Medicaid Long Term Services and Supports Annual Expenditures Report

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Acronyms

ACA	Affordable Care Act
AIDS	acquired immunodeficiency syndrome
ASD	autism spectrum disorder
A&D	eligible for Medicaid on the basis of being 65 years old or older or having blindness or disabilities (“ABD”)
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 Dual 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
MCP	managed care plan
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
PHE	public health emergency
PIHP	prepaid inpatient health plan
PMAP+	Prepaid Medical Assistance Program Plus
SED	serious emotional disturbance
SNBC	Special Needs Basic Care
SPA	state plan amendment
SUD	substance use disorder
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 health and substance use disorders (MH/SUD), 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] as well as home and community-based services (HCBS), such as personal care and home health. 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.b; O'Malley Watts et al. 2022). 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 the Centers for Medicare & Medicaid Services (CMS), on Medicaid LTSS expenditures. It contains detailed information about Medicaid LTSS expenditures for federal fiscal year (FY) 2020 (October 1, 2019, to September 30, 2020) at the national and state levels by service category, type of LTSS (institutional and HCBS), and payment model. The last half of the FY 2020 period covers the first six months of the COVID-19 Public Health Emergency (PHE) in 2020, which had a major impact on the use of all health care services, including LTSS paid by Medicaid.

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. Texas and Virginia were unable to submit MLTSS expenditure data for the FY 2020 period, and because their MLTSS programs account for a large share of overall Medicaid LTSS spending within each state, we excluded these states from national totals of LTSS, HCBS, and institutional expenditures.[2] Although we did not include these states in the results reflecting total expenditures across all categories, we included fee-for-service (FFS) spending by these states in the output for individual service categories based on CMS-64 and MFP data.

Major changes from previous reports. The methods to calculate Medicaid LTSS expenditures for this report are consistent with the previous annual report covering FY 2019 expenditures (Murray et al. 2021b). As with the previous report covering FY 2019, this report covering FY 2020 does not break out LTSS spending or rebalancing ratios—the share of total LTSS spending devoted to HCBS—by LTSS population subgroups: older adults and people with physical or other disabilities; people with autism spectrum disorder or intellectual or developmental disabilities; people with behavioral health conditions; 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

[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 ages 65 and older.

[2] Idaho also did not submit FY 2020 MLTSS data, but we included Idaho in national totals of LTSS, HCBS, and institutional expenditures because the missing data for its MLTSS program made up a relatively smaller proportion of the state's total LTSS expenditures.

population subgroups.[3] Consequently, previous methods to divide 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 population subgroups in future reports using data from the Transformed Medicaid Statistical Information System (T-MSIS).

Major factors contributing to expenditure trends. A number of factors contributed to expenditure trends from FY 2019 to FY 2020, including (1) impacts of the COVID-19 PHE, (2) differences in the sample of states with complete data in each year, (3) changes in state MLTSS expenditure reporting methods, and (4) changes in state Medicaid LTSS policies and programs. For most states, the effects of these factors cannot be disentangled, and we were unable to specifically attribute increases or decreases in spending to any one factor. When known, the report includes notes explaining these changes in expenditures to provide context for interpreting the trends.

Key findings

- **Total Medicaid LTSS expenditures.** National Medicaid LTSS expenditures totaled $199.4 billion in FY 2020, with HCBS accounting for $124.6 billion (62.5 percent) and institutional services accounting for $74.8 billion (37.5 percent). Texas and Virginia did not report spending for MLTSS programs, which comprise a substantial share of total LTSS expenditures in those two states.[4] Consequently, the $199.4 billion figure undercounts actual Medicaid LTSS spending. Total Medicaid LTSS spending in FY 2020 grew by 23 percent over FY 2019, with much of the increase due to more complete data for several states in FY 2020 and changes in how states reported their MLTSS expenditures in FY 2020 (for more information on the methodology and data limitations in this year's report, refer to Appendices A and B). The COVID-19 PHE also affected changes in LTSS expenditures, although it is unclear how, or the extent to which, it contributed to overall expenditure growth between FY 2019 and 2020.
- **Medicaid LTSS expenditures per state resident.** States spent an average of $679 Medicaid LTSS dollars per state resident in FY 2020. Utah had the lowest Medicaid LTSS expenditures per state resident at $284, while the District of Columbia had the highest at $1,554 per resident. Factors that may be contributing to these variations across states include differences in demographics, LTSS eligibility requirements, and the type and amount of LTSS covered.
- **LTSS as a percentage of total Medicaid spending.** Spending on LTSS as a share of total Medicaid expenditures has declined from 47 percent in FY 1988 to 33 percent in FY 2020. It also declined from 34 percent in 2019, largely due to an increase in spending on beneficiaries without disabilities who do not use LTSS.[5] In addition, state LTSS system rebalancing initiatives that increased the use of more

[3] While overall LTSS spending is not broken out by population, data were reliable enough to report expenditures by population subgroup for three service categories: section 1915(c) waiver programs, section 1915(i) State Plan HCBS, and Health Homes (see Appendix Tables D.37-D.43, D.30-D.33, and D.27-D.28, respectively).

[4] In FY 2019, Texas reported $7,068,492,401 in MLTSS expenditures (about 61 percent of its total LTSS expenditures) (Murray et al. 2021b). In FY 2016, Virginia reported $300,057,019 in MLTSS expenditures (about 9 percent of its total LTSS expenditures) (Eiken et al. 2018). Because Virginia has had changes to their MLTSS program since FY 2016, this may be an underestimate of the potential share of LTSS in more recent years.

[5] The Families First Coronavirus Response Act (FFCRA) signed into law on March 18, 2020 provided states with financial relief during the PHE. To qualify for enhanced federal Medicaid matching rates, it required states to keep Medicaid beneficiaries continuously enrolled as long as the PHE remained in effect. This legislation, in combination (*continued*)

cost-effective HCBS lowered total LTSS spending relative to total spending for all Medicaid populations.

- **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, reaching 62.5 percent in FY 2020. This was an all-time high and represented a 3.9 percentage point increase from FY 2019. The national HCBS share of total LTSS expenditures surpassed the long-standing benchmark of 50 percent of LTSS expenditures in FY 2013 and has remained higher than 50 percent since then. A total of 35 states spent at least 50 percent of Medicaid dollars on HCBS in FY 2020, an improvement over FY 2019, which saw 30 states meet this benchmark.[6]
- **MLTSS expenditures.** The absolute amount spent on MLTSS programs[7] increased more than eightfold in the past two decades, climbing from $6.7 billion in FY 2008 to $57 billion in FY 2020. Because three states—Idaho, Texas, and Virginia—did not report MLTSS spending, $57 billion is an undercount of national MLTSS expenditures. The growth in expenditures reflects more states using MLTSS, rising from 8 in FY 2006 to 25 states in FY 2020, and more people receiving LTSS through these programs. In FY 2020, four states—New York, Pennsylvania, Florida, and California—accounted for 58 percent of total MLTSS spending nationally, with New York representing 23 percent of total national MLTSS expenditures. The share of total managed HCBS expenditures out of total MLTSS expenditures was 62.6 percent in FY 2020, almost the same as the share of total HCBS spending out of total LTSS expenditures (62.5 percent).
- **Service categories making up the greatest share of institutional and HCBS expenditures.** Spending on nursing facility services represented the majority of institutional LTSS expenditures, accounting for 78 percent of these expenditures in FY 2020. Spending on section 1915(c) waiver programs represented the largest share of HCBS expenditures in FY 2020, accounting for 43 percent of these expenditures.
- **Section 1915(c) waiver program expenditures.** All but four states (Arizona, New Jersey, Rhode Island, and Vermont)[8] operated at least one section 1915(c) waiver program to provide HCBS in FY 2020. Although section 1915(c) waiver program expenditure growth has fluctuated over the last decade, expenditures have generally increased even when adjusted for inflation, reaching $53.8

with millions of Americans becoming newly eligible for Medicaid after losing their jobs (Dolan et al. 2020; State Health and Value Strategies 2022), resulted in a substantial increase of Medicaid enrollees (Corallo and Moreno 2022), the majority of whom were non-LTSS users.

[6] For the purpose of these counts, the District of Columbia is considered a state. The total of 35 states includes 34 states and the District of Columbia and the total of 30 states includes 29 states and the District of Columbia.

[7] 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 expenditures are a separate category of LTSS spending, and contribute to total LTSS spending. For a list of programs categorized as MLTSS in this report, refer to Table A.1.

[8] 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 2020. Although New Jersey and Rhode Island did not have any section 1915(c) waiver programs in FY 2020, 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 because of their inclusion under line 19A. LTSS expenditures for Arizona and Vermont's section 1115 demonstrations were obtained from the state-submitted MLTSS data.

billion in FY 2020. Although we were unable to break out total LTSS spending and rebalancing ratios by LTSS population subgroups, we could do so for section 1915(c) waiver program expenditures because this information is reported for each waiver program. Three-quarters (76.7 percent) of total waiver program expenditures were spent on people with autism spectrum disorder or intellectual or developmental disabilities in FY 2020. Among the remainder, about 17.5 percent of total waiver program expenditures were spent on older adults, people with physical disabilities, or people with other disabilities, and 5.8 percent were spent on all other population groups—including multiple subgroups, people with brain injuries, individuals who are medically fragile or dependent on technology, individuals with serious emotional disturbance or who receive mental health services, and individuals with HIV/AIDS.

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 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 57 percent of all LTSS spending (Centers for Medicare & Medicaid Services n.d.b; O'Malley Watts et al. 2022).

Federal Medicaid rules allow states to cover a wide range of institutional and home and community-based LTSS, but the types 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. At least half of all states operate managed LTSS (MLTSS) programs, in which state Medicaid programs contract with private managed care plans and pay fixed (capitation) rates for each enrollee to cover the costs of LTSS benefits. Changes in available Medicaid policy options and LTSS 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 greater shares spent on HCBS.

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) 2020 (October 1, 2019, to September 30, 2020).

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, Medicaid Section 1915(c) Waiver Programs Annual Expenditures and Beneficiaries Report: Analysis of CMS 372 Annual Reports, 2018–2019, includes more detailed information on Medicaid section 1915(c) waiver program expenditures and beneficiaries based on the CMS 372 data (Mann et al. 2023).

