Medicaid Long Term Services and Supports Annual Expenditures Report

Federal Fiscal Year 2019

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Acronyms

ACA	Affordable Care Act
AIDS	acquired immunodeficiency syndrome
ASD	autism spectrum disorder
A&D	Aged and Disabled
BHC	behavioral health conditions
CFC	Community First Choice
CHIP	Children's Health Insurance Program
CMS	Centers for Medicare & Medicaid Services
COS	category of service
CPI	consumer price index
DD	developmental disabilities
DSH	disproportionate share hospital
ECF	employment and community first
FAI	Financial Alignment Initiative
FFS	fee-for-service
FIDA-IDD	Fully Integrated Duals Advantage for Individuals with Intellectual and Developmental Disabilities
FIDE SNP	fully integrated dually eligible special needs plan
FMR	Financial Management Report
FY	fiscal year
HCBS	home and community-based services
HIV	human immunodeficiency virus
ICF/IID	Intermediate Care Facilities for Individuals with Intellectual Disabilities
ID	intellectual disabilities
IMD	Institutions for Mental Diseases
LTSS	long-term services and supports
MACPAC	Medicaid and CHIP Payment and Access Commission
MAP	Medicaid Advantage Plus

MBES	Medicaid Budget and Expenditure System
MCO	managed care organization
MFP	Money Follows the Person
MLTC	Managed Long Term Care
MLTSS	managed long-term services and supports
MSC+	Minnesota Senior Care Plus
MSHO	Minnesota Senior Health Options
NA	not available
n.a.	not applicable
OD	other disabilities
OPWDD	Office for People with Developmental Disabilities
PACE	Program of All-Inclusive Care for the Elderly
PAHP	prepaid ambulatory health plan
PCA	personal care assistance
PD	physical disabilities
PIHP	prepaid inpatient health plan
PMAP+	Prepaid Medical Assistance Program Plus
SED	serious emotional disturbances
SNBC	Special Needs Basic Care
SPA	state plan amendment
TD	technologically dependent

Executive Summary

Long-term services and supports (LTSS) encompass a wide range of medical and nonmedical services and supports for people with physical, intellectual, mental, or other disabilities or conditions. These can include institutional care, such as that provided in nursing facilities, intermediate care facilities for individuals with intellectual or developmental disabilities (ICF/IDD), and mental health facilities,[1] and home and community-based services (HCBS), such as personal care and home health, among other services. Medicaid is the primary payer of LTSS, covering slightly more than half of all spending for such services and supports in the United States (Centers for Medicare & Medicaid Services n.d.; O'Malley Watts et al. 2020). Over the past several decades, federal and state initiatives and consumer preferences have led to shifts in Medicaid LTSS expenditure patterns across settings and service types, including increases in HCBS expenditures.

This report is the latest in a series of reports, sponsored by Centers for Medicare & Medicaid Services (CMS), on Medicaid LTSS expenditures. It contains detailed information about Medicaid LTSS expenditures for federal fiscal year (FY) 2019 (October 1, 2018, to September 30, 2019) at the national and state levels by service category, type of LTSS (institutional and HCBS), and payment models. Because this period occurred just before the onset of the COVID-19 Public Health Emergency (PHE) in early 2020, the data in this report can serve as a reference to monitor potential shifts in Medicaid LTSS expenditure patterns as states seek to provide alternatives to institutional care and take advantage of new federal funding opportunities to expand access to HCBS.

Data sources. To calculate expenditures, we used data from several sources, including Medicaid CMS-64 expenditure reports, state-reported managed LTSS (MLTSS) expenditures, Money Follows the Person (MFP) worksheets for proposed budgets, CMS 372 report data for section 1915(c) waiver programs, and U.S. Census data. California, Delaware, Illinois, and Virginia were unable to submit MLTSS expenditure data for the FY 2019 period, and because their MLTSS programs account for a large share of overall Medicaid LTSS spending, we excluded these states from national totals of LTSS, HCBS, and institutional expenditures.

Major changes from previous reports. This report reflects several changes from the most recent report covering FY 2017 and 2018 (Murray et al. 2021).

- The most notable change to the methodology is the lack of FY 2019 LTSS spending breakouts and rebalancing ratios—the share of total LTSS spending devoted to HCBS—for four major LTSS population subgroups: older adults and people with physical disabilities; people with intellectual or developmental disabilities; people with serious mental illness; and other individuals who need LTSS. Most of the data sources currently used to calculate state expenditures do not distinguish spending by these subgroups, and assumptions about which groups use specific services are increasingly unreliable given the shift toward LTSS delivery models that cover all population subgroups.[2] Consequently, previous methods to calculate LTSS spending and rebalancing ratios by population subgroups produce results that have become progressively more inaccurate. CMS and Mathematica are committed to reporting total expenditures, and the percentage of LTSS expenditures for HCBS, by

[1] Mental health facility expenditures include inpatient psychiatric hospital services for individuals under age 21 and services in Institutions for Mental Diseases (IMD) for individuals age 65 or older.
[2] While overall LTSS spending was not broken out by population, there were three service categories for which the data were reliable enough to report expenditures by population: section 1915(c) waiver programs, section 1915(i) State Plan HCBS, and Health Homes.

targeted population subgroups in future reports using data from the Transformed Medicaid Statistical Information System (T-MSIS).

- In addition to the methodology changes, this report now includes only overall LTSS summary tables in Appendix C of this document; several companion Excel attachments (Appendices D, E, F, and G) include the expenditure data tables by LTSS service category and state, as well as breakouts for MLTSS and other non-LTSS service category expenditures. Including most tables in Excel attachments allows stakeholders to more easily use the data.

Key findings

- **Total Medicaid LTSS expenditures.** National Medicaid LTSS expenditures totaled $162.1 billion in FY 2019, with HCBS accounting for $95.0 billion (58.6 percent) and institutional services accounting for $67.1 billion (41.4 percent). Total Medicaid LTSS spending grew by 26 percent over FY 2018, but the increase was largely due to more complete data for several states in FY 2019 (for more information on the methodology and data limitations, refer to Appendices A and B).
- **Medicaid LTSS expenditures per state resident.** States spent an average of $608.25 Medicaid LTSS dollars per state resident in FY 2019. Utah had the lowest Medicaid LTSS expenditures per state resident at $265.82, whereas the District of Columbia had the highest at $1,391.06 per resident. Factors that may be contributing to these variations across states include differences in state demographics, LTSS eligibility requirements, and the type and amount of LTSS covered.
- **LTSS as a percentage of total Medicaid spending.** The share of LTSS out of total Medicaid expenditures has declined from 47 percent in FY 1988 to 34 percent in FY 2019. There are several factors behind this decline, including state LTSS system rebalancing initiatives that promote the increased use of more cost-effective HCBS and increased spending for Medicaid populations that do not use LTSS.
- **HCBS as a percentage of total Medicaid LTSS expenditures.** The percentage of HCBS expenditures out of total Medicaid LTSS expenditures has steadily increased over the last three decades, but the rate of growth has slowed in recent years. The national total surpassed the long-standing benchmark of 50 percent of LTSS expenditures in FY 2013 and has remained higher than 50 percent since then, reaching 58.6 percent in FY 2019. This was an all-time high and represented a 2.5 percentage point increase from FY 2018. A total of 30 states spent at least 50 percent of Medicaid dollars on HCBS in FY 2019, an improvement over FY 2018, which saw 27 states meet this benchmark.[3]
- **MLTSS expenditures.** The absolute amount spent on MLTSS programs[4] increased more than sevenfold in the past two decades, climbing from $6.7 billion in FY 2008 to $47.5 billion in FY 2019.[5] This growth reflects more states using MLTSS, rising from 8 in FY 2006 to 25 states in FY 2019, and more people receiving LTSS though these programs. In FY 2019, four states—New York,

[3] For the purpose of these counts, the District of Columbia is considered a state. The total of 30 states includes 29 states and the District of Columbia and the total of 27 states includes 26 states and the District of Columbia.
[4] Program of All-inclusive Care for the Elderly (PACE) expenditures are not included as part of MLTSS totals and trends for the purposes of this report. However, PACE is reported as a separate category, and the PACE expenditures contribute to overall LTSS totals. To see a full list of the MLTSS programs categorized as MLTSS in this report, refer to Table A.1.
[5] Arkansas, California, Delaware, Illinois, and Virginia could not submit data on MLTSS expenditures for FY 2019; therefore, $47.5 billion is an undercount of overall MLTSS expenditures for this period, and $162.1 billion is an undercount of total Medicaid LTSS spending.

Texas, Pennsylvania, and Florida—accounted for 62 percent of total MLTSS spending nationally, with New York representing 28 percent of total national MLTSS expenditures. Total managed HCBS expenditures as a percentage of total MLTSS expenditures was 65.1 percent in FY 2019, which was 6.5 percentage points higher than the share of total HCBS spending out of total LTSS expenditures (58.6 percent).

- **Service categories making up the greatest share of institutional and HCBS expenditures.** Spending on nursing facility services represented the greatest share of institutional LTSS expenditures, accounting for 80 percent of these expenditures in FY 2019. Spending on section 1915(c) waiver programs represented the majority of HCBS expenditures in FY 2019, accounting for 51 percent of these expenditures.
- **Section 1915(c) waiver program expenditures.** All but four states (Arizona, New Jersey, Rhode Island, and Vermont)[6] operated at least one section 1915(c) waiver program to provide HCBS in FY 2019. Although section 1915(c) waiver program expenditure growth has fluctuated over the last 10 years, expenditures have generally increased even when adjusted for inflation, reaching $51.8 billion in FY 2019. Although we were unable to analyze overall spending breakouts and rebalancing ratios for the four major LTSS population subgroups, we were able to analyze section 1915(c) waiver program expenditures by population because the data are reported by waiver program. We found that three-quarters (74.6 percent) of total waiver program expenditures were spent on people with autism spectrum disorder or intellectual or developmental disabilities in FY 2019. Among the remainder, about 19.7 percent of total waiver program expenditures were spent on older adults and people with physical or other disabilities, and each of the other population groups—including multiple subgroups, people with brain injuries, individuals who are medically fragile or dependent on technology, mental health services or individuals with serious emotional disturbance, and individuals with HIV/AIDs—cumulatively accounted for about 6 percent of total waiver program expenditures.

[6] Arizona, New Jersey, Rhode Island, and Vermont provided similar services to HCBS-eligible populations in demonstrations authorized under section 1115 of the Social Security Act. While other states also use section 1115 authority to provide HCBS, all other states had at least one active section 1915(c) waiver program in FY 2019. Although New Jersey and Rhode Island did not have any section 1915(c) waiver programs in FY 2019, these states reported fee-for-service (FFS) HCBS expenditures provided through section 1115 demonstration authority under line 19A in the CMS-64 data; these expenditures are captured in this report as section 1915(c) waiver program expenditures. LTSS expenditures for Arizona and Vermont's section 1115 demonstrations were obtained from the state-submitted MLTSS data.

I. Introduction

A. Background and purpose of report

Long-term services and supports (LTSS) encompass a wide range of medical and nonmedical services and supports for people with physical, intellectual, mental, or other disabilities or conditions. The type, intensity, and cost of services provided to people who require LTSS vary widely depending on their health and functional status, the nature and severity of their disability, the setting in which they reside, and the availability of formal and informal supports. Private insurance, Medicare, and other public sources provide only limited LTSS coverage, so the majority of people who require LTSS rely on informal supports from family and friends to meet their needs. When people cannot obtain sufficient informal support to maintain their health and/or safety and must pay for LTSS out of pocket, many of them must deplete their resources and thus, become eligible for Medicaid. Medicaid is the primary payer of LTSS in the United States, accounting for about 52 percent of all LTSS spending (Centers for Medicare & Medicaid Services n.d.; O'Malley Watts et al. 2020).

Federal Medicaid rules allow states to cover a wide range of institutional and home and community-based LTSS, but the type of services, populations covered, and delivery models differ substantially across states based on their individual Medicaid program structure. Over the last several decades, states have sought to rebalance their LTSS systems by increasing home and community-based services (HCBS) and reducing reliance on institutional care. Changes in available Medicaid policy options and state delivery models, along with strong consumer preferences to live and receive LTSS in the community, have led to shifts in Medicaid LTSS expenditure patterns in recent years toward more community-based expenditures.

This report is the latest in a series of reports sponsored by Centers for Medicare & Medicaid Services (CMS) to document national and state Medicaid LTSS expenditures by different categories of service, type of LTSS (institutional and HCBS), and payment models. It covers expenditures in federal fiscal year (FY) 2019 (October 1, 2018, to September 30, 2019).

Because this period occurred just before the onset of the COVID-19 Public Health Emergency (PHE) in early 2020, the data in this report can serve as a reference to monitor potential shifts in Medicaid LTSS expenditure patterns, as states seek to provide alternatives to institutional care and take advantage of new federal funding opportunities to expand access to HCBS. In particular, section 9817 of the American Rescue Plan Act of 2021 (ARP), signed into law on March 11, 2021, provides qualifying states with a temporary 10 percentage point increase in the federal medical assistance percentage (FMAP) for expenditures on certain Medicaid HCBS from April 1, 2021, through March 31, 2022 (P.L. 117-2). States are required to use the federal funds to "implement, or supplement the implementation of, one or more activities to enhance, expand, or strengthen" Medicaid HCBS (CMS 2021). The Congressional Budget Office estimates that section 9817 of the ARP will increase federal spending on HCBS by $12.7 billion between April 1, 2021, and March 31, 2022 (Congressional Budget Office 2021).

This report includes total Medicaid LTSS expenditure information, including section 1915(c) waiver program expenditure information based on the CMS-64 report data. A companion report to this one, Medicaid section 1915(c) Waiver Programs Annual Expenditures and Beneficiaries Report: Analysis of CMS 372 Annual Reports, 2017–2018, includes more detailed information on Medicaid section 1915(c) waiver program expenditures and beneficiaries based on the CMS 372 data (Ross et al. 2021).

B. Data and methods

We used several data sources to calculate Medicaid LTSS expenditures: (1) CMS-64 Medicaid expenditure report data, (2) state-reported MLTSS data, (3) Money Follows the Person (MFP) worksheets for proposed budgets, (4) CMS 372 data on section 1915(c) waiver program population groups, and (5) U.S. Census data. Brief descriptions of these data sources, and key data exclusions, follow. Details on the data, methods, and state data anomalies are available in Appendices A and B.

1. **CMS-64 data.** States must submit expenditures and other information to CMS to determine the amount of Federal Financial Participation (FFP) they will receive for authorized Medicaid and Children's Health Insurance Program (CHIP) expenditures. States submit this information in a series of CMS-64 forms, hereafter referred to as the CMS-64. CMS uses the CMS-64 submissions to calculate state-by-state and state-specific summary expenditure data for each FY. The summary information is contained in the Medicaid Financial Management Report (FMR) Net Services for Medical Assistance Program. We used CMS-64 FMR Net Services report data for FY 2019 for all service category expenditures except section 1915(c) waiver program, MLTSS, and MFP expenditures. For section 1915(c) waiver program expenditures, we used information from the Waiver Expenditures by Category of Service (COS) report from the CMS-64 to calculate expenditures claimed by the state for each waiver program.
2. **State-reported MLTSS data.** Because CMS-64 data do not identify MLTSS expenditures separately from other state managed care expenditures and do not disaggregate expenditures by service category, we collected data directly from states on MLTSS program expenditures. For this report, we also systematically validated the data submissions to check for consistency in populations and services covered, as well as federal authorities, for each MLTSS program.
3. **MFP budget documentation.** To capture LTSS expenditures for the MFP demonstration, we used data from state MFP worksheets for proposed budgets provided by CMS for all states with active MFP demonstrations in 2019.
4. **CMS 372 data.** CMS requires states operating section 1915(c) waiver programs to provide annual information on each waiver program in the CMS Form 372(S), hereafter referred to as the CMS 372 reports, via the Waiver Management System. This is a web-based system that includes the CMS 372 reports and other information about section 1915(c) waiver programs, such as their eligible targeted population groups and subgroups. We linked information from the CMS 372 data on targeted population and subgroups for each section 1915(c) waiver program to categorize waiver program-level expenditures from the COS reports by LTSS targeted population.
5. **U.S. Census Bureau data.** To standardize spending across states, we used data from the U.S. Census Bureau for total state population to calculate Medicaid expenditures per resident.

We combined information from each of these five data sources to calculate national and state LTSS expenditures in total and by service category and type of LTSS (institutional or HCBS). We also calculated the overall percentage of LTSS expenditures for HCBS for each state, which is a key measure that CMS, states, and other stakeholders use to monitor states' progress toward rebalancing their LTSS system toward more HCBS.

Excluding states with missing or aggregate MLTSS data. Five states (Arkansas, California, Delaware, Illinois, and Virginia) were unable to provide any FY 2019 MLTSS expenditure data, or sufficiently accurate and comprehensive FY 2019 MLTSS expenditure data, for this report. MLTSS programs account for a large share of overall LTSS expenditures in four of these states: California, Delaware,

Illinois, and Virginia.[7] Consequently, we excluded these four states from our calculations of the percentage of HCBS out of total LTSS expenditures and from all calculations of total Medicaid, total LTSS, total HCBS, and total institutional LTSS. However, we included fee-for-service (FFS) spending by these states in the service category and section 1915(c) waiver program output based on CMS-64 and MFP data.

We included Arkansas in all totals because the missing data for its MLTSS program made up a relatively small proportion of the state's total LTSS expenditures. These exclusions and any other state-specific issues are described in Appendices A and B and in relevant table notes in Appendices C, D, E, F, and G.

C. Overview of major changes from prior report

Although the methods used for this report are largely the same as those used for the latest annual Medicaid LTSS expenditures report covering FY 2017 and 2018 expenditures (Murray et al. 2021), there are five key changes to the methods and reporting for FY 2019. Methods and the key changes from the prior report are described in detail in Appendix A.[8]

1. **Different data source for section 1915(c) waiver program expenditures**. We used the Waiver Expenditures by COS report from the CMS-64 data to calculate FY 2019 expenditures for each section 1915(c) waiver program claimed by the state. In the report covering FY 2017 and 2018, we used the CMS-64 Schedule A waiver report to calculate section 1915(c) waiver program expenditures. We identified some duplication of expenditure reporting across select categories of service in the CMS-64 FMR Net Services report and in the Schedule A waiver report that we were unable to separate using the Schedule A data. We also identified some missing section 1915(c) waiver program expenditures for several states that are provided under relevant section 1115 demonstration or 1915(b) authority that we could not accurately capture using the Schedule A data. We were able to address the duplication and missing expenditure issues this year by using the CMS-64 Waiver Expenditures by COS report to calculate section 1915(c) waiver program expenditures for FY 2019 resulting in more accurate data.
2. **New service categories.** For states with section 1915(c) waiver program expenditures provided under a section 1115 demonstration or 1915(b) authority reported in the Waiver Expenditures by COS report, we have classified these expenditures under a new category called HCBS Waiver Program Expenditures Covered under Section 1115 or 1915(b) Authority. In addition, because Vermont operates a global LTSS program under section 1115 demonstration authority, LTSS spending reported by Vermont differs from other states; LTSS expenditures in Vermont that could not be grouped into the standard LTSS categories are classified as HCBS LTSS: other and Institutional LTSS: other. Finally, the CMS-64 FMR Net Services began reporting a new expenditure line in FY

[7] Because California, Illinois, and Virginia were unable to provide any usable MLTSS expenditure data for FY 2017-2019, the prior year trending for these states shown in Appendices C-G is relatively comparable. New York and South Carolina were unable to provide any usable MLTSS expenditure data for FY 2017 and FY 2018 but provided data for FY 2019. Delaware was able to provide usable MLTSS expenditure data for FY 2017 and FY 2018 but did not provide data for FY 2019. Arkansas had a new MLTSS program that began during FY 2019 but the state was unable to provide any usable MLTSS expenditure data for FY 2019. Therefore, trending between FY 2017-2019 may not be comparable for New York, South Carolina, Delaware, and Arkansas.

[8] Please note that changes to missing state data and, to a lesser extent, various changes to the methodology and state reporting differences and anomalies across the various data sources contribute to fluctuations in trends in FY 2019 compared to prior years. We have addressed these anomalies throughout the report to the extent that we are able to provide explanations that can help explain trends.

2019: line 45, also referred to as Health Homes for enrollees with substance use disorder. Only Michigan reported expenditures in this category in FY 2019, and these expenditures are included in the Health Home expenditure tables (which also include CMS-64 line 43: Health Home expenditures for enrollees with chronic conditions).

3. **MLTSS data collection**. The FY 2017 and 2018 MLTSS data request asked states to report their HCBS expenditures into two major categories: section 1915(c) waiver program expenditures and non–section 1915(c) waiver program expenditures. Within either category, states could report expenditures for personal care, home health, rehabilitative services, targeted case management, or other HCBS. To ease reporting burden on states, the FY 2019 data request removed these section 1915(c) and non-section 1915(c) distinctions and asked states to report total expenditures for the above HCBS categories. We also removed the request for states to report total MLTSS member months. In the FY 2017 and 2018 MLTSS data request, states were asked to report total MLTSS member months and unique enrollee counts for the purposes of data validation and to inform state data notes included in Appendix B. For FY 2019, we asked states to report unique enrollee counts only. This year, we also asked states to report hospice expenditures by MLTSS programs, which were combined with FFS hospice expenditures reported in the CMS-64 FMR Net Services data and reported in Appendix G (Non-LTSS expenditures).
4. **Detailed data tables in separate Excel files**. Rather than including most output tables in this report, we present just 11 LTSS expenditure summary tables in Appendix C of this document and created several companion Excel attachments (Appendices D, E, F, and G) to make available detailed expenditure data tables by LTSS service category and state, as well as breakouts for MLTSS and other non-LTSS service category expenditures. The tables in Excel attachments allow users to sort and use the data as needed.
5. **No spending breakouts and rebalancing ratios for four LTSS targeted population subgroups.** In the most significant change to this year's report, we did not calculate total expenditures, or the percentage of LTSS expenditures for HCBS, for the four major LTSS targeted population subgroups: older adults or people with physical or other disabilities (OD or PD), people with autism spectrum disorder (ASD) or intellectual or developmental disabilities (ID or DD), people with behavioral health conditions, and multiple populations. CMS and Mathematica recognize the importance of breaking out LTSS spending by these four targeted population subgroups but concluded that using currently available data sources for this purpose would produce unreliable and misleading results; thus, we decided not to include these calculations in this year's report.[9] The reasons are as follows:
   - **Less reliance on section 1915(c) waiver programs.** Although section 1915(c) waiver programs still make up a substantial proportion of Medicaid HCBS spending, many states have reduced their reliance on these waiver programs over time and use a combination of many other authorities to deliver HCBS. For example, Arizona, New Jersey, Rhode Island, and Vermont do not operate any section 1915(c) waiver programs, but these states provide similar services to HCBS-eligible populations in demonstrations authorized under section 1115 of the Social Security Act, as well as other federal authorities. Spending for targeted population subgroups can be identified for section 1915(c) waiver programs based on information contained in the CMS 372 data, but it is not possible to accurately identify HCBS expenditures based on CMS-64 data by targeted population subgroups for services and supports delivered through other federal authorities.

[9] Note that previous methods for calculating population subgroup expenditures are still contained in Appendix A for reference.

- **Continued use of optional state plan HCBS.** Although states can use targeting criteria based on age, diagnosis, disability, or Medicaid eligibility group to limit the availability of state plan HCBS,[10] states typically deliver optional state plan HCBS to multiple populations and do not limit delivery to only one population group. For example, most states do not use a combination of targeting criteria that would limit personal care state plan HCBS to only older adults and people with OD or PD within their state. Because of the broad coverage under state plan options and limitations in current data sources, we are unable to separate state plan HCBS expenditures for each specific targeted population subgroup. To report expenditures by targeted population subgroups in previous reports, we made assumptions about the type of services used by each population, and we assigned all state expenditures for individual service categories to the relevant population group. However, these assumptions were not based on a systematic assessment of actual expenditures at the beneficiary level.
- **Increased use of the Community First Choice (CFC) option within a subset of states.** Several states rely heavily on the CFC option to cover all LTSS populations.[11] As is the case for other optional state plan HCBS, it is not possible to distinguish CFC spending for different targeted population subgroups in the CMS-64 data to accurately attribute expenditures to each relevant population.
- **Increased use of MLTSS.** Many states now deliver a substantial amount of LTSS through MLTSS programs. The MLTSS expenditures in this report are based on state-submitted data that do not include expenditures by target population, as this would be difficult for states to reliably track and report by the targeted population subgroup definitions that are used for this report. As different data sources become available, we will continue to explore their use in calculating MLTSS expenditures by targeted population subgroups.
- **Changing patterns for predominant users of services.** Although historically there were some service types for which it may have been reasonable to assume that most users belonged to one targeted population subgroup, service use patterns might have changed in recent years in ways that undermine these assumptions. For example, although it may have been reasonable in the past to assume that most users of nursing facility services were older adults and people with PD or OD, people with behavioral health conditions also use nursing facility services (Aschbrenner et al. 2011a, 2011b). Without detailed beneficiary-level data, we cannot determine how the distribution of nursing facility and other service expenditures varies across the different targeted population subgroups to appropriately assign expenditures.

CMS and Mathematica are committed to reporting total expenditures and the percentage of LTSS expenditures for HCBS by targeted population subgroups in future reports using data from the Transformed Medicaid Statistical Information System (T-MSIS). T-MSIS offers a more reliable source to calculate LTSS expenditures by subgroup because it contains beneficiary-level data that will allow us to identify the characteristics of beneficiaries using each service type. Although T-MSIS contains a rich set of data to produce more reliable results, further analyses are required to verify that states report sufficiently complete and accurate T-MSIS data for this purpose. We will provide updates on this work in future expenditure reports.

[10] Targeting criteria are defined in 42 CFR 441.710(e).
[11] For example, more than 80 percent of Oregon's HCBS expenditures in FY 2019 were for Community First Choice.

D. Report road map

In the remaining sections of this report, we summarize information about Medicaid LTSS expenditures in FY 2019 and present trends in Medicaid LTSS expenditures over time. In Section II, we examine national and state-level total Medicaid LTSS expenditures. Section III presents changes in LTSS as a percentage of total Medicaid spending over time. Section IV presents data on LTSS rebalancing ratios—HCBS as a percentage of total Medicaid LTSS spending—by state and over the last 31 years (FY 1988 to 2019). Section V provides more detailed information on MLTSS expenditures over the last 11 years (FY 2008 to 2019). The next two sections describe the distribution of expenditures by service category (Section VI) and section 1915(c) waiver program expenditures (Section VII). In Section VIII, we present our conclusions.

II. Total Medicaid LTSS Expenditures

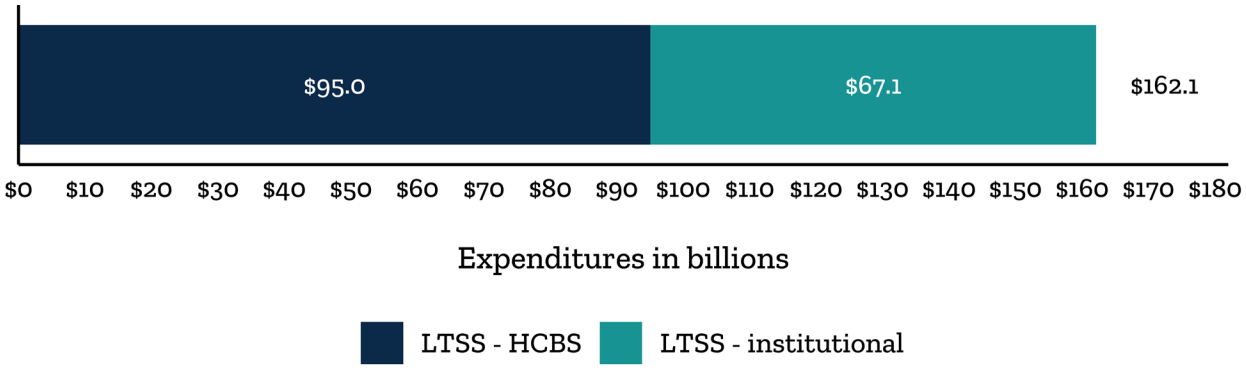
A. National Medicaid LTSS expenditures

Total LTSS expenditures and annual rate of growth. National Medicaid LTSS expenditures totaled $162.1 billion in FY 2019, growing from FY 2018 by about 26 percent (Figure II.1 and Appendix Table C.1). Much of this growth is due to more complete data for several states in FY 2019, relative to FY 2018, such as the addition of New York data in FY 2019. [12] Further details on the methodology and data limitations are available in Appendices A and B.

HCBS and institutional expenditures. Out of the $162.1 billion in total LTSS expenditures in FY 2019, $95.0 billion (58.6 percent) were for HCBS and $67.1 billion (41.4 percent) were for institutional services (Figure II.1 and Appendix Table C.1). Total Medicaid LTSS growth over the last decade is attributable largely to an increase in HCBS expenditures, which rose from 43 percent of total LTSS expenditures in FY 2008 to 58.6 percent in FY 2019.

Both HCBS and institutional expenditures increased substantially between FY 2018 and 2019 because of more complete data for several states in FY 2019, but the increase in HCBS expenditures outweighed the increase in institutional expenditures.

Figure II.1. Medicaid HCBS and institutional LTSS expenditures, in billions, FY 2019



Sources: Mathematica's analysis of FY 2019 CMS-64 data, state-submitted MLTSS data, and MFP worksheets for proposed budget.

Notes: We did not include data prior to FY 2019 due to missing data and changes in methodology that impact the interpretability of historical trending. We excluded California, Delaware, Illinois, and Virginia because of missing data. Further details about the data sources, methods, and data limitations are available in Appendices A and B.

CMS = Centers for Medicare & Medicaid Services; FY = fiscal year; HCBS = home and community-based services; LTSS = long-term services and supports; MFP = Money Follows the Person; MLTSS = managed long-term services and supports.

[12] California, Illinois, New York, North Carolina and Virginia were excluded from FY 2017 and 2018 expenditure calculations, and California, Delaware, Illinois, and Virginia were excluded from FY 2019 expenditure calculations.

B. State trends in Medicaid LTSS expenditures

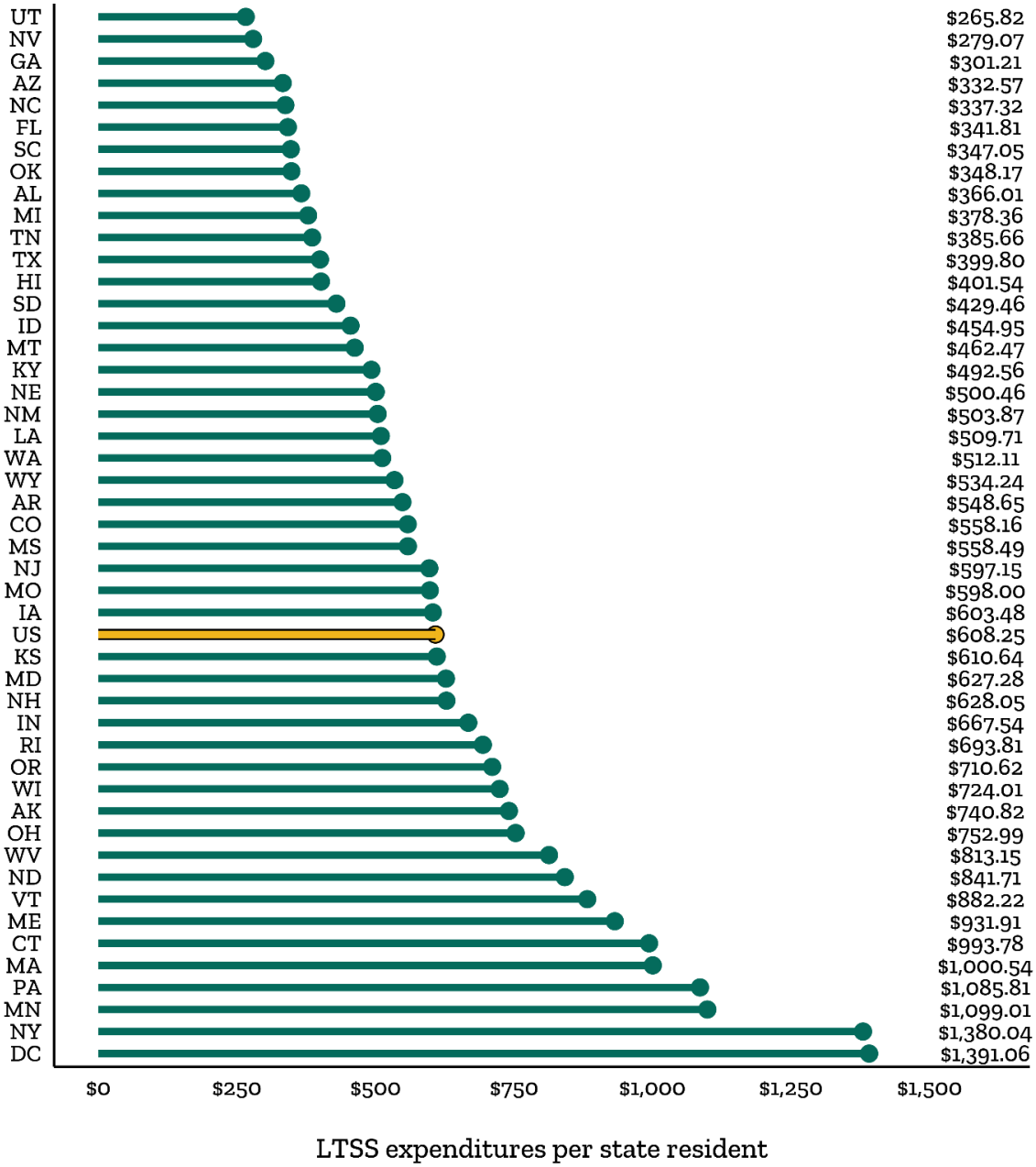
Medicaid LTSS expenditures per state resident. Total Medicaid LTSS expenditures vary by state. To standardize spending across states, we compared total spending to all residents in each state. In FY 2019, Medicaid LTSS expenditures per state resident averaged $608.25 nationally and varied across states, ranging from $265.82 in Utah to $1,391.06 in the District of Columbia (Figure II.2 and Appendix Table C.5).[13]

Between FY 2018 and 2019, this range increased slightly, but most states remained in the same general part of the distribution. However, states with the greatest increases in Medicaid LTSS expenditures per state resident between these years were Colorado, Rhode Island, Pennsylvania, and New Jersey ($232.57, $210.71, $153.44, and $139.88 increase per resident, respectively). The change for Rhode Island was attributable to a change in reporting and program structure in FY 2019, whereas the change for New Jersey was related to a change in methodology to account for a larger proportion of section 1115 demonstration expenditures in FY 2019 as compared to FY 2018 (Appendix Table D.16). Colorado's change in expenditures was primarily due to a prior period adjustment for section 1915(i) State Plan HCBS expenditures in FY 2018 (Appendix Table D.29). However, the large increase for Pennsylvania is likely due to significant MLTSS program expansion. States with the greatest decreases in Medicaid LTSS expenditures per state resident between these years were Vermont and Arkansas (-$199.47 and -$128.40 decrease per resident, respectively). For Vermont, the large decrease is likely due to double counting expenditures for nursing facility expenditures in FY 2017 and 2018 that inaccurately inflated total LTSS expenditures for those years. For additional details, see Appendix B. The large decrease in Arkansas between FY 2018 and 2019 is likely due to missing MLTSS data.

Many factors contribute to state variation in Medicaid LTSS expenditures per state resident, including differences in state demographics, LTSS eligibility requirements, and the type and amount of LTSS covered. For example, states with a higher proportion of older adults and people with disabilities might have higher Medicaid LTSS expenditures per state resident because these population groups use these services more frequently. In addition, state eligibility requirements affect access to these services because states set different income and asset standards and functional assessment thresholds for LTSS eligibility (Walker et al. 2010; Medicaid and CHIP Payment and Access Commission [MACPAC] 2016). Specifically, higher asset limits and more lenient functional status requirements increase the share of state residents who qualify for LTSS. People who live in primarily rural states often experience challenges in accessing LTSS care, which could affect use of these services and therefore decreased per state resident Medicaid LTSS spending (Houser et al. 2018). States can also determine the breadth of most Medicaid LTSS coverage, including the amount, scope, and duration of these services, which impacts Medicaid LTSS spending per state resident.

[13] As noted previously, total national LTSS expenditures in this report excludes expenditures for California, Delaware, Illinois, and Virginia for FY 2019.

Figure II.2. Medicaid LTSS expenditures per state resident, by state and United States total, FY 2019



Sources: Mathematica's analysis of FY 2019 CMS-64 data, state-submitted MLTSS data, MFP worksheets for proposed budget, and U.S. Census Bureau data.

