



# How Many Medicaid Beneficiaries Receive Long-Term Services and Supports?

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## Executive Summary

Medicaid is the primary source of funding for long-term services and supports (LTSS). In 2012, Medicaid comprised over 60 percent of spending on LTSS across all sources, including private out-of-pocket costs.<sup>1</sup> Within Medicaid, LTSS accounted for one-third of Medicaid expenditures during Federal Fiscal Year 2012.<sup>2</sup> Understanding Medicaid LTSS utilization is essential for discussions of LTSS and Medicaid policy. However, reports of the number of people receiving Medicaid LTSS have generally not been available or did not provide state-level data. The latter is particularly important given state flexibility in Medicaid program administration. This report is a comprehensive account of the number of individuals in each state who received Medicaid-funded LTSS in 2010. It was produced through a collaborative effort of Truven Health Analytics, Mathematica Policy Research, and the Centers for Medicare & Medicaid Services.

Almost 4.9 million people received Medicaid-funded LTSS during calendar year 2010. More than 3.2 million of them (66 percent) only received home and community-based services (HCBS). Over 1.4 million individuals (29 percent) only received institutional services. Five percent of Medicaid LTSS beneficiaries received both HCBS and institutional services during the year (231,000). In a majority of states, 60 to 80 percent of LTSS beneficiaries used HCBS, including people who also received institutional services. In analyses by population, services targeting people with developmental disabilities served a greater percentage of people using HCBS than services associated with other populations.

The data in this report were obtained from the Medicaid Analytic eXtract (MAX) files. This source contained data for services provided in calendar year 2010. We compared these data to previously published reports for particular types of LTSS. Appendix A describes the data and methods used in this report.

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<sup>1</sup> O'Shaughnessy, C. 2014. *The Basics: National Spending for Long-Term Services and Supports (LTSS), 2012*. Washington, D.C.: National Health Policy Forum. [http://www.nhpf.org/library/the-basics/Basics\\_LTSS\\_03-27-14.pdf](http://www.nhpf.org/library/the-basics/Basics_LTSS_03-27-14.pdf).

<sup>2</sup> Eiken S, Sredl K, Gold L, Kasten J, Burwell B, and Saucier P. *Medicaid Expenditures for Long-Term Services and Supports in FFY 2012* April 28, 2014. Available on-line at <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Long-Term-Services-and-Supports/Long-Term-Services-and-Supports.html>.

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## Abbreviations Used

A/D	Aging/Physical Disabilities
CMS	Centers for Medicare & Medicaid Services
DD	Developmental Disabilities
HCBS	Home and Community-Based Services
LTSS	Long-Term Services and Supports
MACPAC	Medicaid and CHIP Payment and Access Commission
MAX	Medicaid Analytic eXtract
OSCAR	Online Survey, Certification and Reporting system
PACE	Program of All-Inclusive Care for the Elderly
PDN	Private Duty Nursing
SED	Serious Emotional Disturbance
SMI	Serious Mental Illness
TCM	Targeted Case Management

## Acknowledgement

Data for this study were compiled from the 2010 Medicaid Analytical eXtract (MAX) by a team at Mathematica Policy Research led by Carol Irvin. The methods used by the Mathematica team are described in Appendix A.

## Introduction

Medicaid is the primary source of funding for people in need of long-term services and supports (LTSS). In 2012, Medicaid accounted for over 60 percent of total spending on LTSS across all sources, including private out-of-pocket spending.<sup>3</sup> Similarly, LTSS represents a significant portion of the Medicaid program, comprising one-third of Medicaid expenditures in Federal Fiscal Year (FFY) 2012.<sup>4</sup> Understanding the utilization of Medicaid LTSS is essential to inform discussions of LTSS and Medicaid policy. While data on Medicaid spending for LTSS have been available for many years,<sup>5</sup> counts of the number of people receiving LTSS under Medicaid have generally not been available or have not provided state-level data. The latter is particularly important given state flexibility in Medicaid program administration.

This report is a comprehensive account of the number of individuals in each state who received Medicaid-funded LTSS in 2010. It was produced through a collaborative effort of Truven Health Analytics, Mathematica Policy Research, and the Centers for Medicare & Medicaid Services (CMS). The data source is the Medicaid Analytic eXtract (MAX), a set of Medicaid administrative data files designed to facilitate Medicaid research. Appendix A describes this data source and compares components of the data to previously published benchmarks for particular types of LTSS.

This report serves as a starting point for estimating the number of Medicaid LTSS beneficiaries. We expect estimates will improve in the future. Discerning the number of people who receive Medicaid-funded LTSS is difficult for several reasons. First, LTSS are covered through a variety of mandatory and optional service categories under Medicaid. Some categories are broadly defined and include both LTSS and non-LTSS. Second, although Medicaid enrollment and claims data are logical sources for Medicaid LTSS utilization, not all states have submitted complete and timely data. Third, persons

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<sup>3</sup> O'Shaughnessy, C. 2014. *The Basics: National Spending for Long-Term Services and Supports (LTSS), 2012*. Washington, D.C.: National Health Policy Forum. [http://www.nhpf.org/library/the-basics/Basics\\_LTSS\\_03-27-14.pdf](http://www.nhpf.org/library/the-basics/Basics_LTSS_03-27-14.pdf).

<sup>4</sup> Eiken S, Sredl K, Gold L, Kasten J, Burwell B, and Saucier P. *Medicaid Expenditures for Long-Term Services and Supports in FFY 2012* April 28, 2014. Available on-line at <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Long-Term-Services-and-Supports/Long-Term-Services-and-Supports.html>.

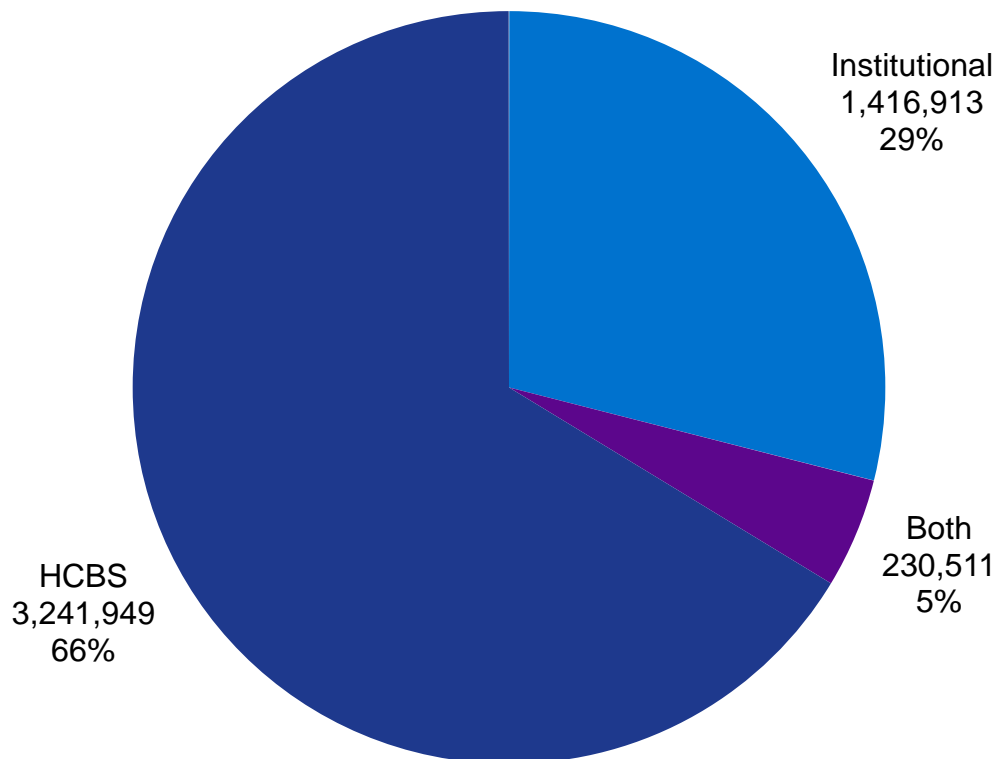
<sup>5</sup> *Ibid.*

receiving LTSS often receive multiple types of LTSS. For example, some people move from one LTSS setting to another. Analytic resources must be applied to avoid double-counting these persons. Last but not least, there is no uniform definition of the Medicaid LTSS population in regard to type of disability, services received, duration of services, or service setting.

## National Beneficiary Data Summary

An estimated 4.9 million people received Medicaid-funded LTSS during calendar year 2010. Figure 1 shows the distribution of LTSS beneficiaries among institutional services and home and community-based services (HCBS).

**Figure 1. Number and Percentage of Medicaid LTSS Beneficiaries Receiving Institutional Services and HCBS, 2010**



Source: Medicaid Analytic eXtract (MAX). MAX does not include 2010 data for Kansas and Maine.

Data do not include LTSS beneficiaries enrolled in comprehensive managed care plans.

Almost two-thirds of LTSS beneficiaries only received community services (3.2 million). About 30 percent only received institutional services (1.4 million). Five percent (231,000) received both HCBS and institutional services during the year, indicating a relatively small number of people moved from one type of setting to the other.

While a majority of LTSS beneficiaries received HCBS, only 48 percent of LTSS expenditures were for HCBS during a similar time period, FFY 2010 (October 2009 through September 2010).<sup>6</sup> The smaller portion of LTSS spending for HCBS is consistent with previous research findings, which indicated HCBS have lower average cost per person than institutional services for the same population.<sup>7</sup>

The number of LTSS participants in this report is 15 percent more than the number of LTSS beneficiaries in a report of national data for FFY 2010. A report by the Medicaid and CHIP Payment and Access Commission (MACPAC) identified 4.2 million beneficiaries.<sup>8</sup> HCBS participant data account for almost 90 percent of the difference. Differences in the specification of HCBS likely explain the difference in HCBS beneficiary totals. The MACPAC report included 1915(c) waivers, similar services provided in 1115 demonstrations, and two Medicaid state plan benefits: personal care and home health.<sup>9</sup> This report includes all services in the MACPAC study plus these additional services: targeted case management, rehabilitation services, adult day care, private duty nursing, and the Program for All-Inclusive Care for the Elderly (PACE).

In addition, the reports may vary because they use different dates of service and different sources. This report provides data for calendar year 2010 while the MACPAC report studied FFY 2010. MACPAC used files from the Medicaid Statistical Information System (MSIS). MSIS data are the source data for MAX, the source for this analysis.

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<sup>6</sup> *Ibid.*

<sup>7</sup> Larson S, Ryan A, Salmi P, Smith D, and Wourio A. *Residential Services for Persons with Intellectual and Developmental Disabilities: Status and Trends Through Fiscal Year 2011* 2012. Available on-line at <http://rtc3.umn.edu/risp/reports/> and Reinhard S, Kassner E, Houser A, Ujvari K, Mollica R, and Hendrickson L. *Raising Expectations: A State Scorecard on Long-Term Services and Supports for Older Adults, People with Physical Disabilities, and Family Caregivers* Second Edition. 2014. Available on-line at <http://www.longtermscorecard.org>.

<sup>8</sup> Medicaid and CHIP Payment and Access Commission (MACPAC) *Report to the Congress on Medicaid and CHIP* June 2014. Available on-line at <http://www.macpac.gov/reports>.