B. Data and methods

We used five 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 2020 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 and documented state anomalies in Appendix B.
3. **MFP budget data.** 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 2020.
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 population groups and subgroups. We linked information from the CMS 372 data on population and subgroups for each section 1915(c) waiver program to categorize waiver program-level expenditures from the COS reports from the CMS-64 by LTSS 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 systems toward more HCBS.

Excluding states with missing or aggregate MLTSS data. Three states (Idaho, Texas, and Virginia) were unable to provide any FY 2020 MLTSS expenditure data, or sufficiently accurate and comprehensive FY 2020 MLTSS expenditure data, for this report. MLTSS programs account for a large share of overall LTSS expenditures in two of these states: Texas and Virginia.[9] Consequently, we excluded these two states from our calculations of HCBS spending as a share of total LTSS expenditures and from all calculations of total Medicaid, total LTSS, total HCBS, and total institutional LTSS expenditures. Although we did not include these states in the results reflecting *total* expenditures across

[9] Because Virginia was unable to provide any usable MLTSS expenditure data for FY 2018–2020, the prior year trending shown in Appendices C-G is relatively comparable. Idaho and Texas were able to provide usable MLTSS expenditure data for FY 2018–2019 but not for FY 2020. Therefore, trending between FY 2018–2020 is not comparable for Idaho and Texas.

all categories, we included fee-for-service (FFS) spending by these states in the output for individual service categories based on CMS-64 and MFP data. We included Idaho in all totals because the missing data for its MLTSS program made up a relatively smaller 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 reports

The methods used for this report are consistent with those used for the last annual Medicaid LTSS expenditures report covering FY 2019 expenditures (Murray et al. 2021b). Starting in FY 2019, we switched to using the CMS-64 Waiver Expenditures by COS report to calculate section 1915(c) waiver program expenditures, added several new service categories, and streamlined the MLTSS state data request (refer to Appendix A for more information).

The most significant change to the FY 2019 report was the removal of LTSS population subgroups reporting from the total expenditure and percentage of LTSS expenditures for HCBS calculations. This year we again excluded break outs for the four major LTSS population subgroups: older adults or people with physical or other disabilities, people with autism spectrum disorder (ASD) or intellectual or developmental disabilities (ID or DD), people with behavioral health conditions, and other individuals who need LTSS. CMS and Mathematica recognize the importance of breaking out LTSS spending by these four 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 for either FY 2019 or 2020.[10] Further information is provided in the annual report covering FY 2019 expenditures (Murray et al. 2021b).

CMS and Mathematica are committed to reporting total expenditures and the percentage of LTSS expenditures for HCBS by population subgroups in future reports using data from Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files (TAF). TAF 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 TAF contains a rich set of data to produce more reliable results, analyses are underway to verify that states report sufficiently complete and accurate TAF data for this purpose with the aim of including results in future reports.

D. Overview of major factors contributing to expenditure trends

A number of factors contributed to expenditure trends in FY 2020, including four major factors: (1) impacts of the COVID-19 Public Health Emergency (PHE), (2) differences in the sample of states with complete data, (3) MLTSS data methodological changes, and (4) LTSS program changes. In many cases these issues cannot be fully disentangled, and we were unable to specifically attribute trends to any one reason. However, when one or more of these factors clearly contributed to changes in spending from FY 2019 to FY 2020, the report explains such changes.

1. **Impacts of the PHE.** FY 2020 (October 1, 2019, to September 30, 2020) includes the initial six months of the PHE that started in March 2020. The PHE had a major impact on health outcomes and mortality among high-risk Medicaid populations and on the use of all health services, including Medicaid LTSS. Many residents in long-term care facilities are covered by Medicaid, and in the first

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

six months of the PHE, a disproportionate number of COVID-19 deaths were among residents in long-term care facilities. Specifically, long-term care facility residents accounted for over 73,000, or just over 40 percent, of all COVID-19 deaths as of early fall 2020; in other words, about 1 of every 28 long-term care facility residents (Moser and Kelly 2020; Chidambaram 2020; Yi et al. 2020). During this period, states were also implementing a range of policy actions to address the impact of COVID-19 among Medicaid LTSS users; for example, by modifying utilization limits for covered services and increasing payment rates for certain institutional services and HCBS (Musumeci et al. 2020). Taken together, these policy changes altered the number and composition of Medicaid LTSS users in different settings, service use patterns, and payments, all of which contributed to LTSS expenditure trends in FY 2020. However, the direction and size of the impact of each factor is difficult to ascertain.

2. **Differences in sample of states with complete data.** As noted previously, Texas and Virginia are excluded from our FY 2020 calculations of HCBS spending as a share of total LTSS expenditures and from all calculations of total Medicaid, total LTSS, total HCBS, and total institutional LTSS expenditures, although we have included their FFS expenditures in the output for individual service category expenditures. Other states that have been excluded from total LTSS calculations in prior reports due to missing MLTSS data, such as California, Delaware, and Illinois in FY 2019, have been included in this year's totals for FY 2020 because they reported data for this period. Due to the changing samples of states with complete data across years, trends over time are not comparable at the state and national levels.
3. **MLTSS methodological changes.** Starting with FY 2017 and 2018 data, we requested states to report their capitated expenditures for each MLTSS program. Prior to this, the method for states to estimate MLTSS expenditures was not specified, so states used different approaches to estimate expenditures, in some cases reflecting state capitated expenditures and in other cases reflecting managed care plan expenditures. Many states have identified issues with their MLTSS data submissions over time and have made changes in how they report MLTSS expenditures. For example, some states were able to report total state MLTSS capitation payment expenditures in FY 2019 or 2020 rather than managed care plan expenditures as they did in FY 2017 and 2018,[11] and some states reported more complete data on spending by specific services by using encounter records in FY 2020 to breakout expenditures.[12] Although these methodological improvements should better reflect MLTSS expenditures within a state, their impact on trends is difficult to separate from the impact of other changes in MLTSS delivery patterns.
4. **LTSS program changes.** States are continuously implementing Medicaid program and delivery changes that can affect expenditure trends for all types of LTSS and by category of service. For example, shifting LTSS delivery for certain populations to MLTSS or implementing carve-outs of certain services from the MLTSS covered benefits can influence overall expenditure patterns, as well as changes in spending for individual services and across programs. In addition, changes in expenditure trends can be difficult to interpret without information on the characteristics and total

[11] For example, Arizona's expenditures in FY 2020 represent state capitated expenditures, but its FY 2018 and 2019 expenditures represent plan expenditures. Arizona's MLTSS expenditures increased substantially in FY 2020 relative to prior years, and this methodological update is one of the factors contributing to the increase.

[12] For example, in FY 2020, Rhode Island calculated MLTSS expenditures based on encounter records with relevant procedure codes, whereas it previously used encounter records with relevant provider types. The state was unable to capture certain expenditures in prior years by relying on provider types.

number of service users. CMS and Mathematica are working to use beneficiary-level information from TAF data to be able to include these more detailed analyses in future reports.

E. Report road map

In the remaining sections of this report, we summarize information about Medicaid LTSS expenditures in FY 2020 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 spending as a percentage of total Medicaid spending over time. Section IV presents data on LTSS rebalancing ratios—HCBS spending as a percentage of total Medicaid LTSS spending—by state and over time. Section V provides more detailed information on MLTSS expenditures. Section VI describes the distribution of expenditures by service category and Section VII describes section 1915(c) waiver program expenditures. In Section VIII, we present our conclusions.

II. Total Medicaid LTSS Expenditures

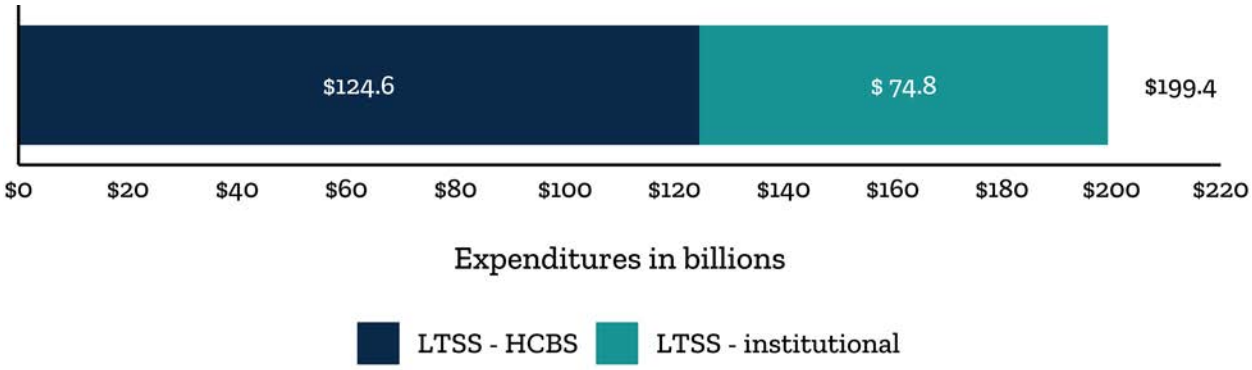
A. National Medicaid LTSS expenditures

Total LTSS expenditures and annual rate of growth. National Medicaid LTSS expenditures totaled $199.4 billion in FY 2020, growing from FY 2019 by 23 percent (Figure II.1 and Appendix Table C.1). Much of this growth is due to more complete data for several states[13] in FY 2020 relative to FY 2019, such as the addition of California and Illinois data in FY 2020, and changes in how states reported their MLTSS expenditures in FY 2020. The PHE also affected expenditure trends between FY 2019 and 2020, although it is unclear how or the extent to which it contributed to expenditure growth between FY 2019 and 2020. Further details on the methodology and data limitations are available in Appendices A and B.

HCBS and institutional expenditures. Out of the $199.4 billion in total LTSS expenditures in FY 2020, $124.6 billion (62.5 percent) was spent on HCBS and $74.8 billion (37.5 percent) was spent on 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 47.9 percent of total LTSS expenditures in FY 2010 to 62.5 percent in FY 2020.

Both HCBS and institutional expenditures increased substantially from FY 2019 to 2020, but HCBS expenditures increased at nearly three times the rate of institutional expenditures: national HCBS expenditures increased by 31.1 percent while national institutional expenditures increased 11.5 percent.

