	\$1,821,175	\$1,932,550	\$2,091,175
Total	\$11,177,809	\$11,127,699	\$12,650,699	\$14,599,258	\$14,900,946

FY 2016 non-waiver expenditures for Autism Waiver participants totaled \$14.9 million. In keeping with past trends, MCO capitation payments, waiver coordination services, medications, and pharmacy services were the most costly of the non-waiver services in each of the study years.

* “MCO capitation payments” are fixed monthly amounts paid to MCOs to provide services to enrolled Medicaid participants. Capitation payments are based on actuarial projections of medical utilization. MCOs are required to provide all covered, medically necessary Medicaid services within that capitated amount.

** Medications 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.

Source: DSS

Figure 20. Autism Waiver Coordination Expenditures, FY 2012 – FY 2016

Autism Waiver Coordination Services										
Assessment Type	FY 12	Percentage of Total Costs	FY 13	Percentage of Total Costs	FY 14	Percentage of Total Costs	FY 15	Percentage of Total Costs	FY 16	Percentage of Total Costs
Initial	\$16,500	1.0%	\$26,500	1.6%	\$79,275	4.4%	\$43,500	2.3%	\$44,500	2.1%
Ongoing	\$1,353,900	84.9%	\$1,418,250	85.5%	\$1,523,400	83.6%	\$1,629,450	84.3%	\$1,743,900	83.4%
Reassessment	\$224,125	14.1%	\$213,400	12.9%	\$218,500	12.0%	\$259,600	13.4%	\$302,775	14.5%
Total	\$1,594,525	100.0%	\$1,658,150	100.0%	\$1,821,175	100.0%	\$1,932,550	100.0%	\$2,091,175	100.0%

Source: DSS

Autism Waiver coordination services were provided at a total cost of \$2.1 million in FY 2016. Initial assessments made up the lowest percentage of assessment costs for each fiscal year. Across all fiscal years, ongoing assessments accounted for a significant percentage of total assessment costs, ranging from 83.4% to 85.5%. Reassessment costs averaged 13.4% across the fiscal years and ranged between 12.0% and 14.5%.

Figure 21. Use of Waiver Services by Autism Waiver Participants, FY 2012 – FY 2016

Service	FY 12			FY 13			FY 14			FY 15			FY 16		
	Costs	Users	Average Cost Per User	Costs	Users	Average Cost Per User	Costs	Users	Average Cost Per User	Costs	Users	Average Cost Per User	Costs	Users	Average Cost Per User
Adult Life Planning	\$51,515	82	\$628	\$64,909	111	\$585	\$57,661	104	\$554	\$35,192	93	\$378	\$56,740	115	\$493
Environmental Accessibility Adaptation	\$46,065	46	\$1,001	\$59,380	54	\$1,100	\$77,322	66	\$1,172	\$122,848	91	\$1,350	\$97,507	71	\$1,373
Family Leave-Intensive	*	*	\$4,572	*	*	\$2,816	\$70,226	13	\$5,402	\$59,632	15	\$3,975	\$88,349	24	\$3,681
Family Training	\$1,343,693	731	\$1,838	\$1,221,886	745	\$1,640	\$1,302,503	838	\$1,554	\$1,421,418	893	\$1,592	\$1,409,434	902	\$1,563
IISS	\$18,909,950	856	\$22,091	\$18,181,777	858	\$21,191	\$19,035,596	961	\$19,808	\$20,933,459	996	\$21,018	\$21,890,642	1,012	\$21,631
Residential Habilitation-Intensive	\$3,362,532	27	\$124,538	\$3,107,800	25	\$124,312	\$3,742,949	33	\$113,423	\$4,069,530	33	\$123,319	\$4,483,982	36	\$124,555
Respite Care	\$2,972,867	767	\$3,876	\$2,902,234	783	\$3,707	\$2,976,088	844	\$3,526	\$3,308,763	881	\$3,756	\$3,401,223	892	\$3,813
Therapeutic Integration-Intensive	**									\$46,665	32	\$1,458	\$423,367	72	\$5,880
Therapeutic Integration-Regular	\$4,032,660	417	\$9,671	\$3,558,214	417	\$8,533	\$3,853,973	450	\$8,564	\$4,237,477	478	\$8,865	\$4,532,595	473	\$9,583