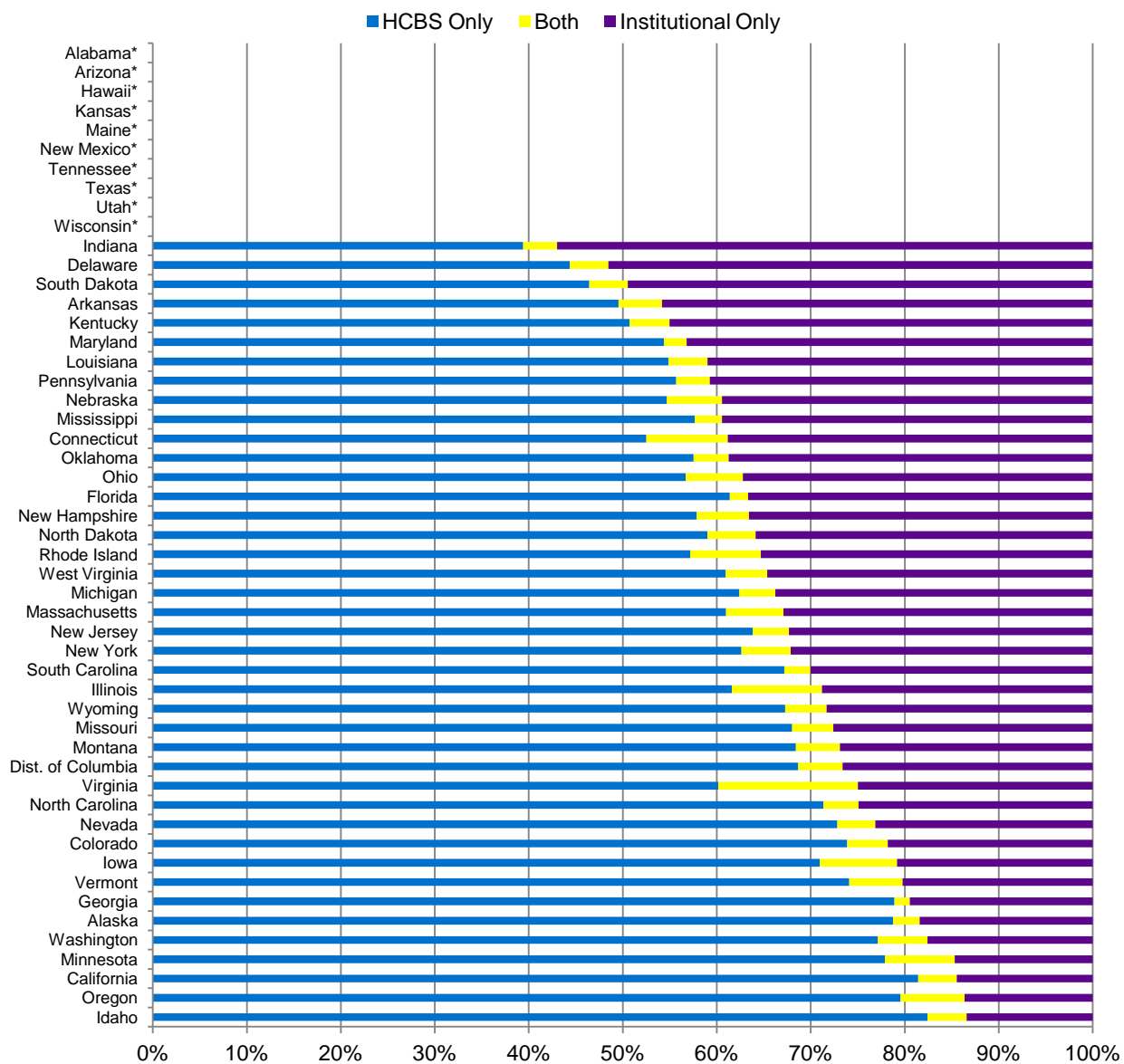
<sup>9</sup> *Ibid.*



## State Beneficiary Data Summary

In most states, a majority of LTSS beneficiaries received only HCBS (see Figure 2). In Indiana and Delaware, a majority received only institutional services.

**Figure 2. Percentage of Medicaid LTSS Beneficiaries who Received HCBS and Institutional Services by State, 2010**



Source: Medicaid Analytic eExtract (MAX). Data do not include LTSS beneficiaries enrolled in comprehensive managed care plans.

\* Data for these states are not included because data are unavailable, a data anomaly exists, or data in an available benchmark indicate the number of beneficiaries is at least 50% greater than the number of beneficiaries in MAX data. See Appendix A for more information.

Idaho, Oregon, California, and Minnesota provided HCBS to more than 85 percent of all Medicaid LTSS beneficiaries, including people who also received institutional services. The percentage of beneficiaries who received HCBS was between 60 and 80 percent for the majority of states (25 states and the District of Columbia). As explained in Table 1 on the following pages, 10 states were excluded from the state-level analysis. States were excluded for four reasons:

- Missing claims data in Kansas and Maine
- A data anomaly in Alabama
- Data from available benchmarks for institutional services that showed at least 50 percent more beneficiaries than the data from MAX for Hawaii
- Data from available benchmarks for three types of HCBS that showed at least 50 percent more beneficiaries than the data from MAX for Arizona, New Mexico, Tennessee, Texas, Utah, and Wisconsin

**Table 1: Beneficiaries who Received Any Type of Medicaid Long-Term Services and Supports, 2010**

	Total Unduplicated	Total Institutional Only <sup>1</sup>	Percent Institutional Only	Total HCBS Only <sup>2</sup>	Percent HCBS Only	Total Both Institutional and HCBS	Percent Both
Alabama <sup>3, 4</sup>	173,539	22,422	12.9%	145,587	83.9%	5,530	3.2%
Alaska	9,914	1,824	18.4%	7,807	78.7%	283	2.9%
Arizona <sup>5</sup>	19,475	19,220	98.7%	221	1.1%	34	0.2%
Arkansas	53,072	24,328	45.8%	26,298	49.6%	2,446	4.6%
California	769,741	111,348	14.5%	626,916	81.4%	31,477	4.1%
Colorado	57,336	12,502	21.8%	42,351	73.9%	2,483	4.3%
Connecticut	66,807	25,941	38.8%	35,087	52.5%	5,779	8.7%
Delaware	8,764	4,517	51.5%	3,888	44.4%	359	4.1%
Dist. of Columbia <sup>4</sup>	15,036	4,002	26.6%	10,323	68.7%	711	4.7%
Florida	183,784	67,377	36.7%	112,827	61.4%	3,580	1.9%
Georgia	178,850	34,823	19.5%	141,124	78.9%	2,903	1.6%
Hawaii <sup>4, 6</sup>	3,795	209	5.5%	3,499	92.2%	87	2.3%
Idaho	26,159	3,511	13.4%	21,563	82.4%	1,085	4.1%
Illinois <sup>4</sup>	233,110	67,180	28.8%	143,587	61.6%	22,343	9.6%
Indiana	71,916	40,987	57.0%	28,326	39.4%	2,603	3.6%
Iowa <sup>4</sup>	71,121	14,801	20.8%	50,459	70.9%	5,861	8.2%
Kansas <sup>7</sup>	-	-	-	-	-	-	-
Kentucky <sup>4</sup>	64,121	28,879	45.0%	32,517	50.7%	2,725	4.2%
Louisiana <sup>4</sup>	98,772	40,489	41.0%	54,177	54.9%	4,106	4.2%
Maine <sup>7</sup>	-	-	-	-	-	-	-
Maryland	57,431	24,817	43.2%	31,240	54.4%	1,374	2.4%
Massachusetts	127,015	41,813	32.9%	77,450	61.0%	7,752	6.1%
Michigan	145,831	49,266	33.8%	91,016	62.4%	5,549	3.8%
Minnesota <sup>4</sup>	140,082	20,586	14.7%	109,086	77.9%	10,410	7.4%
Mississippi	58,909	23,235	39.4%	33,970	57.7%	1,704	2.9%
Missouri	114,688	31,675	27.6%	78,018	68.0%	4,995	4.4%
Montana	16,698	4,489	26.9%	11,427	68.4%	782	4.7%
Nebraska	26,302	10,376	39.4%	14,386	54.7%	1,540	5.9%
Nevada	22,026	5,092	23.1%	16,041	72.8%	893	4.1%
New Hampshire	17,663	6,462	36.6%	10,224	57.9%	977	5.5%
New Jersey	124,637	40,270	32.3%	79,559	63.8%	4,808	3.9%
New Mexico <sup>5</sup>	16,023	8,261	51.6%	7,591	47.4%	171	1.1%
New York	420,213	135,090	32.1%	263,102	62.6%	22,021	5.2%
North Carolina	165,238	41,172	24.9%	117,913	71.4%	6,153	3.7%

	Total Unduplicated	Total Institutional Only <sup>1</sup>	Percent Institutional Only	Total HCBS Only <sup>2</sup>	Percent HCBS Only	Total Both Institutional and HCBS	Percent Both
North Dakota	13,319	4,778	35.9%	7,860	59.0%	681	5.1%
Ohio	207,516	77,223	37.2%	117,692	56.7%	12,601	6.1%
Oklahoma	60,525	23,451	38.7%	34,814	57.5%	2,260	3.7%
Oregon	56,930	7,759	13.6%	45,284	79.5%	3,887	6.8%
Pennsylvania	196,647	80,124	40.7%	109,492	55.7%	7,031	3.6%
Rhode Island <sup>4</sup>	22,674	8,006	35.3%	12,967	57.2%	1,701	7.5%
South Carolina	58,391	17,537	30.0%	39,229	67.2%	1,625	2.8%
South Dakota <sup>4</sup>	12,060	5,965	49.5%	5,598	46.4%	497	4.1%
Tennessee <sup>5</sup>	51,081	33,557	65.7%	16,638	32.6%	886	1.7%
Texas <sup>5</sup>	340,889	102,200	30.0%	224,427	65.8%	14,262	4.2%
Utah <sup>5, 8</sup>	14,423	5,704	39.5%	8,719	60.5%	-	0.0%
Vermont	14,590	2,954	20.2%	10,809	74.1%	827	5.7%
Virginia <sup>4</sup>	74,566	18,618	25.0%	44,859	60.2%	11,089	14.9%
Washington	97,245	17,107	17.6%	75,006	77.1%	5,132	5.3%
West Virginia	36,077	12,494	34.6%	21,996	61.0%	1,587	4.4%
Wisconsin <sup>5</sup>	65,657	30,005	45.7%	33,116	50.4%	2,536	3.9%
Wyoming	8,715	2,467	28.3%	5,863	67.3%	385	4.4%
<b>United States</b>	<b>4,889,373</b>	<b>1,416,913</b>	<b>29.0%</b>	<b>3,241,949</b>	<b>66.3%</b>	<b>230,511</b>	<b>4.7%</b>

Data Source: Medicaid Analytic eXtract (MAX)

<sup>1</sup> Institutional services include nursing facilities, intermediate care facilities for individuals with intellectual disabilities, inpatient psychiatric facilities for individuals under age 21, and mental hospital services for older adults.

<sup>2</sup> HCBS include 1915(c) waivers, services similar to 1915(c) waiver services provided in an 1115 demonstration, targeted case management, personal care services, home health, rehabilitation services, adult day care, private duty nursing, and the Program for All-Inclusive Care for the Elderly.

<sup>3</sup> Alabama was not included in state-level analysis because the number of private duty nursing beneficiaries is 100,000 more than the next highest state. The reason for this data anomaly is not known.

<sup>4</sup> The sum of beneficiaries using 1915(c) waiver, personal care, and home health services in available benchmarks differs from the sum of beneficiaries in this MAX analysis by more than 20 percent. See Tables A-3, A-4, and A-5 for benchmarks.

<sup>5</sup> This state is not included in state-level analysis because the sum of beneficiaries using 1915(c) waiver, personal care, and home health services in available benchmarks is more than 50 percent greater than the sum of beneficiaries in this MAX analysis. See Tables A-3, A-4, and A-5 for benchmarks.

<sup>6</sup> This state is not included in state-level analysis because the sum of beneficiaries using nursing facility and ICF/IID in available point-in-time benchmarks is more than 50 percent greater than the sum of beneficiaries in this MAX analysis. See Tables A-1 and A-2 for benchmarks.

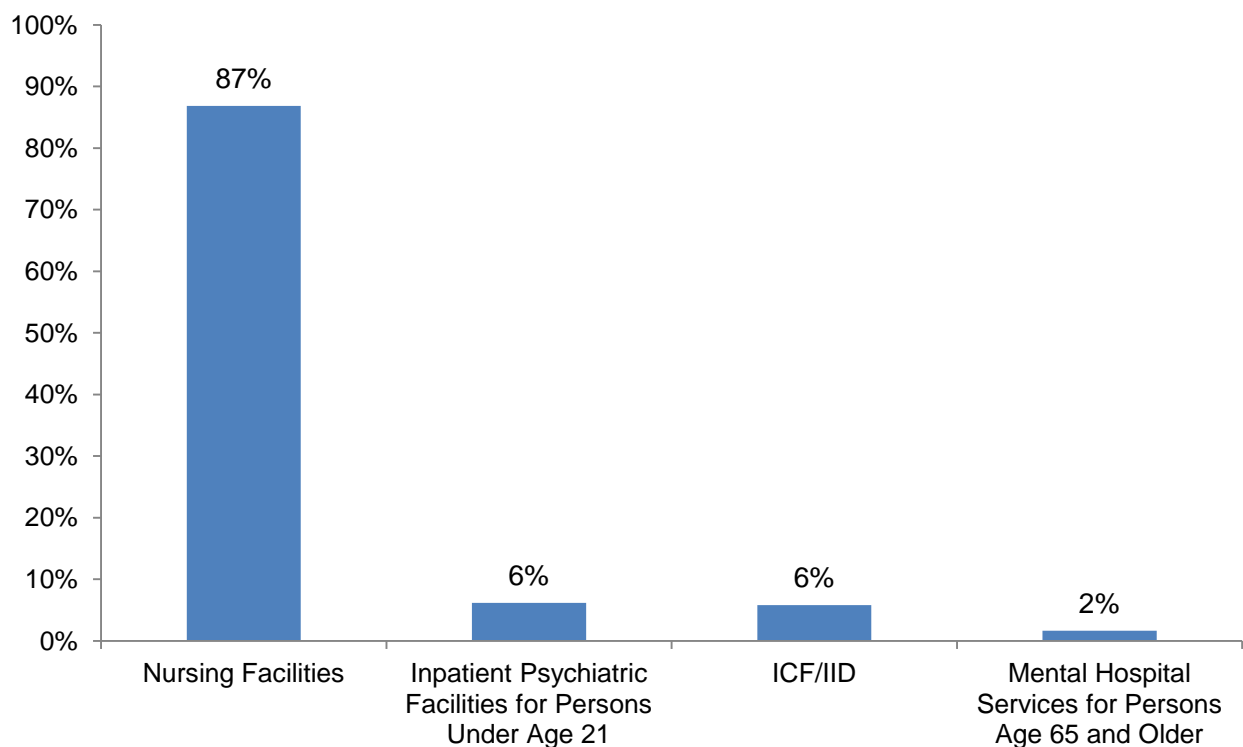
<sup>7</sup> MAX does not include 2010 data for Kansas and Maine. These states are not included in state-level analysis.