Figure II.1. Medicaid HCBS and institutional LTSS expenditures, in billions, FY 2020



Sources: Mathematica's analysis of FY 2020 CMS-64 data, state-submitted MLTSS data, and MFP worksheets for proposed budgets.

Notes: We did not include data prior to FY 2020 due to missing data and changes in methodology that impact the interpretability of historical trending. All LTSS expenditures for Texas and Virginia were excluded 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.

[13] All LTSS expenditures for California, Delaware, Illinois, and Virginia were excluded from FY 2019 expenditure calculations due to missing data. All LTSS expenditures for Texas and Virginia were excluded from FY 2020 expenditure calculations due to missing data.

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 2020, Medicaid LTSS expenditures per state resident averaged $679 nationally and varied across states, ranging from $284 in Utah to $1,554 in the District of Columbia (Figure II.2 and Appendix Table C.5).[14]

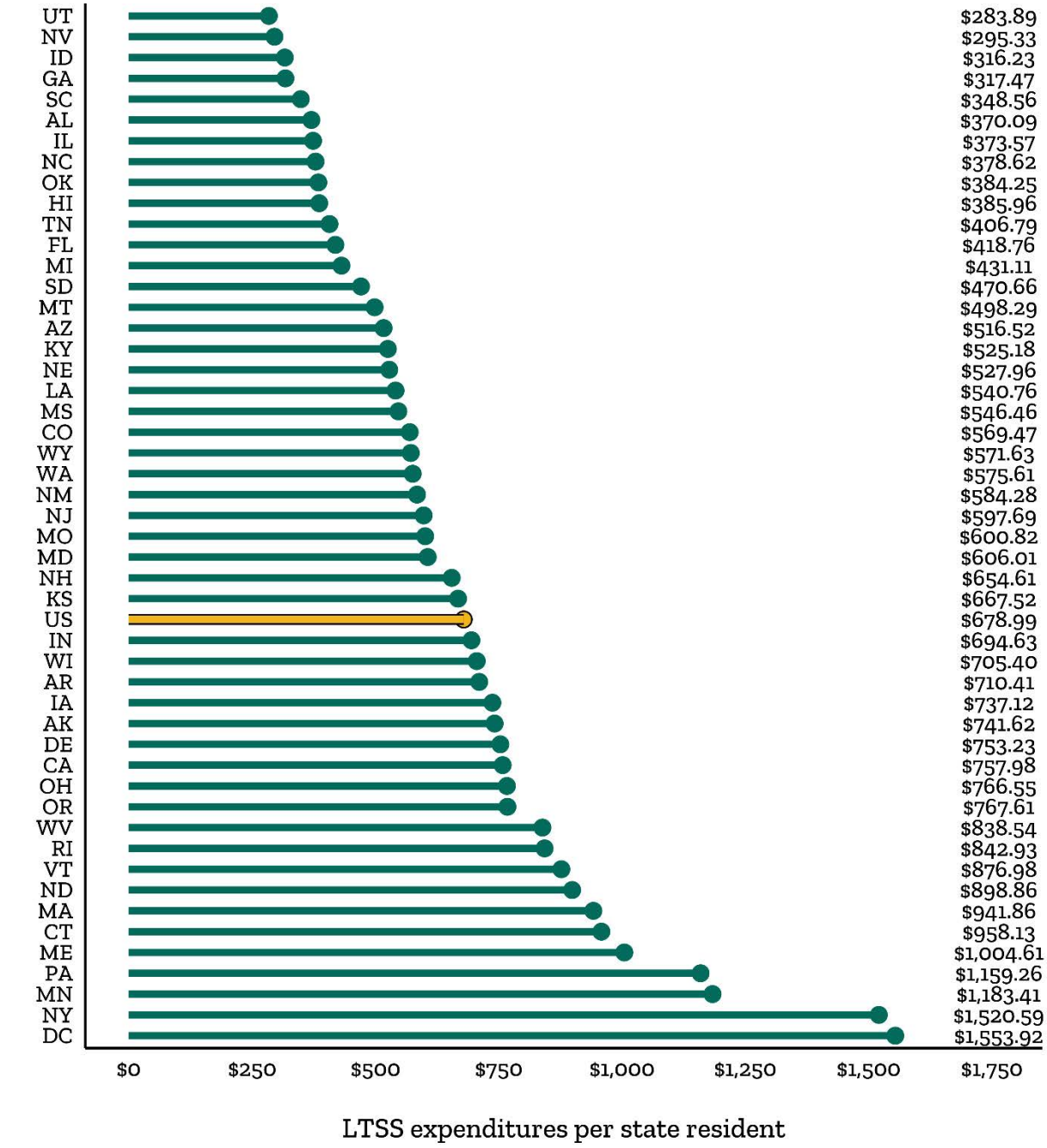
Between FY 2019 and 2020, this range increased slightly, but most states remained in the same general part of the distribution. However, states with the greatest increases in Medicaid LTSS expenditures per state resident between these years were Arizona, District of Columbia, and Arkansas (increases of $184, $163, and $162 per resident, respectively). For Arizona, the increase was attributable to a change in the methodology used to report its MLTSS data in FY 2020, while the change in Arkansas was related to MLTSS data availability (MLTSS expenditures were missing in FY 2019 but were included in FY 2020). Increases in section 1915(c) waiver program, ICF/IID, and personal care expenditures appear to be driving the Medicaid LTSS expenditures per state resident growth in the District of Columbia.

States with the greatest decreases in Medicaid LTSS expenditures per state resident between FY 2019 and 2020 were Idaho and Massachusetts (decreases of $139 and $59 per resident, respectively). For Idaho, the large decrease is likely due to missing MLTSS data in FY 2020. The decrease in Massachusetts appears to be related to large decreases both in personal care and nursing facility expenditures.

Many factors contribute to state variation in Medicaid LTSS expenditures per state resident, including differences in 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 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, which could affect use of these services and therefore decrease Medicaid LTSS spending per state resident (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.

[14] As noted previously, total national LTSS expenditures in this report exclude expenditures for Texas and Virginia for FY 2020.

Figure II.2. Medicaid LTSS expenditures per state resident, by state and United States total, FY 2020



Sources: Mathematica's analysis of FY 2020 CMS-64 data, state-submitted MLTSS data, MFP worksheets for proposed budgets, and U.S. Census Bureau data.

Notes: We excluded Texas 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 Texas and Virginia. Further details about the data sources, methods, and data limitations are available in Appendices A and B.

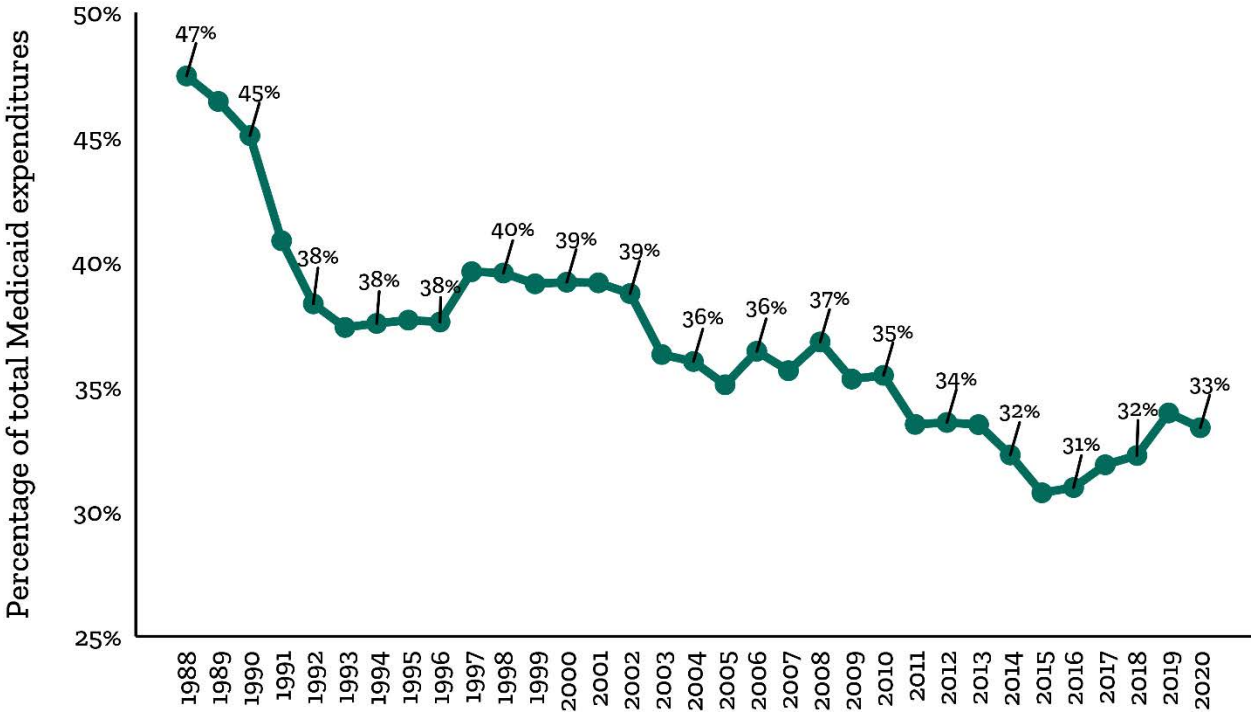
CMS = Centers for Medicare & Medicaid Services; FY = fiscal year; LTSS = long-term services and supports; MFP = Money Follows the Person; MLTSS = managed long-term services and supports.

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 2020, spending on Medicaid LTSS accounted for 33 percent of total Medicaid expenditures, compared to 47 percent in FY 1988 (Figure III.1 and Appendix Table C.3). LTSS expenditures as a share of total Medicaid spending decreased slightly from 34 percent in FY 2019 to 33 percent in FY 2020.

Figure III.1. Medicaid LTSS expenditures as a percentage of total Medicaid expenditures, FY 1988 to 2020



Sources: Mathematica's analysis of FY 2020 CMS-64 data, state-submitted MLTSS data, and MFP worksheets for proposed budgets. 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, data for FY 2017 and 2018 were obtained from Murray et al. (2021a), and data for FY 2019 were obtained from Murray et al. (2021b).