Notes: We excluded California, Delaware, Illinois, and Virginia from all calculations because of missing data. To calculate the U.S. total expenditures per state resident, we divided the total amount of Medicaid LTSS expenditures for all states by the total U.S. Census population, excluding California, Delaware, Illinois, and Virginia. Further details about the data sources, methods, and data limitations are available in Appendices A and B.

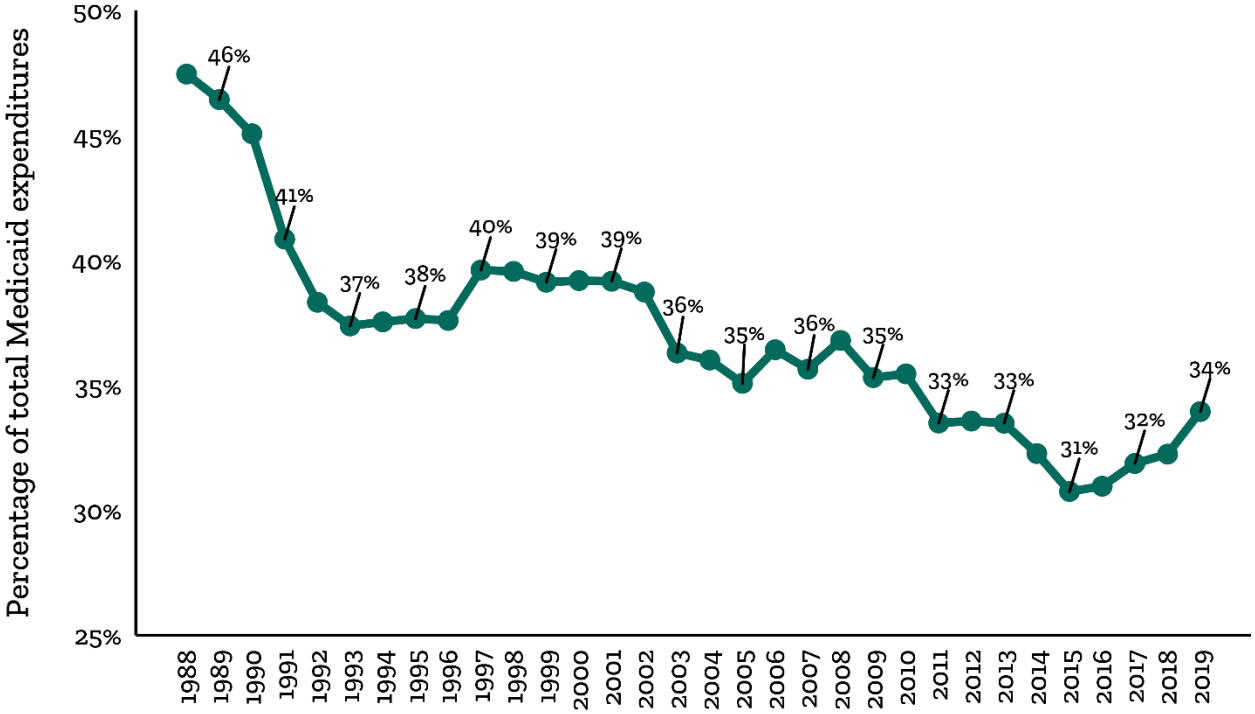
CMS = Centers for Medicare & Medicaid Services; FY = fiscal year; LTSS = long-term services and supports; MFP = Money Follows the Person; MLTSS = managed long-term services and supports.

III. Medicaid LTSS as a Percentage of Total Medicaid Expenditures

A. National trends in Medicaid LTSS as a percentage of total Medicaid expenditures

In FY 2019, spending on Medicaid LTSS accounted for 34 percent of total Medicaid expenditures, representing a total decrease of 13 percentage points from FY 1988 (Figure III.1 and Appendix Table C.3). Medicaid LTSS as a percentage of total Medicaid spending declined substantially from 47 percent in FY 1988 to 38 percent in FY 1992 and held relatively steady from FY 2010 to 2019, varying from 31 to 35 percent.

Figure III.1. Medicaid LTSS expenditures as a percentage of total Medicaid expenditures, FY 1988 to 2019



Sources: Mathematica's analysis of FY 2019 CMS-64 data, state-submitted MLTSS data, and MFP worksheets for proposed budget. Data for FY 1988 to 2014 were obtained from Wenzlow et al. (2016), data for FY 2015 and 2016 were obtained from an unpublished version of the 2017 LTSS Expenditure Report, and data for FY 2017 and 2018 were obtained from Murray et al. (2021).

Notes: Before FY 2008, data do not include expenditures for services provided through managed care programs. As noted in Eiken et al. (2018), data for FY 2014 to 2016 do not include LTSS within a large California managed care program and for certain states and program authorities from FY 2008 to 2016. Data for FY 2017 and 2018 do not include LTSS for California, Illinois, New York, and Virginia from FY 2017 and 2018 because of missing data. We excluded California, Delaware, Illinois, and Virginia from FY 2019 calculations because of missing data. Further details about the data sources, methods, and data limitations are available in Appendices A and B.

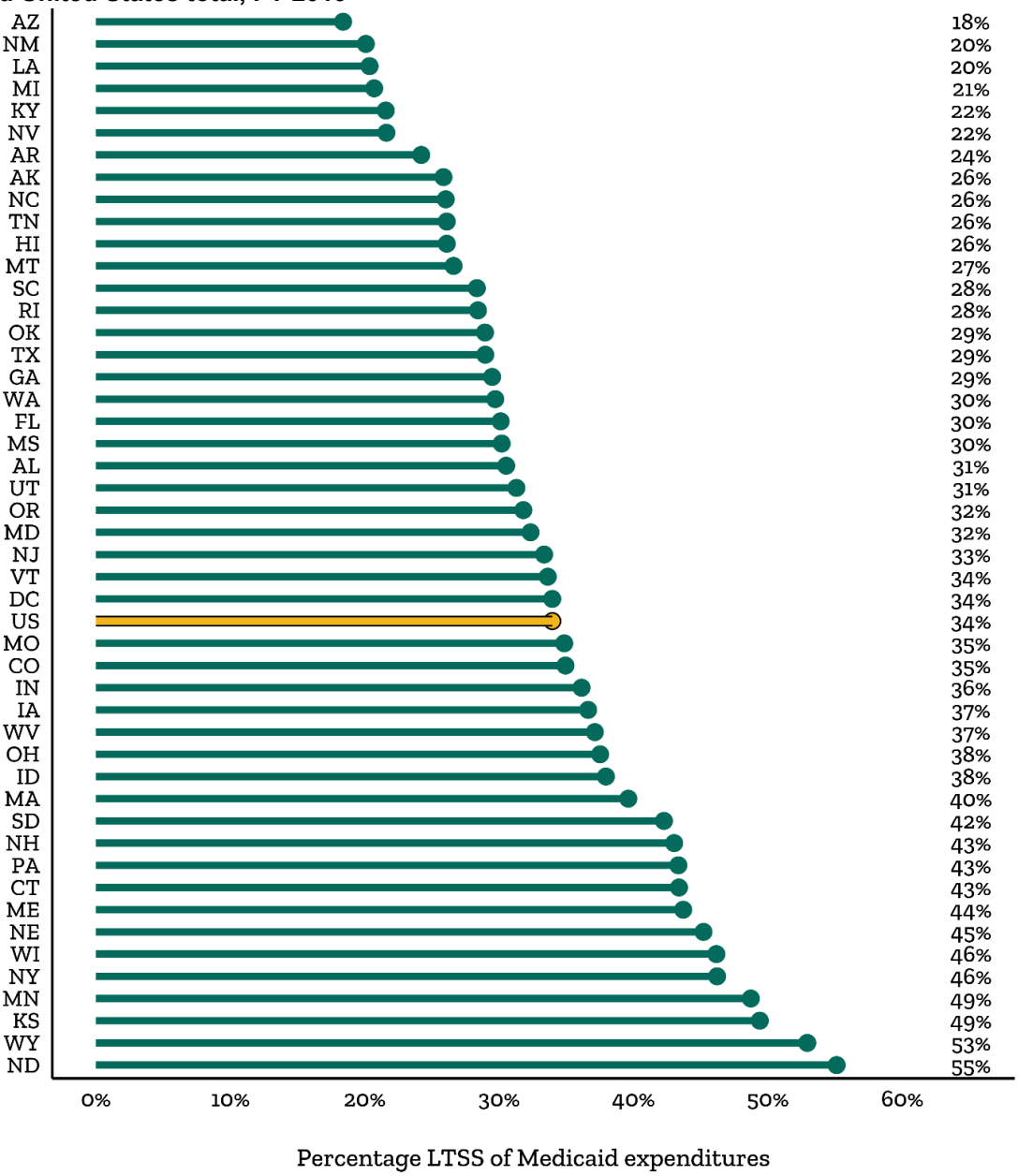
Factors that could have contributed to the overall decline in Medicaid LTSS spending as a percentage of total Medicaid expenditures include state LTSS system rebalancing initiatives that promote more cost-effective HCBS, such as the MFP program, as well as increased spending for Medicaid beneficiaries who do not use LTSS. For example, over the last several decades, the composition of Medicaid eligible populations shifted toward a greater proportion of children and adults younger than age 65 without disabilities who typically do not use LTSS (MACPAC 2020). From 1988 to 2018, the share of Medicaid beneficiaries who were children or adults who did not qualify for Medicaid based on disability changed from 67.8 percent in FY 1988 to 71.9 percent in FY 2018, and the share of eligible older adults and people with disabilities decreased from 29.0 percent in FY 1988 to 18.3 percent in FY 2018.

B. State trends in Medicaid LTSS as a percentage of total Medicaid expenditures

Although Medicaid LTSS as a percentage of total Medicaid expenditures represented about a third of spending nationally in FY 2019, proportions for individual states varied considerably (Figure III.2 and Appendix Table C.3). In FY 2019, the states with the highest percentage of Medicaid LTSS spending out of total state Medicaid expenditures were North Dakota, Wyoming, and Kansas (55, 53, and 49 percent, respectively), whereas the three states with the lowest percentage of Medicaid LTSS spending out of total state Medicaid expenditures were Arizona, New Mexico, and Louisiana (18, 20, and 20 percent, respectively).[14] Differences in state demographics related to LTSS needs could explain some of this variation. In addition, states have significant flexibility in the design of key Medicaid program features such as eligibility criteria, breadth of covered benefits, payment structures, and reimbursement rates, design choices that affect both LTSS and non-LTSS shares of total state Medicaid spending.

[14] As we excluded California, Delaware, Illinois, and Virginia because of missing data, they are not accounted for in these rankings.

Figure III.2. Medicaid LTSS expenditures as a percentage of total Medicaid expenditures, by state and United States total, FY 2019



Sources: Mathematica's analysis of FY 2019 CMS-64 data, state-submitted MLTSS data, and MFP worksheets for proposed budget.

Notes: We excluded California, Delaware, Illinois, and Virginia from because of missing data. U.S. territories are not shown; their Medicaid LTSS expenditures as a percentage of total Medicaid expenditures were 0.1 percent in FY 2019. To calculate the national percentage, we divided the total amount of LTSS expenditures by the total amount of Medicaid expenditures for all states, excluding California, Delaware, Illinois, and Virginia because of missing data for these states in FY 2019. Further details about the data sources, methods, and data limitations are available in Appendices A and B.

CMS = Centers for Medicare & Medicaid Services; FY = fiscal year; LTSS = long-term services and supports; MFP = Money Follows the Person; MLTSS = managed long-term services and supports.

IV. Spending on HCBS as a Percentage of Total Medicaid LTSS Expenditures

National and state performance and progress toward rebalancing Medicaid LTSS systems away from institutional services toward greater use of HCBS is typically measured based on the share of total Medicaid spending devoted to HCBS, commonly referred to as the LTSS rebalancing ratio. Nationally, HCBS spending as a percentage of total Medicaid LTSS expenditures was 58.6 percent in FY 2019 (Appendix Table C.8).

A. National trends in Medicaid LTSS rebalancing ratio

The share of HCBS spending relative to total Medicaid LTSS expenditures has steadily increased over the last three decades (Figure IV.1). The national total surpassed 50 percent of LTSS expenditures in FY 2013 and has remained higher than 50 percent since. HCBS expenditures as a share of total Medicaid LTSS expenditures declined slightly in FY 2017 and 2018 relative to the ratio in FY 2016 but increased from FY 2018 to 2019 (to 59 percent).[15]

58.6%

FY 2019 U.S. TOTAL HCBS EXPENDITURES AS A PERCENTAGE OF TOTAL MEDICAID LTSS EXPENDITURES

B. State trends in Medicaid LTSS rebalancing ratio

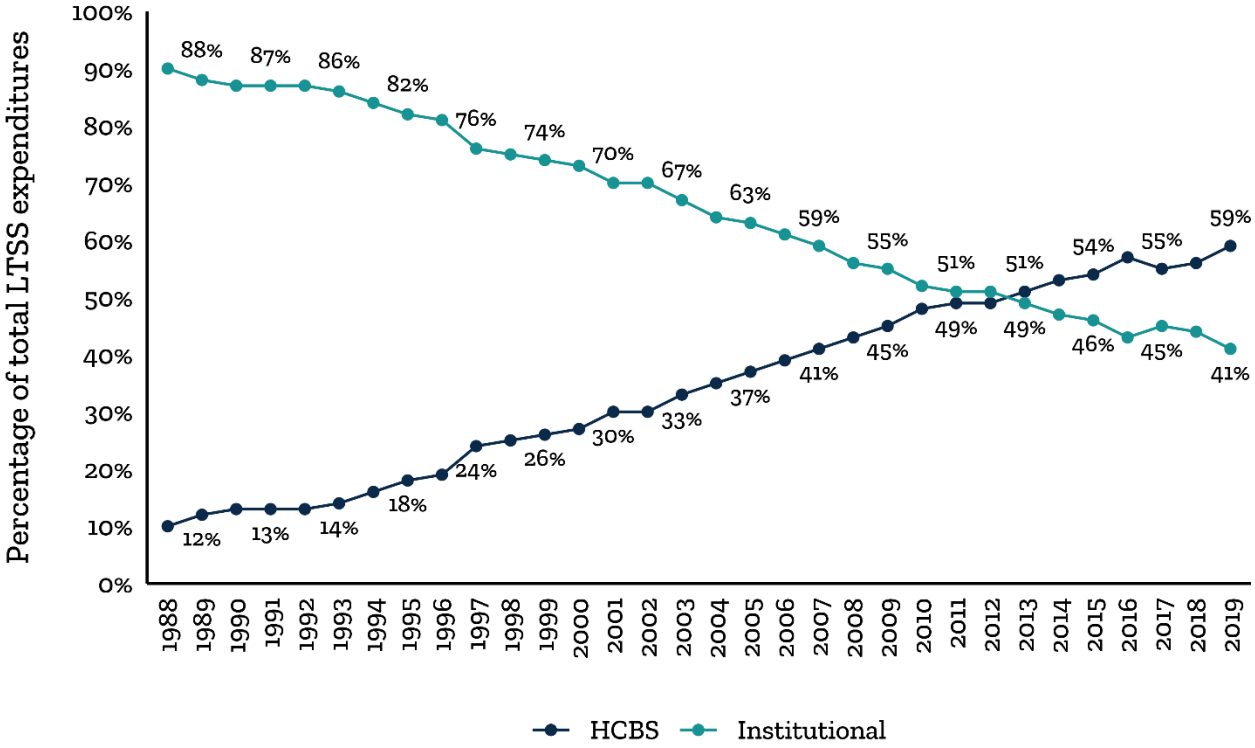
State performance on the LTSS rebalancing ratio. States varied substantially in the share of spending on HCBS of total Medicaid LTSS expenditures, ranging from 33.4 percent in Mississippi to 83.3 percent in Oregon (Figures IV.2 and IV.3 and Appendix Table C.8). About two-thirds (30) of all states for which data on HCBS spending were available (47) in FY 2019 spent 50 percent or more of total Medicaid LTSS expenditures on HCBS (Figure IV.2).

Five states—in descending order, Oregon, Minnesota, New Mexico, Arizona, and Wisconsin—spent more than 75 percent of their Medicaid LTSS expenditures on HCBS. Other states in the highest quartile of performance in descending order included Washington, Massachusetts, Kansas, Colorado, Vermont, and Pennsylvania. At the other end of the spectrum, the five states with the lowest share of spending on HCBS in FY 2019 included Mississippi, Indiana, Louisiana, Florida, and Michigan.

States in the highest quartile had the greatest range in performance for HCBS as a percentage of total Medicaid LTSS expenditures, with a 19.2 percentage point difference between Pennsylvania at the lowest end of the top quartile (64.1 percent) and Oregon at the highest end of the quartile (83.3 percent). In contrast, there was just a 14.1 percentage point spread among states in the lowest quartile of performance, with Mississippi at the lowest end of the quartile (33.4 percent) and New Jersey at the highest end of the quartile (47.5 percent). The difference between states at the highest and lowest ends in the second and third quartiles was 6.1 and 6.8 percentage points, respectively.

[15] The FY 2017 and 2018 measures were influenced by the exclusion of California, Illinois, New York, North Carolina, and Virginia from the calculations. The FY 2019 measures were influenced by the exclusion of California, Delaware, Illinois, and Virginia from the calculations.

Figure IV.1. Medicaid HCBS and institutional LTSS expenditures as a percentage of total Medicaid LTSS expenditures, FY 1988 to 2019

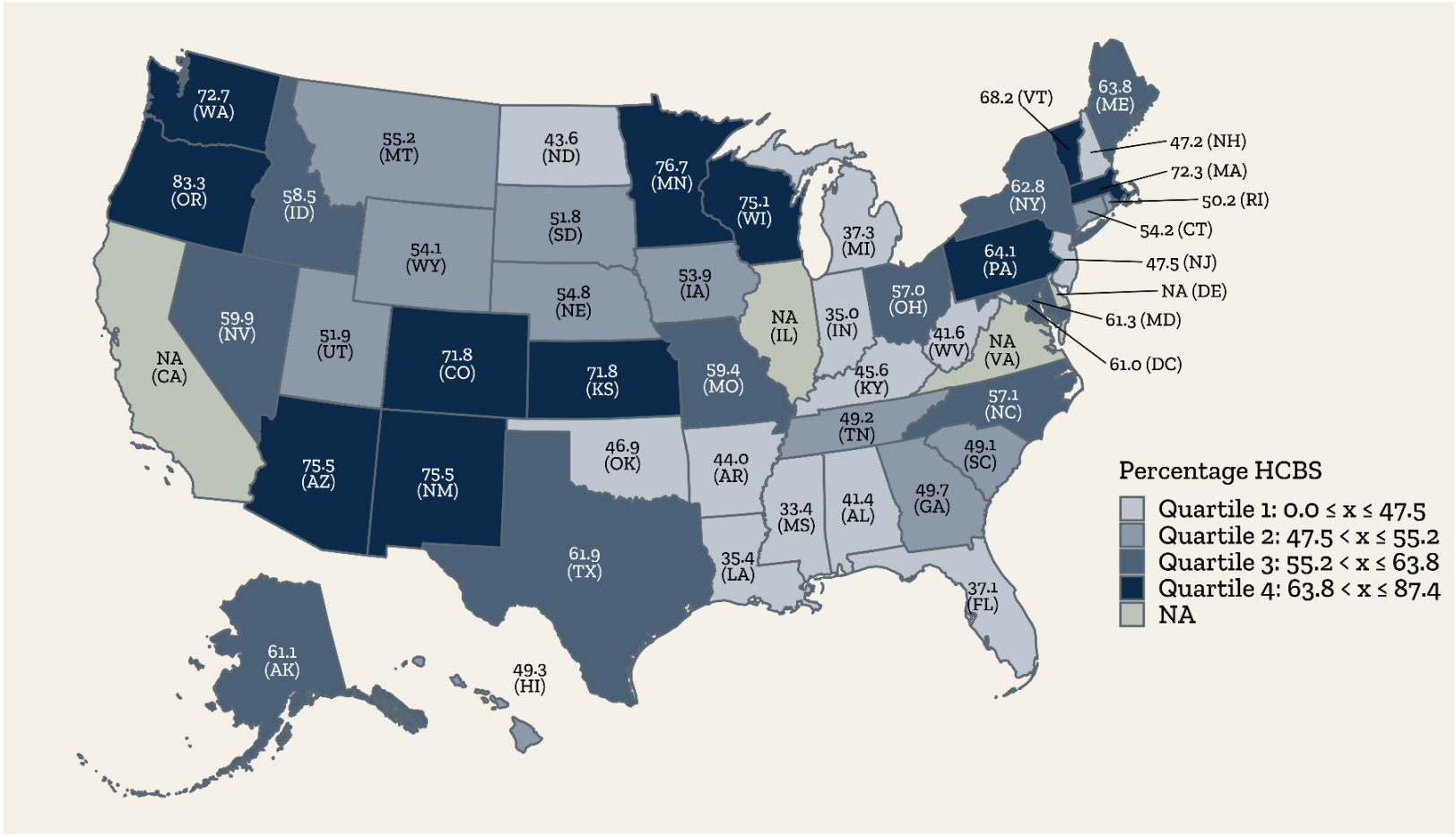


Sources: Mathematica's analysis of FY 2019 CMS-64 data, state-submitted MLTSS data, and MFP worksheets for proposed budget. Data for FY 1988 to 2014 were obtained from Wenzlow et al. (2016), data for FY 2015 and 2016 were obtained from an unpublished version of the FY 2017 LTSS Expenditure Report, and data for FY 2017 and 2018 were obtained from Murray et al. (2021).

Notes: As noted in Eiken et al. (2018), data for FY 2014 to 2016 do not include LTSS within a large California managed care program, expenditures through managed care plans before FY 2008, or for certain states and program authorities starting in FY 2008. Data for FY 2017 and 2018 do not include LTSS for California, Illinois, New York, North Carolina, and Virginia due to missing data. We excluded California, Delaware, Illinois, and Virginia from FY 2019 calculations because of missing data. Further details about the data sources, methods, and data limitations are available in Appendices A and B.

CMS = Centers for Medicare & Medicaid Services; FY = fiscal year; HCBS = home and community-based services; LTSS = long-term services and supports; MFP = Money Follows the Person; MLTSS = managed long-term services and supports.

Figure IV.2. Map of state Medicaid HCBS expenditures as a percentage of total Medicaid LTSS expenditures, FY 2019

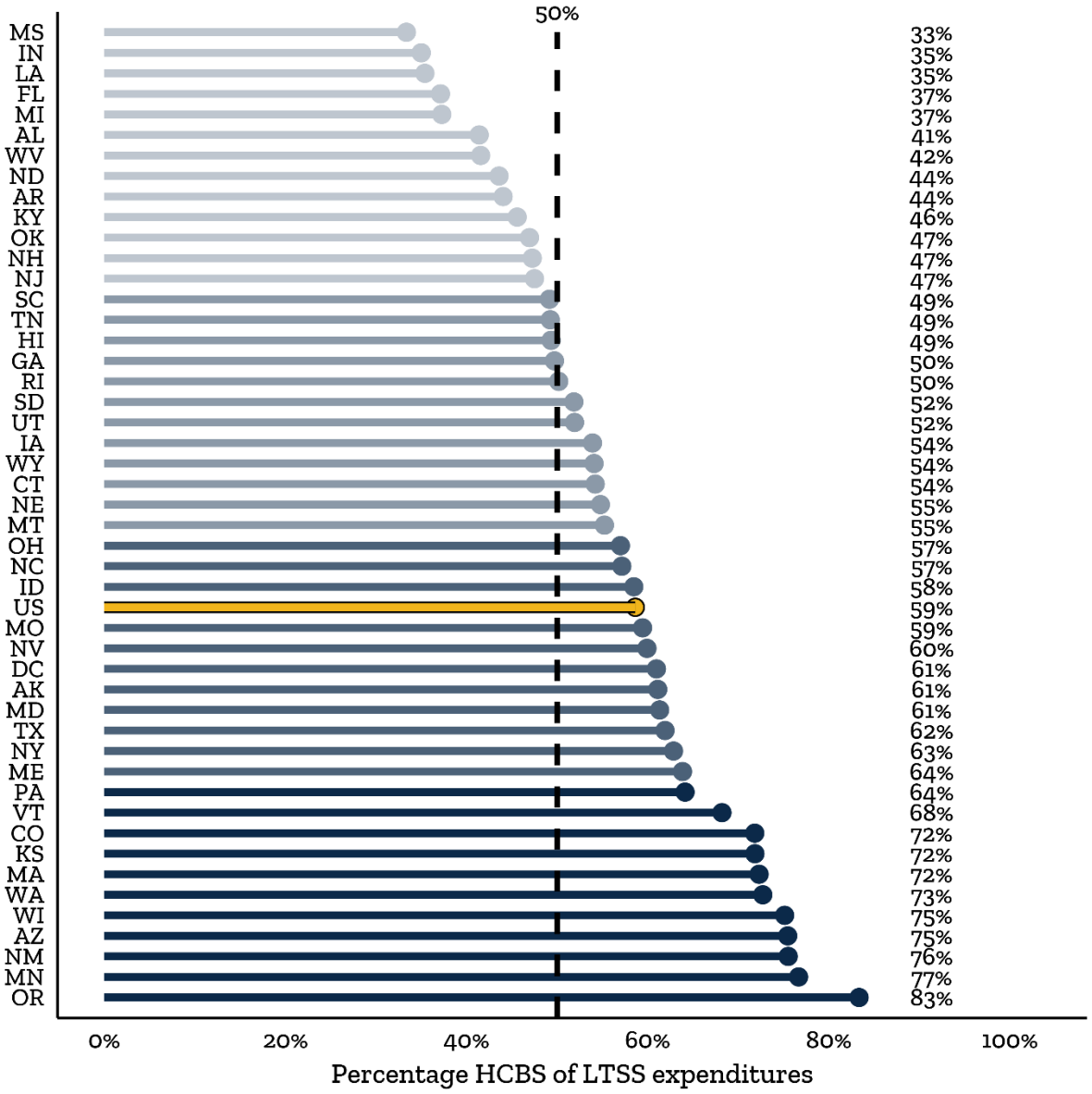


Sources: Mathematica's analysis of FY 2019 CMS-64 data, state-submitted MLTSS data, and MFP worksheets for proposed budget.

Notes: The state percentages are rounded to one decimal place in the figure, but states were grouped into quartiles based on the unrounded values. We excluded California, Delaware, Illinois, and Virginia because of missing data. Further details about the data sources, methods, and data limitations are available in Appendices A and B.

CMS = Centers for Medicare & Medicaid Services; FY = fiscal year; HCBS = home and community-based services; LTSS = long-term services and supports; MFP= Money Follows the Person; MLTSS = managed long-term services and supports; NA = not available.

Figure IV.3. State ranking of Medicaid HCBS expenditures as a percentage of total Medicaid LTSS expenditures, FY 2019



Sources: Mathematica's analysis of FY 2019 CMS-64 data, state-submitted MLTSS data, and MFP worksheets for proposed budget.

Notes: The state percentages are rounded to one decimal place in the figure, but states were grouped into quartiles based on the unrounded values. The vertical line shows the 50 percent HCBS spending benchmark. We excluded California, Delaware, Illinois, and Virginia because of missing data. To calculate the national percentage, we divided the total amount of HCBS expenditures by the total amount of Medicaid LTSS expenditures for all states, excluding California, Delaware, Illinois, and Virginia because of missing data for these states in FY 2019. Further details about the data sources, methods, and data limitations are available in Appendices A and B.

CMS = Centers for Medicare & Medicaid Services; FY = fiscal year; HCBS = home and community-based services; LTSS = long-term services and supports; MFP = Money Follows the Person; MLTSS = managed long-term services and supports.

FY 2018 to 2019 state changes in LTSS rebalancing ratio. Most states improved LTSS rebalancing ratios from FY 2018 to 2019, but in several states, the increases were small (Table IV.1). Five states increased their scores by more than 10 percentage points from FY 2018 to 2019; however, this increase, in most cases, was attributable to data anomalies in 2018 that caused LTSS spending to be underreported and consequently produced large increases in 2019.

- **Rhode Island's** ratio increased from 30.0 to 50.2 percent (a 20.2 percentage point increase), which was attributable to a change in reporting and program structure in FY 2019. Although Rhode Island did not have any section 1915(c) waiver programs in FY 2019, the state reported FFS HCBS expenditures provided through section 1115 demonstration authority under line 19A in the CMS-64 data; therefore, these expenditures were categorized as section 1915(c) waiver program expenditures for this report (Appendix Table D.16). For more information on this change, see Appendix B.
- **Colorado's** ratio increased from 55.3 to 71.8 percent (a 16.5 percentage point increase) because of a prior period adjustment for section 1915(i) State Plan HCBS expenditures in FY 2018 (Appendix Table D.29). In FY 2019, Colorado reported sizeable increases in section 1915(i) State Plan HCBS program expenditures, along with Program of All-Inclusive Care for the Elderly (PACE), private duty nursing, and section 1915(c) waiver program expenditures (Appendix Table E.6).
- **New Jersey's** ratio increased from 34.4 to 47.5 percent (a 13.1 percentage point increase), caused by a change in methodology to capture a larger proportion of section 1115 demonstration expenditures in FY 2019 than in FY 2018. As noted previously, even though New Jersey did not have any section 1915(c) waiver programs in FY 2019, the state reported FFS HCBS expenditures provided through section 1115 demonstration authority under line 19A in the CMS-64 data and these expenditures were categorized as section 1915(c) waiver program expenditures for this report (Appendix Table D.16). For more information on this change, see Appendix B.
- **Vermont's** ratio increased from 55.8 to 68.2 percent (a 12.4 percentage point increase). The large increase is likely due to double counting expenditures for nursing facility expenditures in FY 2017 and 2018 that inaccurately inflated total institutional expenditures for those years. For more information, see Appendix B.
- **Iowa's** ratio increased from 41.5 to 53.9 percent (a 12.4 percentage point increase). This increase was primarily driven by a large decrease in reported MLTSS expenditures on nursing facility services (Appendix Table F.3) and large increases in home health and section 1915(i) State Plan HCBS expenditures between FY 2018 and 2019 (Appendix Table E.16).

In contrast, two states—Arkansas and Michigan—had relatively large declines in the LTSS rebalancing ratio from FY 2018 to 2019. In Arkansas, the rebalancing ratio declined from 51.9 percent of LTSS expenditures for HCBS to 44.0 percent (representing a 7.9 percentage point decline). The change was attributable to sizable decreases in several HCBS service categories, including rehabilitative services and section 1915(c) waiver program expenditures (Appendix Table E.4). However, Arkansas implemented a new MLTSS program in 2019 but was not able to report MLTSS expenditures, which likely affected the year-over-year trend. In Michigan, the 5.4 percentage point decline (from 42.7 to 37.3 percent) was related to a change in the waiver data processing this year. For more details on this change, see Appendices A and B.

Spending patterns driving FY 2018 to 2019 state changes in LTSS rebalancing ratio. Almost all states experienced increases in total HCBS expenditures; however, the goal of rebalancing initiatives is to shift expenditures from services provided in institutional settings to HCBS. Eleven states, including

Hawaii, Iowa, Kansas, Maine, Massachusetts, Nebraska, North Dakota, South Dakota, Texas, Washington, and Wyoming, experienced simultaneous declines in total institutional spending (Table IV.1).

Table IV.1. Changes in HCBS expenditures, institutional expenditures, and LTSS rebalancing ratio, by state, FY 2018–2019

State	Institutional expenditures decreased between FY 2018–2019	HCBS expenditures increased between FY 2018–2019	Change in percent HCBS out of total LTSS, FY 2018–2019
Alabama			-1.4
Alaska		X	-1.2
Arizona		X	0.3
Arkansas	X		-7.9
California	NA	NA	NA
Colorado		X	16.5
Connecticut			-1.3
Delaware	NA	NA	NA
District of Columbia		X	-0.6
Florida		X	0.0
Georgia		X	1.2
Hawaii	X	X	3.8
Idaho		X	-1.5
Illinois	NA	NA	NA
Indiana		X	0.2
Iowa	X	X	12.4
Kansas	X	X	4.8
Kentucky		X	2.8
Louisiana		X	1.2
Maine	X	X	6.2
Maryland		X	0.4
Massachusetts	X	X	1.2
Michigan			-5.4
Minnesota			-0.7
Mississippi		X	0.8
Missouri		X	-0.8
Montana			-0.9
Nebraska	X	X	2.1
Nevada			-1.4
New Hampshire		X	0.6
New Jersey		X	13.1
New Mexico		X	-0.2
New York	NA	NA	NA
North Carolina	NA	NA	NA

State	Institutional expenditures decreased between FY 2018–2019	HCBS expenditures increased between FY 2018–2019	Change in percent HCBS out of total LTSS, FY 2018–2019
North Dakota	X	X	1.9
Ohio	X		-0.7
Oklahoma		X	-1.1
Oregon		X	-0.1
Pennsylvania		X	5.4
Rhode Island		X	20.2
South Carolina		X	1.9
South Dakota	X	X	2.0
Tennessee			-2.9
Texas	X	X	1.4
Utah		X	0.5
Vermont	X		12.4
Virginia	NA	NA	NA
Washington	X	X	2.7
West Virginia		X	0.2
Wisconsin	X		-0.2
Wyoming	X	X	3.8
United States		**X**	**2.5**

Sources: Mathematica's analysis of FY 2019 CMS-64 data, state-submitted MLTSS data, and MFP worksheets for proposed budget. Data for FY 2018 were obtained from Murray et al. (2021).

Notes: Excludes data for California, Delaware, Illinois, New York, North Carolina, and Virginia because of missing MLTSS data for either FY 2018 or 2019. Further details about the data sources, methods, and data limitations are available in Appendices A and B.

CMS = Centers for Medicare & Medicaid Services; FY = fiscal year; HCBS = home and community-based services; LTSS = long-term services and supports; MFP = Money Follows the Person; MLTSS = managed long-term services and supports; NA = not available.

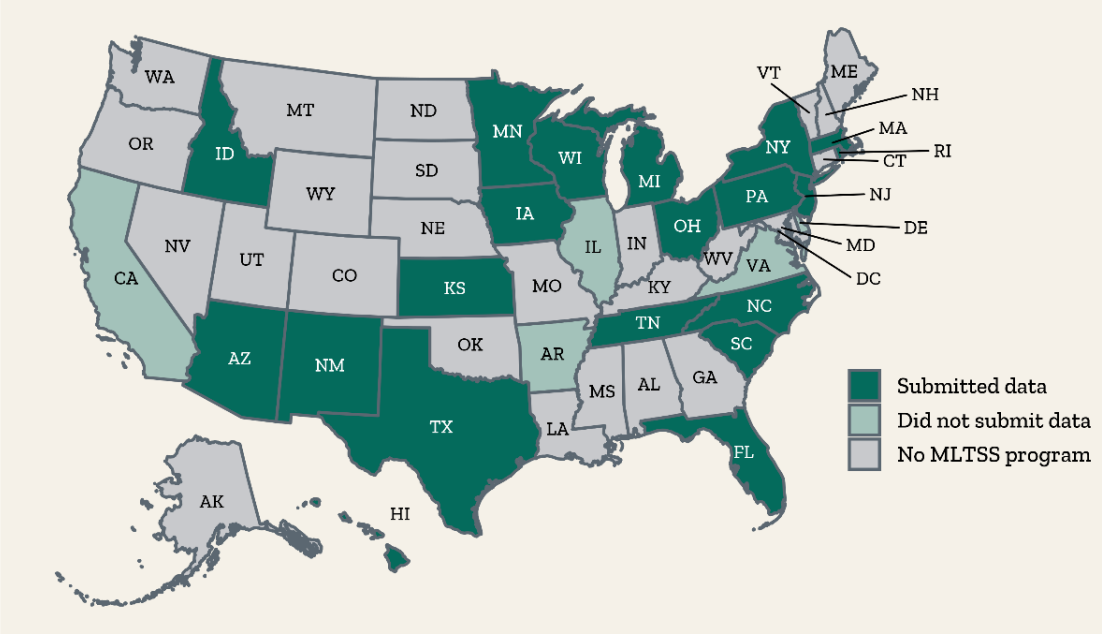
V. MLTSS Expenditures

MLTSS programs differ from traditional FFS models, through which the Medicaid agency pays providers for each service. Under managed care arrangements, states contract with managed care plans to provide a specific set of Medicaid-covered LTSS benefits. The plans are responsible for providing these services to beneficiaries in return for a set payment per enrollee referred to as a capitated payment. Although the design of capitated payments varies by state, some states may choose to set a single capitation rate for all covered LTSS benefits regardless of the setting, which is known as a blended rate. States that use a blended rate give plans a financial incentive to provide care in home and community-based settings as opposed to institutional settings, because of the generally lower cost of such care. MLTSS programs also enable states to use financial incentives to reward plans for improving the quality of care.