<sup>8</sup> MAX does not include 2010 data for Utah, but Utah data were available in a validation file used to develop MAX. The number of beneficiaries who received more than one type of service could not be obtained using the validation file. As a result, Utah beneficiary data include duplicates. People who received more than one type of service are counted multiple times.

## Beneficiaries by Type of Institutional Service

Four types of institutional LTSS were identified in this analysis: nursing facilities, intermediate care facilities for individuals with intellectual disabilities (ICF/IID), inpatient psychiatric facilities for people under age 21, and mental hospital services for people age 65 and older. Figure 3 shows the percentage of total institutional beneficiaries—including people who also received HCBS—who received each type of service.

**Figure 3: Percentage of Medicaid Institutional LTSS Beneficiaries who Received Each Type of Institutional Service, 2010**



Source: Medicaid Analytic eXtract (MAX). MAX does not include 2010 data for Kansas and Maine. Data do not include LTSS beneficiaries enrolled in comprehensive managed care plans.

Percentages exceed 100% because some individuals received more than one type of institutional LTSS.

Table 2 on the following pages presents state institutional LTSS beneficiary data. Nursing facility residents were a majority of institutional LTSS beneficiaries in all states except Alaska, where a majority were in inpatient psychiatric facilities for children under age 21. Nursing facility residents exceeded 95 percent of institutional LTSS

beneficiaries in Colorado, Missouri, and Rhode Island. In 24 states, nursing facilities accounted for 80 to 90 percent of all institutional LTSS beneficiaries.

**Table 2: Beneficiaries who Received Medicaid Institutional Long-Term Services and Supports: 2010**

	Total Institutional <sup>1</sup>	Nursing Facilities	Inpatient Psychiatric Facilities for Persons Under Age 21	ICF/IID <sup>2</sup>	Mental Hospital Services for Persons Age 65 and Older
Alabama	27,952	25,278	2,375	216	180
Alaska <sup>3</sup>	2,107	914	1,174	12	9
Arizona <sup>3</sup>	19,254	17,478	1,697	0	108
Arkansas	26,774	19,070	6,114	1,678	0
California	142,825	133,532	102	9,796	0
Colorado	14,985	14,704	44	221	24
Connecticut	31,720	29,084	1,532	1,103	86
Delaware	4,876	3,944	19	132	814
Dist. of Columbia <sup>3</sup>	4,713	3,533	446	656	92
Florida	70,957	68,077	0	2,830	85
Georgia <sup>3</sup>	37,726	36,312	0	1,436	0
Hawaii <sup>4</sup>	296	211	0	85	0
Idaho <sup>3</sup>	4,596	3,569	398	686	0
Illinois	89,523	72,167	7,551	8,730	1,736
Indiana	43,590	37,106	2,320	4,207	108
Iowa	20,662	17,561	934	2,198	58
Kansas <sup>5</sup>	-	-	-	-	-
Kentucky	31,604	26,964	3,894	605	367
Louisiana	44,595	27,346	4,365	5,315	9,255
Maine <sup>5</sup>	-	-	-	-	-
Maryland	26,191	23,486	2,526	154	31
Massachusetts	49,565	46,856	318	835	1,713
Michigan <sup>3</sup>	54,815	48,860	5,754	12	273
Minnesota <sup>3</sup>	30,996	27,635	611	2,761	58
Mississippi	24,939	18,968	3,109	2,879	94
Missouri	36,670	35,754	181	739	6
Montana <sup>3</sup>	5,271	4,767	396	71	55
Nebraska <sup>3</sup>	11,916	10,394	1,268	257	0
Nevada	5,985	4,625	1,246	111	11
New Hampshire <sup>3</sup>	7,439	7,023	376	43	0
New Jersey	45,078	40,406	1,781	2,715	289

	Total Institutional <sup>1</sup>	Nursing Facilities	Inpatient Psychiatric Facilities for Persons Under Age 21	ICF/IID <sup>2</sup>	Mental Hospital Services for Persons Age 65 and Older
New Mexico	8,432	6,230	1,925	275	54
New York	157,111	134,167	12,570	8,702	3,040
North Carolina	47,325	40,220	3,023	4,115	77
North Dakota	5,459	4,762	99	604	12
Ohio	89,824	80,417	2,195	7,442	36
Oklahoma	25,711	19,672	4,409	1,732	178
Oregon <sup>3</sup>	11,646	10,251	1,380	0	18
Pennsylvania	87,155	79,270	1,503	3,741	2,937
Rhode Island	9,707	9,451	127	41	125
South Carolina	19,162	16,242	1,297	1,484	187
South Dakota	6,462	5,383	840	172	104
Tennessee	34,443	30,440	2,781	1,110	199
Texas	116,462	93,344	12,127	11,176	122
Utah <sup>6</sup>	5,704	4,772	106	815	11
Vermont	3,781	3,561	0	7	216
Virginia	29,707	26,643	916	1,690	975
Washington <sup>3</sup>	22,239	18,803	858	60	2,607
West Virginia	14,081	11,074	1,878	549	661
Wisconsin <sup>3</sup>	32,541	28,387	2,736	1,248	252
Wyoming	2,852	2,311	451	89	1
United States	1,647,424	1,431,024	101,752	95,535	27,264

Data Source: Medicaid Analytic eXtract (MAX)

<sup>1</sup> Total Institutional is the unduplicated total of beneficiaries who received one or more institutional services.

<sup>2</sup> ICF/IID is an abbreviation for Intermediate Care Facilities for Individuals with Intellectual Disabilities

<sup>3</sup> The number of ICF/IID beneficiaries in an available point-in-time benchmark differs from the number of beneficiaries in this MAX analysis by more than 20 percent. See Table A-2 for the benchmark.

<sup>4</sup> The number of beneficiaries using nursing facilities in this MAX analysis is lower than an available point-in-time benchmarks. See Table A-1 for the benchmark.

<sup>5</sup> MAX does not include 2010 data for Kansas and Maine.

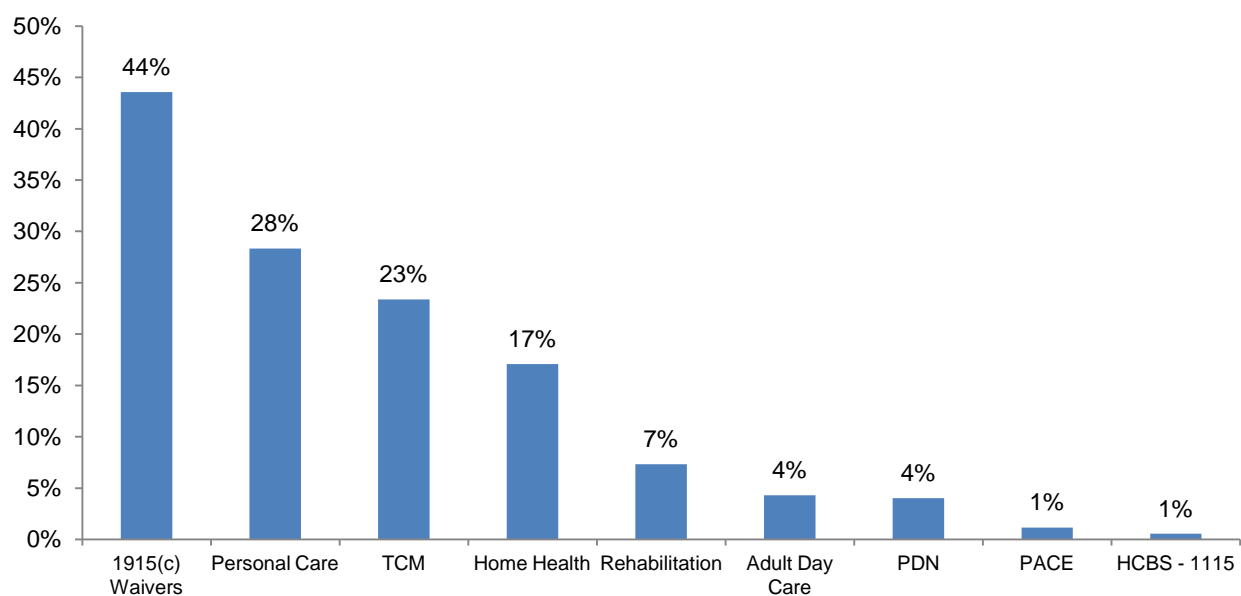
<sup>6</sup> MAX does not include 2010 data for Utah, but Utah data were available in a validation file used to develop MAX. The number of beneficiaries who received more than one type of service could not be obtained using the validation file. As a result, Utah Total Institutional data include duplicates. People who received more than one type of service are counted multiple times.

## Beneficiaries by Type of HCBS

Nine types of HCBS benefits were identified in this analysis, including 1915(c) waivers, 1115 demonstrations that provide similar HCBS, and seven state plan services: personal care, targeted case management, home health, rehabilitation services, adult day care, private duty nursing, and PACE. Two state plan HCBS options used by states during 2010—HCBS authorized under Sections 1915(i) and 1915(j)—were not identified in MAX data, so they were not included in this analysis.<sup>10</sup>

The most common type of HCBS was 1915(c) waivers, used by 44 percent of total HCBS beneficiaries (see Figure 4). Total HCBS beneficiaries include people who also received institutional services. State plan personal care (28 percent) and targeted case management (23 percent) were the next most common types of HCBS.

**Figure 4: Percentage of Medicaid HCBS Beneficiaries who Received Each Type of HCBS, 2010**



Source: Medicaid Analytic eXtract (MAX). MAX does not include 2010 data for Kansas and Maine. Data do not include LTSS beneficiaries enrolled in comprehensive managed care plans.

Percentages exceed 100% because some individuals received more than one type of HCBS.

Abbreviations: TCM - Targeted Case Management; PDN - Private Duty Nursing .

<sup>10</sup> HCBS authorized in Sections 1915(i) and 1915(j) are included in data states submit in the Transformed Medicaid Statistical Information System (T-MSIS) and will be available for analyses based on T-MSIS.



The sum of people who received each type of HCBS was 30 percent more than the unduplicated total of HCBS participants. This means that many people received more than one type of HCBS. This could happen for several reasons, including states' design of their 1915(c) waiver programs. For example, some waivers specify that participants also receive state plan targeted case management. Also, a person may receive a limited amount of home health or personal care in the state plan, and then additional hours covered by a 1915(c) waiver as extended state plan services.

As shown in Table 3 on the following pages, section 1915(c) waivers were the most common type of HCBS in 32 states. Other states served more individuals in personal care, targeted case management, home health, and 1115 demonstrations that provide HCBS.