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, and data for FY 2019 do not include LTSS for California, Delaware, Illinois, and Virginia because of missing data. We excluded Texas and Virginia from FY 2020 calculations due to 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; LTSS = long-term services and supports; MFP = Money Follows the Person; MLTSS = managed long-term services and supports.

The PHE is likely the primary reason why the proportion of Medicaid dollars spent on LTSS dipped in FY 2020 compared to FY 2019. Medicaid enrollment increased considerably starting in early 2020 (Corallo and Moreno 2022) as the federal government offered increased funding to states that kept beneficiaries continually enrolled throughout the PHE and millions of Americans became newly eligible for Medicaid after losing their jobs (Dolan et al. 2020; State Health and Value Strategies 2022). Most of these newly eligible enrollees did not use LTSS.

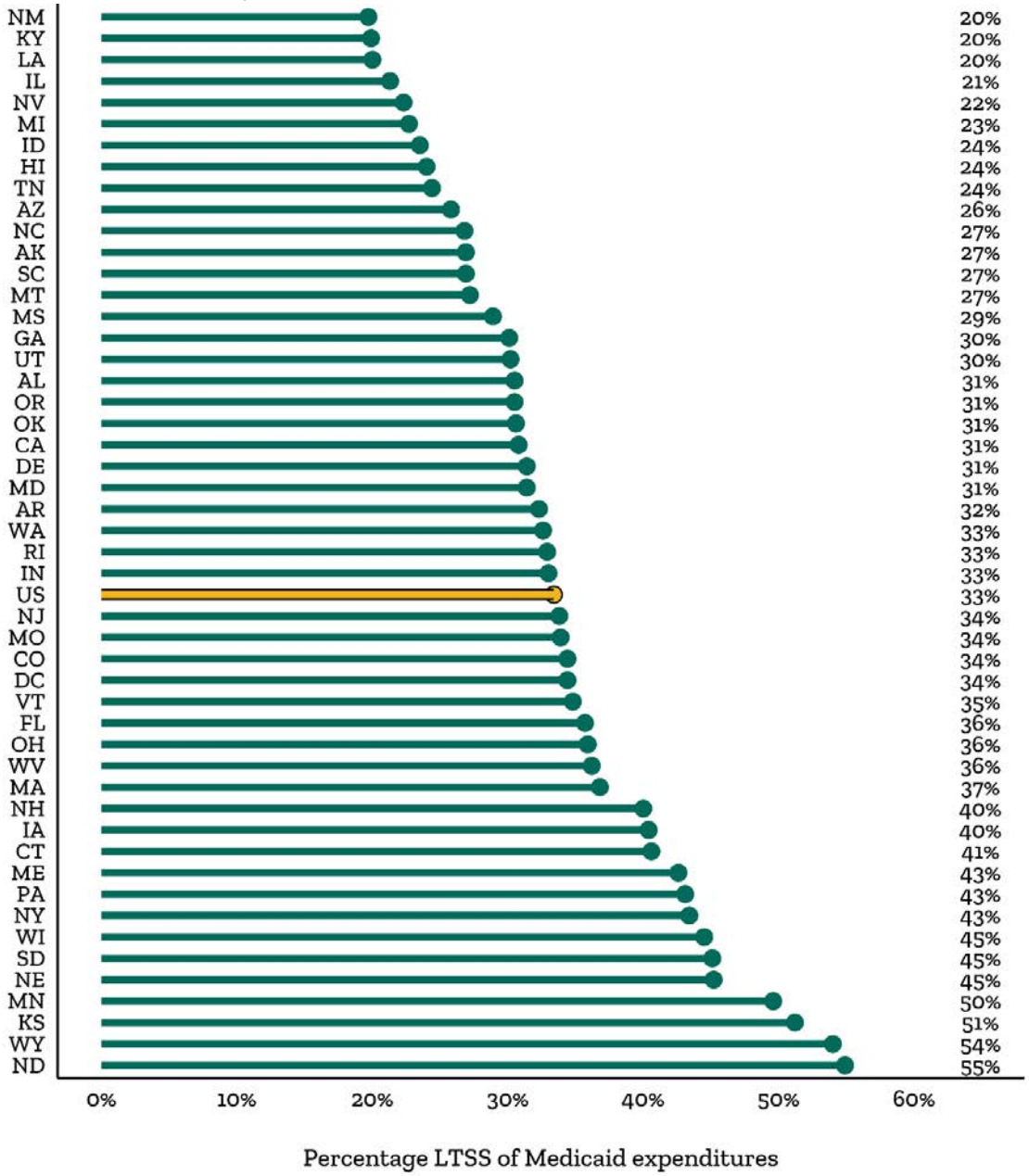
Other factors that could have contributed to the long-term decline in Medicaid LTSS spending as a percentage of total Medicaid expenditures include state LTSS system rebalancing initiatives that promote more cost-effective HCBS, such as the MFP program, as well as increased spending for Medicaid beneficiaries 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 (Medicaid and CHIP Payment and Access Commission 2020). From 1988 to 2018, the share of Medicaid beneficiaries who were children or adults who did not qualify for Medicaid based on disability increased 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 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 2020, proportions for individual states varied considerably (Figure III.2 and Appendix Table C.3). In FY 2020, the states with the highest percentage of Medicaid LTSS spending out of total state Medicaid expenditures were North Dakota, Wyoming, and Kansas (54.9, 54, and 51.2 percent, respectively), whereas the three states with the lowest percentage of Medicaid LTSS spending out of total state Medicaid expenditures were New Mexico, Kentucky, and Louisiana (19.7, 19.9, and 20 percent, respectively).[15] Differences in state demographics related to beneficiaries' 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.

[15] As we excluded Texas 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 2020



Sources: Mathematica's analysis of FY 2020 CMS-64 data, state-submitted MLTSS data, and MFP worksheets for proposed budgets.

Notes: We excluded Texas and Virginia 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 2020. To calculate the national percentage, we divided the total amount of LTSS expenditures by the total amount of Medicaid expenditures for all states, excluding Texas and Virginia because of missing data for these states in FY 2020. 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 62.5[16] percent in FY 2020 (Appendix Table C.8).

A. National trends in Medicaid LTSS rebalancing ratio

62.5%

FY 2020 U.S. TOTAL HCBS EXPENDITURES AS A PERCENTAGE OF TOTAL MEDICAID LTSS EXPENDITURES

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 56.1 percent in FY 2018 to 58.6 percent in FY 2019 and to 62.5 percent in FY 2020.[17] As described in Section I, a number of factors are contributing to expenditure trends in FY 2020, including (1) impacts of the COVID-19 PHE, (2) differences in the sample of states with complete data, (3) MLTSS methodological changes, and (4) LTSS program changes.

B. State trends in Medicaid LTSS rebalancing ratio

State performance on the LTSS rebalancing ratio. States varied substantially in the proportion of spending on HCBS as a total of Medicaid LTSS expenditures, ranging from 32 percent in Mississippi to 83.9 percent in Oregon (Figures IV.2 and IV.3 and Appendix Table C.8). Over 70 percent (35) of all states for which data on HCBS spending were available (49) in FY 2020 spent 50 percent or more of total Medicaid LTSS expenditures on HCBS (Figure IV.2).

Five states—in descending order, Oregon, Minnesota, Arizona, Wisconsin, and Washington—spent more than 75 percent of their Medicaid LTSS expenditures on HCBS (Figure IV.3). Other states in the highest quartile of performance, in descending order, were Kansas, Colorado, Massachusetts, New Mexico, New York, California, and Idaho. At the other end of the spectrum, the five states with the lowest share of spending on HCBS in FY 2020 were Mississippi, Louisiana, Indiana, Alabama, and West Virginia.

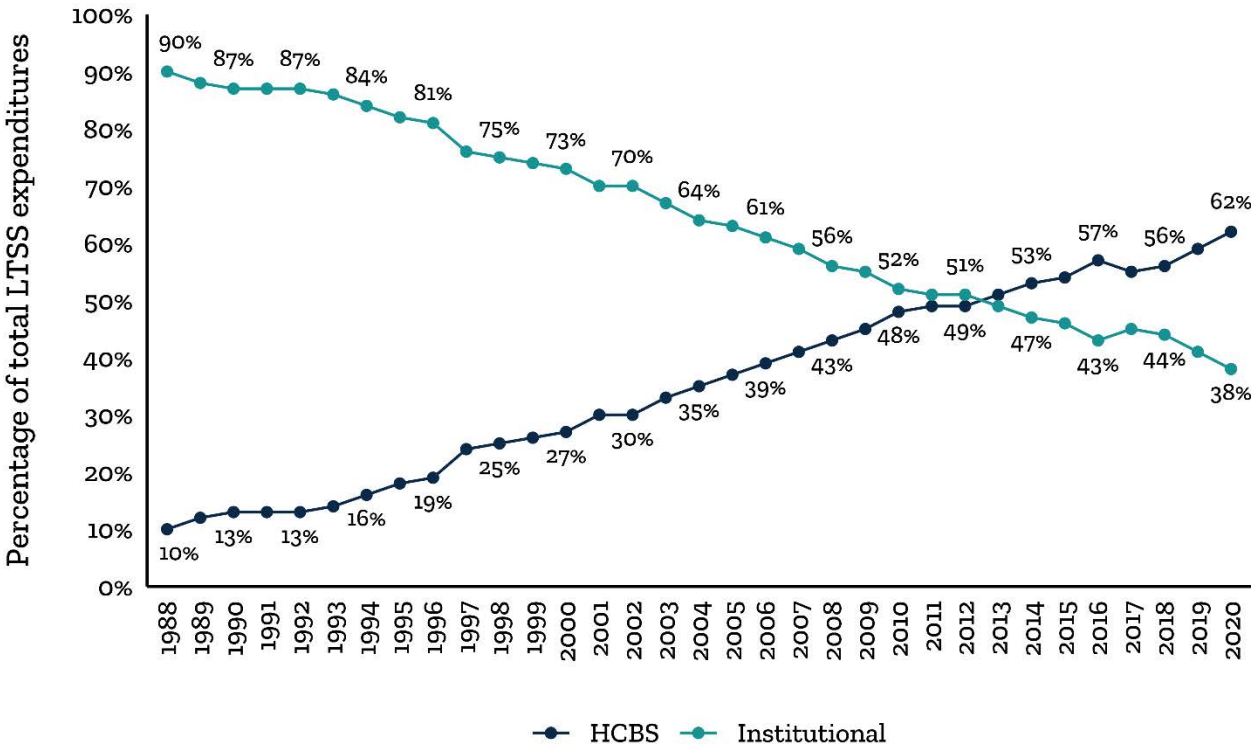
The lowest quartile had the greatest range in state performance for HCBS as a percentage of total Medicaid LTSS expenditures, with a 16.6 percentage point difference between Mississippi at the lowest end of the bottom quartile (32 percent) and New Hampshire (48.6 percent) at the highest end of the

[16] In the figures, the percentages are reported based on unrounded values, so some values may appear not to match due to rounding.