As of FY 2019, 25 states had MLTSS programs operating under various federal authorities, including section 1115 demonstrations or a combination of section 1915(a)/1915(c), 1915(b)/1915(c), 1115/1915(c), or 1932(a)/1915(c) authorities.[16] Ten of the 25 states operated Financial Alignment Initiative (FAI) capitated model demonstrations that provided Medicaid LTSS through integrated care plans for people who are dually eligible for both Medicare and Medicaid. Of the 25 states operating MLTSS programs in FY 2019, five states (Arkansas, California, Delaware, Illinois, and Virginia) could not submit data on MLTSS expenditures for FY 2019 (Figure V.1).

[16] Although PACE programs are capitated programs that provide LTSS, we did not include them in MLTSS program totals for the purposes of this report. Therefore, any descriptions of trends in MLTSS expenditures in this report do not include PACE expenditures. However, PACE expenditures are reported as a separate category in this report even though they are not included in the MLTSS totals, and the PACE expenditures contribute to overall LTSS totals. To see a full list of the MLTSS programs categorized as MLTSS included in this report, refer to Table A.1.

Figure V.1. Map of states with MLTSS programs, FY 2019



Source: Mathematica's analysis of FY 2019 state-submitted MLTSS data.

Notes: The states displayed in the map had one or more active (non-PACE) MLTSS programs in FY 2019. Further details about the data sources, methods, and data limitations are available in Appendices A and B.

FY = fiscal year; MLTSS = managed long-term services and supports; PACE = Program of All-Inclusive Care for the Elderly.

A. Medicaid MLTSS expenditures for HCBS and institutional care

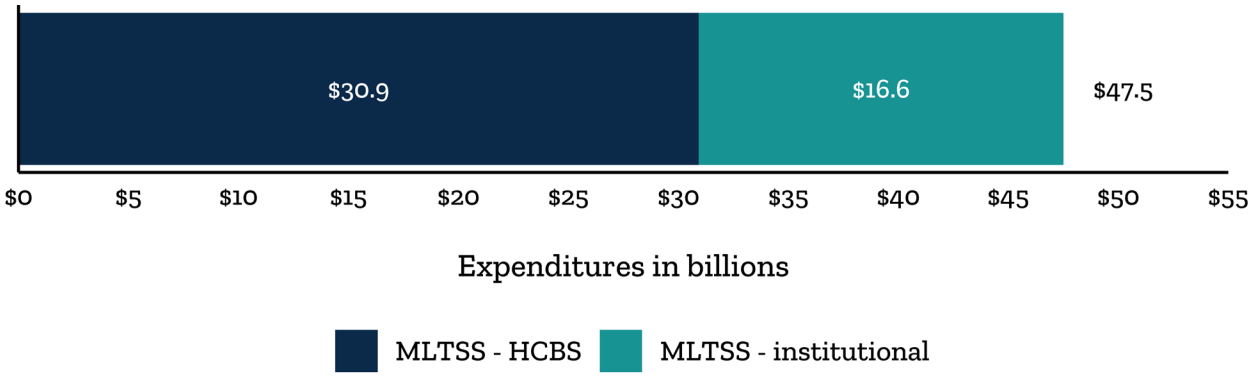
Among the 20 states with MLTSS programs able to report expenditures in FY 2019, expenditures totaled $47.5 billion, of which $30.9 billion (65 percent) was spent on HCBS, and $16.6 billion (35 percent) was spent on institutional care (Figure V.2 and Appendix Tables F.1, F.2, and F.7).[17] In FY 2019, four states—New York, Texas, Pennsylvania, and Florida—accounted for 62 percent of total MLTSS spending nationally (Appendix Table F.1). MLTSS expenditures in New York alone accounted for 28 percent of total national MLTSS expenditures, and MLTSS expenditures in Texas accounted for 15 percent of total national MLTSS expenditures. As noted previously, total national MLTSS expenditures in this report exclude expenditures for MLTSS programs in Arkansas, California, Delaware, Illinois, and Virginia for FY 2019.

Total HCBS expenditures for three states—New York, Texas, and Pennsylvania—accounted for 60 percent of national MLTSS expenditures devoted to HCBS. Total institutional expenditures for three states—Florida, Texas, and New York—accounted for 50 percent of total MLTSS institutional expenditures among the 20 reporting states.[18] For FY 2019, the share of total MLTSS expenditures spent on HCBS (65.1 percent) was 6.5 percentage points higher than the share of HCBS in total LTSS expenditures in all LTSS delivery models (58.6 percent).

[17] Because expenditures for MLTSS programs in Arkansas, California, Delaware, Illinois, and Virginia were not included in total MLTSS expenditures for FY 2019, the actual total was higher.

[18] Because we excluded Arkansas, California, Delaware, Illinois, and Virginia because of missing data, they are not accounted for in these rankings.

Figure V.2. Medicaid HCBS and institutional MLTSS expenditures, in billions, FY 2019



Sources: Mathematica's analysis of FY 2019 state-submitted MLTSS data.

Notes: We did not include data prior to FY 2019 because of missing data and changes in methodology that impact the interpretability of historical trending. We excluded Arkansas, California, Delaware, Illinois, and Virginia from FY 2019 calculations because of missing data. PACE expenditures are not included in MTLSS totals. Further details about the data sources, methods, and data limitations are available in Appendices A and B.

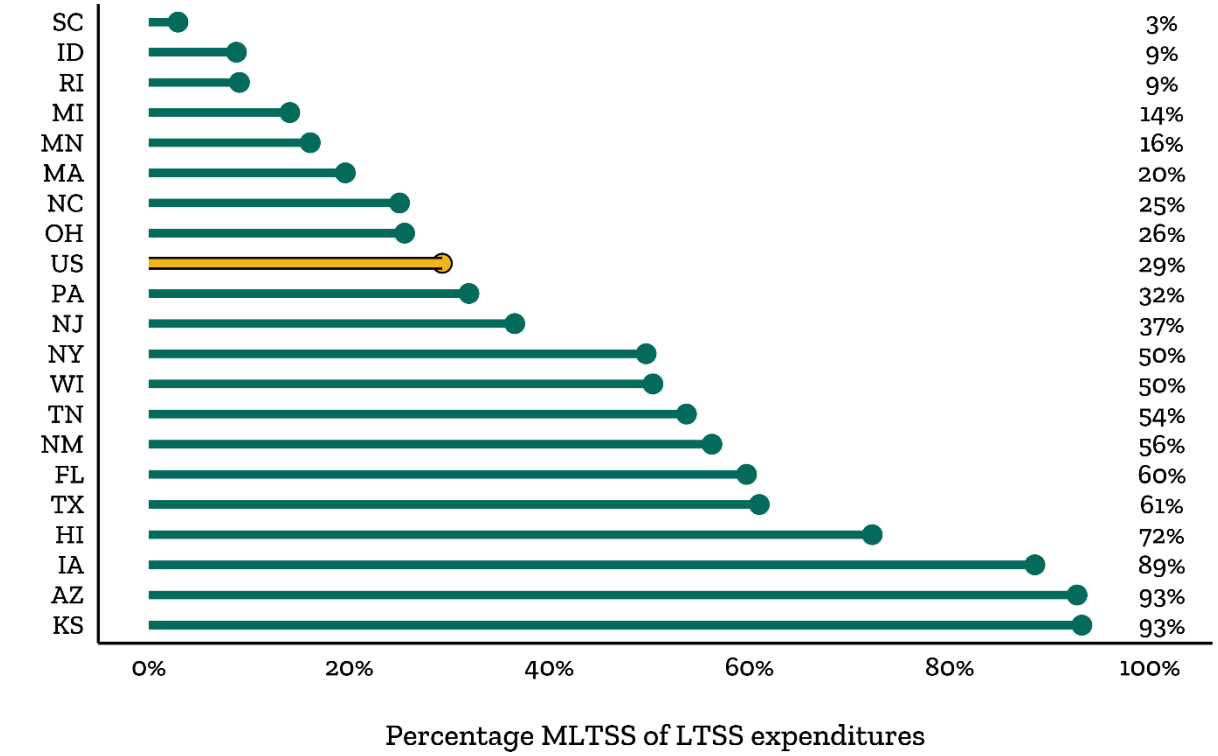
FY = fiscal year; HCBS = home and community-based services; MLTSS = managed long-term services and supports; PACE = Program of All-Inclusive Care for the Elderly.

B. State trends in Medicaid MLTSS expenditures

In FY 2019, spending on MLTSS as a share of all Medicaid LTSS spending nationally was 29 percent, indicating the substantial role of MLTSS in LTSS delivery. However, proportions for individual states varied considerably (Figure V.3). In FY 2019, among the 20 reporting states, those with the highest percentage of MLTSS spending out of total state Medicaid LTSS expenditures were Kansas, Arizona, and Iowa (93, 93, and 89 percent, respectively), whereas those with the lowest percentage of MLTSS spending out of total state Medicaid LTSS expenditures were South Carolina, Idaho, and Rhode Island (3, 9, and 9 percent, respectively).[19]

[19] Because we excluded Arkansas, California, Delaware, Illinois, and Virginia because of missing data, they are not accounted for in these rankings.

Figure V.3. MLTSS expenditures as a percentage of total Medicaid LTSS expenditures, by state, FY 2019



Sources: Mathematica's analysis of FY 2019 state-submitted MLTSS data, CMS-64 data, and MFP worksheets for proposed budget.

Notes: The states in the chart had one or more active (non-PACE) MLTSS programs in FY 2019. We excluded Arkansas, California, Delaware, Illinois, and Virginia from FY 2019 calculations because of missing data. PACE expenditures are not included in MLTSS totals. To calculate the U.S. total, we divided the total amount of MLTSS expenditures by the total amount of Medicaid LTSS expenditures for all MLTSS states, excluding California, Delaware, Illinois, and Virginia because of missing data for these states in FY 2019. Further details about the data sources, methods, and data limitations are available in Appendices A and B.

CMS = Centers for Medicare & Medicaid Services; FY = fiscal year; LTSS = long-term services and supports; MFP = Money Follows the Person; MLTSS = managed long-term services and supports; PACE = Program of All-Inclusive Care for the Elderly.

Several states had large changes in total MLTSS expenditures from FY 2018 to 2019 due to expansion or termination of MLTSS programs and to changes in reporting:

- **Rhode Island.** From FY 2018 to 2019, total MLTSS expenditures in Rhode Island decreased by 73.2 percent because of the discontinuation of the state's Rhody Health Options program on September 30, 2018, which provided LTSS for dually eligible individuals.
- **Pennsylvania.** Pennsylvania's Community HealthChoices, which began in 2017 in one region of the state, provides medical benefits and LTSS for people dually eligible for Medicare and Medicaid or people who require a nursing facility level of care. Reported MLTSS expenditures for Pennsylvania increased nearly fourfold from FY 2018 to 2019 as the program expanded to other regions of the state. Enrollment during this time period more than tripled, increasing from 27,469 to 105,029 from FY 2018 to 2019.

- **Idaho.** Total MLTSS expenditures in Idaho increased by 154.9 percent from FY 2018 to 2019 primarily because of the implementation of a new Medicaid managed care program called, Idaho Medicaid Plus (IMPlus), a program for dually eligible individuals age 21 years or older and enrolled in both Medicare and Medicaid that began November 1, 2018. Between FY 2018 and 2019, total MLTSS program enrollment across the state's two MLTSS programs (IMPlus and Medicare-Medicaid Coordinated Plan) increased from 4,798 to 20,948.
- **New Jersey.** Total MLTSS expenditures in New Jersey increased by 20.4 percent from FY 2018 to 2019, largely because the state was unable to report expenditure data on the state's fully integrated dually eligible special needs plan (FIDE SNP) population in FY 2018 but was able to report these amounts in FY 2019.
- **North Carolina**. Similarly, North Carolina was unable to report expenditure data for the NC Innovations program in FY 2018 but did provide those amounts in FY 2019, representing a 17.4 percent increase in total MLTSS expenditures for the state.

VI. Distribution of Expenditures by Service Category

Variation in service category expenditure trends may be reflective of true year-over-year changes and/or may be related to underlying data changes. We have documented some of the more prominent data changes that impacted the service categories below. For further details on the data sources and limitations, see Appendices A and B.

A. HCBS service category expenditures

- **Section 1915(c) waiver programs** accounted for slightly more than 50 percent of total HCBS expenditures nationally in FY 2019 (Figure VI.1). Several states, including New Jersey, Rhode Island, and Nevada, saw large increases in section 1915(c) waiver program expenditures from FY 2018 to 2019 while others, including Oregon, Michigan, and Arkansas, saw large decreases over the same time period due in part to the expansion of HCBS provided under other federal authorities.[20] See Section VII for more information on these waiver programs, Appendix Table D.16 for total expenditures, and Tables D.37 to D.45 for waiver program-level expenditures by target population.
- **Personal care** covered as a state plan benefit under section 1905(a) of the Social Security Act represented about 22 percent of total HCBS expenditures nationally in FY 2019. Both total personal care expenditures and the share of personal care expenditures out of overall HCBS increased in FY 2019 compared to FY 2018. Changes in state-reported MLTSS data drove some of the larger fluctuations in state-level expenditures between FY 2018 and 2019.[21] For example, New York, which was unable to report MLTSS data in FY 2018, submitted state-reported MLTSS data for FY 2019 that showed increased spending on personal care by $9.7 billion; this also meant that personal care expenditures accounted for the majority of HCBS spending in New York in FY 2019. Tennessee also had a large increase in personal care expenditures, growing from $15.7 million in FY 2018 to $245.7 million in FY 2019, driven by differences in the way the state reported expenditures in FY 2017–2018 compared to FY 2019. For more information on state-reported MLTSS data, refer to Appendices A and B. For a full list of state personal care expenditures, refer to Appendix Table D.17.
- **HCBS MLTSS: other** is a category covering a diverse set of HCBS expenditures reported by states in their MLTSS data submissions that are not already captured within personal care, home health, rehabilitative services, targeted case management, or Community First Choice. Examples of HCBS MLTSS: other include spending on adult day care services, home delivered meals, durable medical equipment, and respite, among others. In FY 2019, these expenditures accounted for about 9 percent of all HCBS expenditures. Although this category accounted for a relatively similar share of overall HCBS expenditures in FY 2018, changes in state reporting between the two years led to some large changes at the state level—for example, in New York, North Carolina, and South Carolina. In some states, such as Arizona and Kansas, expenditures in this category accounted for the majority of total state HCBS spending in FY 2019. For a full list of HCBS MLTSS: other expenditures, see Appendix Table F.12. Further details on state-reported HCBS MLTSS: other expenditures are available in Appendix B.

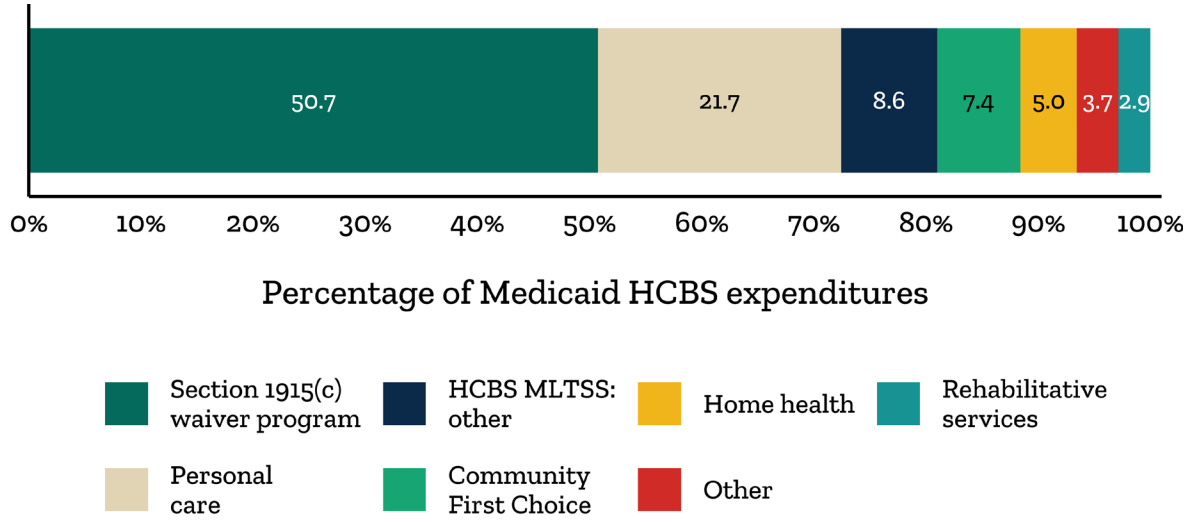
[20] Arizona, New Jersey, Rhode Island, and Vermont provided similar services to HCBS-eligible populations in demonstrations authorized under section 1115 of the Social Security Act. Whereas other states also use section 1115 authority to provide HCBS, all other states had at least one active section 1915(c) waiver program in FY 2019. Although New Jersey and Rhode Island did not have any section 1915(c) waiver programs in FY 2019, these states reported FFS HCBS expenditures provided through section 1115 demonstration authority under line 19A in the CMS-64 data; these expenditures are captured in this report as section 1915(c) waiver program expenditures.

[21] MLTSS personal care expenditures accounted for about 57 percent of total personal care expenditures.

- Nine states reported **Community First Choice** expenditures, a state plan option authorized by section 1915(k) that covers personal care, attendant services, and other HCBS supports. Collectively, their spending accounted for 7 percent of all HCBS expenditures in FY 2019. Alaska reported Community First Choice expenditures for the first time in FY 2019 because its program began October 1, 2018. California accounted for the largest share of total Community First Choice expenditures in FY 2019, with $5.3 billion,[22] or about 45 percent of overall Community First Choice expenditures. Spending for Community First Choice represented the majority of total HCBS spending in several states, including Oregon and Washington. For a full list of state Community First Choice expenditures, refer to Appendix Table D.18.
- Services in the **Other** category cover an aggregate of eight HCBS services—case management, HCBS LTSS: other, Health Homes, MFP, PACE, private duty nursing, section 1915(i) State Plan HCBS program, and section 1915(j) expenditures—which together accounted for less than 4 percent of total HCBS expenditures. HCBS LTSS: other included state-reported section 1115 demonstration expenditures for Vermont that do not fit into one of the existing service categories; these included expenditures for adult day care services, community and rehabilitative treatment (CRT), enhanced residential care (ERC), and other HCBS and residential services. For a full list of state case management, HCBS LTSS: other, Health Homes, MFP, PACE, private duty nursing, section 1915(i) State Plan HCBS program, and section 1915(j) expenditures, refer to Appendix Tables D.23, D.19, D.26, D.35, D.24, D.25, D.29, and D.34, respectively.

[22] California's FY 2019 expenditures were calculated only using FFS data. Because California is missing MLTSS data for FY 2019, it is likely that the state actually accounts for a higher proportion of total Community First Choice expenditures than reported here.

Figure VI.1. Distribution of Medicaid HCBS expenditures by service category, FY 2019



Sources: Mathematica's analysis of FY 2019 CMS-64 data, state-submitted MLTSS data, and MFP worksheets for proposed budget.

Notes: We excluded California, Delaware, Illinois, and Virginia because of missing data. The HCBS MLTSS: other category shown in the figure includes other relevant HCBS expenditures reported by states within their MLTSS data submissions, such as home delivered meals, transportation services, and habilitation. The Other category shown in the figure is an aggregate of PACE, private duty nursing, Health Homes, section 1915(i) State Plan HCBS program, section 1915(j), case management, HCBS LTSS: other, and MFP expenditures. HCBS LTSS: other includes other HCBS expenditures not captured elsewhere that were reported by Vermont. Further details about the data sources, methods, and data limitations are available in Appendices A and B.

CMS = Centers for Medicare & Medicaid Services; FY = fiscal year; HCBS = home and community-based services; LTSS = long-term services and supports; MFP = Money Follows the Person; MLTSS = managed long-term services and supports; PACE = Program of All-Inclusive Care for the Elderly.

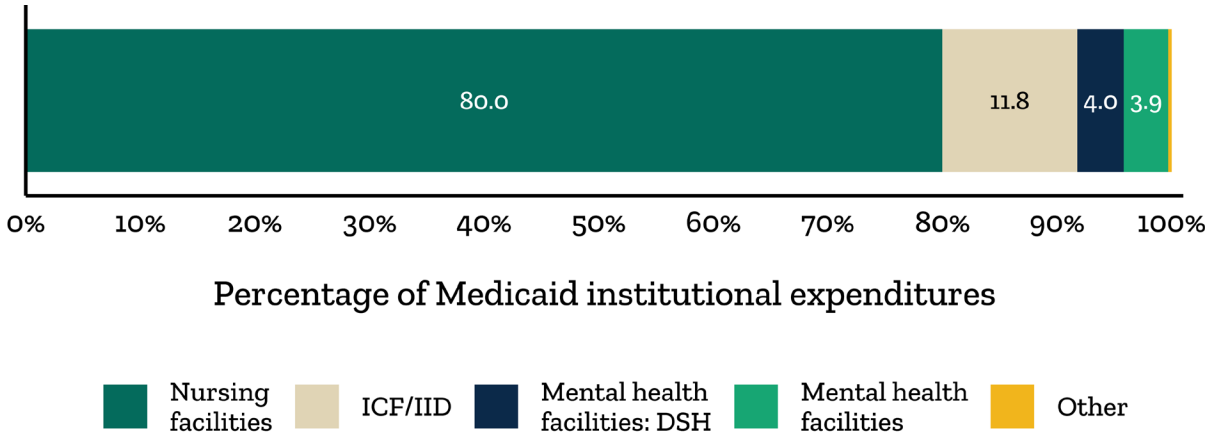
B. Institutional service category expenditures

- The majority of institutional LTSS expenditures were spent on **nursing facility services**, representing 80 percent of such expenditures in FY 2019 (Figure VI.2), one percentage point more than FY 2018, when it was 79 percent. In every state, nursing facility services accounted for the majority of institutional LTSS spending. With the addition of New York's state-reported MLTSS data in FY 2019, the state accounted for the largest increase in nursing facility expenditures, rising from $5.5 billion in FY 2018 to $8.2 billion in FY 2019. Further details on this change and other state reporting nuances are available in Appendix B. Appendix Table D.7 includes a full list of state nursing facility service expenditures.
- **ICF/IID** accounted for 12 percent of institutional LTSS spending in FY 2019, a decrease of one percentage point from FY 2018 when it was 13 percent. Texas represented the largest share of overall ICF/IID expenditures, with $1.2 billion in FY 2019, or about 12 percent of national ICF/IID expenditures. Colorado had the largest change between FY 2018 and 2019, with expenditures more than tripling from $18.9 million to $69.1 million, respectively. However, many states had declines in ICF/IID expenditures between FY 2018 and 2019. Appendix Table D.9 includes a full list of state ICF/IID expenditures.

- **Mental health facility**[23] expenditures and **mental health disproportionate share hospital (DSH)** payments each accounted for about 4 percent of all institutional LTSS spending in FY 2019. Although overall mental health facility expenditures increased by about 7 percent between FY 2018 and 2019, mental health DSH payments decreased by about the 7 percent over that same time period. At the state level, the rate of change in spending for these two categories sometimes differed. For example, Florida expenditures for mental health facility services more than doubled, from $219.0 million in FY 2018 to $596.1 million in FY 2019 while its mental health DSH expenditures increased by 4 percent. A few states had large prior period adjustments for these services in FY 2019, such as Maine, which had a -$40.3 million prior period adjustment in mental health DSH payments. See Tables D.11 and D.12 for state-level mental health facility expenditures and mental health DSH payments, respectively.
- The **Other** category is an aggregate of other institutional LTSS and MLTSS expenditures, which together accounted for less than 1 percent of all institutional LTSS expenditures in FY 2019. Institutional LTSS: other includes state-reported section 1115 expenditures for Vermont that do not fit into one of the existing service categories, such as expenditures for inpatient or residential substance use disorder treatment. Likewise, Institutional MLTSS: other is composed of institutional LTSS expenditures reported by states in their MLTSS data submissions that do not fit into one of the existing service categories. Four states (Arizona, Hawaii, Minnesota, and South Carolina) reported expenditures in this category, which included nursing home supplemental funds and short-term residential care at behavioral health facilities, among others. Most of these expenditures were reported by Arizona, and this category accounted for about 28 percent of total institutional LTSS spending in Arizona in FY 2019. For further details on state reporting of these categories, see Appendix B. Tables D.13 and D.14 include a full list of institutional LTSS: other and institutional MLTSS: other expenditures, respectively.

[23] Mental health facility expenditures include inpatient psychiatric hospital services for individuals under age 21 and Institution for Mental Diseases (IMD) services for individuals age 65 or older.

Figure VI.2. Distribution of Medicaid institutional LTSS expenditures by service category, FY 2019



Sources: Mathematica's analysis of FY 2019 CMS-64 data and state-submitted MLTSS data.

Notes: We excluded California, Delaware, Illinois, and Virginia because of missing data. The Other category shown in the figure is an aggregate of Institutional LTSS: other and Institutional MLTSS: other, which represents less than 0.4 percent of institutional LTSS expenditures. Institutional MLTSS: other includes other relevant institutional expenditures reported by states within their MLTSS data submissions, such as nursing home supplemental funds. Institutional LTSS: other expenditures includes other institutional expenditures not captured elsewhere that were reported by Vermont. Further details about the data sources, methods, and data limitations are available in Appendices A and B.

CMS = Centers for Medicare & Medicaid Services; DSH = disproportionate share hospital; FY = fiscal year; ICF/IID = Intermediate Care Facilities for Individuals with Intellectual Disabilities; LTSS = long-term services and supports; MLTSS = managed long-term services and supports.

VII. Section 1915(c) Waiver Program Expenditures

Section 1915(c) of the Social Security Act allows states to provide LTSS in home and community-based settings as an alternative to institutions for Medicaid-eligible beneficiaries who meet institutional level-of-care criteria. Nearly all states use section 1915(c) waiver programs to deliver HCBS to one or more LTSS population subgroups. During FY 2019, all states except Arizona, New Jersey, Rhode Island, and Vermont operated at least one section 1915(c) waiver program.[24]

At the time this report was prepared, complete CMS 372 data for waiver programs in 2019 were unavailable, so we used 2018 data to identify the LTSS populations served by section 1915(c) waiver programs. In 2018, 47 states operated a total of 267 section 1915(c) waiver programs across all LTSS targeted populations (Ross et al. 2021). The majority of waiver programs were targeted to two populations: (1) people with ASD, ID, or DD (43 percent) and (2) older adults or people with PD or OD (30 percent).

- 114 programs in 47 states targeted people with ASD, ID, or DD
- 81 programs in 42 states targeted older adults or people with PD or OD
- 11 programs in 10 states targeted people with serious mental health conditions or with serious emotional disturbance (SED); people with substance use disorder (SUD) may be included in these programs
- 25 programs in 17 states targeted people who are medically fragile or technologically dependent (TD)
- 5 programs in 5 states targeted people with HIV/AIDS
- 23 programs in 19 states targeted people with brain injuries
- 8 programs in 6 states targeted multiple subgroups

The multiple subgroups category captures waiver programs serving several targeted populations and subgroups under one waiver program.

A. Trends in overall section 1915(c) waiver program expenditures

Total expenditures FY 2008 to 2019. Expenditures for section 1915(c) waiver programs from the CMS-64 data in FY 2019 totaled $51.8 billion, 4 percent higher than the $49.7 billion spent in FY 2018 (Figure VII.1 and Appendix Table D.16).[25] Inflation-adjusted expenditures indicate a 2 percent increase in total expenditures in FY 2019 compared with FY 2018.[26]

[24] Arizona, New Jersey, Rhode Island, and Vermont provided similar services to HCBS-eligible populations in demonstrations authorized under section 1115 of the Social Security Act. Although other states also use section 1115 authority to provide HCBS, all other states had at least one active section 1915(c) waiver program in FY 2019. Although New Jersey and Rhode Island did not have any section 1915(c) waiver programs in FY 2019, these states reported FFS HCBS expenditures provided through section 1115 demonstration authority under line 19A in the CMS-64 data; these expenditures were captured in this report as section 1915(c) waiver program expenditures.

[25] We included section 1915(c) waiver program expenditures for California, Delaware, Illinois, and Virginia in FY 2019 based on CMS-64 data.

[26] Some of these changes in recent years are related to the way states that operate their section 1915(c) waiver programs under MLTSS programs report data in the CMS-64. In these cases, states do not report managed care expenditures under the section 1915(c) waiver programs in CMS-64 reports, but these expenditures are captured in MLTSS program expenditures collected directly from states. For example, Kansas operates all of its section 1915(c) (*continued*)

The majority of states (35 of 49 with any section 1915(c) waiver program expenditures in FY 2019) had increases in section 1915(c) waiver program expenditures between FY 2018 and 2019.[27] Five states, New Jersey, Rhode Island, Nevada, Kansas, and Maine, had greater than 20 percent increases in expenditures from FY 2018 to 2019.[28] Five states, Oregon, Michigan, Arkansas, Iowa, and Texas, also had large declines (greater than 20 percent) in section 1915(c) waiver program expenditures from FY 2018 to 2019.

Sixteen states made up 75 percent of total section 1915(c) waiver program expenditures in FY 2019: New York, Pennsylvania, California, Ohio, Minnesota, Virginia, Massachusetts, New Jersey, Illinois, Connecticut, Colorado, Georgia, Indiana, Texas, Maryland, and Florida. Two states—Pennsylvania and New York—spent between $5.3 to 7.3 billion in waiver program expenditures, together accounting for about 25 percent of total national section 1915(c) waiver program expenditures in FY 2019, a proportion consistent with these states' spending in FY 2018.

Annual expenditures rate of change FY 2009 to 2019. The rate of expenditure growth for section 1915(c) waiver programs from FY 2009 to 2019 was highest in FY 2009 (13 percent not adjusted, 10 percent inflation adjusted), followed by FY 2015 and 2016 (Figure VII.2).[29] Inflation-adjusted rates of growth were small in other years from FY 2010 to 2014. Although expenditures declined in FY 2017 compared with FY 2016 (not adjusted and inflation adjusted), they increased again in FY 2018 and 2019.[30]

waiver programs under its MLTSS program, which operates under a concurrent section 1115 demonstration authority, so there were few expenditures captured in the CMS-64 data at the section 1915(c) waiver program level for Kansas. For programs that are operating under managed care, these expenditures are captured in CMS-64 under the managed care organization (MCO) line items.

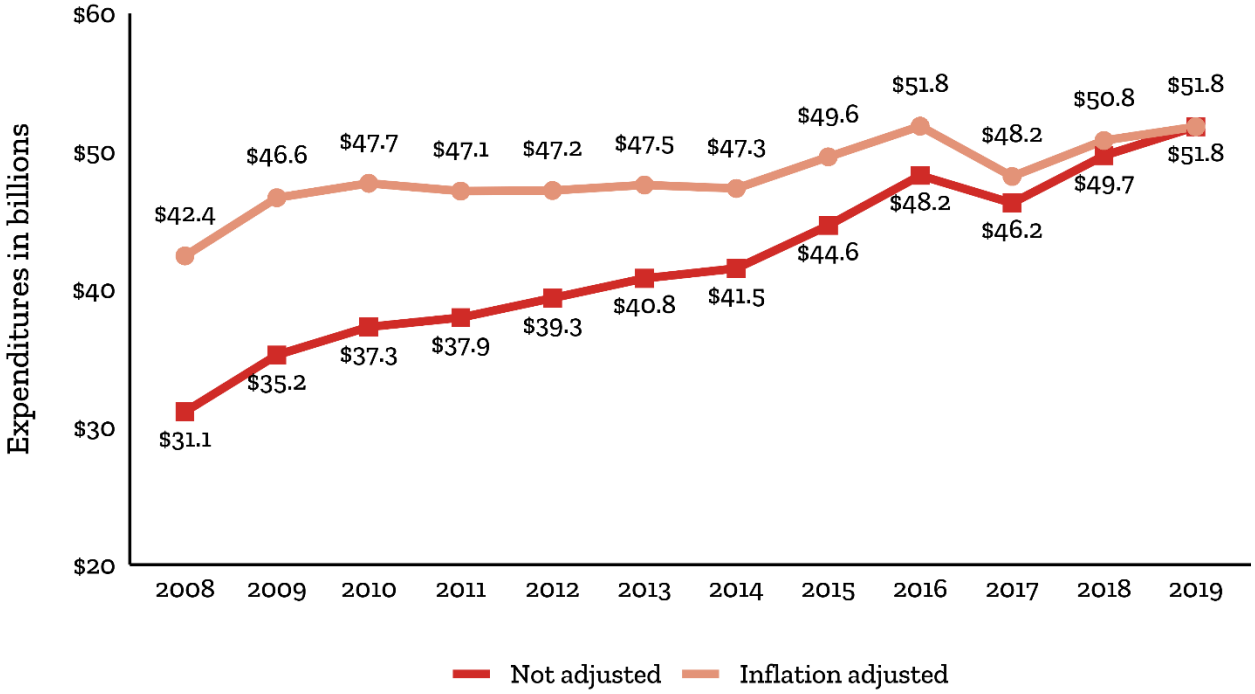
[27] Some of the changes from year to year in particular states appear to be data reporting anomalies and not real changes. Data limitations that we were able to verify are described in Appendix B.

[28] Although New Jersey and Rhode Island did not have any section 1915(c) waiver programs in FY 2019, these states reported FFS HCBS expenditures provided through section 1115 demonstration authority under line 19A in the CMS-64 data; these expenditures are captured in this report as section 1915(c) waiver program expenditures.

[29] We included section 1915(c) waiver program expenditures for California, Delaware, Illinois, and Virginia in FY 2019 based on CMS-64 data.

[30] Changes in section 1915(c) waiver program expenditure growth over time may be due to programmatic changes in states, state reporting methodologies for CMS-64 data, and methodological changes in how these expenditures are calculated (see Appendix A).

Figure VII.1. Total Medicaid section 1915(c) waiver program expenditures (not adjusted and inflation adjusted), in billions, FY 2008 to 2019

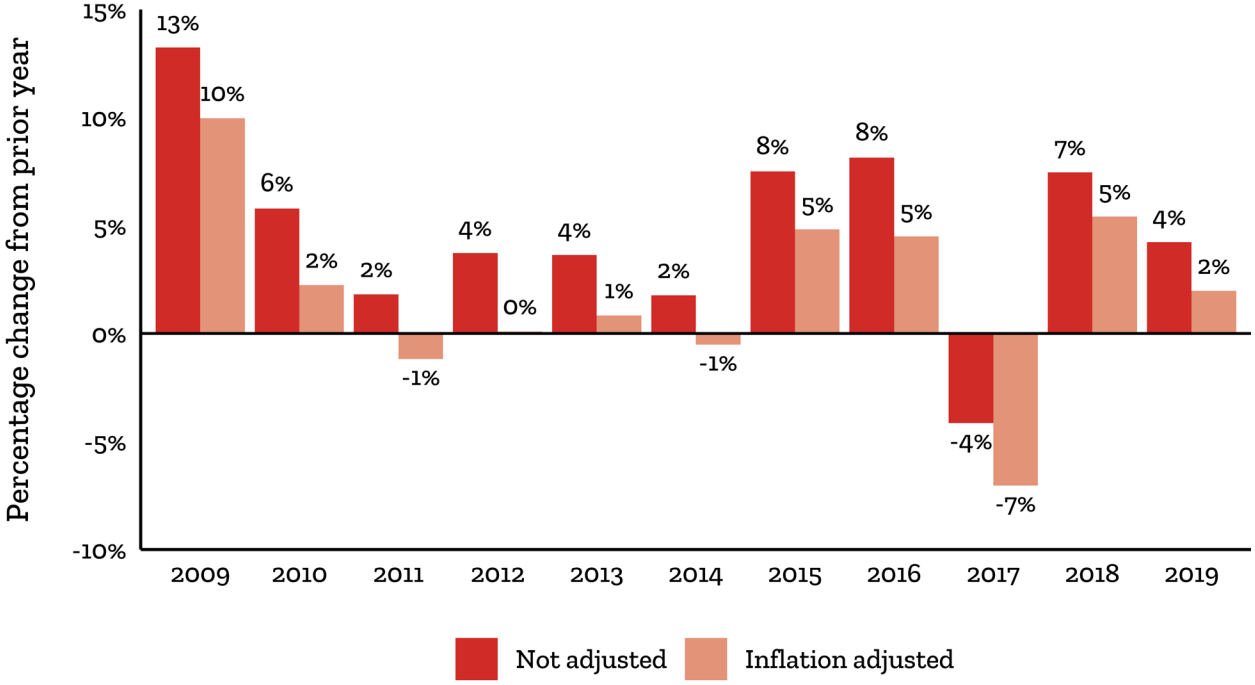


Sources: Mathematica's analysis of FY 2019 CMS-64, and CMS 372 data. Data for FY 2008 to 2014 were obtained from Wenzlow et al. (2016), data for FY 2015 and 2016 were obtained from an unpublished version of the FY 2017 1915(c) Expenditure Report, and data for FY 2017 and 2018 were obtained from Murray et al. (2021).