**Table 3: Beneficiaries who Received Medicaid HCBS, 2010**

	Total HCBS <sup>1</sup>	1915(c) Waivers	Personal Care Services	Targeted Case Management	Home Health	Rehabilitation Services	Adult Day Care	Private Duty Nursing	PACE	HCBS - 1115
Alabama <sup>2,3</sup>	151,117	15,165	0	19,130	17,839	3,492	0	115,378	0	0
Alaska	8,090	5,624	4,211	156	278	15	0	13	0	0
Arizona <sup>3</sup>	255	0	0	0	255	0	0	0	0	255
Arkansas	28,744	14,886	14,299	10,828	6,011	32	0	96	52	0
California	658,393	109,525	486,219	171,372	25,643	45,993	45,686	141	2,836	0
Colorado	44,834	38,412	0	0	11,736	1,090	0	239	2,213	0
Connecticut	40,866	23,595	285	15,400	24,947	0	1	0	0	0
Delaware	4,247	3,003	0	0	974	681	0	46	0	0
Dist. of Columbia <sup>3,4,5</sup>	11,034	5,804	6,430	0	6,907	2,213	0	0	0	0
Florida <sup>4</sup>	116,407	82,883	0	22,532	17,977	1,247	0	0	541	0
Georgia	144,027	44,799	0	116,338	6,533	0	1,894	1,115	0	0
Hawaii <sup>3,5</sup>	3,586	3,422	0	1,950	41	1	1	130	23	0
Idaho <sup>4</sup>	22,648	14,280	4,663	9,922	1,850	2,360	1,362	3,160	0	0
Illinois <sup>4,5</sup>	165,930	119,939	2,160	37,652	13,819	1,361	0	576	0	0
Indiana	30,929	23,967	0	1,891	10,407	488	0	0	0	0
Iowa <sup>3</sup>	56,320	29,931	0	11,801	35,759	1,502	1,352	0	106	0
Kansas <sup>6</sup>	-	-	-	-	-	-	-	-	-	-
Kentucky <sup>3</sup>	35,242	20,226	0	10,338	8,265	55	0	0	0	0
Louisiana <sup>5</sup>	58,283	32,952	19,892	10,847	11,251	0	3	0	276	0
Maine <sup>6</sup>	-	-	-	-	-	-	-	-	-	-
Maryland <sup>3</sup>	32,614	22,519	5,530	2,161	6,354	351	7,149	852	185	0
Massachusetts <sup>4</sup>	85,202	23,025	15,056	27,151	20,804	0	7,795	0	16,253	0
Michigan <sup>5</sup>	96,565	11,862	78,118	61,362	5,941	1,412	74	2,520	788	0
Minnesota <sup>3</sup>	119,496	60,101	25,435	21,961	55,238	156	0	836	0	0
Mississippi <sup>4</sup>	35,674	17,126	599	16,319	7,763	0	0	51	0	0
Missouri	83,013	29,669	53,711	19,153	6,490	7,389	2,078	527	217	0
Montana	12,209	7,155	3,405	3,482	383	79	226	0	42	0
Nebraska <sup>3</sup>	15,926	10,131	2,391	0	4,170	0	270	143	0	0
Nevada <sup>4</sup>	16,934	4,609	6,666	7,481	629	3,373	586	0	0	0
New Hampshire <sup>4</sup>	11,201	8,548	213	0	3,138	541	142	173	0	0
New Jersey <sup>3,4</sup>	84,367	25,242	33,051	1,354	7,979	16,802	15,926	429	322	0
New Mexico <sup>4,5</sup>	7,762	5,133	1,000	914	242	68	0	35	459	0
New York	285,123	113,429	87,659	7,286	122,056	45,478	32,812	2,236	3,840	0

	Total HCBS <sup>1</sup>	1915(c) Waivers	Personal Care Services	Targeted Case Management	Home Health	Rehabilitation Services	Adult Day Care	Private Duty Nursing	PACE	HCBS - 1115
North Carolina <sup>4</sup>	124,066	25,946	72,433	30,397	39,855	0	2	0	150	0
North Dakota <sup>3, 4, 5</sup>	8,541	6,364	0	359	458	2,479	0	0	60	0
Ohio	130,293	81,828	0	0	36,911	57,083	0	9,798	0	0
Oklahoma <sup>3</sup>	37,074	28,298	3,751	6,288	7,293	0	0	0	80	0
Oregon <sup>3</sup>	49,171	42,642	3,226	509	429	3,277	71	264	931	0
Pennsylvania <sup>3</sup>	116,523	78,694	0	29,354	13,004	6,648	0	70	2,912	0
Rhode Island <sup>3, 4, 7</sup>	14,668	3,602	427	5,727	2,016	3,854	2,593	0	242	8,096
South Carolina <sup>3, 4</sup>	40,854	25,092	2,227	19,248	4,324	4,429	4,904	137	502	0
South Dakota <sup>3, 4</sup>	6,095	4,617	2,996	0	471	413	3	61	0	0
Tennessee <sup>3</sup>	17,524	14,075	0	0	969	2,318	0	0	368	0
Texas <sup>3, 4, 5</sup>	238,689	129,070	9,119	88,717	31,653	16,658	21,799	19	1,128	0
Utah <sup>3, 5, 8</sup>	8,719	345	1,736	4,480	334	1,794	0	0	30	0
Vermont <sup>7</sup>	11,636	6,257	2,594	1,834	3,662	51	0	0	113	10,782
Virginia <sup>3, 4, 5</sup>	55,948	52,298	17	1,606	2,930	807	12	127	754	0
Washington	80,138	51,565	27,646	1,412	3,050	8,887	2,543	98	473	0
West Virginia	23,583	11,854	5,916	779	2,650	4,139	0	621	0	0
Wisconsin <sup>3, 4, 5</sup>	35,652	19,052	765	10,675	479	2,952	0	104	4,630	0
Wyoming	6,248	4,521	0	1,206	600	1,925	0	0	0	0
United States	3,472,460	1,513,082	983,846	811,372	592,767	253,893	149,284	139,995	40,526	19,133

Data Source: Medicaid Analytic eXtract (MAX)

<sup>1</sup> Total HCBS is the unduplicated total of beneficiaries who received one or more HCBS benefits.

<sup>2</sup> Alabama data include 115,378 private duty nursing beneficiaries, which is 100,000 more than the next highest state. The reason for this data anomaly is not known.

<sup>3</sup> The number of home health beneficiaries in an available benchmark differed from the number of beneficiaries in this MAX analysis by more than 20 percent. See Table A-3 for the benchmark.

<sup>4</sup> The number of personal care beneficiaries in an available benchmark differed from the number of beneficiaries in this MAX analysis by more than 20 percent. See Table A-4 for the benchmark.

<sup>5</sup> The number of 1915(c) waiver beneficiaries in available benchmarks differed from the number of beneficiaries in this MAX analysis by more than 20 percent. See Table A-5 for the benchmark.

<sup>6</sup> MAX does not include 2010 data for Kansas and Maine.

<sup>7</sup> Rhode Island and Vermont provide services similar to 1915(c) waivers in 1115 demonstrations. These states categorized these services as 1915(c) waiver services in the Medicaid Statistical Information System (MSIS), the source data for MAX.

<sup>8</sup> MAX does not include 2010 data for Utah, but Utah data were available in a validation file used to develop MAX. The number of beneficiaries who received more than one type of service could not be obtained using the validation file. As a result, Utah Total HCBS data include duplicates. People who received more than one type of service are counted multiple times.

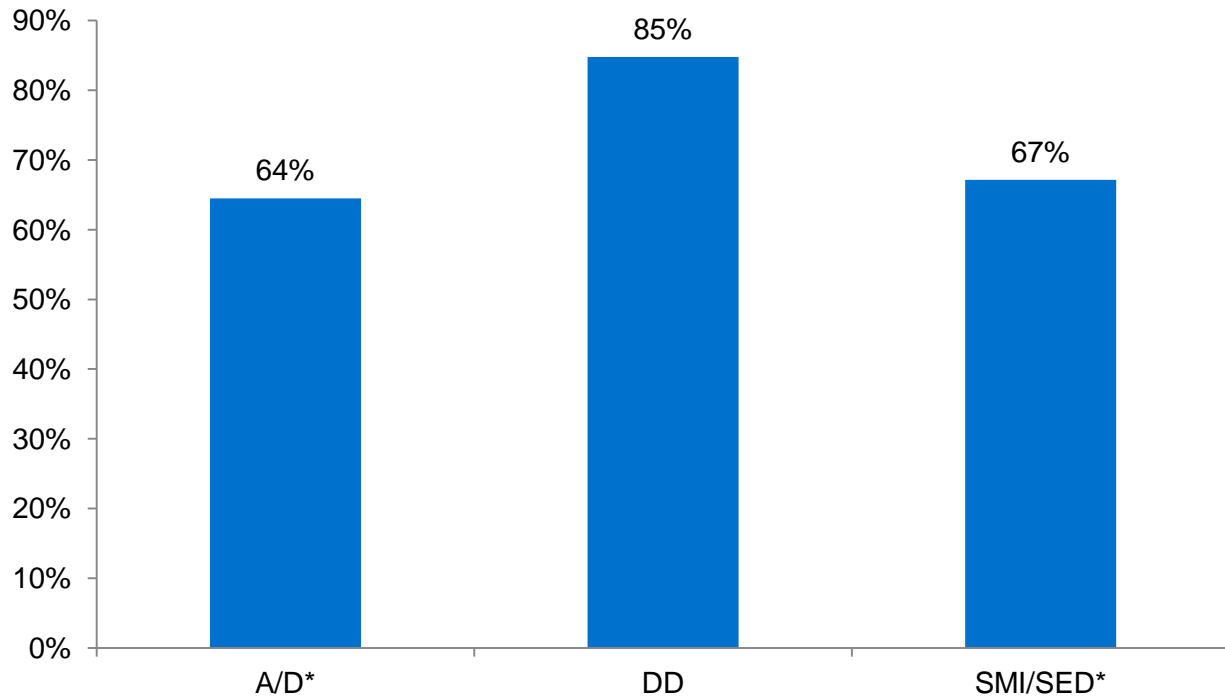
## Beneficiary Data by Target Population

We categorized services for three population groups:

- Older adults and people with physical disabilities (abbreviated A/D for aging/disability)
- People with developmental disabilities (DD)
- Adults with a serious mental illness or children with a serious emotional disturbance (SMI/SED)

As Figure 5 illustrates, people who received services targeting people with developmental disabilities were more likely to receive HCBS than people who received services associated with other populations. Eighty-five percent of beneficiaries who received services for people with developmental disabilities received HCBS.

**Figure 5: Percentage of Medicaid LTSS Beneficiaries who Received HCBS by Target Population, 2010**



Source: Medicaid Analytic eExtract (MAX). MAX does not include 2010 data for Kansas and Maine. Data do not include LTSS beneficiaries enrolled in comprehensive managed care plans.

\* Data for this population includes more than one type of HCBS. HCBS percentages include duplicate participants if the participant received more than one type of HCBS.

Services were categorized by target population in a manner consistent with annual Medicaid LTSS expenditure reports.<sup>11</sup> We used target population data in MAX for 1915(c) waiver participants. Targeted case management and HCBS for people in 1115 demonstrations could not be categorized due to data limitations. We also were unable to calculate the number of unduplicated beneficiaries within each target population.

Tables 4 through 6 on the following pages show state-level data by target population. Table 4 presents data for services associated with older adults and people with physical disabilities. Data for services targeting people with developmental disabilities are in Table 5. The final table shows data for services associated with adults with a serious mental illness or children with a serious emotional disturbance.

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<sup>11</sup> Eiken S, Sredl K, Gold L, Kasten J, Burwell B, and Saucier P. *Medicaid Expenditures for Long-Term Services and Supports in FFY 2012* April 28, 2014. Available on-line at <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Long-Term-Services-and-Supports/Long-Term-Services-and-Supports.html>.