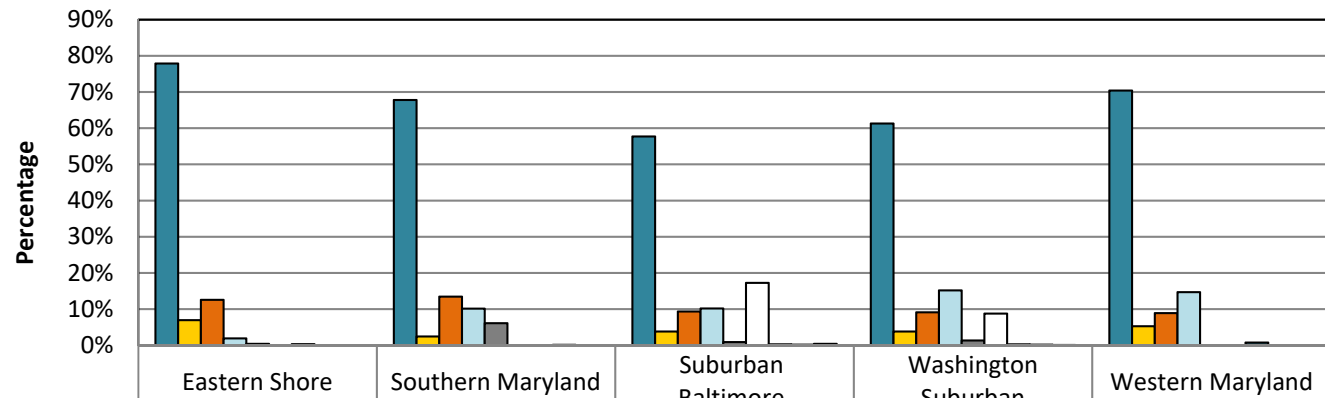
*Cell values of 10 or less have been suppressed.

**Intensive therapeutic integration was not available from FY 12 to FY 14.

Source: DSS

While IISS was the most costly waiver expenditure in FY 2016—at \$21.9 million—average cost per user expenditures for intensive residential habilitation were nearly six times those for IISS users. Additionally, with the inclusion of therapeutic integration at the intensive level in FY 2015, the number of users at the regular therapeutic integration level dropped for the first time during this five-year time period from 478 users in FY 2015 to 473 users in FY 2016.

Figure 22. Regional* Autism Waiver Service Expenditure Percentages, FY 2016



	Eastern Shore	Southern Maryland	Suburban Baltimore	Washington Suburban	Western Maryland
IISS	77.9%	67.8%	57.7%	61.3%	70.4%
Family Training	6.9%	2.4%	3.8%	3.8%	5.3%
Respite Care	12.6%	13.4%	9.3%	9.1%	8.9%
Therapeutic Integration- Regular	1.9%	10.1%	10.2%	15.2%	14.7%
Therapeutic Integration- Intensive	0.4%	6.1%	0.9%	1.3%	0.0%
Residential Habilitation- Intensive	0.0%	0.0%	17.2%	8.8%	0.0%
Environmental Accessibility Adaptation	0.3%	0.0%	0.3%	0.2%	0.8%
Adult Life Planning	0.0%	0.1%	0.2%	0.2%	0.0%
Family Leave- Intensive	0.0%	0.0%	0.4%	0.1%	0.0%

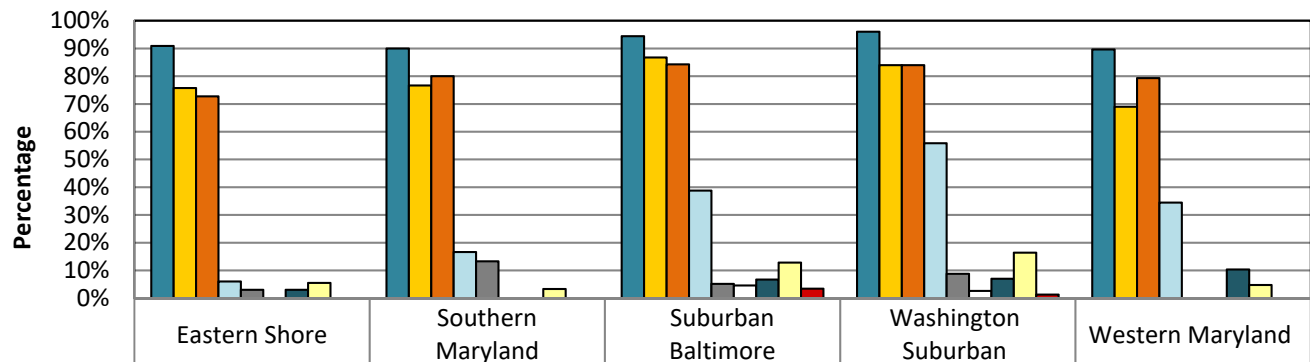
*Regions: **Eastern Shore:** Caroline County, Cecil County, Dorchester County, Kent County, Queen Anne’s County, Somerset County, Talbot County, Wicomico County, Worcester County; **Suburban Baltimore:** Anne Arundel County, Baltimore County, Baltimore City, Carroll County, Harford County, Howard County; **Southern Maryland:** Charles County, Calvert County, St. Mary’s County; **Washington Suburban:** Montgomery County, Prince George’s County, Frederick County; **Western Maryland:** Allegany County, Garrett County, Washington County.