Notes: We calculated inflation-adjusted expenditures by adjusting expenditures to FY 2019 dollars using the medical CPI. We included California, Illinois, New York, and Virginia in FY 2017 and 2018 and California, Delaware, Illinois, and Virginia in FY 2019 based on CMS-64 data. These states are included in Figures VII.1 and VII.2 because we are able to use CMS-64 data to calculate section 1915(c) waiver program expenditures but excluded from Figure VII.3 because we are not able to calculate total Medicaid LTSS because of missing MLTSS data. Further details about the data sources, methods, and data limitations are available in Appendices A and B.

CMS = Centers for Medicare & Medicaid Services; CPI = consumer price index; FY = fiscal year; LTSS = long-term services and supports; MLTSS = managed long-term services and supports.

Figure VII.2. Medicaid section 1915(c) waiver program expenditure change (not adjusted and inflation adjusted), FY 2009 to 2019



Sources: Mathematica's analysis of FY 2019 CMS-64, and CMS 372 data. Data for FY 2008 to 2014 were obtained from Wenzlow et al. (2016), data for FY 2015 and 2016 were obtained from an unpublished version of the 2017 1915(c) Expenditure Report, and data for FY 2017 and 2018 were obtained from Murray et al. (2021).

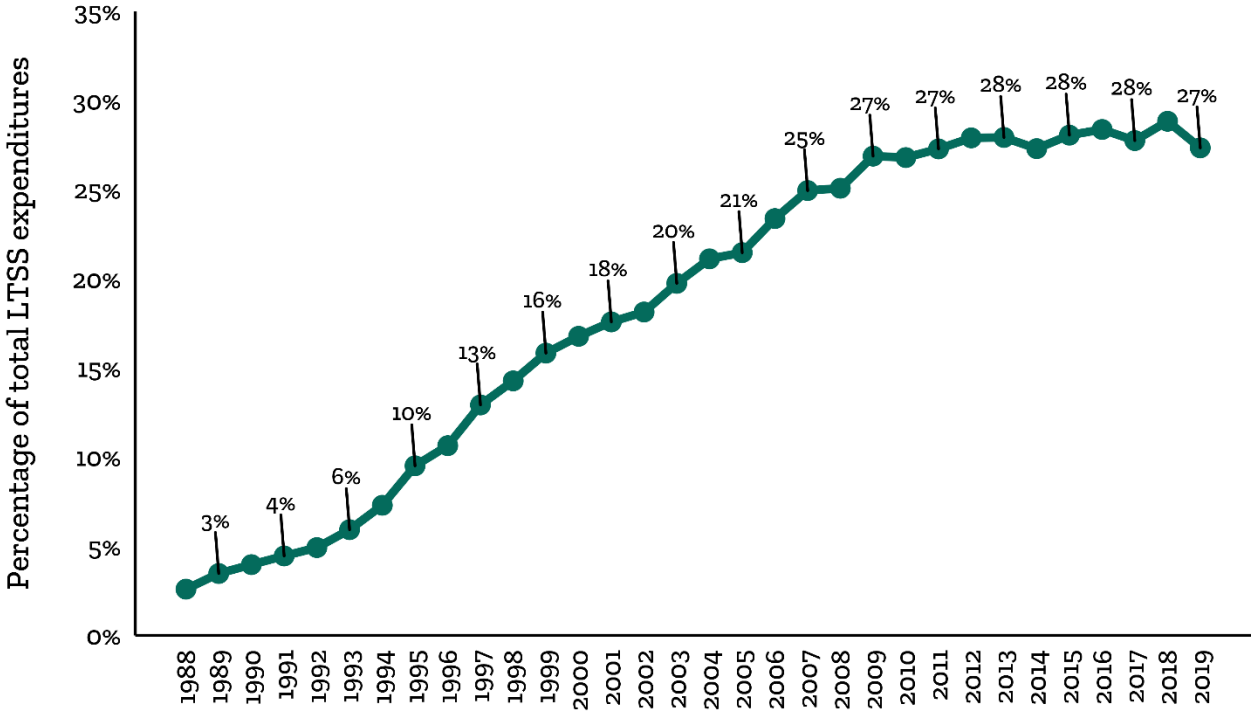
Notes: We calculated inflation-adjusted expenditures by adjusting expenditures to FY 2019 dollars using the medical CPI. We included California, Illinois, New York, and Virginia in FY 2017 and 2018 and California, Delaware, Illinois, and Virginia in FY 2019 based on CMS-64 data. These states are included in Figures VII.1 and VII.2 because we are able to use CMS-64 data to calculate section 1915(c) waiver program expenditures but excluded from Figure VII.3 because we are not able to calculate total Medicaid LTSS because of missing MLTSS data. Further details about the data sources, methods, and data limitations are available in Appendices A and B.

CMS = Centers for Medicare & Medicaid Services; CPI = consumer price index; FY = fiscal year; LTSS = long-term services and supports; MLTSS = managed long-term services and supports.

Section 1915(c) waiver program spending as a share of total Medicaid LTSS. Section 1915(c) waiver program spending represented 27 percent of total Medicaid LTSS in FY 2019 (Figure VII.3).[31] The share of expenditures on section 1915(c) waiver programs of total Medicaid LTSS expenditures grew rapidly until around FY 2009, when it reached 27 percent, and it has fluctuated from 27 to 29 percent since. Overall, section 1915(c) waiver program expenditures continued to account for more than half of total HCBS expenditures in FY 2019. These patterns indicate that section 1915(c) waiver programs continue to play a major role in HCBS delivery across states, despite the growing use of other Medicaid authorities that states can use for HCBS, such as section 1915(i) and section 1915(k) State Plan HCBS options. However, the share of section 1915(c) waiver program expenditures out of total HCBS expenditures varies by state because some states, such as Oregon and Washington, primarily rely on HCBS authorities other than section 1915(c) waiver programs to provide the majority of HCBS to beneficiaries.

[31] We excluded section 1915(c) expenditures for California, Illinois, Delaware, and Virginia from Figure VII.3 because we are not able to calculate total Medicaid LTSS due to missing MLTSS data.

Figure VII.3. Medicaid section 1915(c) waiver program expenditures as a percentage of total Medicaid LTSS, FY 1988 to 2019



Sources: Mathematica's analysis of FY 2019 CMS-64, and CMS 372 data. Data for FY 1988 to 2014 were obtained from Wenzlow et al. (2016), data for FY 2015 and 2016 were obtained from an unpublished version of the FY 2017 1915(c) Expenditure Report, and data for FY 2017 and 2018 were obtained from Murray et al. (2021).

Notes: We excluded California, Illinois, New York, and Virginia from FY 2017 and 2018 calculations and California, Delaware, Illinois, and Virginia from FY 2019 calculations because of missing total LTSS expenditures for these states. These states are included in Figures VII.1 and VII.2 because we were able to use CMS-64 data to calculate section 1915(c) waiver program expenditures but excluded from Figure VII.3 because we were not able to calculate total Medicaid LTSS due to missing MLTSS data. Further details about the data sources, methods, and data limitations are available in Appendices A and B.

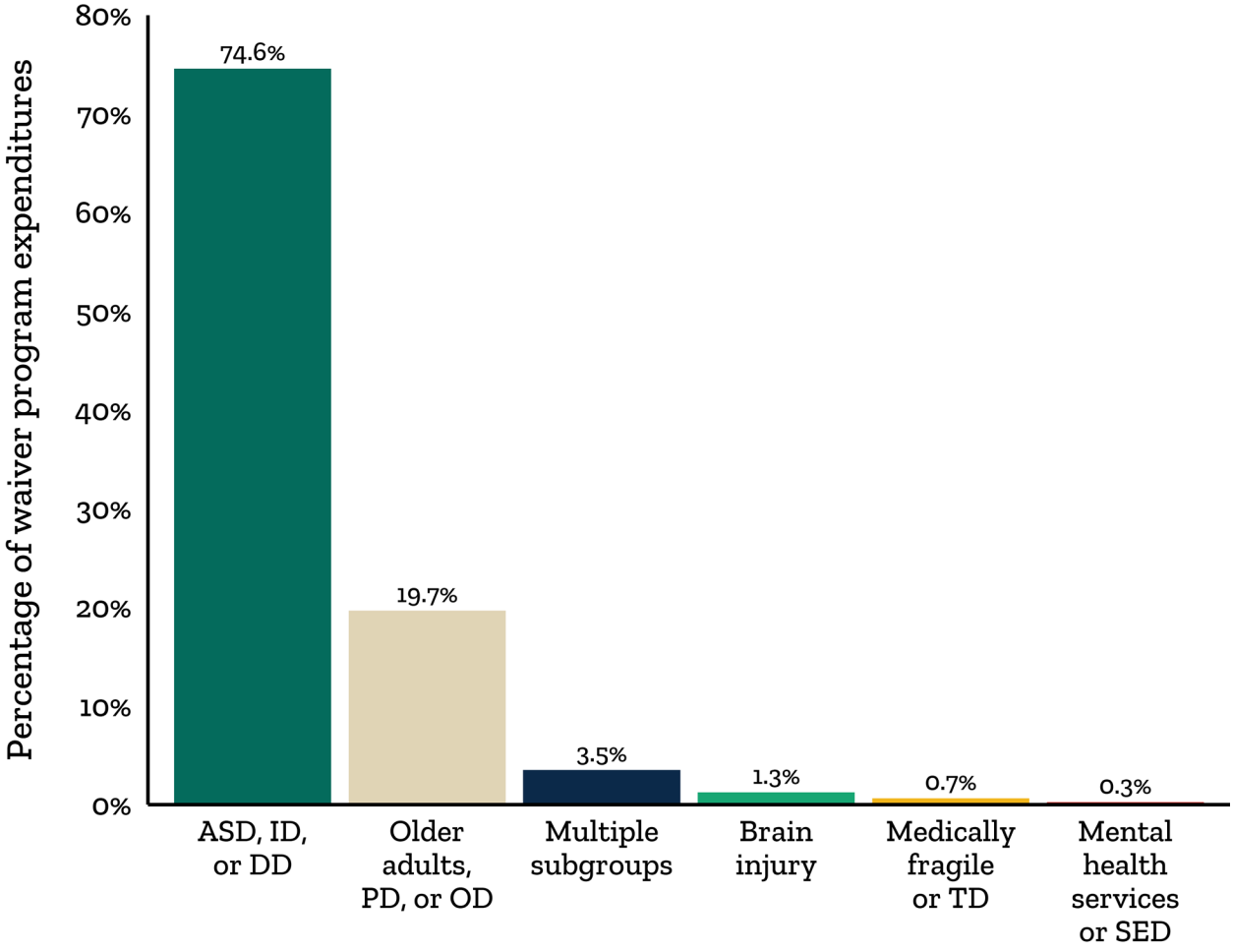
CMS = Centers for Medicare & Medicaid Services; FY = fiscal year; LTSS = long-term services and supports; MLTSS = managed long-term services and supports.

B. Trends in section 1915(c) waiver program expenditures for LTSS targeted populations

Section 1915(c) waiver program expenditures for different LTSS targeted populations varied substantially (Figure VII.4 and Appendix Tables D.37 to D.45). Waiver programs for the ASD, ID, or DD population accounted for about 74.6 percent of the $51.8 billion in total waiver program expenditures in FY 2019. Three states—Delaware, Hawaii, and Tennessee—only operated waiver programs for people with ASD, ID, or DD and served other LTSS population subgroups through section 1115 demonstrations. Waiver programs for older adults and people with PD or OD accounted for about 19.7 percent of total section 1915(c) waiver program expenditures nationally in FY 2019. In total, waiver program expenditures for two groups—people with ASD, ID, or DD and older adults and people with PD or OD—made up around 94 percent of all section 1915(c) waiver program expenditures in FY 2019.

Compared with these two LTSS targeted populations, fewer waiver programs operating in select states were targeted to other LTSS populations, with corresponding spending patterns. All other waiver programs collectively accounted for about 6 percent of waiver program spending. Waiver programs for the multiple subgroups target population accounted for 3.5 percent of total waiver program expenditures in FY 2019. Waiver programs for people with brain injuries made up 1.3 percent of total expenditures in FY 2019. The remaining waiver programs for persons who are medically fragile or technologically dependent, for those accessing mental health services or SED, and those with HIV/AIDS accounted for 0.7, 0.3, and less than 0.1 percent of total expenditures, respectively, in FY 2019.

Figure VII.4. Percentage of total Medicaid section 1915(c) waiver program expenditures by LTSS targeted population, FY 2019



Sources: Mathematica's analysis of FY 2019 CMS-64, and CMS 372 data.

Notes: We included California, Delaware, Illinois, and Virginia in this calculation based on CMS-64 data. There were a few uncategorized and section 1115 or 1915(b) waiver program expenditures reported by states in FY 2019 CMS-64 data (including by New Jersey and Rhode Island), but these are not counted in the totals by population because they cannot be accurately attributed to targeted populations. Expenditures for the HIV/AIDS population accounted for less than 0.1 percent of total section 1915(c) waiver program expenditures and are therefore not shown. Further details about the data sources, methods, and data limitations are available in Appendices A and B.

ASD = autism spectrum disorder; CMS = Centers for Medicare & Medicaid Services; DD = developmental disabilities; FY = fiscal year; ID = intellectual disabilities; LTSS = long-term services and supports; OD = other disabilities; PD = physical disabilities; SED = serious emotional disturbance; TD = technologically dependent.

VIII. Conclusions

Nationally, Medicaid LTSS expenditures totaled $162.1 billion in FY 2019, with HCBS accounting for $95.0 billion and institutional services accounting for $67.1 billion. Overall Medicaid LTSS expenditures increased by 26 percent between FY 2018 and 2019, although much of that growth is due to more complete data for several states in FY 2019, particularly with the inclusion of New York data in FY 2019.

In FY 2019, Medicaid LTSS expenditures per state resident averaged $608.25 nationally and varied across states, ranging from $265.82 in Utah to $1,391.06 in the District of Columbia. Factors that may be contributing to these variations across states include differences in state demographics, LTSS eligibility requirements, and coverage of LTSS benefits.

Total Medicaid LTSS growth over the last decade is largely attributable to an increase in HCBS expenditures, which made up 58.6 percent of Medicaid LTSS expenditures in FY 2019. This represented a 2.5 percentage point increase from FY 2018. Notably, a total of 30 states spent at least 50 percent of Medicaid dollars on HCBS in FY 2019, an improvement over FY 2018 when 27 states met this benchmark.[32]

Although total Medicaid LTSS expenditures have grown in recent years, the share of LTSS out of total Medicaid expenditures has declined from 47 percent in FY 1988 to 34 percent in FY 2019. Reasons for this decline include state LTSS system rebalancing initiatives that promote increased use of more cost-effective HCBS and increased spending for non-LTSS populations and services.

MLTSS expenditures have grown in recent years, reaching $47.5 billion in FY 2019.[33] Twenty-five states had MLTSS programs operating under different federal authorities as of FY 2019, with varying size and service coverage. In FY 2019, four states—New York, Texas, Pennsylvania, and Florida—accounted for 62 percent of total MLTSS spending nationally, with New York representing 28 percent of total national MLTSS expenditures. Total managed HCBS expenditures as a percentage of total MLTSS expenditures was 65.1 percent in FY 2019, which was higher than the share of total HCBS spending out of total LTSS expenditures (58.6 percent).

Nursing facilities accounted for the majority of institutional LTSS expenditures, representing 80 percent of these expenditures in FY 2019, whereas section 1915(c) waiver programs represented 51 percent of HCBS expenditures. During FY 2019, all but four states operated at least one section 1915(c) waiver program.[34] Although section 1915(c) waiver program expenditure growth has fluctuated over the last 10 years, expenditures have generally increased even when adjusted for inflation, reaching $51.8 billion in FY 2019.

Section 1915(c) waiver program expenditures varied by targeted population. In FY 2019, waiver programs for the ASD, ID, or DD population accounted for 74.6 percent of total section 1915(c) waiver

[32] For the purpose of these counts, the District of Columbia is considered a state. The total of 30 states includes 29 states and the District of Columbia and the total of 27 states includes 26 states and the District of Columbia.
[33] Arkansas, California, Delaware, Illinois, and Virginia could not submit data on MLTSS expenditures for FY 2019; therefore, $47.5 billion is an undercount of overall MLTSS expenditures for this period.
[34] Arizona, New Jersey, Rhode Island, and Vermont provided similar services to HCBS-eligible populations in demonstrations authorized under section 1115 of the Social Security Act. Although other states also use section 1115 authority to provide HCBS, all other states had at least one active section 1915(c) waiver program in FY 2019. Although New Jersey and Rhode Island did not have any section 1915(c) waiver programs in FY 2019, these states reported FFS HCBS expenditures provided through section 1115 demonstration authority under line 19A in the CMS-64 data; these expenditures are captured in this report as section 1915(c) waiver program expenditures.

program expenditures. Waiver programs for older adults and persons with PD or OD accounted for about 19.7 percent of expenditures, and waiver programs for all other target populations—including multiple subgroups, people with brain injuries, individuals who are medically fragile or dependent on technology, mental health services or individuals with SED, and individuals with HIV/AIDs—collectively accounted for about 6 percent of expenditures.

Medicaid LTSS expenditures are likely to shift in future report years as we begin to analyze expenditure data coinciding with the same time period as the COVID-19 PHE. With states seeking to provide alternatives to institutional care and new federal funding opportunities becoming available to expand access to HCBS, Medicaid LTSS expenditure trends may change substantially at the service category, state, and national levels.

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Appendix A

Data Sources and Methods

Major changes to methodology in this year's report

The combined FY 2017 and 2018 report represented a significant shift in methodology from prior reports and included changes such as calculating expenditures based on payment date rather than service date, updates to MLTSS state-reported data collection and validation, and revised section 1915(c) waiver program targeted population groupings (Murray et al. 2021). These changes potentially impact the interpretation of trending between the periods before FY 2017 to FY 2017–2019. For more detailed information on these changes, refer to Appendix A in the FY 2017 and 2018 report.

The methodology changes made in the FY 2017 and 2018 report carried through to this year's report.[35] In addition, several new updates were made this year, including the use of the CMS-64 Waiver Expenditures by COS report to calculate section 1915(c) waiver program expenditures, the addition of several new service categories, revisions to the MLTSS state data request, and the removal of LTSS targeted population subgroups reporting from the total expenditure and percentage of LTSS expenditures for HCBS calculations.

Calculating section 1915(c) waiver program expenditures using the CMS-64 Waiver Expenditures by COS report. In the report covering FY 2017 and 2018, we used the CMS-64 Schedule A waiver report to calculate section 1915(c) waiver program expenditures. We identified some duplication of expenditure reporting across select categories of service in the CMS-64 FMR Net Services report and in the Schedule A waiver report that we were unable to separate using the Schedule A data. We also identified some missing section 1915(c) waiver program expenditures for several states that are provided under relevant section 1115 demonstration or 1915(b) authority that we could not accurately capture using the Schedule A data. We were able to address the duplication and missing expenditure issues this year by using the CMS-64 Waiver Expenditures by COS report to calculate section 1915(c) waiver program expenditures for FY 2019. Shifts in section 1915(c) waiver program expenditure trending between FY 2019 and the prior year report may be due to methodology changes and/or real changes in expenditures. For more information on state-level trends and data anomalies, refer to Appendix B.

Addition of several new service categories. Several new service categories are reported this year based on expenditures in certain states that are not easily grouped under previous service categories and a new line in the CMS-64 data. Specifically, for states with section 1915(c) waiver program expenditures provided under a section 1115 demonstration or 1915(b) authority reported in the Waiver Expenditures by COS report, we have classified these expenditures under a new category called HCBS Waiver Program Expenditures Covered under Section 1115 or 1915(b) Authority. In addition, because Vermont operates a global LTSS program under section 1115 demonstration authority, LTSS reported by Vermont differs from other states. Vermont's LTSS expenditures that we were unable to group into the standard LTSS categories are classified as HCBS LTSS: other and Institutional LTSS: other. Finally, the CMS-64 FMR Net Services report began including a new expenditure line in FY 2019: line 45, also referred to as Health Homes for enrollees with substance use disorder. Only Michigan reported expenditures in this category in FY 2019, and these expenditures are included in the Health Home expenditure tables (which also include CMS-64 line 43: Health Home expenditures for enrollees with chronic conditions).

Updates to the MLTSS data collection. The FY 2017 and 2018 MLTSS data request asked states to report their HCBS expenditures into two major categories: section 1915(c) waiver program expenditures and non–section 1915(c) waiver program expenditures. Within either category, states could report

[35] For more information on the methodology changes made in the FY 2017 and 2018 report, refer to page 41 of that report: https://www.medicaid.gov/medicaid/long-term-services-supports/downloads/ltssexpenditures-2017-2018.pdf.

expenditures for personal care, home health, rehabilitative services, targeted case management, or other HCBS. To ease reporting burden on states, the FY 2019 data request removed these section 1915(c) and non-section 1915(c) distinctions and asked states to report total expenditures for the above HCBS categories, which include expenditures for section 1915(c) HCBS waiver program services. We also removed the request for states to report total MLTSS member months. In the FY 2017 and FY 2018 MLTSS data request, states were asked to report total MLTSS member months and unique enrollee counts for the purposes of data validation and to inform state data notes included in Appendix B. For FY 2019, we asked states to report unique enrollee counts only. For FY 2019, we also asked states to report hospice expenditures by MLTSS programs, which were combined with FFS hospice expenditures reported in the CMS-64 FMR Net Services data and reported in Appendix G (Non-LTSS expenditures).

Removal of LTSS targeted population subgroups reporting from the total expenditure and percentage of LTSS expenditures for HCBS calculations. In the most significant change to this year's report, we did not calculate total expenditures or the percentage of LTSS expenditures for HCBS for the four major LTSS targeted population subgroups: older adults or people with PD or OD; people with ASD, ID, or DD; people with behavioral health conditions; and multiple populations. CMS and Mathematica recognize the importance of breaking out LTSS spending by these four targeted population subgroups but concluded that using currently available data sources for this purpose would produce unreliable and misleading results and so decided not to include these calculations in this year's report.[36] The reasons are as follows:

- **Less reliance on section 1915(c) waiver programs.** Although section 1915(c) waiver programs still make up a substantial proportion of Medicaid HCBS spending, many states have reduced their reliance on these waiver programs over time and use a combination of many other authorities to deliver HCBS. For example, Arizona, New Jersey, Rhode Island, and Vermont do not operate any section 1915(c) waiver programs, but these states provide similar services to HCBS-eligible populations in demonstrations authorized under section 1115 of the Social Security Act, as well as other federal authorities. Spending for targeted population subgroups can be identified for section 1915(c) waiver programs based on information contained in the CMS 372 data, but it is not possible to accurately identify HCBS expenditures based on CMS-64 data by targeted population subgroups for services and supports delivered through other federal authorities.
- **Continued use of optional state plan HCBS.** Although states can use targeting criteria based on age, diagnosis, disability, or Medicaid eligibility group to limit the availability of state plan HCBS, states typically deliver optional state plan HCBS to multiple populations and do not limit delivery to only one population group. For example, most states do not use a combination of targeting criteria that would limit personal care state plan HCBS to only older adults and people with OD or PD within their state. Because of the broad coverage under state plan options and limitations in current data sources, we are unable to separate state plan HCBS expenditures for each specific targeted population subgroup. To report expenditures by targeted population subgroups in previous reports, we made assumptions about the type of services used by each population, and we assigned all state expenditures for individual service categories to the relevant population group. However, these assumptions were not based on a systematic assessment of actual expenditures at the beneficiary level.

[36] Note that previous methods for calculating population subgroup expenditures are still contained in Appendix A for reference.

- **Increased use of the Community First Choice option within a subset of states.** Several states rely heavily on the CFC option to cover all LTSS populations.[37] As is the case for other optional state plan HCBS, it is not possible to distinguish CFC spending for different targeted population subgroups in the CMS-64 data to accurately attribute expenditures to each relevant population.
- **Increased use of MLTSS.** Many states now deliver a substantial amount of LTSS through MLTSS programs. The MLTSS expenditures in this report are based on state-submitted data that do not include expenditures by target population, as this would be difficult for states to reliably track and report by the targeted population subgroup definitions that are used for this report. As different data sources become available, we will continue to explore their use in calculating MLTSS expenditures by targeted population subgroups.
- **Changing patterns for predominant users of services.** Although historically in some service types, it may have been reasonable to assume that most users belonged to one targeted population subgroup, service use patterns might have changed in recent years in ways that undermine these assumptions. For example, although it may have been reasonable in the past to assume that most users of nursing facility services were older adults and people with PD or OD, people with behavioral health conditions also use nursing facility services (Aschbrenner et al. 2011a, 2011b). Without detailed beneficiary-level data, we cannot determine how the distribution of nursing facility and other service expenditures varies across the different targeted population subgroups to appropriately assign expenditures.

CMS and Mathematica are committed to reporting total expenditures and the percentage of LTSS expenditures for HCBS by targeted population subgroups in future reports using T-MSIS data. T-MSIS offers a more reliable source of data to calculate LTSS expenditures by subgroup because it contains beneficiary-level data that will allow us to identify the characteristics of beneficiaries using each service type. Although T-MSIS contains a rich set of data to produce more reliable results, further analyses are required to verify that states report sufficiently complete and accurate T-MSIS data for this purpose. We will provide updates on this work in future expenditure reports.

Data sources

We used the following sources in the LTSS expenditure analysis:

1. CMS-64 Medicaid FMR Net Services data
2. CMS-64 Waiver Report data
3. CMS-64 Supplemental Feeder Form (4C) data
4. State-reported MLTSS data
5. CMS 372 annual report data
6. MFP Budget Worksheet for Proposed Budget data
7. U.S. Census Bureau data

CMS-64 Medicaid FMR Net Services data

The CMS-64 reports are based on a series of forms through which state Medicaid agencies submit their program expenditures to CMS to calculate the federal financial participation, or the federal share of

[37] For example, more than 80 percent of Oregon's HCBS expenditures in FY 2019 were for CFC.

expenditures, for the state's Medicaid costs.[38] The CMS-64 FMR Net Services data used in this report are based on a summary file of these expenditures that shows Medical Assistance Payment expenditures by type of service and federal fiscal year. We accessed the data through the CMS Medicaid Budget and Expenditure System (MBES), and they are also publicly available on Medicaid.gov.[39]

Data from the FY 2019 reports were used to capture FFS payments by service category at the state and national levels. As referenced above, prior period adjustments are included within these data based on date of payment. With the exception of collections, prior period adjustments are applied at the service category level because there is no way to assign collections at a granular level, so they are only applied to the overall Medicaid expenditures shown within this report.

We included the data as reported by states because we were unable to validate most of the service category expenditures. It does appear that there is some state misreporting in this data, as there was at least one state that did not have active section 1915(i) State Plan HCBS program during one or more report years that reported expenditures for this category, as well as several states that did have active section 1915(i) State Plan HCBS programs during the report time period that did not report any expenditures (see Appendix B).

Because of the way that states report their capitated expenditures within the CMS-64, we cannot disaggregate costs to the service category level, which is why we reached out to state Medicaid agencies to report that data directly (see "State-reported MLTSS data" section).

CMS-64 Waiver Report data

The FY 2017 and 2018 section 1915(c) waiver program expenditure data were pulled from the FY 2017 and 2018 report (Murray et al. 2021); the CMS-64 Schedule A Waiver Report data to calculate these expenditures. For more detailed information on the Schedule A Waiver Report, refer to Appendix A in Murray et al. (2021).

For the reasons outlined in the "Major changes to methodology in this year's report" section above, we switched to using the CMS-64 Waiver Expenditures by COS to calculate these expenditures for FY 2019. This new data source is a summary report that shows expenditures at the waiver program level for section 1915(c) waiver programs, section 1915(b) programs, section 1115 demonstrations, and other programs by category of service. These data are not publicly available and were accessed through the CMS MBES.

Data from FY 2019 were used to report section 1915(c) waiver program expenditures at the waiver program level. We linked the data to information from the CMS 372 data by waiver number in order to report section 1915(c) waiver program expenditures by target population. Because the waiver program number formatting varied between the data sources, we standardized to the base waiver number in all sources prior to matching. There were a handful of states that misreported their waiver numbers in the CMS-64. We checked these against the CMS 372 and prior year report data, and in cases where it seemed clear that there was a minor character issue (for example, the state reported waiver number 006 when the correct waiver number was 0006), we updated the waiver number in order to correctly match to the CMS 372 and/or prior year data. In cases that were not clear-cut, we flagged expenditures as uncategorized and report those in Appendix Table D.44.

[38] For reference, the CMS-64 forms used for state reporting are available at https://www.medicaid.gov/medicaid/downloads/chip-cms64-expenditure-forms.pdf.
[39] Publicly available FMR Net Services reports are available at https://www.medicaid.gov/medicaid/financial-management/state-expenditure-reporting-for-medicaid-chip/expenditure-reports-mbescbes/index.html.

CMS-64 Supplemental Feeder Form (4C) data

The CMS-64 Supplemental Feeder Form (4C) provides information about ICF/IID supplemental payments for state government owned or operated facilities, non–state government owned or operated facilities, and private facilities. We accessed these data through the CMS MBES because they are not publicly available.

ICF/IID expenditures are reported in three distinct categories in the CMS-64 FMR Net Services report: public ICF/IID, private ICF/IID, and ICF/IID supplemental payments. In order to appropriately report ICF/IID public and ICF/IID private expenditures in Tables D.9 and D.10, we needed the feeder form to be able to assign supplemental payment ICF/IID expenditures to the correct categories. Expenditures in the feeder form that fell under state government owned or operated facilities were reported as ICF/IID public, and non-state government owned or operated facilities and private facility expenditures were reported as ICF/IID private.

State-reported MLTSS data

We collected MLTSS data directly from states that had at least one active MLTSS program during our reporting time period. State outreach is needed for these data because the CMS-64 system captures expenditures related to capitation rates paid to plans, and these capitation expenditures are reported in the CMS-64 in aggregate with no way of separating expenditures for MLTSS programs from all other Medicaid capitation expenditures. Without collecting this data directly from states, we would not be able to calculate the proportion of Medicaid LTSS spent on HCBS since capitated expenditures are not captured in the CMS-64 in the relevant categories needed for that calculation.

We developed a standardized data collection template and accompanying user guide that detailed how states should input their self-reported data. The template was customized to include the specific MLTSS programs in each state that were active in FY 2019 and for which we wanted the state to estimate capitated expenditures attributable to specific institutional LTSS and HCBS service categories (see Table A.1 for a complete list of state-reported MLTSS programs). This included section 1915(k) and PACE programs, which prior to FY 2017 were not covered in state outreach efforts because section 1915(k) and PACE data are available in the CMS-64. We include section 1915(k) and PACE as a general check on state-reported data quality. In cases where a state had both MLTSS PACE data and CMS-64 PACE data, we used the MLTSS PACE data; the same logic applied to section 1915(k) data.

We asked states to provide institutional expenditures for nursing facilities, ICF/IID, mental health facilities, and any other relevant institutional costs that did not fall into the previous categories.[40] We also asked states to provide expenditures for personal care, home health, rehabilitative services, targeted case management, section 1915(k), and any other relevant HCBS costs that did not align with those categories.[41,42] Our template included several areas for states to document what they included in their other institutional and other HCBS categories, as well as any other relevant notes that might affect the interpretation of their data.

[40] Other relevant institutional services that may fall into the Institutional MLTSS: other category include expenditures for short-term residential care at behavioral health facilities and nursing home supplemental funds.
[41] Other relevant HCBS services that may fall into the HCBS MLTSS: other category include expenditures for section 1915(i) State Plan HCBS programs, section 1915(j) programs, Health Homes, home delivered meals, transportation services, habilitation, and assistive technology, among others.
[42] The FY 2017 and 2018 MLTSS data request asked states to report their personal care, home health, rehabilitative services, targeted case management, or other HCBS under two overarching categories: section 1915(c) waiver program expenditures and non–section 1915(c) waiver program expenditures. We consolidated the data request for FY 2019 and removed the section 1915(c) and non–1915(c) distinctions.

To ensure data integrity, we validated each submission for data consistency and accuracy. Our checks included identifying any changes at the state policy or program level that might have impacted expenditures during the reporting time period, confirming that the correct covered services were being reported, and determining if there was anything in the state data notes that was problematic or required follow-up with the state. Our review process often resulted in us communicating questions to the state for clarification and, in several instances, resulted in resubmissions to correct misreporting. Further details on state-specific MLTSS reporting can be found in Appendix B.

Table A.1. MLTSS programs reported by state

State	Program	FY 2017	FY 2018	FY 2019
Arizona	Arizona Long Term Care System (ALTCS)	X	X	X
Arkansas	NA	n.a.	n.a.	NA
California	NA	NA	NA	NA
Delaware	Diamond State Health Plan	X	X	NA
Florida	Managed Long-Term Care	X	X	X
Hawaii	Hawaii QUEST Integration	X	X	X
Iowa	IA Healthlink	X	X	X
Idaho	Medicare-Medicaid Coordinated Plan	X	X	X
Idaho	Medicaid Plus (IMPlus)			X
Illinois	NA	NA	NA	NA
Kansas	KanCare	X	X	X
Massachusetts	Senior Care Options	X	X	X
Massachusetts	One Care	X	X	X
Michigan	MI Choice	X	X	X
Michigan	Health Link	X	X	X
Minnesota	Minnesota Senior Care Plus (MSC+)	X	X	X
Minnesota	Prepaid Medical Assistance Plan Plus (PMAP+)	X	X	X
Minnesota	Special Needs Basic Care (SNBC)	X	X	X
Minnesota	Minnesota Senior Health Options (MSHO)	X	X	X
North Carolina	NC Innovations	X	X	X
New Jersey	Non-FIDE SNP NJ FamilyCare	X	X	X
New Jersey	FIDE SNP			X
New Mexico	Centennial Care	X	X	X
New York	FIDA	NA	NA	X
New York	FIDA-IDD	NA	NA	X
New York	MLTC Partial Capitation (MLTC)	NA	NA	X
New York	Medicaid Advantage Plus (MAP)	NA	NA	X
Ohio	MyCare Ohio Opt-out	X	X	X
Ohio	MyCare Ohio	X	X	X
Pennsylvania	Adult Community Autism Program	X	X	
Pennsylvania	Community HealthChoices		X	X

State	Program	FY 2017	FY 2018	FY 2019
Rhode Island	Rhody Health Options I	X	X	
Rhode Island	RI Integrated Care Initiative	X	X	X
South Carolina	Healthy Connections Prime	NA	NA	X
Tennessee	TennCare CHOICES in Long-term Care	X	X	X
Tennessee	Employment and Community First CHOICES	X	X	X
Texas	STAR Kids	X	X	X
Texas	STAR+PLUS	X	X	X
Texas	STAR Health	X	X	X
Texas	Texas Dual Eligible Integrated Care	X	X	X
Virginia	NA	NA	NA	NA
Vermont	Global Commitment to Health Demonstration	X	X	NA
Wisconsin	Wisconsin Partnership Program	X	X	X
Wisconsin	Family Care	X	X	X

Notes: We collected state-submitted PACE data from Florida, Kansas, Massachusetts, Michigan, North Carolina, New Mexico, Ohio, Pennsylvania, Tennessee, Texas, and Wisconsin for FY 2017–2019; Rhode Island for FY 2017 and 2018; and New York and South Carolina for FY 2019**.** All other PACE data came from the CMS-64 FMR Net Services report. For FY 2017 and 2018, Pennsylvania's PA Living Independence for the Elderly (LIFE) program was included in MLTSS expenditures based on the submission from the state; however, because it is a PACE program, it is correctly excluded from MLTSS expenditures for FY 2019. Arkansas implemented its MLTSS program on March 1, 2019 but was unable to submit data in FY 2019. Therefore, Arkansas is shown as not applicable for FY 2017 and 2018 and not available for FY 2019. Vermont was categorized as having an MLTSS program in FY 2017 and 2018 because data needs to be collected from the state directly as is done for MLTSS programs; however, the state operates its Medicaid program under a section 1115 demonstration and does not qualify as MLTSS. The FY 2019 labeling for Vermont has been updated so it is not listed as an MLTSS program. In addition, new service categories (HCBS LTSS: other and Institutional LTSS: other) were added to account for LTSS expenditures in Vermont that could not be grouped into the standard LTSS categories. For more information, refer to Appendix B.

CMS = Centers for Medicare & Medicaid Services; FAI = Financial Alignment Initiative; FMR = Financial Management Report; MLTSS = managed long-term services and supports; NA = not available; n.a. = not applicable; PACE = Program of All-Inclusive Care for the Elderly.

CMS 372 annual report data

The CMS 372 annual report data were accessed via the Waiver Management System. These data must be submitted by states 18 months after the close of a given waiver program year, which can occur as late as December 31. Therefore, the final possible due date for each year's CMS 372 report is June 30. This report uses waiver program years 2017 and 2018 data.