**Table 4: Beneficiaries who Received LTSS Targeted Primarily to Older People and People with Physical Disabilities, 2010**

	Nursing Facilities	Personal Care Services	1915(c) Waivers: A/D <sup>1</sup>	Home Health	Adult Day Care	Private Duty Nursing	PACE
Alabama <sup>2,3</sup>	25,278	0	9,214	17,839	0	115,378	0
Alaska	914	4,211	2,923	278	0	13	0
Arizona <sup>3</sup>	17,478	0	0	255	0	0	0
Arkansas	19,070	14,299	10,806	6,011	0	96	52
California	133,532	486,219	15,521	25,643	45,686	141	2,836
Colorado	14,704	0	22,929	11,736	0	239	2,213
Connecticut	29,084	285	13,587	24,947	1	0	0
Delaware	3,944	0	1,392	974	0	46	0
Dist. of Columbia <sup>3,4,5</sup>	3,533	6,430	3,514	6,907	0	0	0
Florida <sup>4</sup>	68,077	0	43,471	17,977	0	0	541
Georgia <sup>5</sup>	36,312	0	12,877	6,533	1,894	1,115	0
Hawaii <sup>3</sup>	211	0	0	41	1	130	23
Idaho <sup>4</sup>	3,569	4,663	9,740	1,850	1,362	3,160	0
Illinois <sup>4,5</sup>	72,167	2,160	86,065	13,819	0	576	0
Indiana	37,106	0	10,103	10,407	0	0	0
Iowa <sup>3</sup>	17,561	0	16,329	35,759	1,352	0	106
Kansas <sup>6</sup>	-	-	-	-	-	-	-
Kentucky <sup>3</sup>	26,964	0	13,055	8,265	0	0	0
Louisiana	27,346	19,892	5,907	11,251	3	0	276
Maine <sup>6</sup>	-	-	-	-	-	-	-
Maryland <sup>3</sup>	23,486	5,530	8,488	6,354	7,149	852	185
Massachusetts <sup>4,5</sup>	46,856	15,056	0	20,804	7,795	0	16,253
Michigan	48,860	78,118	11,215	5,941	74	2,520	788
Minnesota <sup>3</sup>	27,635	25,435	42,873	55,238	0	836	0
Mississippi <sup>4</sup>	18,968	599	14,209	7,763	0	51	0
Missouri	35,754	53,711	20,011	6,490	2,078	527	217
Montana	4,767	3,405	2,317	383	226	0	42
Nebraska <sup>3</sup>	10,394	2,391	5,525	4,170	270	143	0
Nevada <sup>4</sup>	4,625	6,666	2,876	629	586	0	0
New Hampshire <sup>4</sup>	7,023	213	3,676	3,138	142	173	0
New Jersey <sup>3,4</sup>	40,406	33,051	13,786	7,979	15,926	429	322
New Mexico <sup>4,5</sup>	6,230	1,000	889	242	0	35	459
New York	134,167	87,659	28,829	122,056	32,812	2,236	3,840

	Nursing Facilities	Personal Care Services	1915(c) Waivers: A/D <sup>1</sup>	Home Health	Adult Day Care	Private Duty Nursing	PACE
North Carolina <sup>4</sup>	40,220	72,433	12,814	39,855	2	0	150
North Dakota <sup>3,4</sup>	4,762	0	431	458	0	0	60
Ohio	80,417	0	47,300	36,911	0	9,798	0
Oklahoma <sup>3</sup>	19,672	3,751	22,913	7,293	0	0	80
Oregon <sup>3</sup>	10,251	3,226	29,056	429	71	264	931
Pennsylvania <sup>3</sup>	79,270	0	42,967	13,004	0	70	2,912
Rhode Island <sup>3,4,7</sup>	9,451	427	0	2,016	2,593	0	242
South Carolina <sup>3,4</sup>	16,242	2,227	14,348	4,324	4,904	137	502
South Dakota <sup>3,4</sup>	5,383	2,996	1,301	471	3	61	0
Tennessee <sup>3</sup>	30,440	0	5,590	969	0	0	368
Texas <sup>3,4</sup>	93,344	9,119	42,533	31,653	21,799	19	1,128
Utah <sup>3,8</sup>	4,772	1,736	-	334	0	0	30
Vermont <sup>7</sup>	3,561	2,594	0	3,662	0	0	113
Virginia <sup>3,4</sup>	26,643	17	24,098	2,930	12	127	754
Washington <sup>5</sup>	18,803	27,646	0	3,050	2,543	98	473
West Virginia	11,074	5,916	7,135	2,650	0	621	0
Wisconsin <sup>3,4,5</sup>	28,387	765	6,958	479	0	104	4,630
Wyoming	2,311	0	2,025	600	0	0	0
United States	1,431,024	983,846	691,596	592,767	149,284	139,995	40,526

Data Source: Medicaid Analytic eXtract (MAX)

<sup>1</sup> A/D is an abbreviation for older adults and people with physical disabilities (for aging/disability). Participants in 1915(c) waivers can be identified in eligibility data or in claims data. Eligibility data contain population information while claims data do not. Thus, MAX does not contain population information for people identified only in claims data.

<sup>2</sup> Alabama data include 115,378 private duty nursing beneficiaries, which is 100,000 more than the next highest state. The reason for this data anomaly is not known.

<sup>3</sup> The number of home health beneficiaries in an available benchmark differed from the number of beneficiaries in this MAX analysis by more than 20 percent. See Table A-3 for the benchmark.

<sup>4</sup> The number of personal care beneficiaries in an available benchmark differed from the number of beneficiaries in this MAX analysis by more than 20 percent. See Table A-4 for the benchmark.

<sup>5</sup> The number of 1915(c) waiver beneficiaries in available benchmarks differed from the number of beneficiaries in this MAX analysis by more than 20 percent. See Table A-6 for the benchmark.

<sup>6</sup> MAX does not include 2010 data for Kansas and Maine.

<sup>7</sup> Rhode Island and Vermont provide services similar to 1915(c) waivers in 1115 demonstrations. Population data for these services are not available in MAX.

<sup>8</sup> MAX does not include 2010 data for Utah, but Utah data were available in a validation file used to develop MAX. Population data for 1915(c) waiver services were not available in the validation file.

**Table 5: Beneficiaries who Received LTSS Targeted Primarily to People with Developmental Disabilities, 2010**

	ICF/IID <sup>1</sup>	1915(c) Waivers: DD <sup>2</sup>
Alabama	216	5,729
Alaska <sup>3</sup>	12	1,514
Arizona <sup>3</sup>	0	0
Arkansas	1,678	4,039
California	9,796	89,397
Colorado	221	8,277
Connecticut	1,103	9,112
Delaware	132	887
Dist. of Columbia <sup>3</sup>	656	1,505
Florida	2,830	29,974
Georgia <sup>3,4</sup>	1,436	11,418
Hawaii	85	2,720
Idaho <sup>3</sup>	686	2,916
Illinois	8,730	18,825
Indiana	4,207	12,041
Iowa	2,198	11,461
Kansas <sup>5</sup>	-	-
Kentucky	605	7,304
Louisiana	5,315	10,373
Maine <sup>5</sup>	-	-
Maryland	154	12,538
Massachusetts <sup>3,4</sup>	835	0
Michigan <sup>3,4</sup>	12	503
Minnesota <sup>3</sup>	2,761	15,622
Mississippi	2,879	1,870
Missouri <sup>4</sup>	739	3,074
Montana <sup>3</sup>	71	2,364
Nebraska <sup>3</sup>	257	4,202
Nevada	111	1,725
New Hampshire <sup>3</sup>	43	4,672
New Jersey	2,715	10,743
New Mexico	275	3,946
New York	8,702	76,135
North Carolina	4,115	11,156
North Dakota	604	3,969



	ICF/IID <sup>1</sup>	1915(c) Waivers: DD <sup>2</sup>
Ohio	7,442	26,752
Oklahoma	1,732	5,338
Oregon <sup>3</sup>	0	13,216
Pennsylvania	3,741	34,590
Rhode Island <sup>6</sup>	41	0
South Carolina	1,484	8,026
South Dakota	172	3,308
Tennessee	1,110	8,481
Texas	11,176	25,899
Utah <sup>7</sup>	815	-
Vermont <sup>6</sup>	7	0
Virginia	1,690	9,284
Washington <sup>3,4</sup>	60	0
West Virginia	549	4,475
Wisconsin <sup>3,4</sup>	1,248	10,357
Wyoming	89	2,149
United States	95,535	531,886

Data Source: Medicaid Analytic eXtract (MAX)

<sup>1</sup> ICF/IID is an abbreviation for Intermediate Care Facilities for Individuals with Intellectual Disabilities

<sup>2</sup> DD is an abbreviation for people with developmental disabilities. Participants in 1915(c) waivers can be identified in eligibility data or in claims data. Eligibility data contain population information while claims data do not. Thus, MAX does not contain population information for participants identified only in claims data.

<sup>3</sup> The number of ICF/IID beneficiaries in an available point-in-time benchmark differed from the number of beneficiaries in this MAX analysis by more than 20 percent. See Table A-2 for the benchmark.

<sup>4</sup> The number of 1915(c) waiver beneficiaries in an available benchmark differed from the number of beneficiaries in this MAX analysis by more than 20 percent. See Table A-7 for the benchmark.

<sup>5</sup> MAX does not include 2010 data for Kansas and Maine.

<sup>6</sup> Rhode Island and Vermont provide services similar to 1915(c) waivers in 1115 demonstrations. Population data for these services are not available in MAX.

<sup>7</sup> MAX does not include 2010 data for Utah, but Utah data were available in a validation file used to develop MAX. Population data for 1915(c) waiver services were not available in the validation file.

**Table 6: Beneficiaries who Received LTSS Targeted Primarily to Adults with a Serious Mental Illness or Children with a Serious Emotional Disturbance, 2010**

	Inpatient Psychiatric Facilities for Persons Under Age 21	Mental Hospital Services for Persons Age 65 and Older	Rehabilitation Services	1915(c) Waivers: SMI/SED <sup>1</sup>
Alabama	2,375	180	3,492	0
Alaska	1,174	9	15	0
Arizona	1,697	108	0	0
Arkansas	6,114	0	32	0
California	102	0	45,993	0
Colorado	44	24	1,090	2,883
Connecticut <sup>2</sup>	1,532	86	0	79
Delaware	19	814	681	0
Dist. of Columbia	446	92	2,213	0
Florida	0	85	1,247	0
Georgia	0	0	0	0
Hawaii	0	0	1	0
Idaho	398	0	2,360	0
Illinois	7,551	1,736	1,361	0
Indiana	2,320	108	488	0
Iowa	934	58	1,502	0
Kansas <sup>3</sup>	-	-	-	-
Kentucky	3,894	367	55	0
Louisiana	4,365	9,255	0	0
Maine <sup>3</sup>	-	-	-	-
Maryland	2,526	31	351	0
Massachusetts	318	1,713	0	0
Michigan	5,754	273	1,412	78
Minnesota	611	58	156	0
Mississippi	3,109	94	0	0
Missouri	181	6	7,389	0
Montana	396	55	79	152
Nebraska	1,268	0	0	0
Nevada	1,246	11	3,373	0
New Hampshire	376	0	541	0
New Jersey	1,781	289	16,802	0
New Mexico	1,925	54	68	0
New York	12,570	3,040	45,478	5,111
North Carolina	3,023	77	0	0
North Dakota	99	12	2,479	0
Ohio	2,195	36	57,083	0

	Inpatient Psychiatric Facilities for Persons Under Age 21	Mental Hospital Services for Persons Age 65 and Older	Rehabilitation Services	1915(c) Waivers: SMI/SED <sup>1</sup>
Oklahoma	4,409	178	0	0
Oregon	1,380	18	3,277	0
Pennsylvania	1,503	2,937	6,648	0
Rhode Island <sup>4</sup>	127	125	3,854	0
South Carolina	1,297	187	4,429	0
South Dakota	840	104	413	0
Tennessee	2,781	199	2,318	0
Texas	12,127	122	16,658	24
Utah <sup>5</sup>	106	11	1,794	-
Vermont <sup>4</sup>	0	216	51	0
Virginia	916	975	807	0
Washington	858	2,607	8,887	0
West Virginia	1,878	661	4,139	0
Wisconsin	2,736	252	2,952	1,397
Wyoming <sup>2</sup>	451	1	1,925	160
United States	101,752	27,264	253,893	9,884

Data Source: Medicaid Analytic eXtract (MAX)

<sup>1</sup> SMI/SED is an abbreviation for people with a serious mental illness or a serious emotional disturbance. Participants in 1915(c) waivers can be identified in eligibility data or in claims data. Eligibility data contain population information while claims data do not. Thus, MAX does not contain population information for participants identified only in claims data.

<sup>2</sup> The number of 1915(c) waiver beneficiaries in available benchmarks differed from the number of beneficiaries in this MAX analysis by more than 20 percent. See Table A-8 for the benchmark.

<sup>3</sup> MAX does not include 2010 data for Kansas and Maine.

<sup>4</sup> Rhode Island and Vermont provide services similar to 1915(c) waivers in 1115 demonstrations. Population data for these services are not available in MAX.

<sup>5</sup> MAX does not include 2010 data for Utah, but Utah data were available in a validation file used to develop MAX. Population data for 1915(c) waiver services were not available in the validation file.

## Conclusion

This report presents the number of Medicaid beneficiaries who received LTSS by type of service and by state. Almost 4.9 million individuals received Medicaid-funded LTSS during calendar year 2010. About two-thirds of these people only received HCBS. In most states, a majority of LTSS beneficiaries received only HCBS.

Nursing facility residents were 87 percent of all institutional beneficiaries and a majority of institutional beneficiaries in all states except Alaska. States varied in the types of HCBS used. Section 1915(c) waivers were the most common type of HCBS in almost two-thirds of states (32). These waivers accounted for 44 percent of all HCBS beneficiaries. In a smaller number of states, personal care, targeted case management, home health, or HCBS in an 1115 demonstration were the most common type of HCBS.

People who received services targeting people with developmental disabilities were more likely to use HCBS than people who received services associated with other populations.

As described in Appendix A, we compared this report's data to previously published data for particular types of LTSS. Beneficiary data were similar for a majority of states. However, we identified notable differences between this report and available benchmarks. We recommend additional research regarding the number of LTSS beneficiaries, including comparison to state sources, to identify the cause of discrepancies.