[17] 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. The FY 2020 measures were influenced by the exclusion of Texas and Virginia.

quartile. In contrast, there was a 14.5 percentage point spread among states in the highest quartile of performance, with Idaho at the lowest end of the quartile (69.4 percent) and Oregon at the highest end of the quartile (83.9 percent). The difference between states at the highest and lowest ends of the second and third quartiles was 7.3 and 12.4 percentage points, respectively.

Figure IV.1. Medicaid HCBS and institutional LTSS expenditures as a percentage of total Medicaid LTSS expenditures, FY 1988 to 2020

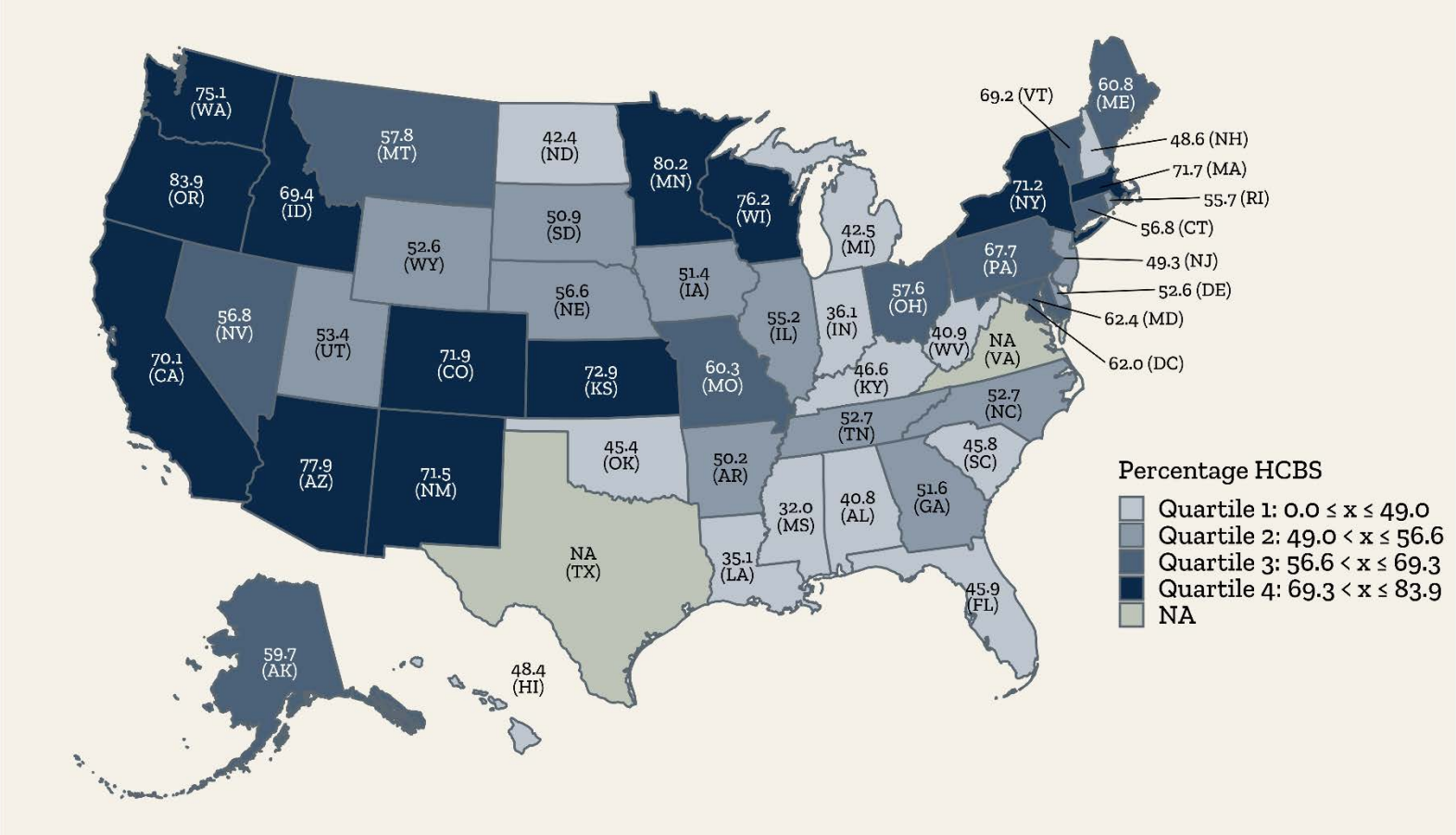


Sources: Mathematica's analysis of FY 2020 CMS-64 data, state-submitted MLTSS data, and MFP worksheets for proposed budgets. Data for FY 1988 to 2014 were obtained from Wenzlow et al. (2016), data for FY 2015 and 2016 were obtained from an unpublished version of the FY 2017 LTSS Expenditure Report, data for FY 2017 and 2018 were obtained from Murray et al. (2021a), and data for FY 2019 were obtained from Murray et al. (2021b).

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 expenditures 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, and data for FY 2019 do not include LTSS for California, Delaware, Illinois, and Virginia because of missing data. We excluded Texas and Virginia from FY 2020 calculations due to 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 2020

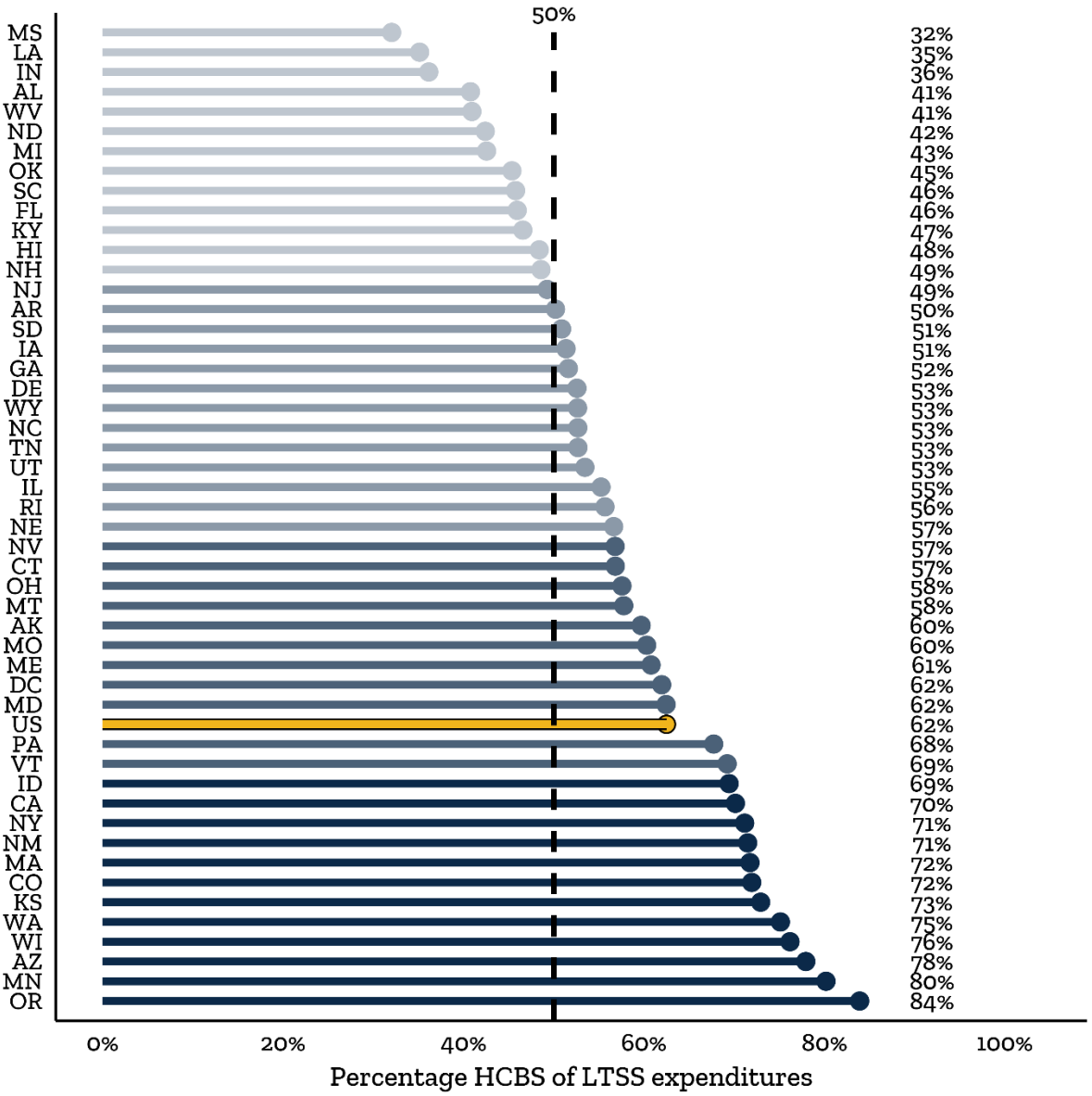


Sources: Mathematica's analysis of FY 2020 CMS-64 data, state-submitted MLTSS data, and MFP worksheets for proposed budgets.

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 Texas 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 2020



Sources: Mathematica's analysis of FY 2020 CMS-64 data, state-submitted MLTSS data, and MFP worksheets for proposed budgets.