The CMS 372 data were merged with the CMS-64 Schedule A Waiver Report data by waiver number and used to identify target populations for section 1915(c) waiver programs. As described in the "CMS-64 Waiver Report data" section, the waiver number data were standardized across the data sources to ensure accurate matching.

MFP Worksheet for Proposed Budget data

The MFP Budget Worksheets are submitted by states to CMS on an annual basis and include federal, state, and total expenditures by line item and calendar year quarter. CMS shared these data with us

because they are not publicly available. Like the MLTSS state-reported data, the MFP Budget Worksheets are needed for this analysis because this information is not reported within the CMS-64 FMR Net Services data used in this analysis.

To report data for FY 2019, we summed the appropriate calendar year quarters from 2018 to 2019 for all qualified HCBS, demonstration HCBS, and supplemental expenditures. We did not include any administrative costs. Because of the timing of this analysis and when states submit annual MFP Budget Worksheets, all FY 2019 MFP data shown in this report include projected expenditures.

U.S. Census Bureau data

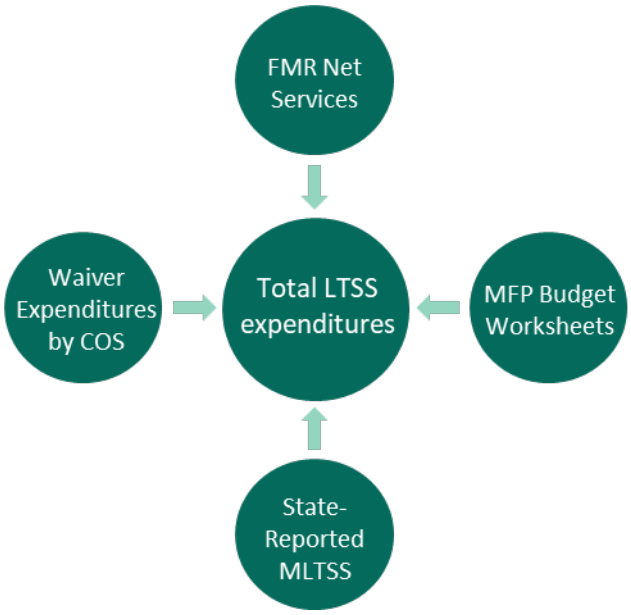
To calculate expenditures per state resident, we extracted the state-level population estimates from the U.S. Census Bureau. Each year, the U.S. Census Bureau publishes currently residing population estimates calculated as of July 1 of that year. To calculate the estimates, the U.S. Census Bureau starts with the base population from the most recent decennial census and adjusts for population changes, such as births, deaths, and net migrations (both international and domestic).[43] We downloaded the annual population table that includes yearly estimates for all states and the District of Columbia from 2010 to 2019. For this report, we applied the 2019 population estimates from this table to calculate Medicaid LTSS expenditures per state resident at the state and national levels.

Methodology

We processed, standardized, and merged each of the data sources from the previous section to create a master file that served as the basis for the calculations in this report. Figure A.1 depicts the four data sources that we used to calculate total LTSS expenditures for FY 2019: the FMR Net Services and waiver report data from the CMS-64, MFP Budget Worksheets, and state-reported MLTSS data. We used these same data sources to calculate total HCBS expenditures. Total institutional expenditures were based on FMR Net Services and state-reported MLTSS data, whereas total Medicaid expenditures came solely from the FMR Net Services data.

[43] For detailed methodology on how the Census Bureau estimates annual population, see Methodology for the United States Population Estimates: Vintage 2019 at https://www2.census.gov/programs-surveys/popest/technical-documentation/methodology/2010-2019/natstcopr-methv2.pdf.

Figure A.1. Data flow diagram of FY 2019 total LTSS expenditure calculation



COS = category of service; FMR = financial management report; FY = fiscal year; LTSS = long-term services and supports; MFP = Money Follows the Person; MLTSS = managed long-term services and supports.

In combining these data sources in FY 2019, we had to make a few adjustments to ensure accurate reporting, account for missing data, and minimize duplicate counts, all of which are described in detail below. To learn more about the methodology used to calculate the FY 2017 and FY 2018 data—including the exclusion logic used for states with missing or aggregate MLTSS data, how New Hampshire's section 1915(c) waiver processing differed from other states, and the methods used for reporting MLTSS section 1915(c) waiver program expenditures—refer to Appendix A of the prior year report (Murray et al. 2021).

Modifications to standard expenditure aggregation

Exclusion of states with missing or aggregate MLTSS data

Five states could not submit MLTSS expenditure data in FY 2019 (Arkansas, Delaware, California, Illinois, and Virginia). Arkansas's MLTSS program began on March 1, 2019 and accounted for a small enough proportion of overall LTSS expenditures that we could still calculate the percentage of HCBS out of total LTSS expenditures for the state and include them in the accompanying summary tables. In the other four states, the MLTSS programs account for such a large share of overall LTSS expenditures that it would not have been possible to reliably calculate the percentage of HCBS out of total LTSS expenditures.[44] Therefore, we excluded California, Delaware, Illinois, and Virginia from all tables that report total Medicaid, total LTSS, total HCBS, or total institutional numbers (Appendix Tables D.1 to D.6 and Table D.15) and from the percentage of HCBS out of total LTSS expenditures table (Appendix Table D.36). These states are included in other service category output reflecting their FFS expenditures from the other data sources.

Three states could not provide service category breakouts for their FY 2019 MLTSS data and only reported total institutional MLTSS and/or total HCBS MLTSS expenditures: Massachusetts did not provide service category breakouts for its total institutional MLTSS or total HCBS MLTSS expenditures; Pennsylvania did not provide service category breakouts for its total HCBS MLTSS expenditures; and with the exception of its section 1915(k) expenditures, Texas did not provide service category breakouts

[44] Based on the last published report (Murray et al. 2021), Delaware reported $361,829,497 in MLTSS expenditures (about 60 percent of its total LTSS expenditures). Based on the FY 2016 LTSS Expenditures report (Eiken et al. 2018), Illinois reported $240,480,583 in MLTSS expenditures (about 6 percent of its total LTSS expenditures), and Virginia reported $300,057,019 in MLTSS expenditures (about 9 percent of its total LTSS expenditures). There are no available historical MLTSS data for California. Several of these states had changes to their MLTSS programs since FY 2016, so these may be underestimates of the potential share of LTSS in more recent years.

for its total HCBS MLTSS expenditures. Therefore, the sum of the institutional service categories shown in the appendix tables will not equal the total institutional expenditures for Massachusetts (nor will the institutional MLTSS service categories sum to the total institutional MLTSS expenditures). Likewise, the sum of the HCBS service categories shown in the appendix tables will not equal the total HCBS expenditures for Massachusetts, Pennsylvania, and Texas (nor will the HCBS MLTSS service categories sum to the total HCBS MLTSS expenditures).

Inclusion of U.S. territories

Five U.S. territories—American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, and the Virgin Islands—are included in the totals in this report. Because these expenditures were very small, the sum of LTSS spending in these territories is aggregated in one U.S. Territories category, which appears as a separate line item in the state summary of LTSS expenditures and total Medicaid tables (Tables D.2–D.4) and is otherwise included in the national total (but not reported separately) in the following tables for FY 2019: nursing facilities (Table D.7), mental health facilities (Table D.11), home health (Table D.21), drugs (Table G.1), inpatient hospital (Table G.3), and Medicaid managed care premiums (Table G.5).

Substitution of state-reported PACE and 1915(k) expenditures

States reported PACE and section 1915(k) expenditures in their MLTSS submissions. Both categories appear in the FMR Net Services CMS-64 data and served as a benchmark of state reported data quality. In order to avoid double-counting across sources, we created a hierarchy when processing the data wherein if a state had reported PACE and/or section 1915(k) data and there were FMR Net Services CMS-64 data for the same category, we used the state-reported PACE and/or section 1915(k) data; in cases where there was only state-reported data available, we used that data; and in cases where there was only FMR Net Services CMS-64 data available, we used that data. The PACE and section 1915(k) data reported in Tables D.1, D.18, and D.24, is therefore a mix of state-reported and FMR Net Services CMS-64 data.

Consolidating FY 2017 and 2018 MLTSS section 1915(c) and non-1915(c) waiver program expenditures for trending

As discussed in Section A above, states reported HCBS service categories (personal care, home health, rehabilitative services, targeted case management, and other HCBS) into two overarching categories in FY 2017 and 2018: section 1915(c) waiver program expenditures and non–section 1915(c) waiver program expenditures. In FY 2019, the MLTSS state data request was streamlined to remove these distinctions and only ask for total personal care, home health, rehabilitative services, targeted case management, and other HCBS expenditures, which include expenditures for section 1915(c) HCBS waiver program services. To be able to trend the FY 2017 and 2018 HCBS MLTSS data to the FY 2019 HCBS MLTSS data, we summed the section 1915(c) and non-1915(c) expenditures for each service category to compare total HCBS MLTSS service category expenditures across the three years.

Inflation adjustment for historical expenditure figures, FY 2008 to 2019

To more accurately depict long-term trends in expenditure growth from FY 2009 to 2019, we adjusted expenditures in Figures VII.1 and VII.2 for inflation based on the medical consumer price index (CPI) in 2019, obtained from the U.S. Bureau of Labor Statistics.[45] We calculated the medical CPI for the fiscal

[45] CPI adjustment obtained from the U.S. Bureau of Labor Statistics is available at https://data.bls.gov/timeseries/CUUR0000SAM?output_view=data.

year by taking the average of the monthly medical CPI values for the relevant months of the fiscal year. After we obtained medical CPI values for each fiscal year, we used the formula below to inflate historical expenditures to 2019 dollars, with *x* being a given fiscal year:

$$Expenditures_{2019} = Expenditures_x \left(\frac{CPI_{2019}}{CPI_x} \right)$$

LTSS targeted population subgroup calculations

Although mapping expenditures to target populations is problematic for the reasons stated in Section A above, there are three service categories for which this is possible: section 1915(i) State Plan HCBS, Health Homes, and section 1915(c) waiver programs. We used section 1915(i) State Plan HCBS and Health Home program documentation provided by CMS for approved state programs in FY 2019 to assign the populations served in each state to the appropriate LTSS targeted population subgroup. Most states that had either a section 1915(i) State Plan HCBS and/or Health Home program had one program that served one population or several programs that served the same population. For those states, it was a one-to-one mapping between the LTSS population subgroups listed in CMS's documentation to those included in this report. A few states had either one program that served different populations or multiple programs that served different populations. In those cases, we grouped their section 1915(i) State Plan HCBS and/or Health Home program expenditures under the multiple populations category.

We linked section 1915(c) waiver program data to CMS 372 data to obtain target population information at the waiver program level. The seven CMS 372 target populations were used to report expenditures at the waiver program level (Tables D.37 to D.45). We then aggregated the expenditures from the seven waiver program target groups into four overarching categories for reporting in the Appendix E tables, as shown in Table A.2.

Table A.2. Section 1915(c) waiver program target population categorization

CMS 372 target population group	1915(c) target populations as reported in Appendix E
Autism, developmental disability, or intellectual disability	ASD, ID, or DD
Aged, disabled (physical), or disabled (other)	Older adults, PD, or OD
Mental illness or serious emotional disturbance	BHC
Medically fragile or technologically dependent	Other
HIV/AIDS	Other
Waiver includes individuals from two or more target groups	Other
Brain Injury	Other

ASD = autism spectrum disorder; BHC = behavioral health care; CMS = Centers for Medicare & Medicaid Services; DD = developmental disabilities; ID = intellectual disabilities; LTSS = long-term services and supports; OD = other disabilities; PD = physical disabilities.

Although this year's report no longer includes LTSS targeted population subgroups for the total expenditure and percentage of LTSS expenditures for HCBS calculations, we have included the methodology used to map LTSS service categories to target populations in the FY 2017 and 2018 report in Table A.3. Because our two main data sources—the FMR Net Services CMS-64 data and the state-reported MLTSS data—are reported in aggregate and are not assigned to population groups, we

previously had to assign all expenditures for individual service categories to each population group in order to examine expenditures for each LTSS targeted population subgroup. The four LTSS targeted population subgroups included older adults and people with physical or other disabilities; autism spectrum disorder, intellectual or developmental disabilities; people with behavioral health conditions; and multiple populations.

Table A.3. FY 2017 and 2018 service categories used to define LTSS targeted population subgroup expenditures (not used in FY 2019 report)

FY 2017 and 2018 service categories	Older adults and people with PD or OD	People with ASD, ID, or DD	People with behavioral health conditions	Multiple populations
Nursing facilities	X			
Personal care	X			
Home health	X			
PACE	X			
Private duty nursing	X			
1915(j) / self-directed personal assistance	X			
1915(i) State Plan HCBS	X	X	X	X
Section 1915(c) waiver programs	X	X	X	X
ICF/IID: total		X		
Mental health facilities			X	
Mental health facilities: DSH			X	
Rehabilitative services (non-school based)			X	
Health Homes			X	X
1915(k) / Community First Choice				X
Case management				X
MFP				X
Institutional MLTSS: other				X
HCBS MLTSS: other				X

ASD = autism spectrum disorder; DD = developmental disabilities; DSH = disproportionate share hospital; FY = fiscal year; HCBS = home and community-based services; ICF/IID = Intermediate Care Facilities for Individuals with Intellectual Disabilities; ID = intellectual disabilities; MFP = Money Follows the Person; MLTSS = managed long-term services and supports; OD = other disabilities; PACE = Program of All-Inclusive Care for the Elderly; PD = physical disabilities.

Data dictionary

Table A.4 documents the specific line items and data sources used in this report along with references to the applicable report tables that they contribute to.

Table A.4. Data dictionary for source data and corresponding expenditure output

Data source	CMS-64 line number	Data description[a]	Report category
Total HCBS			
CMS-64 FMR Net Services report	24A	Targeted Case Management Services - Com. Case-Man.	Case management
CMS-64 FMR Net Services report	24B	Case Management - Statewide	Case management
State-submitted MLTSS data	n.a.	Case Management	Case management
State-submitted data (Vermont)	n.a.	HCBS LTSS: other	HCBS LTSS: other
State-submitted MLTSS data	n.a.	HCBS MLTSS: other	HCBS MLTSS: other
CMS-64 FMR Net Services report	43	Health Home w Chronic Conditions	Health homes
CMS-64 FMR Net Services report	45	Health Home w Substance Use Disorder	Health homes
CMS-64 FMR Net Services report	12	Home Health Services	Home health
State-submitted MLTSS data	n.a.	Home Health Services	Home health
MFP worksheet for proposed budget	n.a.	MFP demonstration	MFP
CMS-64 FMR Net Services report	22	All-Inclusive Care Elderly (PACE)	PACE
State-submitted MLTSS data	n.a.	PACE	PACE
CMS-64 FMR Net Services report	23A	Personal Care Services - Reg. Payments	Personal care
State-submitted MLTSS data	n.a.	Personal Care Services	Personal care
CMS-64 FMR Net Services report	41	Private Duty Nursing	Private duty nursing
CMS-64 FMR Net Services report	40	Rehabilitative Services (non-school-based)	Rehabilitative services (non-school-based)
State-submitted MLTSS data	n.a.	Rehabilitative services (non-school-based)	Rehabilitative services (non-school-based)
CMS-64 Waiver Expenditures by Category of Service report	n.a.	Section 1915(c) waiver program	Section 1915(c) waiver program
CMS-64 FMR Net Services report	19B	Home & Community-Based Services - St. Plan 1915(i) Only Pay.	1915(i) State Plan HCBS
CMS-64 FMR Net Services report	19C	Home & Community-Based Services - St. Plan 1915(j) Only Pay.	1915(j) / self-directed personal assistance
CMS-64 FMR Net Services report	23B	Personal Care Services - SDS 1915(j)	1915(j) / self-directed personal assistance
CMS-64 FMR Net Services report	18A3	Medicaid MCO - Community First Choice	1915(k) / Community First Choice
CMS-64 FMR Net Services report	18B1C	MCO PAHP - Community First Choice	1915(k) / Community First Choice
CMS-64 FMR Net Services report	18B2C	MCO PIHP - Community First Choice	1915(k) / Community First Choice

Data source	CMS-64 line number	Data description[a]	Report category
CMS-64 FMR Net Services report	19D	Home & Community Based Services State Plan 1915(k) Community First Choice	1915(k) / Community First Choice
State-submitted MLTSS data	n.a.	Community First Choice	1915(k) / Community First Choice
Total Institutional LTSS			
CMS-64 FMR Net Services report	4A	Intermediate Care Facility - Public	ICF/IID: total, ICF/IID: public
CMS-64 FMR Net Services report	4B	Intermediate Care - Private	ICF/IID: total, ICF/IID: private
CMS-64 Supplemental Feeder Form (4C)	4C-1	Intermediate Care Facility - Individuals with Intellectual Disabilities (ICF/IID): Supplemental Payments for state government owned or operated facilities	ICF/IID: total, ICF/IID: public
CMS-64 Supplemental Feeder Form (4C)	4C-2	Intermediate Care Facility - Individuals with Intellectual Disabilities (ICF/IID): Supplemental Payments for non-state government owned or operated facilities	ICF/IID: total, ICF/IID: private
CMS-64 Supplemental Feeder Form (4C)	4C-3	Intermediate Care Facility - Individuals with Intellectual Disabilities (ICF/IID): Supplemental Payments for private facilities	ICF/IID: total, ICF/IID: private
State-submitted MLTSS data	n.a.	Intermediate Care Facility - Individuals with Intellectual Disabilities (ICF/IID)	ICF/IID: total
State-submitted data (Vermont)	n.a.	Institutional LTSS: other	Institutional LTSS: other
State-submitted MLTSS data	n.a.	Institutional MLTSS: other	Institutional MLTSS: other
CMS-64 FMR Net Services report	2A	Mental Health Facility Services - Reg. Payments	Mental health facilities
State-submitted MLTSS data	n.a.	Mental Health Facility Services	Mental health facilities
CMS-64 FMR Net Services report	2B	Mental Health Facility - DSH	Mental health facilities: DSH
CMS-64 FMR Net Services report	3A	Nursing Facility Services - Reg. Payments	Nursing facilities
CMS-64 FMR Net Services report	3B	Nursing Facility Services - Sup. Payments	Nursing facilities
State-submitted MLTSS data	n.a.	Nursing Facility Services	Nursing facilities
Total Medicaid			
CMS-64 FMR Net Services report	50	Balance	Total Medicaid
CMS-64 FMR Net Services report	51	Collections	Total Medicaid
Additional non-LTSS services			
CMS-64 FMR Net Services report	7	Prescribed Drugs	Drugs
CMS-64 FMR Net Services report	7A1	Drug Rebate Offset - National	Drugs
CMS-64 FMR Net Services report	7A2	Drug Rebate Offset - State Sidebar Agreement	Drugs

Data source	CMS-64 line number	Data description[a]	Report category
CMS-64 FMR Net Services report	7A5	Increased ACA OFFSET - Fee for Service	Drugs
CMS-64 FMR Net Services report	26	Hospice Benefits	Hospice
State-submitted MLTSS data	n.a.	Hospice	Hospice
CMS-64 FMR Net Services report	1A	Inpatient Hospital - Reg. Payments	Inpatient hospital
CMS-64 FMR Net Services report	1C	Inpatient Hospital - Sup. Payments	Inpatient hospital
CMS-64 FMR Net Services report	1D	Inpatient Hospital - GME Payments	Inpatient hospital
CMS-64 FMR Net Services report	36	Emergency Hospital Services	Inpatient hospital
CMS-64 FMR Net Services report	37	Critical Access Hospitals	Inpatient hospital
CMS-64 FMR Net Services report	1B	Inpatient Hospital - DSH	Inpatient hospital: DSH
CMS-64 FMR Net Services report	7A3	MCO - National Agreement	Medicaid managed care premiums
CMS-64 FMR Net Services report	7A4	MCO - State Sidebar Agreement	Medicaid managed care premiums
CMS-64 FMR Net Services report	7A6	Increased ACA OFFSET - MCO	Medicaid managed care premiums
CMS-64 FMR Net Services report	18A	Medicaid - MCO	Medicaid managed care premiums
CMS-64 FMR Net Services report	18B1	Prepaid Ambulatory Health Plan	Medicaid managed care premiums
CMS-64 FMR Net Services report	18B2	Prepaid Inpatient Health Plan	Medicaid managed care premiums
CMS-64 FMR Net Services report	18C	Medicaid - Group Health	Medicaid managed care premiums
CMS-64 FMR Net Services report	18E	Medicaid - Other	Medicaid managed care premiums

[a] The data descriptions come directly from the source data definitions. For CMS-64 categories, these descriptions are pulled directly from the forms that states report.

ACA = Affordable Care Act; CMS = Centers for Medicare & Medicaid Services; DSH = disproportionate share hospital; FMR = Financial Management Report; GME = graduate medical education; HCBS = home and community-based services; LTSS = long-term services and supports; MCO = managed care organization; MFP = Money Follows the Person; MLTSS = managed long-term services and supports; ; n.a. = not applicable; PACE = Program of All-Inclusive Care for the Elderly; PAHP = prepaid ambulatory health plan; PIHP = prepaid inpatient health plan; SDS = Self-directed services.

Appendix B

State Data Notes

Table B.1. State Data Notes

State	Notes
Alabama	**CMS-64 expenditures:** **1.** Waiver program number 40382 was terminated in September 2017. **2.** We corrected waiver program ID numbers to allow linkage across sources. **3.** Alabama appears to be capturing other services under its FY 2017 and 2018 section 1915(c) waiver program totals in the Schedule A waiver report. The section 1915(c) waiver program expenditures the state reported in the Schedule A waiver data differ from the expenditures the state reported on line 19A of the FMR Net Services report. This issue should be fixed in the FY 2019 data, which use the CMS-64 Waiver Expenditures by Category of Service report to calculate section 1915(c) waiver program expenditures in line with waiver expenditures reported on line 19A of the FMR Net Services report. **4.** Alabama reported $0 in Health Home SPA expenditures in FY 2018 and 2019 even though the state had an approved Health Home SPA during these years. Alabama terminated their Health Home SPA in September 2019. **MFP:** **1.** Alabama reported projected MFP expenditures for FY 2019.
Alaska	**CMS-64 expenditures:** **1.** No expenditures were reported in the FY 2018 CMS-64 Schedule A waiver report for waiver number 1566 (effective date 7/1/2018).
Arizona	**CMS-64 expenditures:** **1.** Arizona did not operate any section 1915(c) waiver programs in FY 2017–2019 because it provides similar services to HCBS-eligible populations under a section 1115 demonstration. **State-reported MLTSS expenditures:** **1.** Arizona categorized mental health facility and some ICF/IID expenditures as “other institutional” expenditures for FY 2017–2019, which differs from the categorization used for prior years. Prior to FY 2017, all institutional care expenditures reported by Mercy Care Plan, United Healthcare, and Bridgeway health plans were categorized as nursing facility expenditures, and all institutional care expenditures reported by the Division of Developmental Disabilities were categorized as ICF/IID. In addition to expenditures for mental health facilities and some ICF/IID, other institutional expenditures for FY 2017 and 2018 include expenditures for dialysis, laboratory, x-ray and imaging, medical equipment and supplies, and rehabilitative services. For FY 2019, other institutional expenditures include expenditures for short-term residential care at behavioral health facilities. **2.** The Division of Developmental Disabilities could not break out personal care expenditures; those services are included in the other HCBS category for FY 2017–2019. **3.** Attendant care expenditures are categorized as personal care for FY 2017–2019. In prior years, these expenditures were categorized as “managed care HCBS—unspecified.” **4.** Expenditures for home health are specific to services provided by a nurse or aide. **5.** For FY 2017 and 2018, other HCBS expenditures include expenditures for homemaker services, home delivered meals, respite care, assisted living home or center, adult day health, adult foster care, group respite, environmental modifications, medical alert services, self-directed home health, and behavioral Health Home services. For FY 2019, other HCBS expenditures additionally include expenditures for habilitation and rehabilitation services, adult day care services, adult companion care, and emergency response system services. **6.** HCBS expenditures do not include expenditures for rehabilitative services.

State	Notes
Arkansas	**CMS-64 expenditures:** **1.** Arkansas had approved section 1915(i) State Plan HCBS program in FY 2019 but did not report any expenditures for that year. **State-reported MLTSS expenditures:** **1.** Arkansas was unable to report FY 2019 expenditures for its MLTSS program, which was implemented March 1, 2019. **MFP:** **1.** Arkansas reported projected MFP expenditures for FY 2019.
California	**CMS-64 expenditures:** **1.** No expenditures were reported in the FY 2018 and 2019 CMS-64 waiver report for waiver number 1166 (effective date 7/1/2018). **2.** Waiver number 0855 was terminated in June 2017. **3.** California appears to be capturing other services under its FY 2017 and 2018 section 1915(c) waiver program totals in the Schedule A waiver report. The section 1915(c) waiver program expenditures the state reported in the Schedule A waiver data differ from the expenditures the state reported on line 19A of the FMR Net Services report. This issue should be fixed in the FY 2019 data, which use the CMS-64 Waiver Expenditures by Category of Service report to calculate section 1915(c) waiver program expenditures in line with waiver expenditures reported on line 19A of the FMR Net Services report. **4.** California reported $0 in Health Home SPA expenditures in FY 2018 even though the state's Health Home SPA went into effect in July 2018. **State-reported MLTSS expenditures:** **1.** California was unable to report expenditures for its MLTSS and FAI programs for FY 2017–2019. **MFP:** **1.** California reported projected MFP expenditures for FY 2019.
Colorado	**CMS-64 expenditures:** **1.** We corrected waiver program ID numbers to allow linkage across sources. **2.** Waiver program number 0211 was terminated in March 2014 but continued to report prior period adjustments in FY 2017. **3.** Colorado's section 1915(i) State Plan HCBS program terminated on February 12, 2019. The state reported a large prior period adjustment in FY 2018 and reported expenditures in FY 2019. Colorado's section 1915(i) State Plan HCBS program did not have a target population. Therefore, these expenditures were assigned to the default "multiple populations" category, as reported in the "Section 1915(i) State Plan HCBS expenditures for multiple populations" appendix table. **MFP:** **1.** Colorado reported projected MFP expenditures for FY 2019.
Connecticut	**CMS-64 expenditures:** **1.** Connecticut reported expenditures for an uncategorized waiver program in the FY 2018 CMS-64 Schedule A waiver report. **2.** No expenditures were reported in the FY 2018 CMS-64 Schedule A waiver report for waiver program number 1040. The waiver program was terminated January 2018. **3.** We corrected waiver program ID numbers to allow linkage across sources. **4.** Connecticut had an approved section 1915(i) State Plan HCBS program in FY 2017, 2018, and 2019 but did not report any expenditures for those years. **MFP:** **1.** Connecticut reported projected MFP expenditures for FY 2019.

State	Notes
Delaware	**CMS-64 expenditures:** **1.** Delaware reported $0 in Health Home SPA expenditures in FY 2017, 2018, and 2019 even though the state did have an approved Health Home SPA in these years. **2.** Delaware reported section 1115 demonstration expenditures under section 1915(c) waiver program expenditures in FY 2019. These are included in the section 1915(c) waiver program total and in the section 1115 and 1915(b) waiver program category. **State-reported MLTSS expenditures:** **1.** Delaware was unable to report FY 2019 expenditures for its MLTSS program. **MFP:** **1.** Delaware reported projected MFP expenditures for FY 2017 through 2019.
District of Columbia	**MFP:** **1.** District of Columbia reported projected MFP expenditures for FY 2019.

State	Notes
Florida	**CMS-64 expenditures:** **1.** Waiver program number 0392 was terminated in January 2018. **2.** No expenditures were reported in the FY 2017, 2018, or 2019 CMS-64 waiver reports for waiver number 0962. The waiver program is authorized under a concurrent section 1915(b) authority, and waiver program services are provided through managed care plans. FY 2017, 2018, and 2019 waiver program expenditures for 0962 are captured under the MLTSS state-reported data. **State-reported MLTSS expenditures:** **1.** Other institutional expenditures for FY 2017 and 2018 include institutional hospice care. Institutional hospice care expenditures are not included in other institutional expenditures for FY 2019. **2.** Other HCBS expenditures for FY 2017 and 2018 include assisted living FFS, medical equipment and supplies, transportation services, home hospice care, and expanded benefits per health plan. The state indicated these are relevant expenditures that should be included under MLTSS Other HCBS expenditures. Other HCBS expenditures for FY 2019 include assisted living expenses, medical equipment/supplies, transportation services, non-targeted case management, expanded benefits, and settlements. **3.** Expenditures for FY 2017 and 2018 do not include expenditures for ICF/IID, mental health facilities, and section 1915(c) waiver program targeted case management. Expenditures for FY 2019 do not include expenditures for ICF/IID. **4.** State-reported MLTSS PACE expenditures were used instead of FMR Net Services PACE expenditures. **Data anomalies or notable state trends:** **1.** Between FY 2017 and FY 2018, MLTSS non–section 1915(c) waiver program targeted case management expenditures for the Managed Long-Term Care program decreased by 58 percent. The state was unable to provide an explanation for this large decrease. **2.** Between FY 2018 and 2019, MLTSS targeted case management expenditures for the Managed Long-Term Care program decreased by 97 percent. The state reported that during FY 2019, the Managed Long Term Care program plans shifted from a model where most of the case management services were provided through a subcontracted arrangement to a model where case management services are provided by case managers employed directly by the plan. Plans subcontracting for case management services submitted encounter data for those services, whereas case management services provided directly by the plan were included in administrative data rather than encounters. **3.** Between FY 2018 and 2019, total MLTSS expenditures for the Managed Long-Term Care program increased by 12 percent. The state reported that this increase was due to an increase in enrollment, from 105,593 members in October 2018 to 114,168 members in September 2019. **4.** Between FY 2018 and 2019, PACE expenditures increased by 18 percent. The state reported that this increase was due to an increase in enrollment, from 1,894 members in October 2018 to 2,159 members in September 2019.
Georgia	**CMS-64 expenditures:** **1.** Georgia reported expenditures for a Community Alternatives to Psychiatric Residential Treatment Facilities (PRTF) Demonstration Grant Program waiver in the FY 2017, 2018, and 2019 CMS-64 waiver reports. These expenditures are included in the section 1915(c) waiver program total and in the table for uncategorized waiver programs. **2.** Waiver program number 4116 was terminated in March 2018. There were no expenditures reported for this waiver program in FY 2017 or 2018 CMS-64 Schedule A waiver reports. **MFP:** **1.** Georgia reported projected MFP expenditures for FY 2019.

State	Notes
Hawaii	**State-reported MLTSS expenditures:** **1.** Institutional expenditures do not include expenditures for ICF/IID and mental health facilities. **2.** Other Institutional expenditures include nursing home supplemental funds but exclude spend down costs. **3.** For FY 2017 and 2018, HCBS expenditures do not include expenditures for home health, rehabilitative services, and targeted case management. For FY2019, HCBS expenditures do not include expenditures for home health and rehabilitative services, but LTSS-related case management costs are included in other HCBS expenditures. **MFP:** **1.** Hawaii reported projected MFP expenditures for FY 2019. **Data anomalies or notable state trends:** **1.** Between FY 2018 and 2019, personal care expenditures for the Hawaii QUEST Integration program increased by 24 percent while other HCBS expenditures decreased by 23 percent. The state indicated that they refined their categorization of LTSS services, and this shift reflects this recategorization. **2.** Between FY 2018 and 2019, total MLTSS expenditures for the Hawaii QUEST Integration program decreased by 5 percent, despite a growth in enrollment. The state reported that this is due to revised categorization of nursing facility versus skilled nursing facility services. The state developed improved methods to distinguish skilled nursing facility and nursing facility services, which shifted roughly $20,000,000 from nursing facility to skilled nursing facility categorization (which is not considered LTSS according to the state), resulting in an overall decrease in total LTSS expenditures.

State	Notes
Idaho	**CMS-64 expenditures:** **1.** No expenditures were reported in the FY 2018 or 2019 CMS-64 waiver reports for waiver program number 0859. The waiver program was authorized under a concurrent section 1915(i) authority. The waiver was terminated in June 2019. **State-reported MLTSS expenditures:** **1.** Section 1915(c) waiver program home health expenditures only include some A&D waiver expenditures. **2.** FY 2017 and 2018 institutional expenditures do not include expenditures for mental health facilities for the Medicare-Medicaid Coordinated Plan program. The state reported expenditures for ICF/IID services for FY 2017 and 2018, but these services were carved out of the Medicare-Medicaid Coordinated Plan program starting January 1, 2018. FY 2019 institutional expenditures do not include expenditures for ICF/IID services and mental health facilities for the Medicare-Medicaid Coordinated Plan program. **3.** FY 2019 institutional expenditures do not include expenditures for ICF/IID services for the IMPlus program. **4.** For FY 2017–2019, HCBS expenditures for the Medicare-Medicaid Coordinated Plan and IMPlus programs do not include expenditures for rehabilitative services and targeted case management. **5.** For FY 2017–2019, Other HCBS expenditures for the Medicare-Medicaid Coordinated Plan program include expenditures for state plan personal care services. **MFP:** **1.** Idaho reported projected MFP expenditures for FY 2019. **Data anomalies or notable state trends:** **1.** Between FY 2017 and 2018, MLTSS section 1915(c) waiver program personal care expenditures increased by 80 percent. The state indicated this was because of an increase in enrollment in the Medicare-Medicaid Coordinated Plan program and an additional health plan entering the market on January 1, 2018. **2.** Between FY 2018 and 2019, home health expenditures for the Medicare-Medicaid Coordinated Plan program decreased by 83 percent. The state indicated that this was due to a reporting error for the FY 2017 and 2018 expenditures. The state's vendor reported aggregated home health data in FY 2017 and 2018, rather than separating Medicaid-associated expenditures from Medicare-associated expenditures to report only Medicaid-associated expenditures. This error was corrected for the FY 2019 expenditures. **3.** Between FY 2018 and 2019, other HCBS expenditures for the Medicare-Medicaid Coordinated Plan program decreased by 96 percent. The state reported that claims previously assigned to other HCBS expenditures were assigned to one of the individual HCBS service categories for FY 2019 expenditures.
Illinois	**State-reported MLTSS expenditures:** **1.** Illinois was unable to report usable expenditures for its MLTSS and FAI programs for FY 2017–2019. **MFP:** **1.** Illinois reported a combination of both actual and projected MFP expenditures for FY 2018 and projected MFP expenditures for FY 2019.
Indiana	**CMS-64 expenditures:** **1.** Waiver program number 0003 was terminated in September 2017. No expenditures were reported for this waiver program in FY 2019, but minor prior period adjustments were reported in FY 2017 and 2018. **MFP:** **1.** Indiana reported projected MFP expenditures for FY 2019.

State	Notes
Iowa	**CMS-64 expenditures:** **1.** Waiver program number 0213 has operated under a concurrent section 1915(b) authority since April 1, 2016, and waiver services are provided through MCOs. These waiver program expenditures are captured under the MLTSS state-reported data. The state reported minor prior period adjustments in the CMS-64 for this waiver program for FY 2017 and 2018. **2.** Iowa's section 1915(i) State Plan HCBS program does not have a target population. Therefore, these expenditures were assigned to the default "multiple populations" category, as reported in the "Section 1915(i) State Plan HCBS expenditures for multiple populations" appendix table. **State-reported MLTSS expenditures:** **1.** For FY 2017–2019, other HCBS expenditures include expenditures for habilitation services. **MFP:** **1.** Iowa reported projected MFP expenditures for FY 2019. **Data anomalies or notable state trends:** **1.** Between FY 2017 and 2018, targeted case management expenditures decreased by 78 percent. The state reported that MCOs in the state had transitioned their case management operations to in-house, which likely resulted in this decrease in expenditures. In addition, community-based case management provided by the MCO is an administrative service that means there is limited encounter data available for reimbursement reporting. Between FY 2018 and 2019, targeted case management expenditures decreased by 99 percent. The state indicated that these services are provided by the plans so are considered administrative costs. **2.** Between FY 2017 and 2018, nursing facility expenditures increased by 96 percent. The state reported that there were several likely factors contributing to this increase, including increased reimbursement rates and an increase in the number of nursing facility residents and distinct claims for nursing facility services. **3.** Between FY 2018 and 2019, nursing facility expenditures decreased by 36 percent. The state reported that this decrease was due to a decrease in enrollment, from 18,829 members in FY 2018 to 16,018 members in FY 2019. **4.** Between FY 2018 and 2019, personal care expenditures decreased by 10 percent. The state indicated that the overall cost for these services and the cost per member decreased. **5.** Between FY 2018 and 2019, home health expenditures increased by 7,083 percent. The state reported that these services were expanded.