## Appendix A: Data and Methods

The counts of LTSS users rely on information from the 2010 Medicaid Analytical eXtract (MAX) eligibility and claims files. For each state, MAX includes a single eligibility data file and four claims files for (1) institutional care services, (2) inpatient admissions, (3) prescription drugs, and (4) all other services including physician services and HCBS. The MAX eligibility file for each state includes a single record for each person ever enrolled in Medicaid during the calendar year. Each record in the state eligibility files includes a small amount of demographic information, a series of monthly enrollment indicators, and summary expenditure information. The expenditure information includes total overall Medicaid expenditures for the calendar year and expenditures for specific categories of services, including institutional LTSS and HCBS types of service. Each category of HCBS expenditures was further delineated by whether the expenditures were for 1915(c) waiver services or state plan services.

### *Methods to Identify LTSS Beneficiaries*

To identify people who received institutional LTSS, Mathematica Policy Research selected all Medicaid enrollees who had positive expenditures for the types of institutional services shown in Table 2 of the report. Mathematica first developed counts of users by type of institutional service and then the total overall count of unique institutional LTSS beneficiaries.

To identify HCBS users, Mathematica used monthly indicators of enrollment in 1915(c) waivers and the HCBS expenditure information in the MAX eligibility records. MAX includes three 1915(c) waiver indicators for each month to capture enrollment in multiple 1915(c) waivers. Mathematica used all three monthly waiver indicators to identify everyone who was reported to be enrolled in at least one 1915(c) waiver during the year. Some states underreport enrollment in 1915(c) waivers. Therefore, Mathematica also identified everyone who had positive expenditures for all types of 1915(c) waiver services, including personal care, home health, rehabilitative services, adult day care, private duty nursing, and targeted case management.

To identify HCBS users in 1915(c) waivers for older adults and people with physical disabilities, Mathematica used the type of waiver information that is part of the monthly waiver enrollment indicators in the MAX eligibility records. Anyone ever enrolled in a waiver for older adults only, people with physical disabilities only, or older adults or people with physical disabilities were identified as enrolled in a waiver for older adults and/or people with physical disabilities during the year. Similarly, those ever enrolled in a waiver for people with developmental or intellectual disabilities during the year or a waiver for people with serious mental illness/serious emotional disturbance were identified as enrolled in a waiver for individuals with developmental disabilities or serious mental illness/serious emotional disturbance, respectively.

To identify enrollees who received state plan HCBS, Mathematica identified all enrollees who had positive expenditures for any type of state plan HCBS. To prevent counting people who received post-acute home health services, Mathematica only included home health beneficiaries if they had positive expenditures for three or more consecutive months. Lastly, Mathematica used monthly indicators of enrollment in managed care plans to identify PACE enrollees. Similar to the approach for institutional LTSS, Mathematica first developed counts of users for each category of HCBS and then the total overall count of the unique number of HCBS users.

It was not possible to directly identify enrollees who received HCBS through 1115 demonstration waivers. Mathematica assumed that all HCBS users in the three states with global 1115 waivers during 2010 (Arizona, Rhode Island, and Vermont) received HCBS through an 1115 waiver.

Because our approach relies heavily on expenditure information, Mathematica restricted the counts to enrollees who were not in a comprehensive managed care plan during the calendar year. As a result, the counts should be considered underestimates, particularly in those states that provided LTSS through a managed care program in 2010. These states were Arizona, California, Florida, Hawaii, Massachusetts, Michigan,

Minnesota, New Mexico, New York, North Carolina, Pennsylvania, Tennessee, Texas, Wisconsin, and Washington.<sup>12</sup>

No MAX claims files exist for Kansas or Maine because of data quality issues with the states' Medicaid Statistical Informational System (MSIS) data files, the source data for MAX. As a result, LTSS beneficiaries could not be identified in these states.

### *Comparison to Other Sources*

We benchmarked MAX data to four sources that have previously published data for particular services:

- A report based on the Online Survey, Certification, and Reporting (OSCAR) system data for nursing facilities from the Kaiser Family Foundation<sup>13</sup>
- ICF/IID data based on a survey of states from the National Residential Information Systems Project at the University of Minnesota<sup>14</sup>
- An annual data update on home health, personal care, and 1915(c) waiver services based on a survey of states from the Kaiser Family Foundation and the University of California-San Francisco<sup>15</sup>
- A report on 1915(c) waivers based on CMS 372 data by Truven Health Analytics<sup>16</sup>

National comparison data for other types of Medicaid LTSS were unavailable.

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<sup>12</sup> Saucier P, Kasten J, Burwell B, Gold L. *The Growth of Managed Long-Term Services and Supports (MLTSS) Programs: A 2012 Update* July 2012. Available on-line at <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Delivery-Systems/Medicaid-Managed-Long-Term-Services-and-Supports-MLTSS.html>.

<sup>13</sup> Kaiser Family Foundation *Overview of Nursing Facility Capacity, Financing, and Ownership in the United States in 2011* June 28, 2013. Available on-line at <http://kff.org/medicaid/fact-sheet/overview-of-nursing-facility-capacity-financing-and-ownership-in-the-united-states-in-2011/>.

<sup>14</sup> Larson S, Ryan A, Salmi P, Smith D, and Wourio A. *Residential Services for Persons with Intellectual and Developmental Disabilities: Status and Trends Through Fiscal Year 2011* 2012. Available on-line at <http://rtc3.umn.edu/risp/reports/>.

<sup>15</sup> Ng T, Harrington C, Musumeci M, and Reeves E. *Medicaid Home and Community-Based Services Programs: 2010 Data Update* May 27, 2014. Available on-line at <http://kff.org/medicaid/report/medicaid-home-and-community-based-service-programs/>.

<sup>16</sup> Eiken S. *Medicaid 1915(c) Waiver Data Based on the CMS 372 Report, 2010-2011* September 2014. Available on-line at <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Long-Term-Services-and-Supports/Long-Term-Services-and-Supports.html>.

Tables A-1 through A-8 in Appendix A show the data for these sources. For each type of service, data in this analysis were similar to the comparison sources for a majority of states. However, we found notable differences in several states, especially for home health, personal care, and 1915(c) waiver services.

For most services, we defined a notable difference as one of at least 20 percent. For nursing facilities, the comparison was imperfect because OSCAR data reflect the number of nursing facility residents at a particular point in time. This analysis identified the number of beneficiaries over an entire year. In addition, many nursing facility residents experience transitions to hospitals and private homes during a year,<sup>17</sup> so the number of people served over a year is greater than the number of residents on a given day. For nursing facility data, we considered a difference notable only if the number of beneficiaries in OSCAR data was greater than the number of people identified in MAX data for a full year.

Footnotes in Tables 1 through 6 indicate states with these differences. Without further research, we do not know which source is more accurate. The better source may vary by state and type of service.

### *Exclusion of States from State-Level Analysis*

Ten states were excluded from the state-level analysis presented in Figure 2 of the report and accompanying text:

- Alabama was excluded because MAX reported an unrealistically high number of private duty nursing beneficiaries. The data indicate Alabama has 100,000 more beneficiaries than any other state. This data anomaly at least doubles the number of total reported HCBS beneficiaries in the state.
- Kansas and Maine were excluded because MAX claims data were unavailable.

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<sup>17</sup> Reinhard S, Kassner E, Houser A, Ujvari K, Mollica R, and Hendrickson L. *Raising Expectations: A State Scorecard on Long-Term Services and Supports for Older Adults, People with Physical Disabilities, and Family Caregivers* Second Edition. 2014. Available on-line at <http://www.longtermscorecard.org>.



- Hawaii was excluded because the sum of the number of nursing facility and ICF/IID beneficiaries in available benchmarks was more than 50 percent greater than the sum of the number of beneficiaries for these services reported in MAX.
- Arizona, New Mexico, Tennessee, Texas, Utah, and Wisconsin were excluded because the sum of the number of beneficiaries in benchmarks for three types of HCBS with benchmarks—Section 1915(c) waivers, personal care, and home health—was more than 50 percent greater than the sum of beneficiaries for these services identified in MAX.

**Table A-1: Comparison of Data Sources for Beneficiaries who Received Medicaid Nursing Facility Services: 2010**

	OSCAR: beneficiaries on a single day	MAX: beneficiaries during a calendar year	OSCAR as a Percentage of MAX
Alabama	15,494	25,278	61%
Alaska	468	914	51%
Arizona	7,241	17,478	41%
Arkansas	12,470	19,070	65%
California	67,427	133,532	50%
Colorado	9,532	14,704	65%
Connecticut	17,265	29,084	59%
Delaware	2,098	3,944	53%
Dist. of Columbia	1,768	3,533	50%
Florida	42,176	68,077	62%
Georgia	23,181	36,312	64%
Hawaii	1,950	211	924%
Idaho	2,706	3,569	76%
Illinois	47,149	72,167	65%
Indiana	24,362	37,106	66%
Iowa	11,920	17,561	68%
Kansas <sup>1</sup>	10,123	-	n/a
Kentucky	15,307	26,964	57%
Louisiana	18,557	27,346	68%
Maine <sup>1</sup>	4,230	-	n/a
Maryland	14,288	23,486	61%
Massachusetts	27,080	46,856	58%
Michigan	24,908	48,860	51%
Minnesota	16,108	27,635	58%
Mississippi	12,308	18,968	65%
Missouri	22,887	35,754	64%
Montana	2,739	4,767	57%
Nebraska	6,620	10,394	64%
Nevada	2,650	4,625	57%
New Hampshire	4,443	7,023	63%
New Jersey	28,650	40,406	71%
New Mexico	3,533	6,230	57%
New York	77,826	134,167	58%
North Carolina	24,890	40,220	62%
North Dakota	3,044	4,762	64%
Ohio	49,730	80,417	62%
Oklahoma	12,832	19,672	65%

	OSCAR: beneficiaries on a single day	MAX: beneficiaries during a calendar year	OSCAR as a Percentage of MAX
Oregon	4,608	10,251	45%
Pennsylvania	50,455	79,270	64%
Rhode Island	5,084	9,451	54%
South Carolina	10,646	16,242	66%
South Dakota	3,566	5,383	66%
Tennessee	20,070	30,440	66%
Texas	57,873	93,344	62%
Utah <sup>2</sup>	2,639	4,772	55%
Vermont	1,867	3,561	52%
Virginia	17,313	26,643	65%
Washington	10,893	18,803	58%
West Virginia	4,466	11,074	40%
Wisconsin	17,875	28,387	63%
Wyoming	1,450	2,311	63%
United States	878,764	1,431,024	61%

Data Sources:

Medicaid Analytic eXtract (MAX)

Online Survey, Certification, and Reporting (OSCAR) system data from Kaiser Family Foundation *Overview of Nursing Facility Capacity, Financing, and Ownership in the United States in 2011* June 28, 2013. Available on-line at <http://kff.org/medicaid/fact-sheet/overview-of-nursing-facility-capacity-financing-and-ownership-in-the-united-states-in-2011/>.

<sup>1</sup> MAX does not include 2010 data for Kansas and Maine.

<sup>2</sup> MAX does not include 2010 data for Utah, but Utah data were available in a validation file used to develop MAX.

**Table A-2: Comparison of Data Sources for Beneficiaries who Received Medicaid Intermediate Care Facilities for Individuals with Intellectual Disabilities (ICF/IID) Services: 2010**

	RISP: beneficiaries on a single day	MAX: beneficiaries during a calendar year	RISP as a Percentage of MAX
Alabama	214	216	99%
Alaska	0	12	0%
Arizona	185	0	n/a
Arkansas	1,571	1,678	94%
California	9,080	9,796	93%
Colorado	212	221	96%
Connecticut	1,047	1,103	95%
Delaware	118	132	89%
Dist. of Columbia	409	656	62%
Florida	2,919	2,830	103%
Georgia	670	1,436	47%
Hawaii	79	85	93%
Idaho	524	686	76%
Illinois	8,567	8,730	98%
Indiana	4,042	4,207	96%
Iowa	2,088	2,198	95%
Kansas <sup>1</sup>	516	-	n/a
Kentucky	615	605	102%
Louisiana	4,838	5,315	91%
Maine <sup>1</sup>	97	-	n/a
Maryland	153	154	99%
Massachusetts	759	835	91%
Michigan	0	12	0%
Minnesota	1,758	2,761	64%
Mississippi	2,605	2,879	90%
Missouri	731	739	99%
Montana	52	71	73%
Nebraska	412	257	160%
Nevada	101	111	91%
New Hampshire	25	43	58%
New Jersey	2,930	2,715	108%
New Mexico	228	275	83%
New York	7,495	8,702	86%
North Carolina	3,946	4,115	96%
North Dakota	579	604	96%
Ohio	5,984	7,442	80%

	RISP: beneficiaries on a single day	MAX: beneficiaries during a calendar year	RISP as a Percentage of MAX
Oklahoma	1,535	1,732	89%
Oregon	22	0	n/a
Pennsylvania	3,423	3,741	91%
Rhode Island	41	41	100%
South Carolina	1,396	1,484	94%
South Dakota	144	172	84%
Tennessee	1,088	1,110	98%
Texas	10,044	11,176	90%
Utah <sup>2</sup>	780	815	96%
Vermont	6	7	86%
Virginia	1,531	1,690	91%
Washington	724	60	1207%
West Virginia	477	549	87%
Wisconsin	769	1,248	62%
Wyoming	83	89	93%
United States	87,612	95,535	92%

Data Sources:

Medicaid Analytic eXtract (MAX)

National Residential Information Systems Project (RISP) data from Larson S, Ryan A, Salmi P, Smith D, and Wourio A. *Residential Services for Persons with Intellectual and Developmental Disabilities: Status and Trends Through Fiscal Year 2011 2012*. Available on-line at <http://rtc3.umn.edu/risp/reports/>.