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 Texas 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 all expenditures from Texas and Virginia because of missing data for these states in FY 2020. 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 2019 to 2020 state changes in LTSS rebalancing ratio. Nearly two-thirds of states improved LTSS rebalancing ratios from FY 2019 to 2020, six of which increased their scores by more than 5 percentage points from FY 2019 to 2020 (Table IV.1). These sizable increases in the LTSS rebalancing ratio appear to be due largely to data reporting changes in FY 2020, but other factors could also account for an increase in HCBS spending or a decrease in institutional spending, or both:

- **Idaho's** ratio increased from 58.5 to 69.4 percent (a 10.9 percentage point increase) due to missing MLTSS data and declines in FFS expenditures from CMS-64. This included a substantial decline in FFS nursing facility expenditures in the CMS-64 data and relatively smaller declines in FFS HCBS expenditures for section 1915(c) waiver programs, personal care, and 1915(i) State Plan HCBS, which might have occurred due to increased enrollment in MLTSS programs (Appendix B and Table E.13).
- **Florida's** ratio increased from 37.1 to 45.9 percent (an 8.8 percentage point increase) because of the inclusion of MLTSS expenditures for the Managed Medical Assistance Program that were not included in FY 2019. In addition, HCBS expenditures for Florida's Long-Term Care MLTSS Program increased due to an increase in enrollment and certified HCBS capitation rates increasing between 2.2 percent and 15.8 percent for ten of the state's eleven regions (see Appendix B for details).
- New York's ratio increased from 62.8 to 71.2 (an 8.4 percentage point increase), attributable to both an increase in HCBS expenditures across several categories like Health Home, section 1915(c) waiver program, and home health, and a decrease in institutional expenditures (Appendix Table E.33). The decline in institutional expenditures may be due in part to a decrease in nursing facility residents caused by deaths attributable to COVID-19 in the early stages of the PHE in New York.
- **Arkansas's** ratio increased from 44 to 50.2 percent (a 6.2 percentage point increase) due to the state reporting expenditures in FY 2020 for the Provider-led Arkansas Shared Savings Entity (PASSE) MLTSS program that began on March 1, 2019. The state did not report PASSE expenditures in FY 2019 (see Appendix B for details).
- **Rhode Island's** ratio increased from 50.2 to 55.7 percent (a 5.5 percentage point increase) due to a change in the methodology for reporting MLTSS expenditures. In FY 2020, Rhode Island calculated MLTSS expenditures based on encounter records with relevant procedure codes, whereas it previously used encounter records with relevant provider types. The state was unable to capture certain expenditures in prior years using only provider types, resulting in higher MLTSS expenditures in FY 2020 (see Appendix B for details).
- **Michigan's** ratio increased from 37.3 to 42.5 percent (a 5.2 percentage point increase) attributable to increases in several HCBS categories, including section 1915(c) waiver program expenditures, personal care, Program of All-Inclusive Care for the Elderly (PACE), and other HCBS MLTSS expenditures (Appendix Table E.23).

In contrast, two states—North Carolina and New Mexico—had relatively large declines in the LTSS rebalancing ratio from FY 2019 to 2020. In North Carolina, the rebalancing ratio declined from 57.1 percent of LTSS expenditures for HCBS to 52.7 percent (representing a 4.4 percentage point decline) due to an increase in nursing facility expenditures (Appendix Table E.34). In New Mexico, the 4 percentage point decline (from 75.5 to 71.5 percent) also was related to an increase in nursing facility expenditures due to reimbursement rate changes within the state (Appendix B and Table E.32).

Spending patterns driving FY 2019 to 2020 state changes in LTSS rebalancing ratio. Almost all states increased their total HCBS expenditures; however, the goal of rebalancing initiatives is to shift expenditures from services provided in institutional settings to HCBS. Eight states, including, Connecticut, Maryland, Minnesota, Missouri, New York, Pennsylvania, Tennessee, and Vermont, simultaneously increased HCBS spending and decreased total institutional spending (Table IV.1).

Table IV.1. Changes in HCBS expenditures, institutional expenditures, and LTSS rebalancing ratio, by state, FY 2019–2020

State	Institutional expenditures decreased between FY 2019–2020	HCBS expenditures increased between FY 2019–2020	Percentage point change in the ratio of LTSS spent on HCBS, FY 2019–2020
Alabama		X	-0.6
Alaska			-1.4
Arizona		X	2.4
Arkansas		X	6.2
California	NA	NA	NA
Colorado		X	0.1
Connecticut	X	X	2.6
Delaware	NA	NA	NA
District of Columbia		X	1.0
Florida		X	8.8
Georgia		X	1.9
Hawaii			-0.9
Idaho	X		10.9
Illinois	NA	NA	NA
Indiana		X	1.1
Iowa		X	-2.5
Kansas		X	1.1
Kentucky		X	1.0
Louisiana		X	-0.3
Maine		X	-3.0
Maryland	X	X	1.1
Massachusetts	X		-0.6
Michigan		X	5.2
Minnesota	X	X	3.5
Mississippi	X		-1.4
Missouri	X	X	0.9
Montana		X	2.6
Nebraska		X	1.8
Nevada		X	-3.1
New Hampshire		X	1.4
New Jersey		X	1.8
New Mexico		X	-4.0

State	Institutional expenditures decreased between FY 2019–2020	HCBS expenditures increased between FY 2019–2020	Percentage point change in the ratio of LTSS spent on HCBS, FY 2019–2020
New York	X	X	8.4
North Carolina		X	-4.4
North Dakota		X	-1.2
Ohio		X	0.6
Oklahoma		X	-1.5
Oregon		X	0.6
Pennsylvania	X	X	3.6
Rhode Island		X	5.5
South Carolina			-3.3
South Dakota		X	-0.9
Tennessee	X	X	3.5
Texas	NA	NA	NA
Utah		X	1.5
Vermont	X	X	1.0
Virginia	NA	NA	NA
Washington		X	2.4
West Virginia		X	-0.7
Wisconsin	X		1.1
Wyoming		X	-1.5
United States		**X**	**3.9**

Sources: Mathematica's analysis of FY 2020 CMS-64 data, state-submitted MLTSS data, and MFP worksheets for proposed budgets. Data for FY 2019 were obtained from Murray et al. (2021b).

Notes: Excludes data for California, Delaware, Illinois, Texas, and Virginia because of missing MLTSS data for either FY 2019 or 2020. Further details about the data sources, methods, and data limitations are available in Appendices A and B.

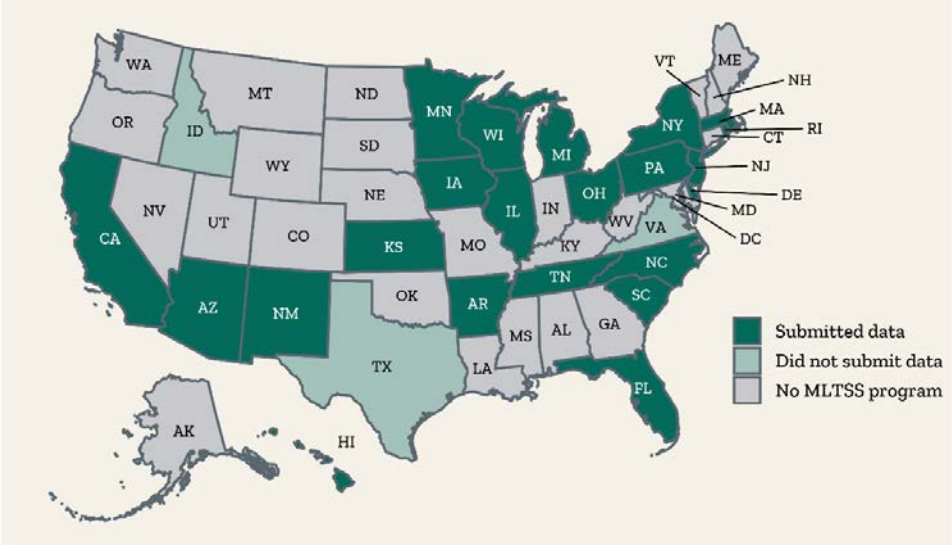
CMS = Centers for Medicare & Medicaid Services; FY = fiscal year; HCBS = home and community-based services; LTSS = long-term services and supports; MFP = Money Follows the Person; MLTSS = managed long-term services and supports; NA = not available.

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 to beneficiaries. In return, plans receive a set amount each month per enrollee, referred to as the capitation payment. How capitation rates are built varies by state. Some states use capitation rates that vary based on the setting. Other states set a single capitation rate for all covered LTSS benefits regardless of the setting, 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 2020, 25 states had MLTSS programs operating under various federal authorities, including section 1115 demonstrations, or through regular Medicaid authorities.[18] Nine 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 2020, three states (Idaho, Texas, and Virginia) could not submit data on MLTSS expenditures for FY 2020 (Figure V.1).

Figure V.1. Map of states with MLTSS programs, FY 2020



Source: Mathematica's analysis of FY 2020 state-submitted MLTSS data.

Notes: The states displayed in the map had one or more active (non-PACE) MLTSS program in FY 2020. 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.

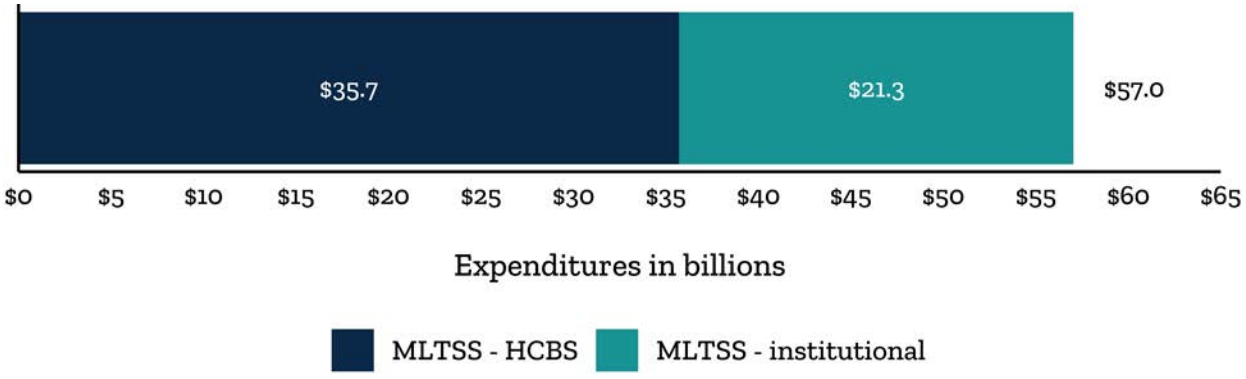
[18] These authorities include combinations of section 1915(a)/1915(c), 1915(b)/1915(c), and 1932(a)/1915(c). Although PACE programs are capitated programs that provide LTSS, we did not include them in MLTSS program totals for the purposes of this report. Therefore, any descriptions of trends in MLTSS 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.