State	Notes
Kansas	**CMS-64 expenditures:** **1.** Kansas operates its section 1915(c) waiver programs under a concurrent section 1115 authority, and waiver program services are provided through KanCare MCO plans (MLTSS). No expenditures were reported in the FY 2017 CMS-64 Schedule A waiver report for waiver program numbers 0303, 0476, 4164, or 4165. No expenditures were reported in the FY 2018 CMS-64 Schedule A waiver report for waiver program numbers 0476, 4164, or 4165. No state expenditures were reported in the FY 2019 CMS-64 Waiver Expenditures by Category of Service report for waiver program number 0303, 0304, 0476, 4164, or 4165. FY 2017–2019 waiver program expenditures are captured under the MLTSS state-reported data. **2.** Kansas reported Health Home SPA prior period adjustments in FY 2017 and 2018 even though the state did not have an approved Health Home SPA in these years. **State-reported MLTSS expenditures:** **1.** For FY 2017–2019, HCBS expenditures include expenditures for intellectual/developmental disabilities, physical disability, frail elderly, technology assisted, brain injury, and autism waiver services. **2.** For FY 2017–2019, rehabilitative services expenditures include the following brain injury waiver services: behavior therapy, cognitive rehabilitation, occupational therapy, physical therapy, speech language therapy, and transitional living skills. **3.** For FY 2017–2019, total institutional expenditures do not include expenditures for mental health facility services. **4.** In Kansas, home health services are provided via both State Plan and section 1915(c) waiver programs. For FY 2017 and 2018, the state was unable to break out these costs for the long-term care population, but they are included in total HCBS expenditures. For FY 2019, home health expenditures include the following section 1915(c) waiver program services: medication reminder; home telehealth; nursing evaluation visit; wellness monitoring; supportive home care; specialized medical care; intermittent intensive medical care; and maintenance monitoring. **5.** State-reported MLTSS PACE expenditures were used instead of FMR Net Services PACE expenditures. **Data anomalies or notable state trends:** **1.** Other HCBS MLTSS expenditures reported for FY 2018 excluded non–section 1915(c) expenditures to the amount of $506,634,556. The state included non–section 1915(c) expenditures in the totals they reported for FY 2019 other HCBS MLTSS expenditures.
Kentucky	**MFP:** **1.** Kentucky reported projected MFP expenditures for FY 2019.
Louisiana	**CMS-64 expenditures:** **1.** No expenditures were reported in the FY 2017, 2018, or 2019 CMS-64 waiver reports for waiver program number 0889. The waiver program is authorized under a concurrent section 1915(b) authority, and waiver program services are provided by a PIHP. **2.** Louisiana reported expenditures for an uncategorized waiver program in the FY 2017 and 2018 CMS-64 Schedule A waiver reports. **MFP:** **1.** Louisiana reported projected MFP expenditures for FY 2019.
Maine	**MFP:** **1.** Maine reported projected MFP expenditures for FY 2019.

State	Notes
Maryland	**CMS-64 expenditures:** **1.** Waiver program number 0265 was active during FY 2019, but the state did not report expenditures for this program in the CMS-64 data. **2.** Waiver program number 0353 was terminated in 2014 but continued to report prior period adjustments in FY 2017, 2018, and 2019. **3.** Maryland reported expenditures for several uncategorized waiver programs (including prior period adjustments for a waiver program that was terminated in 2013) in FY 2017, 2018, and 2019 CMS-64 waiver reports. **4.** Maryland had an approved section 1915(i) State Plan HCBS program in FY 2017, 2018, and 2019 but did not report any expenditures in FY 2017, and only reported minor expenditures for FY 2018 and 2019. **MFP:** **1.** Maryland reported projected MFP expenditures for FY 2019.
Massachusetts	**State-reported MLTSS expenditures:** **1.** To develop MLTSS expenditures, Massachusetts applied an estimate of institutional services and HCBS to actual capitation payments for each fiscal year. These estimates were calculated based on the expected portion of capitation dollars for services based on the capitation rate development process. Because the capitation rate development process estimates expenditures for nursing facility and HCBS in aggregate, all institutional expenditures are categorized as other institutional and all HCBS expenditures are categorized as other HCBS, and no individual categories of institutional services or HCBS are reported. **2.** State-reported MLTSS PACE expenditures were used instead of FMR Net Services PACE expenditures. **MFP:** **1.** Massachusetts reported a combination of both actual and projected MFP expenditures for FY 2017 and projected expenditures for FY 2018 and 2019. **Data anomalies or notable state trends:** **1.** Between FY 2018 and 2019, total MLTSS expenditures for the One Care program increased by 26 percent. The state reported that enrollment increased by about 14 percent and that the newer members used relatively more LTSS than the existing members. Therefore, the percentage change in expenditures outpaced the percentage change in enrollment. **2.** For FY 2019, we used state-reported PACE expenditures but found these were 48 percentage points lower than what was reported in the FMR Net Services report ($106,302,556 in state-reported expenditures compared to $204,129,018 in the FMR Net Services data).

State	Notes
Michigan	**CMS-64 expenditures:** **1.** Waiver program number 1126 operates under a concurrent section 1915(b) authority, and waiver services are provided through MCOs. **2.** Waiver program number 0233 is a concurrent section 1915(c) waiver program and MLTSS program (MI Choice). Michigan appears to be reporting managed care PAHP expenditures in the Schedule A waiver report for waiver program number 0233 for FY 2017 and 2018. The state also reported MLTSS expenditures for this MLTSS program in the state-reported MLTSS expenditure data for FY 2017 and 2018. By including expenditures from the Schedule A waiver report for waiver program number 0233 and the state-reported MLTSS expenditures for MI Choice for those years, there may be overlap in some of the managed care expenditures included in the total expenditure calculations for FY 2017 and 2018. This issue should be fixed in the FY 2019 data, which uses the CMS-64 Waiver Expenditures by Category of Service report to calculate section 1915(c) waiver program expenditures instead of the Schedule A waiver report. **3.** Michigan had an approved section 1915(i) State Plan HCBS program in FY 2019 but did not report any expenditures for that year. **4.** We corrected waiver program ID numbers to allow linkage across sources. **State-reported MLTSS expenditures:** **1.** For FY 2017–2019, other HCBS expenditures for the MI Choice program include adaptive medical equipment and supplies, private duty nursing/respiratory care, private duty nursing, chore services, adult day program, fiscal intermediary services, assistive technology, home delivered meals, specialized medical equipment and supplies, environmental accessibility adaptations, community transition services, goods and services, counseling services, training, supports coordination, nonemergency medical transportation, community transportation, respite care (in home and out of home), non-medical transportation, and personal emergency response systems. **2.** Expenditures for the Managed Specialty Services and Supports program are not included as the state indicated that they do not consider this program an MLTSS program. **3.** For FY 2017–2019, expenditures for the MI Choice program do not include expenditures for rehabilitative services. **4.** For FY 2017 through 2019, expenditures for MI Health Link do not include expenditures for ICF/IID and mental health facilities. **5.** State-reported MLTSS PACE expenditures were used instead of FMR Net Services PACE expenditures. **MFP:** **1.** Michigan reported a combination of both actual and projected MFP expenditures for FY 2018. **Data anomalies or notable state trends:** **1.** For FY 2018, the state reported that for MI Choice targeted case management expenditures were categorized as other HCBS expenditures and calculated incorrectly. The correct amounts were $61,927,648 for targeted case management and $38,213,910 for other HCBS expenditures; however, these amounts were not available at the time of the 2018 analysis. For FY 2019, these expenditures were correctly categorized. **2.** Between FY 2018 and 2019, PACE expenditures increased by 19 percent. The state reported that this was due to slight increases in payment rates and increases in enrollment.

State	Notes
Minnesota	**CMS-64 expenditures:** **1.** Minnesota appears to be capturing other services under its FY 2017 and 2018 section 1915(c) waiver program totals in the Schedule A waiver report. The section 1915(c) waiver program expenditures the state reported in the Schedule A waiver data differ from the expenditures the state reported on line 19A of the FMR Net Services report. This issue should be fixed in the FY 2019 data, which use the CMS-64 Waiver Expenditures by Category of Service report to calculate section 1915(c) waiver program expenditures in line with waiver expenditures reported on line 19A of the FMR Net Services report. **State-reported MLTSS expenditures:** **1.** Expenditures do not include carved-out services that are provided through FFS including PCA for the SNBC program and the PMAP+ program (starting January 1, 2019), ICF/IID services, disability waiver services and nursing facility per diems (except for certain MSHO, MSC+, and SNBC members). **2.** Reported MLTSS expenditures include Medicare spending for integrated programs; the state was not able to differentiate Medicaid spending from Medicare spending for managed care encounters. This may have inflated expenditures for the subset of services that both Medicare and Medicaid cover. **3.** Other institutional expenditures primarily include expenditures for inpatient mental health facilities for patients ages 21 to 64, but in FY 2017, other institutional expenditures were based on a small sample. **MFP:** **1.** Minnesota reported projected MFP expenditures for FY 2019. **Data anomalies or notable state trends:** **1.** Between FY 2018 and 2019, other institutional expenditures decreased by 39 percent for the PMAP+ program. The state reported that this was driven by approximately 140 fewer inpatient IMD encounters among 21-64 year-old enrollees. **2.** Between FY 2018 and 2019, personal care expenditures decreased by 74 percent and home health expenditures decreased by 47 percent for the PMAP+ program. The state indicated that this was related to the PCA carve-out (starting January 1, 2019).
Mississippi	**CMS-64 expenditures:** **1.** Mississippi had an approved section 1915(i) State Plan HCBS program in FY 2017, 2018, and 2019 but did not report any expenditures for those years. **MFP:** **1.** Mississippi reported projected MFP expenditures for FY 2019.
Missouri	**CMS-64 expenditures:** **1.** Waiver program number 0698 was terminated in June 2017 but continued to report prior period adjustments in FY 2018. **MFP:** **1.** Maryland reported projected MFP expenditures for FY 2019.
Montana	**CMS-64 expenditures:** **1.** Montana's section 1915(i) State Plan HCBS program terminated on October 1, 2017. **MFP:** **1.** Montana reported projected MFP expenditures for FY 2019.
Nebraska	**CMS-64 expenditures:** **1.** No expenditures were reported in the FY 2018 CMS-64 Schedule A waiver report for waiver program number 40199. **MFP:** **1.** Nebraska reported projected MFP expenditures for FY 2019.

State	Notes
Nevada	**CMS-64 expenditures:** **1.** Nevada's section 1915(i) State Plan HCBS program does not have a target population. Therefore, these expenditures were assigned to the default "multiple populations" category, as reported in the "Section 1915(i) State Plan HCBS expenditures for multiple populations" appendix table. **MFP:** **1.** Nevada reported projected MFP expenditures for FY 2019.
New Hampshire	**CMS-64 expenditures:** **1.** New Hampshire categorized most of its section 1915(c) waiver program expenditures under section 1115 demonstration payments for the section 1915(c) waiver programs. There were also prior period adjustments reported under the section 1915(c) waiver programs. The section 1915(c) waiver programs in New Hampshire are not authorized under a concurrent section 1115 authority. Because of how the state categorized expenditures and because FY 2017 and 2018 methods relied on Schedule A waiver data, we used total expenditures from line 19A from the CMS-64 FMR Net Services report for New Hampshire instead of CMS-64 Schedule A waiver totals for their section 1915(c) waiver programs for FY 2017 and 2018. Although New Hampshire's section 1915(c) waiver program expenditure totals are reported for FY 2017 and 2018, the waiver program-level expenditures for each waiver are not reported for these years because of the reliance on the FMR Net Services total. For the FY 2019 data, the waiver data source changed to the CMS-64 Waiver Expenditures by Category of Service report, which allowed us to report expenditures at the waiver program-level. **2.** New Hampshire had approved section 1915(i) State Plan HCBS program in FY 2018 and 2019 but did not report any expenditures for those years.

State	Notes
New Jersey	**CMS-64 expenditures:** **1.** Expenditures for New Jersey waiver program 0031 declined substantially in FY 2018 compared with FY 2017 and prior years. The waiver program was terminated on November 1, 2017 but continued to report prior period adjustments in FY 2018 and 2019. **2.** New Jersey reported section 1915(i) State Plan HCBS program expenditures in FY 2017 but did not have approved section 1915(i) State Plan HCBS program. **3.** New Jersey reported $0 in Health Home SPA expenditures in FY 2019 even though the state did have an approved Health Home SPA during that year. **4.** New Jersey appears to be capturing other services provided under its FY 2017 and 2018 section 1915(c) waiver program totals from the Schedule A waiver report. The section 1915(c) waiver program expenditures the state reported in the Schedule A waiver data differ from the expenditures the state reported on line 19A of the FMR Net Services report. This issue should be fixed in the FY 2019 data, which use the CMS-64 Waiver Expenditures by Category of Service report to calculate section 1915(c) waiver program expenditures in line with waiver expenditures reported on line 19A of the FMR Net Services report. **5.** New Jersey reported section 1115 demonstration expenditures under the section 1915(c) waiver program expenditures in FY 2019. These are included in the section 1915(c) waiver program total and in the section 1115 and 1915(b) waiver program category. **State-reported MLTSS expenditures:** **1.** The state was unable to report expenditures for their FIDE SNP program in FY 2017 and 2018 but was able to report these expenditures in FY 2019. **2.** For FY 2017–2019, expenditures for personal care and home health services also include expenditures for self-directed services. **3.** For FY 2017 and 2018, the state reported all HCBS expenditures as other HCBS, as the standard HCBS categories used for the report do not match New Jersey's state plan service categories. Other HCBS expenditures include expenditures for home and community-based waiver, hospice, therapies, medical day care, private duty nursing, and other LTSS services. **MFP:** **1.** New Jersey reported projected MFP expenditures for FY 2019. **Data anomalies or notable state trends:** **1.** Between FY 2018 and 2019, personal care expenditures for the Non-FIDE SNP NJ FamilyCare program increased by 17 percent. The state reported that this was due to increases in member months (from 310,737 to 355,148 member months) and provider payment rates in managed care for personal care services.

State	Notes
New Mexico	**CMS-64 expenditures:** **1.** Waiver program 0449 was terminated in January 2014 but continued to report prior period adjustments in FY 2017 and 2018. **State-reported MLTSS expenditures:** **1.** For FY 2017–2019, to calculate reported expenditures, the state used capitation rates developed for the Centennial Care program to identify what proportion of expenditures were attributed to each LTSS service category. **2.** For FY 2017–2019, a small subset of the "other adult group" and the Healthy Dual population enrolled in the Centennial Care program were excluded from state-reported expenditures. **3.** For FY 2017–2019, institutional expenditures do not include expenditures for ICF/IID as these services are carved out **4.** For FY 2017–2019, New Mexico was unable to break out expenditures for mental health facilities, so these expenditures are not included in institutional expenditures. **5.** For FY 2017–2019, New Mexico was unable to break out expenditures for rehabilitative services or targeted case management, so these expenditures are not included in HCBS expenditures. **6.** For FY 2017–2019, other HCBS expenditures include expenditures for respite, adult day health, assisted living, environmental modifications, private duty nursing, and emergency response systems. **7.** For FY 2017–2019, state-reported MLTSS PACE expenditures were used instead of FMR Net Services PACE expenditures. **Data anomalies or notable state trends:** **1.** For FY 2019, we used state-reported PACE expenditures but found these were 67 percentage points lower than what was reported in the FMR Net Services report ($4,337,116 in state-reported expenditures compared to $13,083,243 in the FMR Net Services data).

State	Notes
New York	**CMS-64 expenditures:** **1.** Waiver program number 40200 was terminated in January 2017 but continued to report prior period adjustments in FY 2018. **2.** Waiver program number 0034 was terminated in May 2016 but continued to report prior period adjustments in FY 2017, 2018, and 2019. **3.** No expenditures were reported in the FY 2017 CMS-64 Schedule A waiver report for waiver program number 40163. The waiver program was terminated January 2017. **4.** New York reported a $1.2 billion prior period adjustment for case management services in FY 2018 that resulted in a -470 percent change from the FY 2017 expenditures in Appendix Table D.23. New York also reported a $3.2 billion prior period adjustment for case management services in FY 2019 that resulted in a -161 percent change from the FY 2018 expenditures. **State-reported MLTSS expenditures:** **1.** At the time of the FY 2017 and 2018 analysis, New York had not reported expenditures for its MLTSS programs and its FAI demonstration, so those expenditures are not included in this report. All FY 2017 and 2018 data were pulled from Murray et al. (2021). **2.** For the MLTC, MAP, and FIDA programs in FY 2019, other HCBS expenditures include expenditures for adult day health care and social day care. For the FIDA IDD program in FY 2019, other HCBS expenditures include expenditures for assisted living programs, day treatment, non-traditional services, OPWDD waiver services, adult day health care, and social day care. **3.** A combination of state-submitted MLTSS Community First Choice data and FFS CMS-64 FMR Net Services report data was used to calculate Community First Choice expenditures for New York. **MFP:** **1.** New York reported projected MFP expenditures for FY 2019. **Data anomalies or notable state trends:** **1.** We compared state-reported section 1915(k) expenditures to those for section 1915(k) MCO included in the FMR Net Services data and found an 84-percentage difference between the two sources ($509,316,627 in state-reported expenditures compared to $3,200,405,798 in the FMR Net Services data). However, the state indicated that the state-reported expenditures were correct.

State	Notes
North Carolina	**CMS-64 expenditures:** **1.** No expenditures were reported in the FY 2017, 2018, or 2019 CMS-64 waiver reports for waiver program number 0423. The waiver program is authorized under a concurrent section 1915(b) authority, and waiver program services are provided through PIHPs. **2.** North Carolina reported expenditures for an uncategorized waiver program in FY 2018 and 2019 waiver reports. **3.** No expenditures were reported in the FY 2018 or 2019 CMS-64 waiver report for waiver program number 1326 (effective date 5/1/2018). **State-reported MLTSS expenditures:** **1.** For FY 2017 and 2018, North Carolina was unable to report expenditures for HCBS and institutional break outs but did provide total LTSS expenditures. However, the state was able to report all HCBS service category break outs for FY 2019. **2.** For FY 2019, other HCBS expenditures include day habilitation, supported employment, residential habilitation, respite, home modifications, vehicle modifications, and assistive technology, equipment, or supplies. **3.** State-reported MLTSS PACE expenditures were used instead of FMR Net Services PACE expenditures. **MFP:** **1.** North Carolina reported projected MFP expenditures for FY 2019. **Data anomalies or notable state trends:** **1.** Between FY 2018 and 2019, total MLTSS expenditures increased by 24 percent. The state reported that this was due to the addition of 400 waiver slots during FY 2018.
North Dakota	**CMS-64 expenditures:** **1.** No expenditures were reported in the FY 2017, 2018, or 2019 CMS-64 waiver report for waiver program number 0834. **MFP:** **1.** North Dakota reported projected MFP expenditures for FY 2019.

State	Notes
Ohio	**CMS-64 expenditures:** **1.** Waiver program number 0440 was terminated in June 2015 but continued to report prior period adjustments in FY 2017 and 2018. **2.** Ohio reported expenditures for an uncategorized waiver program in the FY 2018 CMS-64 Schedule A waiver report. **3.** Ohio had approved section 1915(i) State Plan HCBS program as of FY 2019, but only reported a minor prior period adjustment for FY 2019. **State-reported MLTSS expenditures:** **1.** For FY 2017–2019, Ohio was unable to break out expenditures for mental health facilities and targeted case management, so these expenditures are not included in institutional and HCBS expenditures, respectively. Reported expenditures do not include expenditures for ICF/IID or rehabilitative services. **2.** For FY 2017–2019, other HCBS expenditures include expenditures for home delivered meals, assisted living, adult day care, nursing services, waiver transportation, personal emergency response systems, assistive equipment or home modification, and other waiver services. **3.** For FY 2017–2019, Ohio's fiscal year deviates from the federal fiscal year; therefore, reported expenditures for PACE for FY 2017 correspond to July 2016 through June 2017, expenditures for FY 2018 correspond to July 2017 through June 2018, and expenditures for FY 2019 correspond to July 2018 through June 2019. **4.** State-reported MLTSS PACE expenditures were used instead of FMR Net Services PACE expenditures. **MFP:** **1.** Ohio reported projected MFP expenditures for FY 2019. **Data anomalies or notable state trends:** **1.** Between FY 2018 and 2019, home health expenditures for the MyCare Ohio program (operated through concurrent section 1915(b)/1915(c) authority) increased by 20 percent. The state reported that a key driver of this growth was enrollment growth (that is, total member months increased by approximately 11 percent). The state indicated that the remaining increase was due to member utilization rate increases. **2.** For FY 2019, we used state-reported PACE expenditures but found these were 32 percentage points lower than what was reported in the FMR Net Services report ($11,167,582 in state-reported expenditures compared to $16,509,071 in the FMR Net Services data). However, the state indicated that the state-reported expenditures were correct.
Oklahoma	**MFP:** **1.** Oklahoma reported projected MFP expenditures for FY 2019.
Oregon	**CMS-64 expenditures:** **1.** Oregon appears to be capturing other services under its FY 2017 and 2018 section 1915(c) waiver program totals in the Schedule A waiver report. The section 1915(c) waiver program expenditures the state reported in the Schedule A waiver data differ from the expenditures the state reported on line 19A of the FMR Net Services report. This issue should be fixed in the FY 2019 data, which use the CMS-64 Waiver Expenditures by Category of Service report to calculate section 1915(c) waiver program expenditures in line with waiver expenditures reported on line 19A of the FMR Net Services report. **2.** Oregon reported Health Home SPA prior period adjustments in FY 2017 and 2018 even though the state did not have an approved Health Home SPA in these years. Oregon terminated their Health Home SPA in July 2014.

State	Notes
Pennsylvania	**CMS-64 expenditures:** **1.** Waiver program number 0192 was terminated in 2015 but continued to report prior period adjustments in FY 2018. **2.** Waiver program number 1486 had an effective date of 1/1/2018, so there are no FY 2017 expenditures. **3.** Pennsylvania reported expenditures for an uncategorized waiver program in the FY 2019 CMS-64 Waiver Expenditures by Category of Service report. **State-reported MLTSS expenditures:** **1.** The Community HealthChoices program was implemented in January 2018, so expenditures included for this program do not cover the entire FY 2018. **2.** Expenditures for FY 2019 do not include expenditures for the Adult Community Autism program. **3.** Pennsylvania did not provide HCBS category of service breakouts for FY 2018 and 2019. **4.** State-reported MLTSS PACE expenditures were used instead of FMR Net Services PACE expenditures. **MFP:** **1.** Pennsylvania reported projected MFP expenditures for FY 2019. **Data anomalies or notable state trends:** **1.** Between FY 2018 and 2019, total MLTSS expenditures increased by 293 percent, which is likely due to a significant increase in enrollment (from 27,649 to 105,029) as the program expanded during the phased implementation.
Rhode Island	**CMS-64 expenditures:** **1.** Rhode Island did not operate any section 1915(c) waiver programs in FY 2017–2019 because it provides similar services to HCBS-eligible populations under a section 1115 demonstration. **2.** Rhode Island reported $0 in Health Home SPA expenditures in FY 2017, 2018, and 2019 even though the state did have an approved Health Home SPA in these years. **3.** Rhode Island reported section 1115 demonstration expenditures under the section 1915(c) waiver program expenditures in FY 2019. These are included in the section 1915(c) waiver program total and in the section 1115 and 1915(b) waiver program category. **State-reported MLTSS expenditures:** **1.** The Rhody Health Options I program ended in September 2018, so expenditures included for this program do not cover the entire FY 2018. **2.** For FY 2017 and 2018, reported expenditures for nursing facility services include only custodial days. **3.** For FY 2017 and 2018, reported expenditures for personal care are defined as non-skilled personal care services. **4.** For FY 2017 and 2018, reported expenditures for home health are defined as skilled nursing services. **5.** For FY 2017 and 2018, reported expenditures for rehabilitative services are defined as rehabilitative services in a nursing home. **6.** For FY 2017 and 2018, other HCBS expenditures include expenditures for adult day care, meals on wheels, durable medical equipment, and other services. **7.** For FY 2017–2019, institutional expenditures do not include expenditures for ICF/IID, mental health facilities, and other institutional services. **8.** For FY 2019, MLTSS expenditures only include expenditures for the RI Integrated Care Initiative program, the state's FAI demonstration. **MFP:** **1.** Rhode Island reported projected MFP expenditures for FY 2019.

State	Notes
South Carolina	**CMS-64 expenditures:** **1.** We corrected waiver program ID numbers to allow linkage across sources. **2.** South Carolina appears to be capturing other services under its FY 2017 and 2018 section 1915(c) waiver program totals in the Schedule A waiver report. The section 1915(c) waiver program expenditures the state reported in the Schedule A waiver data differ from the expenditures the state reported on line 19A of the FMR Net Services report. This issue should be fixed in the FY 2019 data, which use the CMS-64 Waiver Expenditures by Category of Service report to calculate section 1915(c) waiver program expenditures in line with waiver expenditures reported on line 19A of the FMR Net Services report. **State-reported MLTSS expenditures:** **1.** At the time of the FY 2017 and 2018 analysis, South Carolina had not reported expenditures for its FAI demonstration, so those expenditures are not included in this report. All FY 2017 and 2018 data were pulled from Murray et al. (2021). **2.** FY 2019 other institutional expenditures include expenditures for nursing home swing beds. **3.** FY 2019 other HCBS expenditures include expenditures for attendant/companion care, home delivered meals, waiver nursing services, and adult day health care. **MFP:** **1.** South Carolina reported projected MFP expenditures for FY 2019.
South Dakota	**MFP:** **1.** South Dakota reported projected MFP expenditures for FY 2019.

State	Notes
Tennessee	**State-reported MLTSS expenditures:** **1.** Home health services are part of Tennessee's managed care program but are not an LTSS benefit, so the state did not report these expenditures. **2.** For FY 2017 and 2018, personal care expenditures include expenditures for personal care and supportive home care (which involves the provision of in-home services and supports by a paid caregiver who does not live in the family home to an individual living with his or her family that directly assists the individual with daily activities and personal needs to meet their daily living needs and to ensure adequate functioning in their home). For FY 2019, personal care expenditures also included personal care visits and personal assistance. **3.** Institutional expenditures do not include expenditures for ICF/IID because ICF/IID services are carved out of the managed care program. **4.** State-reported MLTSS PACE expenditures were used instead of FMR Net Services PACE expenditures. **MFP:** **1.** Tennessee reported projected MFP expenditures for FY 2019. **Data anomalies or notable state trends:** **1.** Between FY 2017 and 2018, non–section 1915(c) waiver program expenditures increased by 284 percent for the Employment and Community First CHOICES program. The state reported that this increase was because of enrollment growth. **2.** For FY 2017 and 2018, the state reported that a large amount of personal care expenditures was excluded and instead included as other HCBS expenditures. Therefore, the expenditures were captured in total HCBS and total LTSS calculations but were not distinguished as MLTSS personal care expenditures. For the CHOICES program, the correct amounts for personal care were $220,748,972 in FY 2017 and $226,884,228 in FY 2018. The correct amounts for other HCBS were $47,116,327 in FY 2017 and $50,580,408 in FY 2018. For the ECF CHOICES program, the correct amounts for personal care were $861,300 in FY 2017 and $3,024,757 in FY 2018. The correct amounts for other HCBS were $4,904,610 in FY 2017 and $19,123,367 in FY 2018. These amounts were not available at the time of the FY 2017 and 2018 analysis. For FY 2019, personal care expenditures were correctly categorized as such. **3.** Between FY 2018 and 2019, expenditures for nursing facility expenditures increased by 14 percent. The state reported that this was due to retrospective acuity and quality-based rate adjustments.

State	Notes
Texas	**CMS-64 expenditures:** **1.** Waiver program 0266 was terminated in October 2014 but continued to report prior period adjustments in FY 2017. **2.** Texas appears to be capturing other services under its FY 2017 and 2018 section 1915(c) waiver program totals in the Schedule A waiver report. The section 1915(c) waiver program expenditures the state reported in the Schedule A waiver data differ from the expenditures the state reported on line 19A of the FMR Net Services report. This issue should be fixed in the FY 2019 data, which use the CMS-64 Waiver Expenditures by Category of Service report to calculate section 1915(c) waiver program expenditures in line with waiver expenditures reported on line 19A of the FMR Net Services report. **3.** Texas reported section 1915(b) waiver expenditures under the section 1915(c) waiver program expenditures in FY 2019. These are included in the section 1915(c) waiver program total and in the section 1115 and 1915(b) waiver program category. **State-reported MLTSS expenditures:** **1.** The STAR Kids program was implemented in November 2016, so expenditures included for this program do not cover the entire FY 2017. **2.** For FY 2017–2019, institutional expenditures do not include expenditures for ICF/IID, mental health facilities, and other institutional services. **3.** Texas did not provide HCBS category of service breakouts for FY 2017–2019. **4.** State-reported MLTSS PACE expenditures were used instead of FMR Net Services PACE expenditures. **5.** A combination of state-submitted MLTSS Community First Choice data and FFS CMS-64 FMR Net Services report data was used to calculate Community First Choice expenditures for Texas. **MFP:** **1.** Texas reported projected MFP expenditures for FY 2019. **Data anomalies or notable state trends:** **1.** For FY 2017 and 2018, the state reported that for STAR Kids, the dually eligible population, which represented about 0.5 percent of total enrollees, was inadvertently excluded from reported total HCBS expenditures. The correct amount was $846,413,648 for total HCBS compared to $841,507,869 which was originally reported; however, this amount was not available at the time of the FY 2018 analysis. For FY 2019, these expenditures were accurately reported. **2.** We compared state-reported section 1915(k) expenditures to those for section 1915(k) MCO included in the FMR Net Services data and found a 44-percentage difference between the two sources ($961,446,079 in state-reported expenditures compared to $669,626,633 in the FMR Net Services data). However, the state indicated that the state-reported expenditures were correct.
Utah	**CMS-64 expenditures:** **1.** We corrected waiver program ID numbers to allow linkage across sources.

State	Notes
Vermont	**CMS-64 expenditures:** **1.** Vermont did not operate any section 1915(c) waiver programs in FY 2017–2019 because it provides similar services to HCBS-eligible populations under a section 1115 demonstration. The FMR Net Services report for these years includes non-zero expenditures under line 19A. However, the Schedule A waiver report that was used for FY 2017 and 2018 does not have any expenditures reported for section 1915(c) waiver programs; the expenditures captured under line 19A are categorized under section 1115 demonstration payments. **2.** Vermont reported $0 in Health Home SPA expenditures in FY 2017, 2018, and 2019 FMR Net Services report even though the state did have an approved Health Home SPA in these years. **State-reported expenditures:** **1.** Vermont's section 1115 global LTSS program structure meets the statutory definition of managed care in that it involves capitated payments from one state department to the state Medicaid agency, but there is no financial risk involved and the state Medicaid program reimburses providers on a FFS basis. Therefore, Vermont's program is not categorized as an MLTSS program, but data needs to be obtained directly from the state because of the program structure. **2.** For FY 2017 and 2018, Vermont's program design did not lend itself to reporting the standard categories of service used for this report. However, for FY 2019, state LTSS expenditures were able to be allocated to the standard categories. The specificity of the categorization may affect year-over-year trends for these expenditures. **3.** For FY 2019, other institutional expenditures include expenditures for services for substance use disorder, and other HCBS expenditures include expenditures for adult day care services, community and rehabilitative treatment (CRT), enhanced residential care (ERC), and other HCBS and residential services. **4.** FMR Net Services nursing facility expenditures were used instead of state-reported nursing facility expenditures because the state confirmed the FMR Net Services expenditures were correct. **MFP:** **1.** Vermont reported projected MFP expenditures for FY 2019. **Data anomalies or notable state trends:** **1.** For FY 2017 and 2018, expenditures for nursing facility services were double counted across CMS-64 and state-submitted LTSS data. Therefore, total institutional and LTSS expenditures were inaccurately inflated for those years, which affected year-over-year trends for the state. This issue was corrected for the FY 2019 data.
Virginia	**CMS-64 expenditures:** **1.** We corrected waiver program ID numbers to allow linkage across sources. **2.** No expenditures were reported in the FY 2018 CMS-64 Schedule A waiver report for waiver program number 40206 (terminated June 2018). **State-reported MLTSS expenditures:** **1.** Virginia was unable to report expenditures for its MLTSS and FAI programs for FY 2017–2019. **MFP:** **1.** Virginia reported projected MFP expenditures for FY 2019.

State	Notes
Washington	**CMS-64 expenditures:** **1.** Waiver program number 0449 was terminated in January 2014 but continued to report prior period adjustments in FY 2017, 2018, and 2019. **2.** We corrected waiver program ID numbers to allow linkage across sources. **3.** Washington appears to be capturing other services under its FY 2018 section 1915(c) waiver program totals in the Schedule A waiver report. The section 1915(c) waiver program expenditures the state reported in the Schedule A waiver data differ from the expenditures the state reported on line 19A of the FMR Net Services report. This issue should be fixed in the FY 2019 data, which use the CMS-64 Waiver Expenditures by Category of Service report to calculate section 1915(c) waiver program expenditures in line with waiver expenditures reported on line 19A of the FMR Net Services report. **MFP:** **1.** Washington reported projected MFP expenditures for FY 2019.
West Virginia	**CMS-64 expenditures:** **1.** We corrected waiver program ID numbers to allow linkage across sources. **2.** West Virginia reported section 1915(b) waiver expenditures under the section 1915(c) waiver program expenditures in FY 2019. These are included in the section 1915(c) waiver program total and in the section 1115 and 1915(b) waiver program category. **MFP:** **1.** West Virginia reported projected MFP expenditures for FY 2019.
Wisconsin	**CMS-64 expenditures:** **1.** No expenditures were reported in the FY 2017, 2018, or 2019 CMS-64 waiver reports for waiver program number 0367. The waiver program is authorized under a concurrent 1915(b) and 1932(a) authority, and waiver program services are provided through PIHPs. **2.** Waiver program numbers 0413 and 0415 were terminated in March 2017 but continued to report prior period adjustments in FY 2018. **3.** Waiver program number 0369 was terminated in June 2017. **4.** Wisconsin reported section 1915(i) State Plan HCBS program expenditures in FY 2017, 2018, and 2019 but did not have approved section 1915(i) State Plan HCBS program in these years. **5.** Wisconsin appears to be capturing other services under its FY 2017 and 2018 section 1915(c) waiver program totals in the Schedule A waiver report. The section 1915(c) waiver program expenditures the state reported in the Schedule A waiver data differ from the expenditures the state reported on line 19A of the FMR Net Services report. This issue should be fixed in the FY 2019 data, which use the CMS-64 Waiver Expenditures by Category of Service report to calculate section 1915(c) waiver program expenditures in line with waiver expenditures reported on line 19A of the FMR Net Services report. **6.** Wisconsin indicated that they reported PACE expenditures within line 18A (Medicaid managed care premiums) in the FMR Net Services data instead of in line 22 (PACE). We believe this is inconsistent with how other states are reporting PACE expenditures within the CMS-64. Note that Wisconsin's Medicaid managed care premiums in Appendix G will include PACE expenditures. **State-reported MLTSS expenditures:** **1.** State-reported MLTSS PACE expenditures were used instead of FMR Net Services PACE expenditures. **MFP:** **1.** Wisconsin reported projected MFP expenditures for FY 2019.

State	Notes
Wyoming	**CMS-64 expenditures:** **1.** No expenditures were reported in the FY 2017, 2018, or 2019 CMS-64 waiver report for waiver program number 0451. The waiver program is authorized under a concurrent section 1915(b) authority, and waiver services are provided through PAHPs. **2.** Waiver program number 0253 was terminated in June 2015 but continued to report prior period adjustments in FY 2017. **3.** No expenditures were reported in the FY 2018 CMS-64 Schedule A waiver report for waiver program number 0369 because it was terminated in June 2017.

A&D = Aged and Disabled; CMS = Centers for Medicare & Medicaid Services; ECF = employment and community first; FAI = Financial Alignment Initiative; FFS = fee for service; FIDA-IDD = Fully Integrated Duals Advantage for Individuals with Intellectual and Developmental Disabilities; FIDE SNP Fully Integrated Dual Eligible Special Needs Plan; FMR = Financial Management Report; FY = fiscal year; HCBS = home and community-based services; ICF/IID = Intermediate Care Facilities for Individuals with Intellectual Disabilities; IMD = Institution for Mental Disease; IMPlus = Idaho Medicaid Plus; LTSS = Long-Term Services and Supports; MAP = Medicaid Advantage Plus; MCO = managed care organization; MFP = Money Follows the Person; MLTC = Managed Long-Term Care; MLTSS = Managed Long-Term Services and Supports; MSC+ = Minnesota Senior Care Plus; MSHO = Minnesota Senior Health Options; OPWDD = Office for People With Developmental Disabilities; PACE = Program of All-Inclusive Care for the Elderly; PAHP = prepaid ambulatory health plan; PCA = Personal Care Assistance; PIHP = prepaid inpatient health plan; PMAP+ = Prepaid Medical Assistance Program Plus; SPA = state plan amendment; SNBC = Special Needs Basic Care.