<sup>1</sup> MAX does not include 2010 data for Kansas and Maine.

<sup>2</sup> MAX does not include 2010 data for Utah, but Utah data were available in a validation file used to develop MAX.

**Table A-3: Comparison of Data Sources for Beneficiaries who Received Medicaid Home Health Services: 2010**

	Kaiser Family Foundation (KFF)	MAX <sup>1</sup>	KFF as a Percentage of MAX
Alabama	7,013	17,839	39%
Alaska	298	278	107%
Arizona	37,122	255	14558%
Arkansas	6,167	6,011	103%
California	30,626	25,643	119%
Colorado	11,134	11,736	95%
Connecticut	27,474	24,947	110%
Delaware	1,159	974	119%
Dist. of Columbia	4,528	6,907	66%
Florida	14,671	17,977	82%
Georgia	5,277	6,533	81%
Hawaii	1,820	41	4439%
Idaho	1,790	1,850	97%
Illinois	14,162	13,819	102%
Indiana	10,663	10,407	102%
Iowa	13,922	35,759	39%
Kansas <sup>2</sup>	3,965	-	n/a
Kentucky	15,976	8,265	193%
Louisiana	11,222	11,251	100%
Maine <sup>2</sup>	2,611	-	n/a
Maryland	4,067	6,354	64%
Massachusetts	19,977	20,804	96%
Michigan	6,395	5,941	108%
Minnesota	12,053	55,238	22%
Mississippi	8,749	7,763	113%
Missouri	6,544	6,490	101%
Montana	428	383	112%
Nebraska	6,305	4,170	151%
Nevada	657	629	104%
New Hampshire	3,056	3,138	97%
New Jersey	16,957	7,979	213%
New Mexico	273	242	113%
New York	107,344	122,056	88%
North Carolina	38,871	39,855	98%
North Dakota	758	458	166%
Ohio	36,676	36,911	99%
Oklahoma	5,750	7,293	79%

	Kaiser Family Foundation (KFF)	MAX <sup>1</sup>	KFF as a Percentage of MAX
Oregon	2,970	429	692%
Pennsylvania	28,705	13,004	221%
Rhode Island	1,376	2,016	68%
South Carolina	7,355	4,324	170%
South Dakota	4,669	471	991%
Tennessee	11,829	969	1221%
Texas	230,619	31,653	729%
Utah <sup>3</sup>	2,186	334	654%
Vermont	3,625	3,662	99%
Virginia	5,530	2,930	189%
Washington	3,356	3,050	110%
West Virginia	2,699	2,650	102%
Wisconsin	5,697	479	1189%
Wyoming	583	600	97%
United States	807,659	592,767	136%

Data Sources:

Medicaid Analytic eXtract (MAX)

Ng T, Harrington C, Musumeci M, and Reeves E. *Medicaid Home and Community-Based Services Programs: 2010 Data Update* May 27, 2014. Available on-line at <http://kff.org/medicaid/report/medicaid-home-and-community-based-service-programs/>.

<sup>1</sup> People were included in this analysis only if they had positive expenditures for three or more consecutive months.

<sup>2</sup> MAX does not include 2010 data for Kansas and Maine.

<sup>3</sup> MAX does not include 2010 data for Utah, but Utah data were available in a validation file used to develop MAX.

**Table A-4: Comparison of Data Sources for Beneficiaries who Received Medicaid Personal Care Services: 2010**

	Kaiser Family Foundation (KFF)	MAX	KFF as a Percentage of MAX
Alabama	-	-	n/a
Alaska	3,556	4,211	84%
Arizona	-	-	n/a
Arkansas	13,904	14,299	97%
California	455,243	486,219	94%
Colorado	-	-	n/a
Connecticut	-	285	n/a
Delaware	0	-	n/a
Dist. of Columbia	2,164	6,430	34%
Florida	1,235	-	n/a
Georgia	-	-	n/a
Hawaii	-	-	n/a
Idaho	3,331	4,663	71%
Illinois	-	2,160	n/a
Indiana	-	-	n/a
Iowa	-	-	n/a
Kansas <sup>1</sup>	210	-	n/a
Kentucky	-	-	n/a
Louisiana	17,533	19,892	88%
Maine <sup>1</sup>	2,245	-	n/a
Maryland	4,894	5,530	88%
Massachusetts	19,828	15,056	132%
Michigan	64,956	78,118	83%
Minnesota	24,352	25,435	96%
Mississippi	-	599	n/a
Missouri	51,115	53,711	95%
Montana	3,323	3,405	98%
Nebraska	2,349	2,391	98%
Nevada	5,133	6,666	77%
New Hampshire	29	213	14%
New Jersey	20,483	33,051	62%
New Mexico	14,520	1,000	1452%
New York	71,693	87,659	82%
North Carolina	50,830	72,433	70%
North Dakota	1,089	-	n/a
Ohio	-	-	n/a
Oklahoma	3,885	3,751	104%



	Kaiser Family Foundation (KFF)	MAX	KFF as a Percentage of MAX
Oregon	3,228	3,226	100%
Pennsylvania	-	-	n/a
Rhode Island	0	427	0%
South Carolina	-	2,227	n/a
South Dakota	1,016	2,996	34%
Tennessee	-	-	n/a
Texas	56,510	9,119	620%
Utah <sup>2</sup>	1,974	1,736	114%
Vermont	2,622	2,594	101%
Virginia	-	17	n/a
Washington	27,303	27,646	99%
West Virginia	6,510	5,916	110%
Wisconsin	14,790	765	1933%
Wyoming	-	-	n/a
United States	951,853	983,846	97%

Data Sources:

Medicaid Analytic eXtract (MAX)

Ng T, Harrington C, Musumeci M, and Reeves E. *Medicaid Home and Community-Based Services Programs: 2010 Data Update* May 27, 2014. Available on-line at <http://kff.org/medicaid/report/medicaid-home-and-community-based-service-programs/>.

<sup>1</sup> MAX does not include 2010 data for Kansas and Maine.

<sup>2</sup> MAX does not include 2010 data for Utah, but Utah data were available in a validation file used to develop MAX.

**Table A-5: Comparison of Data Sources for Beneficiaries who Received Medicaid 1915(c) Waiver Services: 2010**

	Kaiser Family Foundation (KFF)	CMS 372	MAX	KFF as a Percentage of MAX	CMS 372 as a Percentage of MAX
Alabama	15,041	15,065	15,140	99%	100%
Alaska	4,583	4,583	4,741	97%	97%
Arizona	0	0	0	n/a	n/a
Arkansas	14,655	14,655	14,886	98%	98%
California	100,827	100,880	109,525	92%	92%
Colorado	31,726	33,051	36,113	88%	92%
Connecticut	22,295	21,837	23,595	94%	93%
Delaware	2,945	2,906	3,003	98%	97%
Dist. of Columbia	3,247	3,986	5,804	56%	69%
Florida	77,167	77,167	82,883	93%	93%
Georgia <sup>1</sup>	32,355	40,173	36,671	88%	110%
Hawaii	2,485	2,485	3,422	73%	73%
Idaho	12,123	12,123	14,280	85%	85%
Illinois	90,539	90,539	119,939	75%	75%
Indiana	22,841	22,841	23,967	95%	95%
Iowa	28,088	28,088	29,931	94%	94%
Kansas <sup>2</sup>	32,374	29,456	-	n/a	n/a
Kentucky	18,408	18,414	20,226	91%	91%
Louisiana	15,366	15,476	32,948	47%	47%
Maine <sup>2</sup>	6,389	5,703	-	n/a	n/a
Maryland	21,385	21,385	22,519	95%	95%
Massachusetts <sup>1</sup>	27,018	12,124	23,025	117%	53%
Michigan	19,387	19,387	11,862	163%	163%
Minnesota	62,604	62,604	60,042	104%	104%
Mississippi	16,965	16,556	17,126	99%	97%
Missouri	28,645	28,645	29,669	97%	97%
Montana	4,865	4,865	4,948	98%	98%
Nebraska	11,576	10,174	10,131	114%	100%
Nevada	4,300	4,300	4,609	93%	93%
New Hampshire	7,004	7,870	8,548	82%	92%
New Jersey	27,447	23,714	25,242	109%	94%
New Mexico	7,218	7,218	5,133	141%	141%
New York <sup>1</sup>	101,049	98,456	113,429	89%	87%
North Carolina	27,191	27,823	25,930	105%	107%
North Dakota	3,973	4,092	6,364	62%	64%
Ohio <sup>1</sup>	73,830	73,830	81,828	90%	90%

	Kaiser Family Foundation (KFF)	CMS 372	MAX	KFF as a Percentage of MAX	CMS 372 as a Percentage of MAX
Oklahoma	28,256	28,256	28,296	100%	100%
Oregon	43,072	43,072	42,642	101%	101%
Pennsylvania	68,837	69,946	78,685	87%	89%
Rhode Island <sup>3</sup>	0	0	3,602	0%	0%
South Carolina	23,063	25,030	25,092	92%	100%
South Dakota	4,559	4,528	4,617	99%	98%
Tennessee	13,426	13,426	14,075	95%	95%
Texas <sup>1</sup>	79,977	65,464	129,070	62%	51%
Utah <sup>4</sup>	6,151	6,151	345	1783%	1783%
Vermont <sup>3</sup>	0	0	6,257	0%	0%
Virginia	30,992	31,061	52,173	59%	60%
Washington	46,772	46,772	51,565	91%	91%
West Virginia	10,156	10,156	11,854	86%	86%
Wisconsin	65,565	59,646	19,052	344%	313%
Wyoming	4,999	4,467	4,521	111%	99%
United States	1,403,736	1,370,446	1,499,325	94%	91%

Data Sources:

Medicaid Analytic eXtract (MAX)

Ng T, Harrington C, Musumeci M, and Reeves E. *Medicaid Home and Community-Based Services Programs: 2010 Data Update* May 27, 2014. Available on-line at <http://kff.org/medicaid/report/medicaid-home-and-community-based-service-programs/>.

Eiken S. *Medicaid 1915(c) Waiver Data Based on the CMS 372 Report, 2010-2011* September 2014 Available on-line at <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Long-Term-Services-and-Supports/Long-Term-Services-and-Supports.html>.

<sup>1</sup> One or more CMS 372s for 2010 was not submitted for this state.

<sup>2</sup> MAX does not include 2010 data for Kansas and Maine.

<sup>3</sup> Rhode Island and Vermont provide services similar to 1915(c) waivers in 1115 demonstrations, but categorized these services as 1915(c) waiver services in the Medicaid Statistical Information System (MSIS), the source data for MAX.

<sup>4</sup> MAX does not include 2010 data for Utah, but Utah data were available in a validation file used to develop MAX.