A. Medicaid MLTSS expenditures for HCBS and institutional care

Among the 22 states with MLTSS programs able to report expenditures in FY 2020, expenditures totaled $57 billion, of which $35.7 billion (63 percent) was spent on HCBS, and $21.3 billion (37 percent) was spent on institutional care (Figure V.2 and Appendix Tables F.1, F.2, and F.7). Because expenditures for MLTSS programs in Idaho, Texas, and Virginia were not included in total MLTSS expenditures for FY 2020, the actual total was higher. In FY 2020, four states—New York, Pennsylvania, Florida, and California—accounted for 58 percent of total MLTSS spending nationally (Appendix Table F.1). MLTSS expenditures in New York alone accounted for 23 percent of total national MLTSS expenditures, and MLTSS expenditures in Pennsylvania 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 Idaho, Texas, and Virginia for FY 2020.

Total HCBS expenditures for four states—New York, Pennsylvania, Arizona, and Florida—accounted for 63 percent of national MLTSS expenditures devoted to HCBS. New York and Pennsylvania alone accounted for 48 percent of national HCBS MLTSS expenditures. Total institutional expenditures for three states—California, Florida, and Pennsylvania—accounted for 51 percent of total MLTSS institutional expenditures.[19] For FY 2020, the share of total MLTSS expenditures spent on HCBS (62.6 percent) mirrored the share of all LTSS expenditures across delivery models spent on HCBS (62.5 percent). This is in contrast to FY 2019, when the share of total MLTSS expenditures spent on HCBS was considerably higher (65.1 percent) compared to the share of all LTSS expenditures spent on HCBS (58.6 percent).

Figure V.2. Medicaid HCBS and institutional MLTSS expenditures, in billions, FY 2020



Sources: Mathematica's analysis of FY 2020 state-submitted MLTSS data.

Notes: We did not include data prior to FY 2020 due to missing data and changes in methodology that impact the interpretability of historical trending. We excluded Idaho, Texas, and Virginia from FY 2020 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.

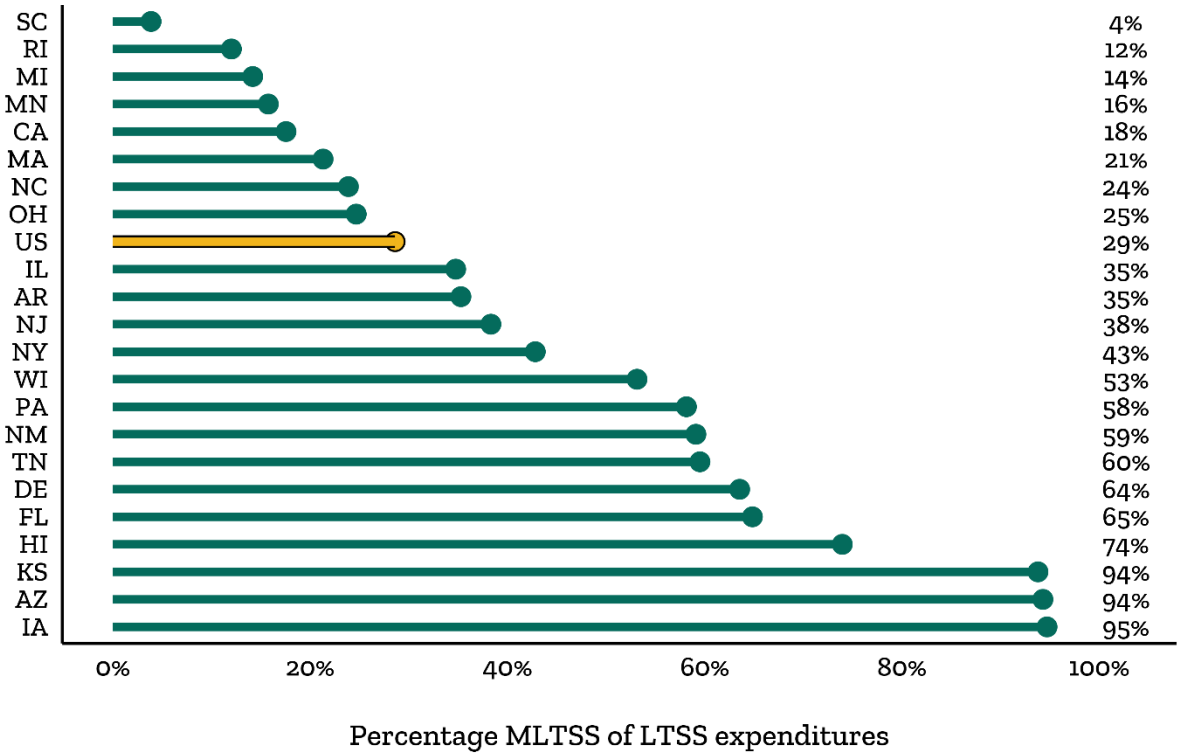
FY = fiscal year; HCBS = home and community-based services; MLTSS = managed long-term services and supports; PACE = Program of All-Inclusive Care for the Elderly.

[19] Because we excluded Idaho, Texas, and Virginia because of missing data, they are not accounted for in these rankings.

B. State trends in Medicaid MLTSS expenditures

In FY 2020, national spending on MLTSS as a share of all Medicaid LTSS spending was 29 percent, indicating the substantial role of MLTSS in LTSS delivery. However, proportions for individual states varied considerably (Figure V.3). In FY 2020, among the 22 reporting states, those with the highest percentage of MLTSS spending out of total state Medicaid LTSS expenditures were Iowa, Arizona, and Kansas (95, 94, and 94 percent, respectively), whereas those with the lowest percentage of MLTSS spending out of total state Medicaid LTSS expenditures were South Carolina, Rhode Island, and Michigan (4, 12, and 14 percent, respectively).[20]

Figure V.3. MLTSS expenditures as a percentage of total Medicaid LTSS expenditures, by state, FY 2020



Sources: Mathematica's analysis of FY 2020 state-submitted MLTSS data, CMS-64 data, and MFP worksheets for proposed budgets.

Notes: The states in the chart had one or more active (non-PACE) MLTSS program in FY 2020. We excluded Idaho, Texas, and Virginia from FY 2020 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 Texas and Virginia because of missing data for these states in FY 2020. 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.

[20] Because we excluded Idaho, Texas, and Virginia because of missing data, they are not accounted for in these rankings.

Several states had large changes in total MLTSS expenditures from FY 2019 to 2020 due to expansion of MLTSS programs and to changes in reporting:

- **Pennsylvania.** MLTSS expenditures for Pennsylvania nearly doubled between FY 2019 and 2020 due to the geographic phase-in of the Community HealthChoices program. Enrollment during this period increased 61 percent, increasing from 105,029 to 169,159 from FY 2019 to 2020. In addition, the state reported that capitation rates increased between Calendar Year 2019 and 2020 (see Appendix B for details).
- **Rhode Island.** Between FY 2019 and 2020, Rhode Island's total MLTSS expenditures increased by 67 percent. This was largely due to a change in the methodology used to report its MLTSS expenditures in FY 2020. In FY 2018 and 2019, the state categorized expenditures based on provider types and claim types. In FY 2020, the state switched to categorizing expenditures based on procedure codes submitted on claims, which allowed for more inclusive and granular reporting. This approach also allowed Rhode Island to report expenditures for several categories it had previously been unable to report, including home health, mental health facilities, and rehabilitative services (see Appendix B for details).
- **Arizona.** From FY 2019 to 2020, total MLTSS expenditures in Arizona increased by 55.8 percent. This is largely attributable to a change in the methodology used to report its MLTSS expenditures. In FY 2019, Arizona reported actual MLTSS expenditures from its managed care plans and from the Division of Developmental Disabilities, while in FY 2020 Arizona's expenditures are based on the estimated proportion of total capitation payments attributed to LTSS (see Appendix B for details).
- **Florida.** Total MLTSS expenditures in Florida increased by 33.6 percent between FY 2019 and 2020 largely due to the inclusion of Managed Medical Assistance Program expenditures in FY 2020 (see Appendix B for details).
- **South Carolina.** From FY 2019 to 2020, South Carolina's total MLTSS expenditures increased by 33.3 percent largely due to increases in enrollment and utilization (see Appendix B for details).
- **Iowa.** Iowa's total MLTSS expenditures increased by 32.1 percent between FY 2019 and 2020. This was due to the inclusion of rehabilitative service expenditures in FY 2020, which were not included in prior years, and to a 71 percent increase in nursing facility expenditures. The state reported that nursing facility expenditures increased due to higher utilization and to higher costs associated with nursing home care (see Appendix B for details).

VI. Distribution of Expenditures by Service Category

Variation in service category expenditures may reflect true year-over-year trends or underlying data changes, or both. 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.