Note: Numbers have been rounded to the nearest tenth.

Source: DSS

All regions spent the largest proportion of waiver service dollars on IISS. After that, there was variation from region to region on waiver service expenditures. For example, Western Maryland spent 14.7% on regular therapeutic integration, while the Eastern Shore spent 1.9%. Southern Maryland had the highest percentage of intensive therapeutic integration spending at 6.1% of waiver service dollars. Three regions—the Eastern Shore, Southern Maryland, and Western Maryland—did not spend any money on one or more waiver services.

Figure 23. Regional* Autism Waiver Participant Service Use, FY 2016



	Eastern Shore	Southern Maryland	Suburban Baltimore	Washington Suburban	Western Maryland
IISS	90.9%	90.0%	94.4%	96.0%	89.7%
Family Training	75.8%	76.7%	86.8%	84.0%	69.0%
Respite Care	72.7%	80.0%	84.3%	84.0%	79.3%
Therapeutic Integration- Regular	6.1%	16.7%	38.8%	55.8%	34.5%
Therapeutic Integration- Intensive	3.0%	13.3%	5.2%	8.8%	0.0%
Residential Habilitation- Intensive	0.0%	0.0%	4.6%	2.6%	0.0%
Environmental Accessibility Adaptation	3.0%	0.0%	6.7%	7.0%	10.3%
Adult Life Planning	5.6%	3.3%	12.9%	16.4%	4.8%
Family Leave- Intensive	0.0%	0.0%	3.5%	1.3%	0.0%

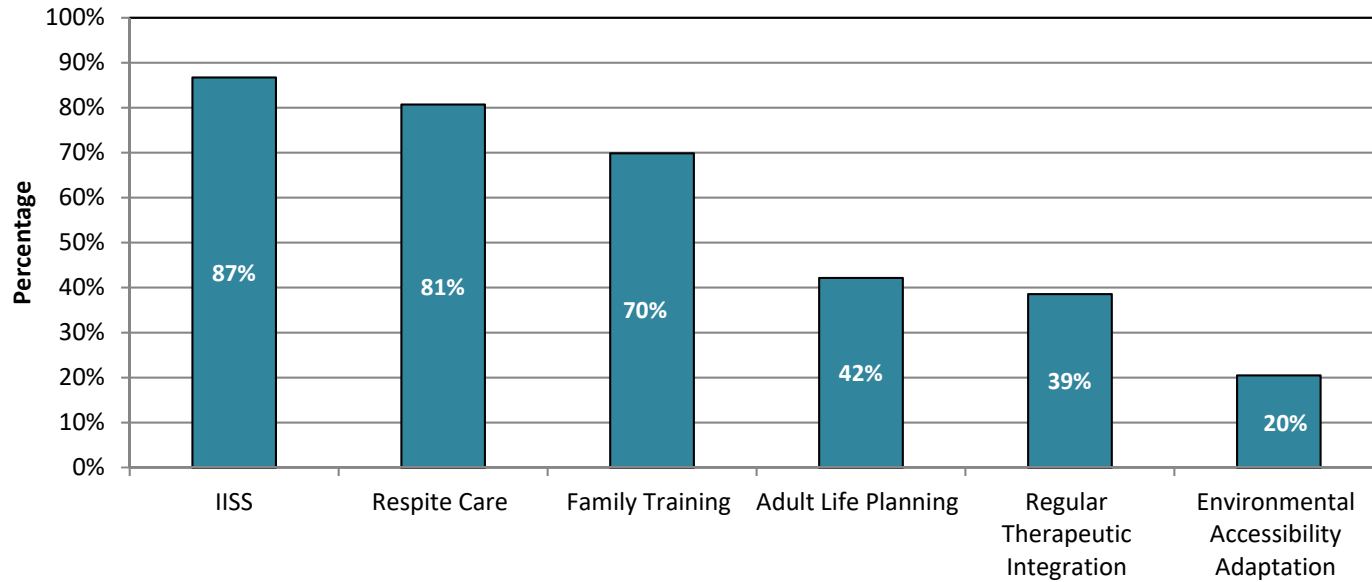
*Regions: **Eastern Shore:** Caroline County, Cecil County, Dorchester County, Kent County, Queen Anne’s County, Somerset County, Talbot County, Wicomico County, Worcester County; **Suburban Baltimore:** Anne Arundel County, Baltimore County, Baltimore City, Carroll County, Harford County, Howard County; **Southern Maryland:** Charles County, Calvert County, St. Mary’s County; **Washington Suburban:** Montgomery County, Prince George’s County, Frederick County; **Western Maryland:** Allegany County, Garrett County, Washington County.