**Table A-6: Comparison of Data Sources for Beneficiaries who Received Medicaid 1915(c) Waivers Targeted to Older Adults and/or People with Physical Disabilities: 2010**

	Kaiser Family Foundation (KFF)	CMS 372	MAX	KFF as a Percentage of MAX	CMS 372 as a Percentage of MAX
Alabama	9,283	9,283	9,214	101%	101%
Alaska	2,921	2,921	2,923	100%	100%
Arizona	0	0	0	n/a	n/a
Arkansas	10,651	10,651	10,806	99%	99%
California	15,792	15,792	15,521	102%	102%
Colorado	18,549	21,454	22,929	81%	94%
Connecticut	13,264	13,255	13,587	98%	98%
Delaware	1,323	1,276	1,392	95%	92%
Dist. of Columbia	1,960	2,491	3,514	56%	71%
Florida	44,863	45,096	43,471	103%	104%
Georgia	17,098	34,279	12,877	133%	266%
Hawaii	0	0	0	n/a	n/a
Idaho	9,268	9,268	9,740	95%	95%
Illinois	66,595	66,595	86,065	77%	77%
Indiana	10,775	10,775	10,103	107%	107%
Iowa	15,723	15,723	16,329	96%	96%
Kansas <sup>1</sup>	17,635	15,138	-	n/a	n/a
Kentucky	12,110	12,116	13,055	93%	93%
Louisiana	5,613	5,613	5,907	95%	95%
Maine <sup>1</sup>	1,915	1,504	-	n/a	n/a
Maryland	8,277	8,277	8,488	98%	98%
Massachusetts	11,875	11,906	0	n/a	n/a
Michigan	10,648	10,648	11,215	95%	95%
Minnesota	45,629	45,629	42,873	106%	106%
Mississippi	13,762	14,661	14,209	97%	103%
Missouri	18,988	18,988	20,011	95%	95%
Montana	2,390	2,390	2,317	103%	103%
Nebraska	6,686	5,746	5,525	121%	104%
Nevada	2,609	2,609	2,876	91%	91%
New Hampshire	3,539	3,529	3,676	96%	96%
New Jersey	12,504	12,504	13,786	91%	91%
New Mexico	2,190	3,091	889	246%	348%
New York	27,520	26,213	28,829	95%	91%
North Carolina	14,983	14,983	12,814	117%	117%
North Dakota	401	401	431	93%	93%

	Kaiser Family Foundation (KFF)	CMS 372	MAX	KFF as a Percentage of MAX	CMS 372 as a Percentage of MAX
Ohio	50,354	50,354	47,300	106%	106%
Oklahoma	22,830	22,830	22,913	100%	100%
Oregon	29,611	29,742	29,056	102%	102%
Pennsylvania	34,768	34,768	42,967	81%	81%
Rhode Island <sup>2</sup>	0	0	0	n/a	n/a
South Carolina	14,428	15,121	14,348	101%	105%
South Dakota	1,292	1,261	1,301	99%	97%
Tennessee	5,568	5,568	5,590	100%	100%
Texas <sup>3</sup>	49,578	35,075	42,533	117%	82%
Utah <sup>4</sup>	1,522	1,522	-	n/a	n/a
Vermont <sup>2</sup>	0	0	0	n/a	n/a
Virginia	22,066	22,176	24,098	92%	92%
Washington	34,752	34,752	0	n/a	n/a
West Virginia	5,865	5,865	7,135	82%	82%
Wisconsin	34,773	33,701	6,958	500%	484%
Wyoming	2,237	2,042	2,025	110%	101%
United States	766,983	769,582	691,596	111%	111%

Data Sources:

Medicaid Analytic eXtract (MAX)

Ng T, Harrington C, Musumeci M, and Reeves E. *Medicaid Home and Community-Based Services Programs: 2010 Data Update* May 27, 2014. Available on-line at <http://kff.org/medicaid/report/medicaid-home-and-community-based-service-programs/>.

Eiken S. *Medicaid 1915(c) Waiver Data Based on the CMS 372 Report, 2010-2011* September 2014 Available on-line at <http://www.medicare.gov/Medicaid-CHIP-Program-Information/By-Topics/Long-Term-Services-and-Supports/Long-Term-Services-and-Supports.html>.

<sup>1</sup> MAX does not include 2010 data for Kansas and Maine.

<sup>2</sup> Rhode Island and Vermont provide services similar to 1915(c) waivers in 1115 demonstrations. Population data for these services are not available in MAX.

<sup>3</sup> One or more CMS 372s for 2010 was not submitted for this state.

<sup>4</sup> MAX does not include 2010 data for Utah, but Utah data were available in a validation file used to develop MAX. Population data for 1915(c) waiver services were not available in the validation file.

**Table A-7: Comparison of Data Sources for Beneficiaries who Received Medicaid 1915(c) Waivers Targeted to People with Developmental Disabilities: 2010**

	Kaiser Family Foundation (KFF)	CMS 372	MAX	KFF as a Percentage of MAX	CMS 372 as a Percentage of MAX
Alabama	5,630	5,657	5,729	98%	99%
Alaska	1,407	1,407	1,514	93%	93%
Arizona	0	0	0	n/a	n/a
Arkansas	4,004	4,004	4,039	99%	99%
California	82,856	82,909	89,397	93%	93%
Colorado	7,728	8,499	8,277	93%	103%
Connecticut	8,553	8,201	9,112	94%	90%
Delaware	876	884	887	99%	100%
Dist. of Columbia	1,287	1,495	1,505	86%	99%
Florida	25,718	25,833	29,974	86%	86%
Georgia <sup>1</sup>	13,973	5,461	11,418	122%	48%
Hawaii	2,485	2,485	2,720	91%	91%
Idaho	2,855	2,855	2,916	98%	98%
Illinois	16,894	16,894	18,825	90%	90%
Indiana	11,920	11,920	12,041	99%	99%
Iowa	11,161	11,161	11,461	97%	97%
Kansas <sup>2</sup>	8,197	7,855	-	n/a	n/a
Kentucky	5,953	5,953	7,304	82%	82%
Louisiana	8,826	9,863	10,373	85%	95%
Maine <sup>2</sup>	4,474	4,199	-	n/a	n/a
Maryland	11,986	12,859	12,538	96%	103%
Massachusetts <sup>1</sup>	14,987	120	0	n/a	n/a
Michigan	8,080	8,544	503	1606%	1699%
Minnesota	15,352	15,352	15,622	98%	98%
Mississippi	1,895	1,895	1,870	101%	101%
Missouri	9,416	9,557	3,074	306%	311%
Montana	2,288	2,345	2,364	97%	99%
Nebraska	4,506	4,407	4,202	107%	105%
Nevada	1,691	1,691	1,725	98%	98%
New Hampshire	3,279	4,155	4,672	70%	89%
New Jersey	14,297	10,564	10,743	133%	98%
New Mexico	4,835	3,934	3,946	123%	100%
New York <sup>1</sup>	66,493	67,109	76,135	87%	88%
North Carolina	11,188	11,820	11,156	100%	106%
North Dakota	3,572	3,687	3,969	90%	93%

	Kaiser Family Foundation (KFF)	CMS 372	MAX	KFF as a Percentage of MAX	CMS 372 as a Percentage of MAX
Ohio <sup>1</sup>	23,476	23,476	26,752	88%	88%
Oklahoma	4,980	5,426	5,338	93%	102%
Oregon	13,228	13,228	13,216	100%	100%
Pennsylvania	27,260	34,022	34,590	79%	98%
Rhode Island <sup>3</sup>	0	0	0	n/a	n/a
South Carolina	6,398	8,540	8,026	80%	106%
South Dakota	3,267	3,267	3,308	99%	99%
Tennessee	7,858	7,858	8,481	93%	93%
Texas	24,928	24,918	25,899	96%	96%
Utah <sup>4</sup>	4,402	4,402	-	n/a	n/a
Vermont <sup>3</sup>	0	0	0	n/a	n/a
Virginia	8,866	8,824	9,284	95%	95%
Washington	11,993	12,020	0	n/a	n/a
West Virginia	4,291	4,291	4,475	96%	96%
Wisconsin	25,863	24,341	10,357	250%	235%
Wyoming	1,645	2,135	2,149	77%	99%
United States	567,117	552,322	531,886	107%	104%

Data Sources:

Medicaid Analytic eXtract (MAX)

Ng T, Harrington C, Musumeci M, and Reeves E. *Medicaid Home and Community-Based Services Programs: 2010 Data Update* May 27, 2014. Available on-line at <http://kff.org/medicaid/report/medicaid-home-and-community-based-service-programs/>.

Eiken S. *Medicaid 1915(c) Waiver Data Based on the CMS 372 Report, 2010-2011* September 2014 Available on-line at <http://www.medicare.gov/Medicaid-CHIP-Program-Information/By-Topics/Long-Term-Services-and-Supports/Long-Term-Services-and-Supports.html>.

<sup>1</sup> One or more CMS 372s for 2010 was not submitted for this state.

<sup>2</sup> MAX does not include 2010 data for Kansas and Maine.

<sup>3</sup> Rhode Island and Vermont provide services similar to 1915(c) waivers in 1115 demonstrations. Population data for these services are not available in MAX.

<sup>4</sup> MAX does not include 2010 data for Utah, but Utah data were available in a validation file used to develop MAX. Population data for 1915(c) waiver services were not available in the validation file.

**Table A-8: Comparison of Data Sources for Beneficiaries who Received Medicaid 1915(c) Waivers Targeted to People with a Serious Mental Illness or Serious Emotional Disturbance: 2010**

	Kaiser Family Foundation (KFF) <sup>1</sup>	CMS 372	MAX	KFF as a Percentage of MAX	CMS 372 as a Percentage of MAX
Alabama	0	0	0	n/a	n/a
Alaska	0	0	0	n/a	n/a
Arizona	0	0	0	n/a	n/a
Arkansas	0	0	0	n/a	n/a
California	0	0	0	n/a	n/a
Colorado	2,609	2,679	2,883	90%	93%
Connecticut	13	13	79	16%	16%
Delaware	0	0	0	n/a	n/a
Dist. of Columbia	0	0	0	n/a	n/a
Florida	0	0	0	n/a	n/a
Georgia	0	0	0	n/a	n/a
Hawaii	0	0	0	n/a	n/a
Idaho	0	0	0	n/a	n/a
Illinois	0	0	0	n/a	n/a
Indiana	0	0	0	n/a	n/a
Iowa	0	0	0	n/a	n/a
Kansas <sup>2</sup>	0	5,433	-	n/a	n/a
Kentucky	0	0	0	n/a	n/a
Louisiana	0	0	0	n/a	n/a
Maine <sup>2</sup>	0	0	-	n/a	n/a
Maryland	0	0	0	n/a	n/a
Massachusetts	0	0	0	n/a	n/a
Michigan	0	195	78	0%	250%
Minnesota	0	0	0	n/a	n/a
Mississippi	491	0	0	n/a	n/a
Missouri	0	0	0	n/a	n/a
Montana	130	130	152	86%	86%
Nebraska	0	0	0	n/a	n/a
Nevada	0	0	0	n/a	n/a
New Hampshire	0	0	0	n/a	n/a
New Jersey	0	0	0	n/a	n/a
New Mexico	0	0	0	n/a	n/a
New York <sup>3</sup>	0	2,324	5,111	0%	45%
North Carolina	0	0	0	n/a	n/a
North Dakota	0	0	0	n/a	n/a



	Kaiser Family Foundation (KFF) <sup>1</sup>	CMS 372	MAX	KFF as a Percentage of MAX	CMS 372 as a Percentage of MAX
Ohio	0	0	0	n/a	n/a
Oklahoma	0	0	0	n/a	n/a
Oregon	0	0	0	n/a	n/a
Pennsylvania	0	0	0	n/a	n/a
Rhode Island <sup>4</sup>	0	0	0	n/a	n/a
South Carolina	0	0	0	n/a	n/a
South Dakota	0	0	0	n/a	n/a
Tennessee	0	0	0	n/a	n/a
Texas <sup>5</sup>	0	0	24	0%	0%
Utah <sup>6</sup>	0	0	-	n/a	n/a
Vermont <sup>4</sup>	0	0	0	n/a	n/a
Virginia	0	0	0	n/a	n/a
Washington	0	0	0	n/a	n/a
West Virginia	0	0	0	n/a	n/a
Wisconsin	0	1,457	1,397	0%	104%
Wyoming	0	100	160	0%	63%
United States	3,243	12,331	9,884	33%	125%

Data Sources:

Medicaid Analytic eXtract (MAX)

Ng T, Harrington C, Musumeci M, and Reeves E. *Medicaid Home and Community-Based Services Programs: 2010 Data Update* May 27, 2014. Available on-line at <http://kff.org/medicaid/report/medicaid-home-and-community-based-service-programs/>.

Eiken S. *Medicaid 1915(c) Waiver Data Based on the CMS 372 Report, 2010-2011* September 2014 Available on-line at <http://www.medicare.gov/Medicaid-CHIP-Program-Information/By-Topics/Long-Term-Services-and-Supports/Long-Term-Services-and-Supports.html>.

<sup>1</sup> The KFF report categorizes waivers for children with a serious emotional disturbance within a different category: waivers targeting children.

<sup>2</sup> MAX does not include 2010 data for Kansas and Maine.

<sup>3</sup> One or more CMS 372s for 2010 was not submitted for this state.

<sup>4</sup> Rhode Island and Vermont provide services similar to 1915(c) waivers in 1115 demonstrations. Population data for these services are not available in MAX.

<sup>5</sup> A CMS 372 was not submitted for a Texas waiver for children with a serious emotional disturbance because the waiver started during 2010. The CMS 372 is not required until a waiver has been effective for a full year.

<sup>6</sup> MAX does not include 2010 data for Utah, but Utah data were available in a validation file used to develop MAX. Population data for 1915(c) waiver services were not available in the validation file.