Appendix C

Summary Tables

Table C.1. National Medicaid LTSS expenditures: FY 2017–2019

Service category	FY 2017 expenditures	FY 2018 expenditures	FY 2018 % change	FY 2019 expenditures	FY 2019 % change
Total Institutional LTSS	**$53,984,899,253**	**$55,049,387,032**	**2.0**	**$67,076,322,198**	**21.8**
Nursing facilities	$42,205,343,282	$43,043,302,176	2.0	$53,370,167,370	24.0
ICF/IID: total	$7,020,514,574	$7,073,038,247	0.7	$7,873,488,377	11.3
Mental health facilities	$1,599,085,664	$1,873,862,959	17.2	$2,582,933,368	37.8
Mental health facilities: DSH	$2,245,810,796	$2,187,583,913	-2.6	$2,696,905,616	23.3
Institutional LTSS: other	NA	NA	NA	$6,323,252	NA
Institutional MLTSS: other	$412,843,056	$370,630,137	-10.2	$207,004,046	-44.1
Total HCBS	**$67,097,512,297**	**$70,396,100,687**	**4.9**	**$95,049,580,683**	**35.0**
Section 1915(c) waiver program	$33,247,500,722	$35,745,742,892	7.5	$44,331,900,113	24.0
Personal care	$7,509,052,993	$7,778,429,236	3.6	$18,957,430,648	143.7
1915(k) / Community First Choice	$5,026,376,123	$5,250,365,172	4.5	$6,491,057,819	23.6
HCBS LTSS: other	NA	NA	NA	$372,141,599	NA
HCBS MLTSS: other	$4,993,374,975	$5,403,946,195	8.2	$7,474,517,162	38.3
Home health	$3,810,677,824	$3,728,759,150	-2.1	$4,391,098,081	17.8
Rehabilitative services (non-school-based)	$3,470,030,352	$3,171,587,603	-8.6	$2,499,256,060	-21.2
Case management	$1,791,501,067	$1,893,887,326	5.7	-$1,144,045,039	-160.4
PACE	$915,996,745	$939,947,498	2.6	$1,658,620,841	76.5
Private duty nursing	$583,311,555	$567,873,461	-2.6	$829,637,931	46.1
Health homes	$259,061,923	$392,276,640	51.4	$610,713,701	55.7
1915(i) State Plan HCBS	$238,693,041	-$607,748,021	-354.6	$246,745,312	140.6
1915(j) / self-directed personal assistance	$246,042,559	$342,620,890	39.3	$377,961,031	10.3
MFP	$365,014,096	$318,859,268	-12.6	$289,568,853	-9.2
Total LTSS	**$123,716,771,330**	**$128,766,166,201**	**4.1**	**$162,125,902,881**	**25.9**
Total Medicaid	**$389,419,981,174**	**$400,267,806,358**	**2.8**	**$477,506,394,060**	**19.3**

Sources: Mathematica's analysis of FY 2019 CMS-64 data, state-submitted MLTSS data, and MFP budget worksheet for proposed budget data. Data for FY 2017 and 2018 were obtained from Murray et al. (2021).

Notes: Excludes FY 2017 and 2018 data for California, Illinois, New York, and Virginia and FY 2019 data for California, Delaware, Illinois, and Virginia. Includes data for all other states, the District of Columbia, and the U.S. territories (American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, and the Virgin Islands). Further details about the data sources, methods, and data limitations are available in Appendices A and B.

CMS = Centers for Medicare & Medicaid Services; DSH = Disproportionate Share Hospital; FY = fiscal year; HCBS = home and community-based services; ICF/IID = Intermediate Care Facility for Individuals with Intellectual Disabilities; LTSS = long-term services and supports; MFP = Money Follows the Person; MLTSS = managed long-term services and supports; NA = not available; PACE = Program of All-Inclusive Care for the Elderly.

Table C.2. State summary: Medicaid LTSS expenditures, FY 2019

State	FY 2019 expenditures: Total institutional	FY 2019 expenditures: Total HCBS	FY 2019 expenditures: Total LTSS	FY 2019 expenditures: Total Medicaid
Alabama	$1,051,771,593	$742,834,058	$1,794,605,651	$5,880,233,770
Alaska	$210,791,304	$331,150,789	$541,942,093	$2,096,340,139
Arizona	$594,168,318	$1,826,543,651	$2,420,711,969	$13,167,873,159
Arkansas	$926,645,589	$729,057,963	$1,655,703,552	$6,842,930,884
California	NA	NA	NA	NA
Colorado	$905,863,772	$2,308,415,737	$3,214,279,509	$9,201,828,436
Connecticut	$1,622,691,315	$1,920,412,826	$3,543,104,141	$8,168,318,604
Delaware	NA	NA	NA	NA
District of Columbia	$383,267,771	$598,474,443	$981,742,214	$2,892,033,951
Florida	$4,616,521,232	$2,724,876,303	$7,341,397,535	$24,384,268,451
Georgia	$1,608,597,841	$1,589,486,910	$3,198,084,751	$10,851,623,393
Hawaii	$288,069,528	$280,459,696	$568,529,224	$2,178,370,796
Idaho	$337,741,784	$475,289,291	$813,031,075	$2,143,001,207
Illinois	NA	NA	NA	NA
Indiana	$2,921,455,788	$1,572,549,679	$4,494,005,467	$12,439,243,969
Iowa	$877,751,801	$1,026,269,517	$1,904,021,318	$5,199,821,191
Kansas	$501,021,325	$1,277,963,971	$1,778,985,296	$3,601,873,235
Kentucky	$1,197,463,320	$1,003,120,811	$2,200,584,131	$10,207,733,005
Louisiana	$1,530,878,052	$838,651,509	$2,369,529,561	$11,642,038,286
Maine	$452,945,771	$799,744,730	$1,252,690,501	$2,867,136,972
Maryland	$1,467,105,797	$2,325,249,639	$3,792,355,436	$11,730,186,550
Massachusetts	$1,910,548,911	$4,985,699,540	$6,896,248,450	$17,412,670,180
Michigan	$2,370,869,164	$1,407,805,461	$3,778,674,626	$18,257,869,906
Minnesota	$1,446,700,584	$4,751,295,745	$6,197,996,329	$12,720,672,282
Mississippi	$1,107,821,768	$554,338,541	$1,662,160,309	$5,506,770,865
Missouri	$1,489,024,749	$2,181,165,853	$3,670,190,602	$10,534,803,881
Montana	$221,338,432	$272,939,225	$494,277,657	$1,857,962,976
Nebraska	$437,818,376	$530,278,995	$968,097,371	$2,141,794,131
Nevada	$344,585,615	$515,005,035	$859,590,650	$3,978,540,873
New Hampshire	$450,467,135	$403,494,908	$853,962,043	$1,985,132,112
New Jersey	$2,784,983,263	$2,519,053,178	$5,304,036,441	$15,908,523,928
New Mexico	$258,740,698	$797,792,933	$1,056,533,631	$5,262,891,223
New York	$9,974,082,658	$16,872,545,189	$26,846,627,847	$58,094,211,692
North Carolina	$1,516,436,333	$2,021,453,363	$3,537,889,696	$13,595,881,059
North Dakota	$361,912,841	$279,524,597	$641,437,438	$1,163,970,291
Ohio	$3,785,986,164	$5,015,834,884	$8,801,821,048	$23,465,691,647
Oklahoma	$730,968,307	$646,742,608	$1,377,710,915	$4,760,177,632
Oregon	$499,452,683	$2,497,744,404	$2,997,197,087	$9,426,870,932
Pennsylvania	$4,987,309,155	$8,913,259,566	$13,900,568,721	$32,079,703,325

State	FY 2019 expenditures: Total institutional	FY 2019 expenditures: Total HCBS	FY 2019 expenditures: Total LTSS	FY 2019 expenditures: Total Medicaid
Rhode Island	$366,254,568	$368,745,278	$734,999,846	$2,586,208,738
South Carolina	$908,631,100	$878,212,812	$1,786,843,912	$6,305,731,666
South Dakota	$182,950,458	$196,971,726	$379,922,184	$899,072,690
Tennessee	$1,337,027,681	$1,296,729,827	$2,633,757,508	$10,091,876,637
Texas	$4,415,423,452	$7,177,064,797	$11,592,488,249	$40,025,676,488
Utah	$409,733,308	$442,465,402	$852,198,710	$2,724,326,505
Vermont	$175,080,664	$375,415,514	$550,496,178	$1,637,796,926
Virginia	NA	NA	NA	NA
Washington	$1,064,385,945	$2,835,285,873	$3,899,671,818	$13,128,258,799
West Virginia	$851,756,356	$605,524,639	$1,457,280,995	$3,926,176,801
Wisconsin	$1,048,868,093	$3,166,606,898	$4,215,474,991	$9,132,546,898
Wyoming	$142,004,424	$167,194,461	$309,198,885	$584,259,094
US Territories	$407,412	$2,837,908	$3,245,320	$2,815,467,885
United States	**$67,076,322,198**	**$95,049,580,683**	**$162,125,902,881**	**$477,506,394,060**

Sources: Mathematica's analysis of FY 2019 CMS-64 data, state-submitted MLTSS data, and MFP budget worksheet for proposed budget data.

Notes: Excludes data for California, Delaware, Illinois, and Virginia. Includes data for all other states, the District of Columbia, and the U.S. territories (American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, and the Virgin Islands). Further details about the data sources, methods, and data limitations are available in Appendices A and B.

CMS = Centers for Medicare & Medicaid Services; FY = fiscal year; HCBS = home and community-based services; LTSS = long-term services and supports; MFP = Money Follows the Person; MLTSS = managed long-term services and supports; NA = not available.

Table C.3. State Summary: Percentage of Medicaid expenditures for LTSS, FY 2019

State	FY 2019 total LTSS: % HCBS	FY 2019 total LTSS: % institutional	FY 2019 total Medicaid: % LTSS
Alabama	41.4	58.6	30.5
Alaska	61.1	38.9	25.9
Arizona	75.5	24.5	18.4
Arkansas	44.0	56.0	24.2
California	NA	NA	NA
Colorado	71.8	28.2	34.9
Connecticut	54.2	45.8	43.4
Delaware	NA	NA	NA
District of Columbia	61.0	39.0	33.9
Florida	37.1	62.9	30.1
Georgia	49.7	50.3	29.5
Hawaii	49.3	50.7	26.1
Idaho	58.5	41.5	37.9
Illinois	NA	NA	NA
Indiana	35.0	65.0	36.1
Iowa	53.9	46.1	36.6
Kansas	71.8	28.2	49.4
Kentucky	45.6	54.4	21.6
Louisiana	35.4	64.6	20.4
Maine	63.8	36.2	43.7
Maryland	61.3	38.7	32.3
Massachusetts	72.3	27.7	39.6
Michigan	37.3	62.7	20.7
Minnesota	76.7	23.3	48.7
Mississippi	33.4	66.6	30.2
Missouri	59.4	40.6	34.8
Montana	55.2	44.8	26.6
Nebraska	54.8	45.2	45.2
Nevada	59.9	40.1	21.6
New Hampshire	47.2	52.8	43.0
New Jersey	47.5	52.5	33.3
New Mexico	75.5	24.5	20.1
New York	62.8	37.2	46.2
North Carolina	57.1	42.9	26.0
North Dakota	43.6	56.4	55.1
Ohio	57.0	43.0	37.5
Oklahoma	46.9	53.1	28.9
Oregon	83.3	16.7	31.8
Pennsylvania	64.1	35.9	43.3
Rhode Island	50.2	49.8	28.4

State	FY 2019 total LTSS: % HCBS	FY 2019 total LTSS: % institutional	FY 2019 total Medicaid: % LTSS
South Carolina	49.1	50.9	28.3
South Dakota	51.8	48.2	42.3
Tennessee	49.2	50.8	26.1
Texas	61.9	38.1	29.0
Utah	51.9	48.1	31.3
Vermont	68.2	31.8	33.6
Virginia	NA	NA	NA
Washington	72.7	27.3	29.7
West Virginia	41.6	58.4	37.1
Wisconsin	75.1	24.9	46.2
Wyoming	54.1	45.9	52.9
US Territories	87.4	12.6	0.1
United States	**58.6**	**41.4**	**34.0**

Sources: Mathematica's analysis of FY 2019 CMS-64 data, state-submitted MLTSS data, and MFP budget worksheet for proposed budget data.

Notes: Excludes data for California, Delaware, Illinois, and Virginia. Includes data for all other states, the District of Columbia, and the U.S. territories (American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, and the Virgin Islands). Further details about the data sources, methods, and data limitations are available in Appendices A and B.

CMS = Centers for Medicare & Medicaid Services; FY = fiscal year; HCBS = home and community-based services; LTSS = long-term services and supports; MFP = Money Follows the Person; MLTSS = managed long-term services and supports; NA = not available.

Table C.4. Total Medicaid expenditures by state, FY 2017–2019

State	FY 2019 expenditures per state resident	FY 2019 rank	FY 2017 expenditures	FY 2018 expenditures	FY 2018 % change	FY 2019 expenditures	FY 2019 % change
Alabama	$1,199.27	40	$5,562,217,922	$5,546,416,592	-0.3	$5,880,233,770	6.0
Alaska	$2,865.63	3	$1,961,572,200	$2,033,389,399	3.7	$2,096,340,139	3.1
Arizona	$1,809.09	22	$11,823,748,029	$12,132,120,126	2.6	$13,167,873,159	8.5
Arkansas	$2,267.52	12	$6,363,923,522	$6,308,079,740	-0.9	$6,842,930,884	8.5
California	NA	NA	NA	NA	NA	NA	NA
Colorado	$1,597.89	28	$7,805,267,931	$8,925,796,867	14.4	$9,201,828,436	3.1
Connecticut	$2,291.07	10	$7,401,263,576	$8,175,809,143	10.5	$8,168,318,604	-0.1
Delaware	NA	NA	$2,133,796,292	$2,237,920,184	4.9	NA	NA
District of Columbia	$4,097.82	1	$2,783,205,645	$2,804,976,949	0.8	$2,892,033,951	3.1
Florida	$1,135.33	42	$23,169,178,008	$22,893,250,365	-1.2	$24,384,268,451	6.5
Georgia	$1,022.06	44	$10,105,996,059	$10,839,404,783	7.3	$10,851,623,393	0.1
Hawaii	$1,538.54	30	$2,338,436,723	$2,213,115,909	-5.4	$2,178,370,796	-1.6
Idaho	$1,199.17	41	$1,822,302,321	$1,901,290,685	4.3	$2,143,001,207	12.7
Illinois	NA	NA	NA	NA	NA	NA	NA
Indiana	$1,847.72	20	$11,106,189,855	$11,241,808,216	1.2	$12,439,243,969	10.7
Iowa	$1,648.08	27	$4,065,931,964	$4,828,425,247	18.8	$5,199,821,191	7.7
Kansas	$1,236.35	37	$3,214,420,668	$3,437,703,549	6.9	$3,601,873,235	4.8
Kentucky	$2,284.80	11	$9,527,255,650	$9,801,380,491	2.9	$10,207,733,005	4.1
Louisiana	$2,504.31	8	$10,913,541,197	$10,835,742,015	-0.7	$11,642,038,286	7.4
Maine	$2,132.95	16	$2,565,081,585	$2,686,772,711	4.7	$2,867,136,972	6.7
Maryland	$1,940.26	18	$11,161,406,671	$11,417,338,026	2.3	$11,730,186,550	2.7
Massachusetts	$2,526.32	5	$17,120,855,005	$17,655,414,020	3.1	$17,412,670,180	-1.4
Michigan	$1,828.19	21	$16,711,203,272	$16,286,594,101	-2.5	$18,257,869,906	12.1
Minnesota	$2,255.59	13	$11,351,993,115	$12,324,543,789	8.6	$12,720,672,282	3.2
Mississippi	$1,850.30	19	$5,462,308,168	$5,278,728,403	-3.4	$5,506,770,865	4.3
Missouri	$1,716.49	26	$10,095,843,109	$10,296,294,908	2.0	$10,534,803,881	2.3
Montana	$1,738.40	24	$1,772,437,233	$1,830,172,657	3.3	$1,857,962,976	1.5
Nebraska	$1,107.21	43	$2,041,523,592	$2,126,639,801	4.2	$2,141,794,131	0.7
Nevada	$1,291.67	36	$3,530,342,184	$3,922,474,284	11.1	$3,978,540,873	1.4
New Hampshire	$1,459.97	33	$2,055,479,922	$2,150,375,296	4.6	$1,985,132,112	-7.7

State	FY 2019 expenditures per state resident	FY 2019 rank	FY 2017 expenditures	FY 2018 expenditures	FY 2018 % change	FY 2019 expenditures	FY 2019 % change
New Jersey	$1,791.06	23	$14,743,851,829	$14,843,185,053	0.7	$15,908,523,928	7.2
New Mexico	$2,509.93	6	$4,804,465,265	$5,112,309,656	6.4	$5,262,891,223	2.9
New York	$2,986.30	2	NA	NA	NA	$58,094,211,692	NA
North Carolina	$1,296.32	35	$13,336,810,348	$13,339,097,405	0.0	$13,595,881,059	1.9
North Dakota	$1,527.40	31	$1,216,183,814	$1,222,239,306	0.5	$1,163,970,291	-4.8
Ohio	$2,007.48	17	$23,055,842,742	$21,743,887,373	-5.7	$23,465,691,647	7.9
Oklahoma	$1,202.99	39	$4,630,014,393	$4,433,479,661	-4.2	$4,760,177,632	7.4
Oregon	$2,235.05	14	$8,312,733,407	$8,877,365,993	6.8	$9,426,870,932	6.2
Pennsylvania	$2,505.84	7	$28,081,163,760	$29,863,557,849	6.3	$32,079,703,325	7.4
Rhode Island	$2,441.29	9	$2,623,111,291	$2,620,033,271	-0.1	$2,586,208,738	-1.3
South Carolina	$1,224.72	38	$5,963,952,005	$6,006,492,924	0.7	$6,305,731,666	5.0
South Dakota	$1,016.29	45	$851,154,180	$865,504,172	1.7	$899,072,690	3.9
Tennessee	$1,477.76	32	$9,088,319,089	$9,680,798,504	6.5	$10,091,876,637	4.2
Texas	$1,380.39	34	$35,644,874,349	$37,585,413,327	5.4	$40,025,676,488	6.5
Utah	$849.77	47	$2,451,642,619	$2,421,929,601	-1.2	$2,724,326,505	12.5
Vermont	$2,624.72	4	$1,600,236,799	$1,595,969,592	-0.3	$1,637,796,926	2.6
Virginia	NA	NA	NA	NA	NA	NA	NA
Washington	$1,724.02	25	$11,892,840,575	$12,093,602,904	1.7	$13,128,258,799	8.6
West Virginia	$2,190.77	15	$4,000,838,793	$3,854,175,868	-3.7	$3,926,176,801	1.9
Wisconsin	$1,568.51	29	$8,049,889,736	$8,768,743,868	8.9	$9,132,546,898	4.1
Wyoming	$1,009.50	46	$591,622,270	$595,439,375	0.6	$584,259,094	-1.9
US Territories	NA	NA	$2,513,712,492	$2,612,602,400	3.9	$2,815,467,885	7.8
United States	**$1,791.46**	**NA**	**$389,419,981,174**	**$400,267,806,358**	**2.8**	**$477,506,394,060**	**19.3**

Sources: Mathematica's analysis of FY 2019 CMS-64 data and U.S. Census Bureau data. Data for FY 2017 and 2018 were obtained from Murray et al. (2021).

Notes: Excludes FY 2017 and 2018 data for California, Illinois, New York, and Virginia and FY 2019 data for California, Delaware, Illinois, and Virginia. Includes data for all other states, the District of Columbia, and the U.S. territories (American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, and the Virgin Islands). Because U.S. Census Bureau data are not available for the U.S. territories, we cannot calculate the per state resident expenditures for the U.S. territories. For the total U.S. expenditures per resident calculation, California, Delaware, Illinois, and Virginia are excluded from the total U.S. Census population. Further details about the data sources, methods, and data limitations are available in Appendices A and B.

CMS = Centers for Medicare & Medicaid Services; FY = fiscal year; NA = not available.

Table C.5. Total LTSS expenditures by state, FY 2017–2019

State	FY 2019 expenditures per state resident	FY 2017 expenditures	FY 2018 expenditures	FY 2018 % change	FY 2019 expenditures	FY 2019 % change
Alabama	$366.01	$1,772,327,383	$1,782,664,352	0.6	$1,794,605,651	0.7
Alaska	$740.82	$551,439,131	$530,407,151	-3.8	$541,942,093	2.2
Arizona	$332.57	$2,052,436,371	$2,226,696,458	8.5	$2,420,711,969	8.7
Arkansas	$548.65	$2,114,931,839	$2,037,737,117	-3.6	$1,655,703,552	-18.7
California	NA	NA	NA	NA	NA	NA
Colorado	$558.16	$2,199,659,628	$1,853,012,716	-15.8	$3,214,279,509	73.5
Connecticut	$993.78	$3,625,769,661	$3,644,644,001	0.5	$3,543,104,141	-2.8
Delaware	NA	$618,056,800	$603,470,170	-2.4	NA	NA
District of Columbia	$1,391.06	$857,775,924	$927,100,093	8.1	$981,742,214	5.9
Florida	$341.81	$6,408,917,924	$6,812,027,805	6.3	$7,341,397,535	7.8
Georgia	$301.21	$2,770,581,585	$2,939,057,523	6.1	$3,198,084,751	8.8
Hawaii	$401.54	$540,874,565	$576,046,176	6.5	$568,529,224	-1.3
Idaho	$454.95	$708,001,091	$740,310,194	4.6	$813,031,075	9.8
Illinois	NA	NA	NA	NA	NA	NA
Indiana	$667.54	$4,096,633,933	$4,202,757,731	2.6	$4,494,005,467	6.9
Iowa	$603.48	$1,619,278,835	$2,000,301,949	23.5	$1,904,021,318	-4.8
Kansas	$610.64	$1,652,232,597	$1,739,132,310	5.3	$1,778,985,296	2.3
Kentucky	$492.56	$2,046,974,898	$2,089,164,452	2.1	$2,200,584,131	5.3
Louisiana	$509.71	$2,283,651,873	$2,276,868,675	-0.3	$2,369,529,561	4.1
Maine	$931.91	$1,088,923,144	$1,173,545,936	7.8	$1,252,690,501	6.7
Maryland	$627.28	$3,409,749,096	$3,565,644,012	4.6	$3,792,355,436	6.4
Massachusetts	$1,000.54	$7,012,418,646	$6,981,533,833	-0.4	$6,896,248,450	-1.2
Michigan	$378.36	$3,774,927,793	$3,940,540,827	4.4	$3,778,674,626	-4.1
Minnesota	$1,099.01	$5,752,346,273	$6,182,259,145	7.5	$6,197,996,329	0.3
Mississippi	$558.49	$1,625,215,136	$1,595,822,255	-1.8	$1,662,160,309	4.2
Missouri	$598.00	$3,722,408,962	$3,422,158,924	-8.1	$3,670,190,602	7.2
Montana	$462.47	$501,710,743	$500,504,002	-0.2	$494,277,657	-1.2
Nebraska	$500.46	$838,378,630	$949,926,399	13.3	$968,097,371	1.9
Nevada	$279.07	$803,403,469	$866,140,558	7.8	$859,590,650	-0.8
New Hampshire	$628.05	$748,255,456	$817,986,057	9.3	$853,962,043	4.4
New Jersey	$597.15	$4,603,283,268	$4,063,338,000	-11.7	$5,304,036,441	30.5
New Mexico	$503.87	$1,057,916,965	$1,043,805,221	-1.3	$1,056,533,631	1.2
New York	$1,380.04	NA	NA	NA	$26,846,627,847	0.0
North Carolina	$337.32	$2,634,359,780	$3,320,678,481	26.1	$3,537,889,696	6.5
North Dakota	$841.71	$639,193,214	$637,219,693	-0.3	$641,437,438	0.7
Ohio	$752.99	$8,943,898,267	$8,966,157,825	0.2	$8,801,821,048	-1.8
Oklahoma	$348.17	$1,338,035,941	$1,317,148,258	-1.6	$1,377,710,915	4.6
Oregon	$710.62	$2,614,962,422	$2,882,307,719	10.2	$2,997,197,087	4.0

State	FY 2019 expenditures per state resident	FY 2017 expenditures	FY 2018 expenditures	FY 2018 % change	FY 2019 expenditures	FY 2019 % change
Pennsylvania	$1,085.81	$10,766,065,345	$11,935,229,350	10.9	$13,900,568,721	16.5
Rhode Island	$693.81	$466,330,110	$511,255,449	9.6	$734,999,846	43.8
South Carolina	$347.05	$1,571,571,139	$1,619,991,283	3.1	$1,786,843,912	10.3
South Dakota	$429.46	$354,279,837	$367,980,514	3.9	$379,922,184	3.2
Tennessee	$385.66	$2,314,154,326	$2,503,072,912	8.2	$2,633,757,508	5.2
Texas	$399.80	$11,110,432,088	$11,691,284,027	5.2	$11,592,488,249	-0.8
Utah	$265.82	$719,202,037	$750,177,876	4.3	$852,198,710	13.6
Vermont	$882.22	$651,538,323	$675,364,094	3.7	$550,496,178	-18.5
Virginia	NA	NA	NA	NA	NA	NA
Washington	$512.11	$3,368,947,669	$3,560,712,467	5.7	$3,899,671,818	9.5
West Virginia	$813.15	$1,375,227,445	$1,381,973,156	0.5	$1,457,280,995	5.4
Wisconsin	$724.01	$3,691,626,157	$4,253,239,834	15.2	$4,215,474,991	-0.9
Wyoming	$534.24	$295,489,768	$303,855,978	2.8	$309,198,885	1.8
United States	**$608.25**	**$123,716,771,330**	**$128,766,166,201**	**4.1**	**$162,125,902,881**	**25.9**

Sources: Mathematica's analysis of FY 2019 CMS-64 data, state-submitted MLTSS data, MFP budget worksheet for proposed budget data, and U.S. Census Bureau data. Data for FY 2017 and 2018 were obtained from Murray et al. (2021).

Notes: Total LTSS expenditures include expenditures from Tables C.6 and C.7. Excludes FY 2017 and 2018 data for California, Illinois, New York, and Virginia and FY 2019 data for California, Delaware, Illinois, and Virginia. Includes data for all other states and the District of Columbia; U.S. territories (American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, and the Virgin Islands) are included in the U.S. total but not reported separately. For FY 2019, total LTSS expenditures for U.S. territories represented $3,245,320. FY 2017 and 2018 data for North Carolina in this table includes MLTSS expenditures not able to be reported in Tables C.6 and C.7. For the total U.S. expenditures per resident calculation, California, Delaware, Illinois, and Virginia are excluded from the total U.S. Census population. Further details about the data sources, methods, and data limitations are available in Appendices A and B.

CMS = Centers for Medicare & Medicaid Services; FY = fiscal year; LTSS = long-term services and supports; MFP = Money Follows the Person; MLTSS = managed long-term services and supports; NA = not available.

Table C.6. Total institutional expenditures by state, FY 2017–2019

State	FY 2019 expenditures per state resident	FY 2017 expenditures	FY 2018 expenditures	FY 2018 % change	FY 2019 expenditures	FY 2019 % change
Alabama	$214.51	$1,001,693,879	$1,019,064,970	1.7	$1,051,771,593	3.2
Alaska	$288.15	$208,115,329	$200,195,418	-3.8	$210,791,304	5.3
Arizona	$81.63	$541,963,326	$552,306,118	1.9	$594,168,318	7.6
Arkansas	$307.06	$1,014,917,292	$979,225,237	-3.5	$926,645,589	-5.4
California	NA	NA	NA	NA	NA	NA
Colorado	$157.30	$834,562,410	$829,110,824	-0.7	$905,863,772	9.3
Connecticut	$455.14	$1,652,589,464	$1,620,446,209	-1.9	$1,622,691,315	0.1
Delaware	NA	$358,438,443	$317,005,377	-11.6	NA	NA
District of Columbia	$543.07	$341,775,473	$356,225,529	4.2	$383,267,771	7.6
Florida	$214.94	$4,099,956,572	$4,284,466,306	4.5	$4,616,521,232	7.8
Georgia	$151.51	$1,433,405,637	$1,513,915,646	5.6	$1,608,597,841	6.3
Hawaii	$203.46	$301,868,470	$314,013,399	4.0	$288,069,528	-8.3
Idaho	$188.99	$309,696,043	$295,976,962	-4.4	$337,741,784	14.1
Illinois	NA	NA	NA	NA	NA	NA
Indiana	$433.95	$2,762,068,970	$2,742,139,873	-0.7	$2,921,455,788	6.5
Iowa	$278.20	$737,744,315	$1,169,261,329	58.5	$877,751,801	-24.9
Kansas	$171.98	$545,864,561	$574,088,480	5.2	$501,021,325	-12.7
Kentucky	$268.03	$1,182,054,859	$1,195,979,858	1.2	$1,197,463,320	0.1
Louisiana	$329.31	$1,487,892,453	$1,498,031,092	0.7	$1,530,878,052	2.2
Maine	$336.96	$480,616,040	$498,142,912	3.6	$452,945,771	-9.1
Maryland	$242.67	$1,388,933,922	$1,395,419,231	0.5	$1,467,105,797	5.1
Massachusetts	$277.19	$2,074,254,168	$2,020,407,726	-2.6	$1,910,548,911	-5.4
Michigan	$237.40	$2,151,247,102	$2,257,174,215	4.9	$2,370,869,164	5.0
Minnesota	$256.52	$1,321,188,686	$1,394,240,901	5.5	$1,446,700,584	3.8
Mississippi	$372.23	$1,113,650,841	$1,075,738,957	-3.4	$1,107,821,768	3.0
Missouri	$242.61	$1,482,607,607	$1,362,250,459	-8.1	$1,489,024,749	9.3
Montana	$207.09	$195,618,803	$219,781,491	12.4	$221,338,432	0.7
Nebraska	$226.33	$420,830,258	$449,072,461	6.7	$437,818,376	-2.5
Nevada	$111.87	$311,343,687	$334,778,444	7.5	$344,585,615	2.9
New Hampshire	$331.30	$385,097,151	$436,748,735	13.4	$450,467,135	3.1
New Jersey	$313.55	$2,765,793,570	$2,666,195,326	-3.6	$2,784,983,263	4.5
New Mexico	$123.40	$246,828,997	$253,321,921	2.6	$258,740,698	2.1
New York	$512.71	NA	NA	NA	$9,974,082,658	0.0
North Carolina	$144.59	NA	NA	NA	$1,516,436,333	0.0
North Dakota	$474.91	$376,633,913	$371,517,517	-1.4	$361,912,841	-2.6
Ohio	$323.89	$3,772,583,058	$3,795,136,109	0.6	$3,785,986,164	-0.2
Oklahoma	$184.73	$683,063,377	$685,384,120	0.3	$730,968,307	6.7
Oregon	$118.42	$451,105,562	$479,197,055	6.2	$499,452,683	4.2

State	FY 2019 expenditures per state resident	FY 2017 expenditures	FY 2018 expenditures	FY 2018 % change	FY 2019 expenditures	FY 2019 % change
Pennsylvania	$389.57	$5,101,247,394	$4,929,569,424	-3.4	$4,987,309,155	1.2
Rhode Island	$345.73	$318,371,176	$357,956,860	12.4	$366,254,568	2.3
South Carolina	$176.48	$835,365,350	$855,597,936	2.4	$908,631,100	6.2
South Dakota	$206.80	$184,723,646	$184,590,530	-0.1	$182,950,458	-0.9
Tennessee	$195.78	$1,189,263,090	$1,199,544,951	0.9	$1,337,027,681	11.5
Texas	$152.28	$4,265,260,923	$4,621,519,362	8.4	$4,415,423,452	-4.5
Utah	$127.80	$372,866,736	$364,499,845	-2.2	$409,733,308	12.4
Vermont	$280.58	$295,854,213	$298,304,152	0.8	$175,080,664	-41.3
Virginia	NA	NA	NA	NA	NA	NA
Washington	$139.78	$1,030,221,524	$1,069,395,139	3.8	$1,064,385,945	-0.5
West Virginia	$475.27	$783,678,903	$809,361,895	3.3	$851,756,356	5.2
Wisconsin	$180.14	$1,021,346,559	$1,051,426,070	2.9	$1,048,868,093	-0.2
Wyoming	$245.36	$149,946,924	$151,117,809	0.8	$142,004,424	-6.0
United States	**$251.65**	**$53,984,899,253**	**$55,049,387,032**	**2.0**	**$67,076,322,198**	**21.8**

Sources: Mathematica's analysis of FY 2019 CMS-64 data, state-submitted MLTSS data, and U.S. Census Bureau data. Data for FY 2017 and 2018 were obtained from Murray et al. (2021).

Notes: Excludes FY 2017 and 2018 data for California, Illinois, North Carolina, New York, and Virginia and FY 2019 data for California, Delaware, Illinois, and Virginia. Includes data for all other states and the District of Columbia; U.S. territories (American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, and the Virgin Islands) are included in the U.S. total but not reported separately. For FY 2019, total institutional LTSS expenditures for U.S. territories represented $407,412. For the total U.S. expenditures per resident calculation, California, Delaware, Illinois, and Virginia are excluded from the total U.S. Census population. Because Massachusetts was unable to report institutional MLTSS data at the service category level, total institutional LTSS expenditures for Massachusetts in this table do not equal the sum of institutional expenditures for the separate institutional service categories (representing a $399,500,166 difference in expenditures for FY 2019). Further details about the data sources, methods, and data limitations are available in Appendices A and B.

CMS = Centers for Medicare & Medicaid Services; FY = fiscal year; LTSS = long-term services and support; MLTSS = managed long-term services and supports; NA = not available.

Table C.7. Total HCBS expenditures by state, FY 2017–2019

State	FY 2019 expenditures per state resident	FY 2017 expenditures	FY 2018 expenditures	FY 2018 % change	FY 2019 expenditures	FY 2019 % change
Alabama	$151.50	$770,633,504	$763,599,382	-0.9	$742,834,058	-2.7
Alaska	$452.67	$343,323,802	$330,211,733	-3.8	$331,150,789	0.3
Arizona	$250.94	$1,510,473,045	$1,674,390,340	10.9	$1,826,543,651	9.1
Arkansas	$241.59	$1,100,014,547	$1,058,511,880	-3.8	$729,057,963	-31.1
California	NA	NA	NA	NA	NA	NA
Colorado	$400.85	$1,365,097,218	$1,023,901,892	-25.0	$2,308,415,737	125.5
Connecticut	$538.64	$1,973,180,197	$2,024,197,792	2.6	$1,920,412,826	-5.1
Delaware	NA	$259,618,357	$286,464,793	10.3	NA	NA
District of Columbia	$848.00	$516,000,451	$570,874,564	10.6	$598,474,443	4.8
Florida	$126.87	$2,308,961,352	$2,527,561,499	9.5	$2,724,876,303	7.8
Georgia	$149.71	$1,337,175,948	$1,425,141,877	6.6	$1,589,486,910	11.5
Hawaii	$198.08	$239,006,095	$262,032,777	9.6	$280,459,696	7.0
Idaho	$265.96	$398,305,048	$444,333,232	11.6	$475,289,291	7.0
Illinois	NA	NA	NA	NA	NA	NA
Indiana	$233.59	$1,334,564,963	$1,460,617,858	9.4	$1,572,549,679	7.7
Iowa	$325.28	$881,534,520	$831,040,620	-5.7	$1,026,269,517	23.5
Kansas	$438.66	$1,106,368,036	$1,165,043,830	5.3	$1,277,963,971	9.7
Kentucky	$224.53	$864,920,039	$893,184,594	3.3	$1,003,120,811	12.3
Louisiana	$180.40	$795,759,420	$778,837,583	-2.1	$838,651,509	7.7
Maine	$594.95	$608,307,104	$675,403,024	11.0	$799,744,730	18.4
Maryland	$384.61	$2,020,815,174	$2,170,224,781	7.4	$2,325,249,639	7.1
Massachusetts	$723.35	$4,938,164,478	$4,961,126,108	0.5	$4,985,699,540	0.5
Michigan	$140.97	$1,623,680,691	$1,683,366,612	3.7	$1,407,805,461	-16.4
Minnesota	$842.48	$4,431,157,586	$4,788,018,243	8.1	$4,751,295,745	-0.8
Mississippi	$186.26	$511,564,295	$520,083,298	1.7	$554,338,541	6.6
Missouri	$355.39	$2,239,801,355	$2,059,908,465	-8.0	$2,181,165,853	5.9
Montana	$255.38	$306,091,940	$280,722,511	-8.3	$272,939,225	-2.8
Nebraska	$274.13	$417,548,372	$500,853,938	20.0	$530,278,995	5.9
Nevada	$167.20	$492,059,782	$531,362,114	8.0	$515,005,035	-3.1
New Hampshire	$296.75	$363,158,305	$381,237,322	5.0	$403,494,908	5.8
New Jersey	$283.61	$1,837,489,698	$1,397,142,673	-24.0	$2,519,053,178	80.3
New Mexico	$380.48	$811,087,968	$790,483,300	-2.5	$797,792,933	0.9
New York	$867.32	NA	NA	NA	$16,872,545,189	0.0
North Carolina	$192.74	NA	NA	NA	$2,021,453,363	0.0
North Dakota	$366.80	$262,559,301	$265,702,176	1.2	$279,524,597	5.2
Ohio	$429.10	$5,171,315,209	$5,171,021,716	0.0	$5,015,834,884	-3.0
Oklahoma	$163.44	$654,972,564	$631,764,138	-3.5	$646,742,608	2.4
Oregon	$592.20	$2,163,856,860	$2,403,110,664	11.1	$2,497,744,404	3.9

State	FY 2019 expenditures per state resident	FY 2017 expenditures	FY 2018 expenditures	FY 2018 % change	FY 2019 expenditures	FY 2019 % change
Pennsylvania	$696.24	$5,664,817,951	$7,005,659,926	23.7	$8,913,259,566	27.2
Rhode Island	$348.08	$147,958,934	$153,298,588	3.6	$368,745,278	140.5
South Carolina	$170.57	$736,205,789	$764,393,347	3.8	$878,212,812	14.9
South Dakota	$222.65	$169,556,191	$183,389,984	8.2	$196,971,726	7.4
Tennessee	$189.88	$1,124,891,237	$1,303,527,961	15.9	$1,296,729,827	-0.5
Texas	$247.52	$6,845,171,164	$7,069,764,665	3.3	$7,177,064,797	1.5
Utah	$138.01	$346,335,301	$385,678,031	11.4	$442,465,402	14.7
Vermont	$601.64	$355,684,111	$377,059,943	6.0	$375,415,514	-0.4
Virginia	NA	NA	NA	NA	NA	NA
Washington	$372.33	$2,338,726,145	$2,491,317,328	6.5	$2,835,285,873	13.8
West Virginia	$337.88	$591,548,542	$572,611,261	-3.2	$605,524,639	5.7
Wisconsin	$543.86	$2,670,279,598	$3,201,813,764	19.9	$3,166,606,898	-1.1
Wyoming	$288.88	$145,542,844	$152,738,169	4.9	$167,194,461	9.5
United States	**$356.60**	**$67,097,512,297**	**$70,396,100,687**	**4.9**	**$95,049,580,683**	**35.0**

Sources: Mathematica's analysis of FY 2019 CMS-64 data, state-submitted MLTSS data, MFP budget worksheet for proposed budget data, and U.S. Census Bureau data. Data for FY 2017 and 2018 were obtained from Murray et al. (2021).