Note: The percentage of participants is based on the number of participants who used the service over the total number of waiver participants in that region. The percentage of Adult Life Planning participants is based on participants 16 and older in each region. Numbers have been rounded to the nearest tenth.

Source: DSS

Intensive individual supports services (IISS) was used by the highest proportion of participants in all regions. Family training was the second-most-used service by participants in the Eastern Shore and Suburban Baltimore regions, while respite was the second-most-used service by participants in Southern and Western Maryland. These two services were both used by 84% of participants in the Washington Suburban region.

Figure 24. Service Utilization for Autism Waiver Participants Aged 20 and Older, FY 2015

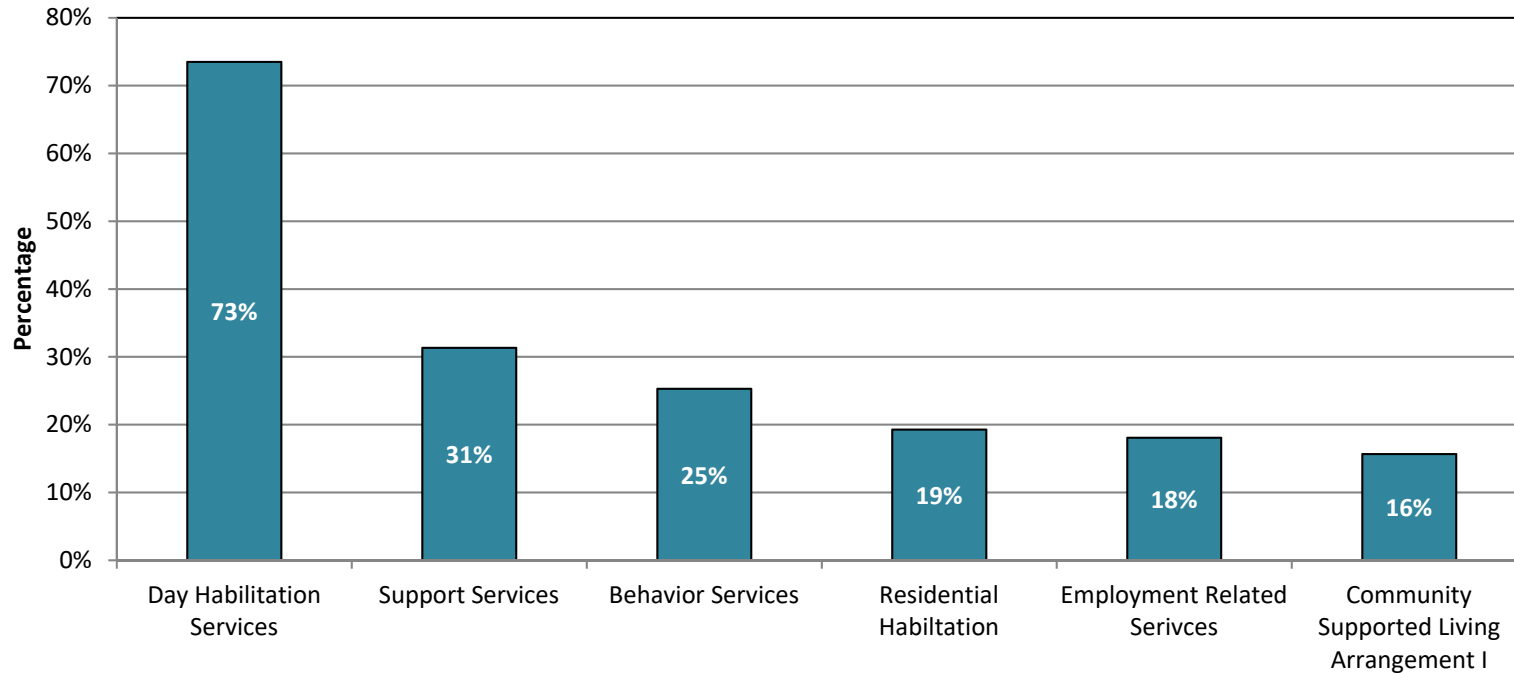


Note: Less than 10% of participants used intensive residential habilitation, intensive therapeutic integration, and intensive family leave. These numbers have been excluded due to small cell sizes.

Source: MMIS2

A total of 83 Autism Waiver participants used services during FY 2015 and transitioned to the Community Pathways Waiver in FY 2016. IISS was used by 87% of this group, followed by respite care (81%). The next figure examines this population’s service utilization during their first year in the Community Pathways Waiver.

Figure 25. Former Autism Waiver Participants’* Service Usage in FY 2016 in the Community Pathways Waiver



*These participants were 20 or older during FY 2015 and received Autism Waiver services that year.

Notes: Less than 10% of participants used supports broker, transition services, transportation services, and respite care. These numbers have been excluded due to small cell sizes. In addition, due to space limitations and small cell sizes, some categories have been combined: **Behavior services** includes behavior consultation, behavior support services, and behavior assessments. **Day habilitation** services includes day habilitation and adult day care. **Employment-related services** includes supported employment and community learning services. **Residential habilitation** includes residential habilitation and the residential retainer fee. **Supports Services** includes family and individual supports and personal supports.

Source: MMIS2

Eighty-three Autism Waiver participants aged 20 and older who utilized services during FY 2015 transitioned to the Community Pathways Waiver in FY 2016. Figure 24 illustrated the services used during this group’s last year in the Autism Waiver; this figure examines the services used by this same group during their first year in the Community Pathways Waiver. The most-used service was day habilitation at 73%, followed by support services at 31%. It is interesting to note that, for 96% of these participants, there was no gap in services when transitioning to the Community Pathways Waiver. This means that the individual received services as an Autism Waiver participant one day and received services as a Community Pathways Waiver participant the very next day.

Figure 26. Summary Statistics for Residential Habilitation Users, FY 2016*

Age/Time in Waiver at First Residential Habilitation Service	Age/Time in Years
Age at first residential habilitation service	
Average age	16
Minimum age	8
Maximum age	20
Time in waiver at first residential habilitation service	
Average number of years	8
Minimum number of years	.16
Maximum number of years	14

* The first year of residential habilitation use varies for these FY 2016 users.

Source: MMIS2

FY 2016 residential habilitation users (n=36) first started receiving residential habilitation services at an average age of 16 years. The youngest first-time residential habilitation user was eight years old, while the oldest was 20 years old.

The average time spent in the Autism Waiver prior to receiving residential habilitation services was eight years. The shortest time a user was in the waiver prior to receiving residential habilitation services was .16 years (60 days), while the longest time was 14 years.

Figure 27. Autism Waiver Service Use in the Year Prior to First Residential Habilitation Use, FY 2016*

Service	Average Units of Service Per User Per Day
Adult Life Planning	4
Environmental Accessibility Adaptation	1
Family Leave- Intensive	1
Family Training	3
IISS	8
Respite Care	9
Therapeutic Integration- Intensive	7
Therapeutic Integration- Regular	7

* The first year of residential habilitation use varies for these FY 2016 users.

Source: MMIS

Figure 28. Expenditures for Services Used in the Year Prior to First Residential Habilitation Use, FY 2016*

Service	PMPY Service Expenditures
Adult Life Planning	\$351
Environmental Accessibility Adaptation	\$1,591
Family Leave- Intensive	\$384
Family Training	\$1,881
IISS	\$20,866
Respite Care	\$4,864
Therapeutic Integration- Intensive	\$1,497
Therapeutic Integration- Regular	\$7,965

*The first year of residential habilitation use varies for these FY 2016 users.

Source: MMIS

In FY 2016, 36 Autism Waiver participants used Residential Habilitation services. This group used eight waiver services in the year prior to their first residential habilitation use (this year varies by participant). The number of units of service per user per day was highest for respite care (9), followed by IISS (8).

At \$20,866, IISS had the highest PMPY expenditures of the services used prior to an FY 2016 residential habilitation user's first residential habilitation use.

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