Notes: Excludes FY 2017 and 2018 data for California, Illinois, North Carolina, New York, and Virginia and FY 2019 for California, Delaware, Illinois, and Virginia. Includes data for all other states and the District of Columbia; U.S. territories (American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, and the Virgin Islands) are included in the U.S. total but not reported separately. For FY 2019, total HCBS expenditures for U.S. territories represented $2,837,908. For the total U.S. expenditures per resident calculation, California, Delaware, Illinois, and Virginia are excluded from the total U.S. Census population. Because Massachusetts, Pennsylvania, and Texas were unable to report HCBS data at the service category level, total HCBS expenditures for these states in this table do not equal the sum of HCBS expenditures for the separate HCBS service categories (representing a $1,013,243,717 difference for Massachusetts, a $3,132,851,731 difference for Pennsylvania, and a $3,516,881,122 difference for Texas for FY 2019). Further details about the data sources, methods, and data limitations are available in Appendices A and B.

CMS = Centers for Medicare & Medicaid Services; FY = fiscal year; HCBS = home and community-based services; MFP = Money Follows the Person; MLTSS = managed long-term services and supports; NA = not available.

Table C.8. Percentage of LTSS for HCBS by state, FY 2017–2019

State	FY 2018 rank	FY 2019 rank	FY 2017	FY 2018	FY 2019
Alabama	35	42	43.5	42.8	41.4
Alaska	9	16	62.3	62.3	61.1
Arizona	5	4	73.6	75.2	75.5
Arkansas	25	39	52.0	51.9	44.0
California	NA	NA	NA	NA	NA
Colorado	22	9	62.1	55.3	71.8
Connecticut	21	25	54.4	55.5	54.2
Delaware	31	NA	42.0	47.5	NA
District of Columbia	10	17	60.2	61.6	61.0
Florida	41	44	36.0	37.1	37.1
Georgia	29	31	48.3	48.5	49.7
Hawaii	34	32	44.2	45.5	49.3
Idaho	15	20	56.3	60.0	58.5
Illinois	NA	NA	NA	NA	NA
Indiana	42	46	32.6	34.8	35.0
Iowa	39	27	54.4	41.5	53.9
Kansas	8	8	67.0	67.0	71.8
Kentucky	36	38	42.3	42.8	45.6
Louisiana	44	45	34.8	34.2	35.4
Maine	18	12	55.9	57.6	63.8
Maryland	12	15	59.3	60.9	61.3
Massachusetts	6	7	70.4	71.1	72.3
Michigan	37	43	43.0	42.7	37.3
Minnesota	2	2	77.0	77.4	76.7
Mississippi	45	47	31.5	32.6	33.4
Missouri	14	19	60.2	60.2	59.4
Montana	19	23	61.0	56.1	55.2
Nebraska	23	24	49.8	52.7	54.8
Nevada	11	18	61.2	61.3	59.9
New Hampshire	33	36	48.5	46.6	47.2
New Jersey	43	35	39.9	34.4	47.5
New Mexico	3	3	76.7	75.7	75.5
New York	NA	13	NA	NA	62.8
North Carolina	NA	21	NA	NA	57.1
North Dakota	38	40	41.1	41.7	43.6
Ohio	17	22	57.8	57.7	57.0
Oklahoma	30	37	49.0	48.0	46.9
Oregon	1	1	82.7	83.4	83.3
Pennsylvania	16	11	52.6	58.7	64.1
Rhode Island	46	30	31.7	30.0	50.2
South Carolina	32	34	46.8	47.2	49.1

State	FY 2018 rank	FY 2019 rank	FY 2017	FY 2018	FY 2019
South Dakota	28	29	47.9	49.8	51.8
Tennessee	24	33	48.6	52.1	49.2
Texas	13	14	61.6	60.5	61.9
Utah	26	28	48.2	51.4	51.9
Vermont	20	10	54.6	55.8	68.2
Virginia	NA	NA	NA	NA	NA
Washington	7	6	69.4	70.0	72.7
West Virginia	40	41	43.0	41.4	41.6
Wisconsin	4	5	72.3	75.3	75.1
Wyoming	27	26	49.3	50.3	54.1
United States	**NA**	**NA**	**55.4**	**56.1**	**58.6**

Sources: Mathematica's analysis of FY 2019 CMS-64 data, state-submitted MLTSS data, and MFP budget worksheet for proposed budget data. Data for FY 2017 and 2018 were obtained from Murray et al. (2021).

Notes: Excludes FY 2017 and 2018 data for California, Illinois, New York, North Carolina, and Virginia and FY 2019 data for California, Delaware, Illinois, and Virginia. Excludes the U.S. territories from all data years. Includes data for all other states and the District of Columbia. Further details about the data sources, methods, and data limitations are available in Appendices A and B.

CMS = Centers for Medicare & Medicaid Services; FY = fiscal year; HCBS = home and community-based services; MFP = Money Follows the Person; MLTSS = managed long-term services and supports; NA = not available.

Table C.9. Total MLTSS expenditures by state, FY 2017–2019

State	FY 2019 expenditures per state resident	FY 2017 expenditures	FY 2018 expenditures	FY 2018 % change	FY 2019 expenditures	FY 2019 % change
Alabama	$0.00	$0	$0	0.0	$0	0.0
Alaska	$0.00	$0	$0	0.0	$0	0.0
Arizona	$308.36	$1,904,622,470	$2,103,215,657	10.4	$2,244,432,997	6.7
Arkansas	NA	$0	$0	0.0	NA	NA
California	NA	NA	NA	NA	NA	NA
Colorado	$0.00	$0	$0	0.0	$0	0.0
Connecticut	$0.00	$0	$0	0.0	$0	0.0
Delaware	NA	$344,554,638	$361,829,497	5.0	NA	NA
District of Columbia	$0.00	$0	$0	0.0	$0	0.0
Florida	$204.06	$4,014,442,850	$4,131,163,455	2.9	$4,382,797,061	6.1
Georgia	$0.00	$0	$0	0.0	$0	0.0
Hawaii	$290.14	$416,858,952	$433,326,265	4.0	$410,800,957	-5.2
Idaho	$39.73	$18,993,073	$27,855,345	46.7	$70,999,142	154.9
Illinois	NA	NA	NA	NA	NA	NA
Indiana	$0.00	$0	$0	0.0	$0	0.0
Iowa	$534.11	$1,457,198,861	$1,791,990,254	23.0	$1,685,143,453	-6.0
Kansas	$569.10	$1,531,539,981	$1,597,192,050	4.3	$1,657,963,878	3.8
Kentucky	$0.00	$0	$0	0.0	$0	0.0
Louisiana	$0.00	$0	$0	0.0	$0	0.0
Maine	$0.00	$0	$0	0.0	$0	0.0
Maryland	$0.00	$0	$0	0.0	$0	0.0
Massachusetts	$196.26	$1,171,183,962	$1,249,483,662	6.7	$1,352,743,882	8.3
Michigan	$53.23	$538,745,529	$540,995,922	0.4	$531,618,465	-1.7
Minnesota	$177.08	$961,044,693	$1,053,872,233	9.7	$998,639,852	-5.2
Mississippi	$0.00	$0	$0	0.0	$0	0.0
Missouri	$0.00	$0	$0	0.0	$0	0.0
Montana	$0.00	$0	$0	0.0	$0	0.0
Nebraska	$0.00	$0	$0	0.0	$0	0.0
Nevada	$0.00	$0	$0	0.0	$0	0.0
New Hampshire	$0.00	$0	$0	0.0	$0	0.0
New Jersey	$218.21	$1,368,028,111	$1,609,751,736	17.7	$1,938,145,053	20.4
New Mexico	$283.38	$632,101,347	$602,603,917	-4.7	$594,189,024	-1.4
New York	$685.43	NA	NA	NA	$13,333,969,125	NA
North Carolina	$84.45	$711,951,235	$754,446,145	6.0	$885,670,142	17.4
North Dakota	$0.00	$0	$0	0.0	$0	0.0
Ohio	$192.30	$2,135,458,182	$2,186,578,238	2.4	$2,247,862,568	2.8
Oklahoma	$0.00	$0	$0	0.0	$0	0.0
Oregon	$0.00	$0	$0	0.0	$0	0.0

State	FY 2019 expenditures per state resident	FY 2017 expenditures	FY 2018 expenditures	FY 2018 % change	FY 2019 expenditures	FY 2019 % change
Pennsylvania	$347.10	$9,211,402	$920,087,915	9888.6	$4,443,574,545	383.0
Rhode Island	$62.71	$232,814,336	$248,043,893	6.5	$66,433,612	-73.2
South Carolina	$10.06	NA	NA	NA	$51,810,125	NA
South Dakota	$0.00	$0	$0	0.0	$0	0.0
Tennessee	$207.10	$1,209,077,588	$1,243,791,452	2.9	$1,414,297,340	13.7
Texas	$243.78	$6,516,925,661	$6,729,685,321	3.3	$7,068,492,401	5.0
Utah	$0.00	$0	$0	0.0	$0	0.0
Vermont	$0.00	$522,448,579	$549,022,026	5.1	$0	-100.0
Virginia	NA	NA	NA	NA	NA	NA
Washington	$0.00	$0	$0	0.0	$0	0.0
West Virginia	$0.00	$0	$0	0.0	$0	0.0
Wisconsin	$364.51	$1,761,066,819	$1,935,057,355	9.9	$2,122,307,292	9.7
Wyoming	$0.00	$0	$0	0.0	$0	0.0
United States	**$178.21**	**$27,458,268,269**	**$30,069,992,338**	**9.5**	**$47,501,890,914**	**58.0**

Sources: Mathematica's analysis of FY 2019 state-submitted MLTSS data and U.S. Census Bureau data. Data for FY 2017 and 2018 were obtained from Murray et al. (2021).

Notes: Total MLTSS expenditures include expenditures from Tables C.10 and C.11. FY 2017 and 2018 data for North Carolina in this table includes MLTSS expenditures not able to be reported in Tables C.10 and C.11. Excludes FY 2017 and 2018 data for California, Illinois, North Carolina, New York, and Virginia and FY 2019 data for Arkansas, California, Delaware, Illinois, and Virginia due to missing MLTSS data. For the total U.S. expenditures per resident calculation, California, Delaware, Illinois, and Virginia are excluded from the total U.S. Census population. Further details about the data sources, methods, and data limitations are available in Appendices A and B.

FY = fiscal year; LTSS = long-term services and supports; MLTSS = managed long-term services and supports; NA = not available.

Table C.10. Total institutional MLTSS expenditures by state, FY 2017–2019

State	FY 2019 expenditures per state resident	FY 2017 expenditures	FY 2018 expenditures	FY 2018 % change	FY 2019 expenditures	FY 2019 % change
Alabama	$0.00	$0	$0	0.0	$0	0.0
Alaska	$0.00	$0	$0	0.0	$0	0.0
Arizona	$68.52	$457,586,060	$461,379,263	0.8	$498,732,676	8.1
Arkansas	NA	$0	$0	0.0	NA	NA
California	NA	NA	NA	NA	NA	NA
Colorado	$0.00	$0	$0	0.0	$0	0.0
Connecticut	$0.00	$0	$0	0.0	$0	0.0
Delaware	NA	$267,386,181	$264,910,705	-0.9	NA	NA
District of Columbia	$0.00	$0	$0	0.0	$0	0.0
Florida	$151.02	$3,133,258,219	$3,108,778,810	-0.8	$3,243,660,650	4.3
Georgia	$0.00	$0	$0	0.0	$0	0.0
Hawaii	$197.12	$292,397,906	$303,443,213	3.8	$279,093,016	-8.0
Idaho	$29.80	$7,487,324	$9,154,085	22.3	$53,259,290	481.8
Illinois	NA	NA	NA	NA	NA	NA
Indiana	$0.00	$0	$0	0.0	$0	0.0
Iowa	$254.36	$653,289,860	$1,080,276,019	65.4	$802,522,685	-25.7
Kansas	$138.80	$453,449,164	$462,508,864	2.0	$404,374,695	-12.6
Kentucky	$0.00	$0	$0	0.0	$0	0.0
Louisiana	$0.00	$0	$0	0.0	$0	0.0
Maine	$0.00	$0	$0	0.0	$0	0.0
Maryland	$0.00	$0	$0	0.0	$0	0.0
Massachusetts	$49.26	$330,270,251	$327,001,274	-1.0	$339,500,166	3.8
Michigan	$11.45	$141,955,572	$133,044,921	-6.3	$114,346,160	-14.1
Minnesota	$29.08	$157,054,872	$163,577,019	4.2	$164,016,966	0.3
Mississippi	$0.00	$0	$0	0.0	$0	0.0
Missouri	$0.00	$0	$0	0.0	$0	0.0
Montana	$0.00	$0	$0	0.0	$0	0.0
Nebraska	$0.00	$0	$0	0.0	$0	0.0
Nevada	$0.00	$0	$0	0.0	$0	0.0
New Hampshire	$0.00	$0	$0	0.0	$0	0.0
New Jersey	$134.14	$825,800,250	$971,714,963	17.7	$1,191,488,427	22.6
New Mexico	$107.70	$216,219,404	$221,002,948	2.2	$225,832,047	2.2
New York	$128.86	NA	NA	NA	$2,506,787,319	NA
North Carolina	$0.00	$0	$0	0.0	$0	0.0
North Dakota	$0.00	$0	$0	0.0	$0	0.0
Ohio	$129.32	$1,460,606,714	$1,490,165,306	2.0	$1,511,588,141	1.4
Oklahoma	$0.00	$0	$0	0.0	$0	0.0
Oregon	$0.00	$0	$0	0.0	$0	0.0

State	FY 2019 expenditures per state resident	FY 2017 expenditures	FY 2018 expenditures	FY 2018 % change	FY 2019 expenditures	FY 2019 % change
Pennsylvania	$102.38	$0	$432,830,374	100.0	$1,310,722,814	202.8
Rhode Island	$39.81	$176,371,560	$196,540,612	11.4	$42,171,277	-78.5
South Carolina	$3.35	NA	NA	NA	$17,223,858	NA
South Dakota	$0.00	$0	$0	0.0	$0	0.0
Tennessee	$158.13	$935,446,380	$944,178,692	0.9	$1,079,897,829	14.4
Texas	$89.33	$2,614,588,484	$2,659,218,666	1.7	$2,590,165,200	-2.6
Utah	$0.00	$0	$0	0.0	$0	0.0
Vermont	$0.00	$171,031,630	$173,968,327	1.7	$0	-100.0
Virginia	NA	NA	NA	NA	NA	NA
Washington	$0.00	$0	$0	0.0	$0	0.0
West Virginia	$0.00	$0	$0	0.0	$0	0.0
Wisconsin	$34.37	$170,731,501	$183,103,819	7.2	$200,091,055	9.3
Wyoming	$0.00	$0	$0	0.0	$0	0.0
United States	**$62.19**	**$12,464,931,331**	**$13,586,797,880**	**9.0**	**$16,575,474,271**	**22.0**

Sources: Mathematica's analysis of FY 2019 state-submitted MLTSS data and U.S. Census Bureau data. Data for FY 2017 and 2018 were obtained from Murray et al. (2021).

Notes: Excludes FY 2017 and 2018 data for California, Illinois, North Carolina, New York, and Virginia and FY 2019 data for Arkansas, California, Delaware, Illinois, and Virginia due to missing MLTSS data. For the total U.S. expenditures per resident calculation, California, Delaware, Illinois, and Virginia are excluded from the total U.S. Census population. Because Massachusetts was unable to report institutional MLTSS data at the service category level, total institutional LTSS expenditures for Massachusetts in this table do not equal the sum of institutional expenditures for the separate institutional service categories (representing a $399,500,166 difference in expenditures for FY 2019). Further details about the data sources, methods, and data limitations are available in Appendices A and B.

FY = fiscal year; LTSS = long-term services and supports; MLTSS = managed long-term services and supports; NA = not available.

Table C.11. Total HCBS MLTSS expenditures by state, FY 2017–2019

State	FY 2019 expenditures per state resident	FY 2017 expenditures	FY 2018 expenditures	FY 2018 % change	FY 2019 expenditures	FY 2019 % change
Alabama	$0.00	$0	$0	0.0	$0	0.0
Alaska	$0.00	$0	$0	0.0	$0	0.0
Arizona	$239.84	$1,447,036,410	$1,641,836,394	13.5	$1,745,700,321	6.3
Arkansas	NA	$0	$0	0.0	NA	NA
California	NA	NA	NA	NA	NA	NA
Colorado	$0.00	$0	$0	0.0	$0	0.0
Connecticut	$0.00	$0	$0	0.0	$0	0.0
Delaware	NA	$77,168,457	$96,918,792	25.6	NA	NA
District of Columbia	$0.00	$0	$0	0.0	$0	0.0
Florida	$53.04	$881,184,631	$1,022,384,645	16.0	$1,139,136,411	11.4
Georgia	$0.00	$0	$0	0.0	$0	0.0
Hawaii	$93.02	$124,461,046	$129,883,052	4.4	$131,707,941	1.4
Idaho	$9.93	$11,505,749	$18,701,260	62.5	$17,739,852	-5.1
Illinois	NA	NA	NA	NA	NA	NA
Indiana	$0.00	$0	$0	0.0	$0	0.0
Iowa	$279.75	$803,909,001	$711,714,235	-11.5	$882,620,768	24.0
Kansas	$430.30	$1,078,090,817	$1,134,683,186	5.2	$1,253,589,183	10.5
Kentucky	$0.00	$0	$0	0.0	$0	0.0
Louisiana	$0.00	$0	$0	0.0	$0	0.0
Maine	$0.00	$0	$0	0.0	$0	0.0
Maryland	$0.00	$0	$0	0.0	$0	0.0
Massachusetts	$147.01	$840,913,711	$922,482,389	9.7	$1,013,243,717	9.8
Michigan	$41.78	$396,789,958	$407,951,001	2.8	$417,272,304	2.3
Minnesota	$147.99	$803,989,820	$890,295,213	10.7	$834,622,886	-6.3
Mississippi	$0.00	$0	$0	0.0	$0	0.0
Missouri	$0.00	$0	$0	0.0	$0	0.0
Montana	$0.00	$0	$0	0.0	$0	0.0
Nebraska	$0.00	$0	$0	0.0	$0	0.0
Nevada	$0.00	$0	$0	0.0	$0	0.0
New Hampshire	$0.00	$0	$0	0.0	$0	0.0
New Jersey	$84.06	$542,227,861	$638,036,772	17.7	$746,656,626	17.0
New Mexico	$175.67	$415,881,943	$381,600,969	-8.2	$368,356,977	-3.5
New York	$556.57	NA	NA	NA	$10,827,181,806	NA
North Carolina	$84.45	$0	$0	0.0	$885,670,142	100.0
North Dakota	$0.00	$0	$0	0.0	$0	0.0
Ohio	$62.99	$674,851,467	$696,412,932	3.2	$736,274,427	5.7
Oklahoma	$0.00	$0	$0	0.0	$0	0.0
Oregon	$0.00	$0	$0	0.0	$0	0.0

State	FY 2019 expenditures per state resident	FY 2017 expenditures	FY 2018 expenditures	FY 2018 % change	FY 2019 expenditures	FY 2019 % change
Pennsylvania	$244.72	$9,211,402	$487,257,541	5189.7	$3,132,851,731	543.0
Rhode Island	$22.90	$56,442,776	$51,503,281	-8.8	$24,262,335	-52.9
South Carolina	$6.72	NA	NA	NA	$34,586,267	NA
South Dakota	$0.00	$0	$0	0.0	$0	0.0
Tennessee	$48.97	$273,631,208	$299,612,760	9.5	$334,399,511	11.6
Texas	$154.45	$3,902,337,178	$4,070,466,655	4.3	$4,478,327,201	10.0
Utah	$0.00	$0	$0	0.0	$0	0.0
Vermont	$0.00	$351,416,950	$375,053,700	6.7	$0	-100.0
Virginia	NA	NA	NA	NA	NA	NA
Washington	$0.00	$0	$0	0.0	$0	0.0
West Virginia	$0.00	$0	$0	0.0	$0	0.0
Wisconsin	$330.14	$1,590,335,318	$1,751,953,536	10.2	$1,922,216,237	9.7
Wyoming	$0.00	$0	$0	0.0	$0	0.0
United States	**$116.03**	**$14,281,385,704**	**$15,728,748,312**	**10.1**	**$30,926,416,643**	**96.6**

Sources: Mathematica's analysis of FY 2019 state-submitted MLTSS data and U.S. Census Bureau data. Data for FY 2017 and 2018 were obtained from Murray et al. (2021).

Notes: Excludes FY 2017 and 2018 data for California, Illinois, North Carolina, New York, and Virginia and FY 2019 data for Arkansas, California, Delaware, Illinois, and Virginia due to missing MLTSS data. For the total U.S. expenditures per resident calculation, California, Delaware, Illinois, and Virginia are excluded the total U.S. Census population. Because Massachusetts, Pennsylvania, and Texas were unable to report HCBS data at the service category level, total HCBS expenditures for these states in this table do not equal the sum of HCBS expenditures for the separate HCBS service categories (representing a $1,013,243,717 difference for Massachusetts, a $3,132,851,731 difference for Pennsylvania, and a $3,516,881,122 difference for Texas for FY 2019). Further details about the data sources, methods, and data limitations are available in Appendices A and B.

FY = fiscal year; HCBS = home and community-based services; LTSS = long-term services and supports; MLTSS = managed long-term services and supports; NA = not available.

Appendix D

LTSS Table Notes and Excel Workbook Attachment

Data tables are included in Excel workbook attachment "Appendix D – Main LTSS Tables.xlsx". The below table lists sources, notes, and acronyms for the tables in the Excel workbook attachment.

	Description
Sources	Mathematica's analysis of FY 2019 CMS-64 data. Several tables included additional data sources other than CMS-64 data. Tables D.9 and D.10 included an analysis of FY 2019 CMS-64 Supplemental Feeder Form (4C) data. The following tables included an analysis of FY 2019 state-submitted MLTSS data: D.1–D.3, D.5–D.8, D.11, D.14–D.15, D.17–D.18, D.20–D.24, and D.36. Tables D.1–D.3, D.5, D.15, D.35, and D.36 included an analysis of FY 2019 MFP budget worksheet for proposed budget data. Tables D.13 and D.19 included an analysis of FY 2019 state-submitted LTSS data from Vermont. The following tables included an analysis of FY 2019 U.S. Census Bureau data: D.4–D.35, D.37–D.43, and D.45. Tables D.37–D.44 included an analysis of FY 2019 CMS 372 data. For applicable tables, data for FY 2017 and 2018 were obtained from Murray et al. (2021).
Notes: Medicaid LTSS service category expenditure tables	1. **Tables D.1 and D.4** exclude FY 2017 and 2018 data for California, Illinois, New York, and Virginia and FY 2019 data for California, Delaware, Illinois, and Virginia, but include data for all other states, the District of Columbia, and the U.S. territories (American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, and the Virgin Islands). 2. **Tables D.2 and D.3** exclude data for California, Delaware, Illinois, and Virginia, but include data for all other states, the District of Columbia, and the U.S. territories (American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, and the Virgin Islands). 3. **For Table D.4,** because U.S. Census Bureau data are not available for the U.S. territories, we cannot calculate the per state resident expenditures for the U.S. territories. 4. **Tables D.5, D.6, and D.15** exclude FY 2017 and 2018 data for California, Illinois, New York, and Virginia and FY 2019 data for California, Delaware, Illinois, and Virginia, but include data for all other states and the District of Columbia; U.S. territories (American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, and the Virgin Islands) are included in the U.S. total but not reported separately. For FY 2019, total LTSS expenditures for U.S. territories represented $3,245,320 (Table D.5), total institutional LTSS expenditures for U.S. territories represented $407,412 (Table D.6), and total HCBS expenditures for U.S. territories represented $2,837,908 (Table D.15). 5. **For Tables D.4–D.6, D.14, D.15, and D.20**, California, Delaware, Illinois, and Virginia are excluded from the total U.S. Census population for the total U.S. expenditures per resident calculations. 6. **For Table D.5,** total LTSS expenditures include expenditures from Tables D.6 and D.15. FY 2017 and 2018 data for North Carolina includes MLTSS expenditures not able to be reported in Tables D.6 and D.15. 7. **For Table D.6**, total institutional expenditures include expenditures from Tables D.7, D.8, and D.11–D.14. Because Massachusetts was unable to report institutional MLTSS data at the service category level, total institutional LTSS expenditures for Massachusetts in this table do not equal the sum of institutional expenditures for the separate institutional services categories from Tables D.7–D.8, and D.11–D.14 (representing a $339,500,166 difference in expenditures in FY 2019). 8. **Tables D.7, D.11, and D.21** include data for all 50 states and the District of Columbia; U.S. territories (American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, and the Virgin Islands) are included in the U.S. total but not reported separately. For FY 2019, expenditures for U.S. territories were $380,212 for nursing facilities (Table D.7), $27,200 for mental health facility services (Table D.11), and $2,837,908 for home health (Table D.21).

	Description
Notes: Medicaid LTSS service category expenditure tables (*continued*)	9. **For Table D.8**, total ICF/IID expenditures include expenditures for both public and private providers; breakouts for public and private expenditures are presented in Tables D.9 and D.10. 10. **Tables D.9 and D.10** include data for all 50 states and the District of Columbia. U.S. territories (American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, and the Virgin Islands) did not have any ICF/IID expenditures. CMS-64 Supplemental Feeder Form (4C) data were used to assign supplemental ICF/IID expenditures by provider type. 11. **For Table D.15**, total HCBS expenditures include expenditures from Tables D.16–D.26, D.29, D.34, and D.35. Because Massachusetts, Pennsylvania, and Texas were unable to report HCBS data at the service category level, total HCBS expenditures for these states in this table do not equal the sum of HCBS expenditures for the separate HCBS service categories from Tables D.16–D.26, D.29, D.34, and D.35 (representing a $1,013,243,717 difference for Massachusetts, a $3,132,851,731 difference for Pennsylvania, and a $3,516,881,122 difference for Texas for FY 2019). 12. **Table D.16** includes data for all 50 states and the District of Columbia. U.S. territories (American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, and the Virgin Islands) did not have any section 1915(c) waiver program expenditures. For FY 2017 and 2018, the expenditures in this table are based on the CMS-64 Schedule A waiver data, except for New Hampshire, which is based on the line 19A data in the CMS-64 FMR Net Services report. For FY 2019, the expenditures in this table for all states are based on the CMS-64 Waiver Expenditures by Category of Service report data. 13. **For Table D.18**, all states in this table use the CMS-64 FMR Net Services report data, except for Texas in FY 2017 and 2018 and New York and Texas in FY 2019, which use a combination of state-submitted MLTSS Community First Choice data and FFS CMS-64 FMR Net Services report data. 14. **For Table D.24**, state expenditures in this table are based on the CMS-64 FMR Net Services report data for FY 2017 and 2018, except for Florida, Kansas, Massachusetts, Michigan, North Carolina, New Mexico, Ohio, Pennsylvania, Rhode Island, Tennessee, Texas, and Wisconsin, which are based on state-submitted MLTSS data. For FY 2019, all states in this table are based on the CMS-64 FMR Net Services report data, except for Florida, Kansas, Massachusetts, Michigan, North Carolina, New Mexico, New York, Ohio, Pennsylvania, South Carolina, Tennessee, Texas, and Wisconsin, which are based on state-submitted MLTSS data. 15. **For Table D.26**, total Health Homes expenditures across all LTSS targeted population subgroups include expenditures for each population group presented in Tables D.27 and D.28. 16. **For Table D.29**, total section 1915(i) State Plan HCBS program expenditures across all LTSS targeted population subgroups include expenditures for each population group presented in Tables D.30–D.33. 17. **Table D.35** includes the most recent data for states that submitted MFP worksheet for proposed budget data to CMS. Projected expenditures were used for Delaware and Massachusetts in FY 2017 and 2018 and for Illinois and Michigan in FY 2018 only. All other expenditures in FY 2017 and 2018 represent actual expenditures. For FY 2019, projected expenditures were used for Delaware, Illinois, Massachusetts, and Michigan and expenditures for all other states represent a combination of projected and actual expenditures. 18. Further details about the data sources, methods, and data limitations are available in Appendices A and B.

	Description
Notes: Percent HCBS table	1. **Table D.36** excludes FY 2017 and 2018 data for California, Illinois, New York, North Carolina, and Virginia and FY 2019 data for California, Delaware, Illinois, and Virginia. It also excludes the U.S. territories from all data years but includes data for all other states and the District of Columbia. 2. Further details about the data sources, methods, and data limitations are available in Appendices A and B.
Notes: Section 1915(c) waiver-level, population tables	1. **Tables D.37–D.44** exclude FY 2017 and 2018 data for New Hampshire but include FY 2017–2019 data for all other states and the District of Columbia that had at least one active section 1915(c) waiver program in FY 2017–2019 that served the respective population. 2. Further details about the data sources, methods, and data limitations are available in Appendices A and B.
Acronyms	CMS = Centers for Medicare & Medicaid Services; DSH = disproportionate share hospital; FFS = fee for service; FY = fiscal year; HCBS = home and community-based services; ICF/IID = Intermediate Care Facility for Individuals with Intellectual Disabilities; LTSS = long-term services and supports; MFP = Money Follows the Person; MLTSS = managed long-term services and supports; NA = not available; n.a. = not applicable; PACE = Program of All-Inclusive Care for the Elderly.

Appendix E

State LTSS Summary Table Notes and Excel Workbook Attachment

Data tables are included in Excel workbook attachment "Appendix E – State Tables.xlsx". The below table lists sources, notes, and acronyms for the tables in the Excel workbook attachment.

	Description
Sources	Mathematica's analysis of FY 2019 CMS-64 data, MFP budget worksheet for proposed budget data, and U.S. Census Bureau data. The following tables also included an analysis of FY 2019 state-submitted MLTSS data: E.3, E.8, E.10, E.12–E.13, E.16–E.17, E.22–E.24, E.31–E.34, E.36, E.39–E.41, E.43–E.44, E.50. Table E.46 included an analysis of FY 2019 state-submitted LTSS data. Data for FY 2017 and 2018 were obtained from Murray et al. (2021).
Notes	1. Further details about the data sources, methods, and data limitations are available in Appendices A and B.
Acronyms	ASD = autism spectrum disorder; BHC = behavioral health conditions; CMS = Centers for Medicare & Medicaid Services; DD = developmental disabilities; DSH = disproportionate share hospital; FY = fiscal year; HCBS = home and community-based services; ICF/IID = Intermediate Care Facility for Individuals with Intellectual Disabilities; ID = intellectual disabilities; LTSS = long-term services and supports; MFP = Money Follows the Person; MLTSS = managed long-term services and supports; OD = other disabilities; PACE = Program of All-Inclusive Care for the Elderly; PD = physical disabilities.

Appendix F

MLTSS Table Notes and Excel Workbook Attachment

Data tables are included in Excel workbook attachment "Appendix F – MLTSS Tables.xlsx". The below table lists sources, notes, and acronyms for the tables in the Excel workbook attachment.

	Description
Sources	Mathematica's analysis of FY 2019 state-submitted MLTSS data and U.S. Census Bureau data. Data for FY 2017 and 2018 were obtained from Murray et al. (2021).
Notes	1. All tables exclude FY 2017 and 2018 data for California, Illinois, North Carolina, New York, and Virginia and FY 2019 data for Arkansas, California, Delaware, Illinois, and Virginia due to missing MLTSS data. For the total U.S. expenditures per resident calculation in FY 2019, California, Delaware, Illinois, and Virginia are excluded the total U.S. Census population. Further details about the data sources, methods, and data limitations are available in Appendices A and B. 2. **For Table F.1**, total MLTSS expenditures include expenditures from Tables F.2 and F.7. FY 2017 and 2018 data in Table F.1 for North Carolina includes MLTSS expenditures not able to be reported for FY 2017 and 2018 in Tables F.2 and F.7. 3. **For Table F.2**, total institutional MLTSS expenditures include expenditures from Tables F.3–F.6. Because Massachusetts was unable to report institutional MLTSS data at the service category level, total institutional LTSS expenditures in Table F.2 for Massachusetts do not equal the sum of institutional expenditures for the separate institutional service categories from tables F.3-F.6 (representing a $339,500,166 difference in expenditures for FY 2019). 4. **For Table F.7**, total HCBS MLTSS expenditures include expenditures from Tables F.8–F.13. Because Massachusetts, Pennsylvania, and Texas were unable to report HCBS MLTSS data at the service category level, total HCBS expenditures in Table F.7 for these states do not equal the sum of HCBS expenditures for the separate HCBS services categories from tables F.8– F.13 (representing a $1,013,243,717 difference for Massachusetts, a $3,132,851,731 difference for Pennsylvania, and a $3,516,881,122 difference for Texas for FY 2019).
Acronyms	CFC = Community First Choice; FY = fiscal year; HCBS = home and community-based services; ICF/IID = Intermediate Care Facility for Individuals with Intellectual Disabilities; INST = institutional; LTSS = long-term services and supports; MH = mental health; MLTSS = managed long-term services and supports.

Appendix G

Non-LTSS Medicaid Expenditures Table Notes and Excel Workbook Attachment

Data tables are included in Excel workbook attachment "Appendix G – Non-LTSS Tables.xlsx". The below table lists sources, notes, and acronyms for the tables in the Excel workbook attachment.

	Description
Sources	Mathematica's analysis of FY 2019 CMS-64 data and U.S. Census Bureau data. Data for FY 2017 and 2018 were obtained from Murray et al. (2021).
Notes	1. The tables include data for all states and the District of Columbia; U.S. territories (American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, and the Virgin Islands) are included in the U.S. total but not reported separately. For FY 2019, expenditures for U.S. territories were $35,654,373 for drugs (Table G.1), $148,545,020 for inpatient hospital services (Table G.3), and $2,417,551,127 for Medicaid managed care premiums (Table G.5). There were no expenditures reported for U.S. territories for tables G.2 and G.4. 2. Further details about the data sources, methods, and data limitations are available in Appendices A and B.
Acronyms	CMS = Centers for Medicare & Medicaid Services; DSH = disproportionate share hospital; FY = fiscal year; LTSS = long-term services and supports; MMC = Medicaid managed care.