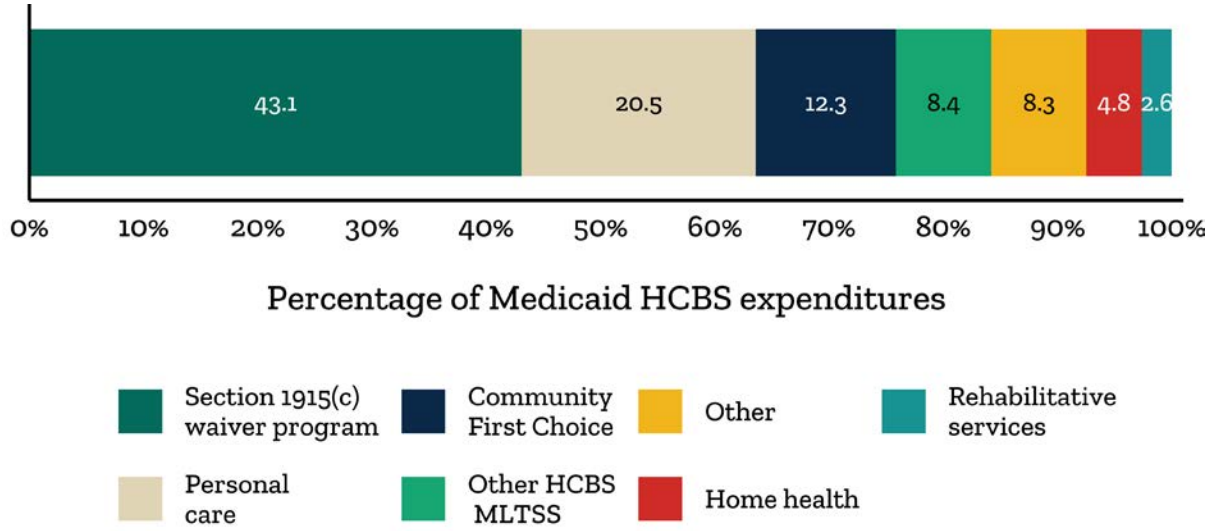
A. HCBS service category expenditures

- **Section 1915(c) waiver programs** accounted for the largest share of total HCBS expenditures in FY 2020, representing 43.1 percent of expenditures nationally. Several states saw large increases in their section 1915(c) waiver program expenditures between FY 2019 and 2020, including Michigan, Rhode Island, California, and Montana, while others, including Kansas, Arkansas, Pennsylvania, and Colorado, saw large decreases.[21] 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 20.5 percent of overall HCBS expenditures in FY 2020. New York alone accounted for 44.1 percent of personal care expenditures during this period, with California representing another 17 percent. Rhode Island had the largest increase in personal care expenditures between FY 2019 and 2020, increasing 339.8 percent during this time, although this was largely due to a change in the methodology for reporting MLTSS expenditures. Several states—Delaware, Illinois, and Mississippi—reported personal care expenditures after not reporting any expenditures in FY 2019. Other states saw large decreases in personal care expenditures compared to FY 2019, including Montana, Idaho, and New Hampshire (decreases of 77.1, 46.1, and 30 percent, respectively). 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.
- Although only nine states reported **Community First Choice** expenditures, a state plan option that covers personal care, attendant services, and other HCBS, collectively they accounted for a large proportion of overall LTSS spending, representing 12.3 percent of all HCBS expenditures in FY 2020. California accounted for the majority of these expenditures in FY 2020, representing 54.6 percent of total Community First Choice expenditures. For a full list of state Community First Choice expenditures, refer to Appendix Table D.18.
- **Other HCBS MLTSS** is a category covering a diverse set of HCBS expenditures reported by states in their MLTSS data submissions, including spending on adult day care services, home delivered meals, durable medical equipment, and respite, among others. In FY 2020, these expenditures accounted for 8.4 percent of all HCBS expenditures. For further details on states' other HCBS MLTSS expenditures, see Appendix B.

[21] 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 2020. Although New Jersey and Rhode Island did not have any section 1915(c) waiver programs in FY 2020, 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 because of their inclusion under line 19A.

- Services in the **Other** category cover an aggregate of eight HCBS services—case management, other HCBS LTSS, Health Homes, MFP, PACE, private duty nursing, section 1915(i) State Plan HCBS, and section 1915(j) expenditures—which together accounted for 8.3 percent of total HCBS expenditures. Other HCBS LTSS includes state-reported section 1115 demonstration expenditures for Vermont that do not fit into one of the existing service categories, such as 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, other HCBS LTSS, Health Homes, MFP, PACE, private duty nursing, section 1915(i) State Plan HCBS, and section 1915(j) expenditures, refer to Tables D.23, D.19, D.26, D.35, D.24, D.25, D.29, and D.34, respectively.

Figure VI.1. Distribution of Medicaid HCBS expenditures by service category, FY 2020



Sources: Mathematica's analysis of FY 2020 CMS-64 data, state-submitted MLTSS data, and MFP worksheets for proposed budgets.

Notes: We excluded Texas and Virginia because of missing data. Because California, Massachusetts, and Pennsylvania were unable to report HCBS MLTSS data at the service category level, their HCBS MLTSS expenditures are excluded from this figure; however, their HCBS FFS expenditures are included in the calculations for this figure because they were available at the service category level. The other HCBS MLTSS 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, other HCBS LTSS, and MFP expenditures. Other HCBS LTSS 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; FFS = fee for service; 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

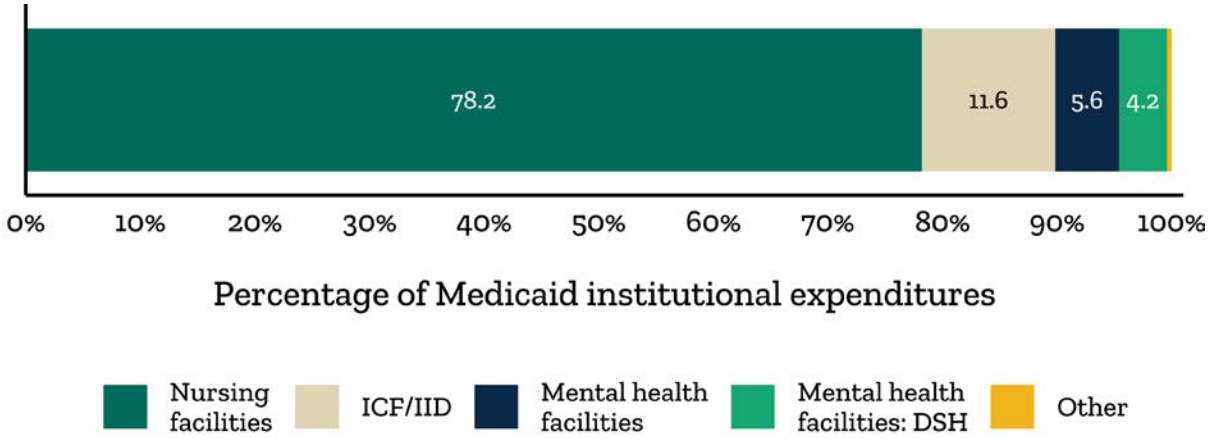
- The majority of institutional LTSS expenditures were spent on **nursing facility services**, representing 78.2 percent of such expenditures in FY 2020 (Figure VI.2). Delaware had the largest increase in

nursing facility expenditures compared to FY 2019, though this is largely due to the inclusion of Delaware's MLTSS expenditures in FY 2020 (the state's MLTSS expenditures were missing in FY 2019). Other states with large increases in expenditures during this period include Iowa, Illinois, and New Mexico. Appendix Table D.7 includes a full list of state nursing facility service expenditures.

- **ICF/IID** accounted for 11.6 percent of institutional LTSS spending in FY 2020. Nevada and North Dakota both saw increases in expenditures of more than 50 percent compared to FY 2019, while Montana had a 67.8 percent decrease during this time. Appendix Table D.9 includes a full list of state ICF/IID expenditures.
- **Mental health facility**[22] expenditures accounted for 5.6 percent of total institutional LTSS spending in FY 2020 while **mental health facility disproportionate share hospital (DSH)** payments accounted for 4.2 percent of total institutional LTSS spending. National mental health facility expenditures increased 18.5 percent between FY 2019 and 2020. In nine states—Kansas, Colorado, Ohio, District of Columbia, Illinois, Arkansas, Kentucky, Massachusetts, and Rhode Island—mental health facility expenditures more than doubled within that period. Mental health facility DSH payments also increased between FY 2019 and 2020, growing 13.1 percent. Tables D.11 and D.12 include a full list of mental health facility expenditures and mental health facility DSH payments, respectively.
- The **Other** category is an aggregate of other institutional LTSS and other institutional MLTSS expenditures, which together accounted for less than 1 percent of all institutional LTSS expenditures in FY 2020. Other institutional LTSS includes state-reported section 1115 demonstration expenditures for Vermont that do not fit into one of the existing service categories, such as expenditures for services for substance use disorder. Other institutional MLTSS is comprised of institutional LTSS expenditures reported by states in their MLTSS data submissions that do not fit into one of the existing service categories. Six states (Arizona, Arkansas, Delaware, 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. For further details on state reporting of these categories, see Appendix B. In Appendix D, Tables D.13 and D.14 include a full list of other institutional LTSS and other institutional MLTSS expenditures, respectively.

[22] Mental health facility expenditures include inpatient psychiatric hospital services for individuals younger than 21 and institutions for mental diseases (IMD) services for individuals ages 65 and older.

Figure VI.2. Distribution of Medicaid institutional LTSS expenditures by service category, FY 2020



Sources: Mathematica's analysis of FY 2020 CMS-64 data and state-submitted MLTSS data.

Notes: We excluded Texas and Virginia because of missing data. Because California and Massachusetts were unable to report institutional MLTSS data at the service category level, their institutional MLTSS expenditures are excluded from this figure; however, their institutional FFS expenditures are included in the calculations for this figure because they were available at the service category level. The other category shown in the figure is an aggregate of other institutional LTSS and other institutional MLTSS, which represents 0.4 percent of institutional LTSS expenditures. Other institutional MLTSS includes other relevant institutional expenditures reported by states within their MLTSS data submissions, such as nursing home supplemental funds and short-term residential care at behavioral health facilities. Other institutional LTSS 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; FFS = fee for service; FY = fiscal year; ICF/IID = intermediate care facility 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 2020, all states except Arizona, New Jersey, Rhode Island, and Vermont operated at least one section 1915(c) waiver program.[23]

At the time this report was prepared, complete CMS 372 data for waiver programs in 2020 were unavailable, so we used 2019 data to identify the LTSS populations served by section 1915(c) waiver programs. In 2019, 47 states operated a total of 262 section 1915(c) waiver programs across all LTSS populations (Mann et al. 2023). The majority of waiver programs served two populations: people with ASD, ID, or DD (43 percent) and older adults, people with physical disabilities, or people with other disabilities (29 percent).

- 113 programs in 46 states served people with ASD, ID, or DD
- 76 programs in 40 states served older adults, people with physical disabilities, or people with other disabilities
- 11 programs in 10 states served people with serious mental health conditions or with serious emotional disturbance (SED)[24]
- 25 programs in 17 states served people who are medically fragile or technologically dependent (TD)
- 5 programs in 5 states served people with HIV/AIDS
- 22 programs in 18 states served people with brain injuries
- 10 programs in 7 states served multiple subgroups

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

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

Total expenditures FY 2008 to 2020. Expenditures for section 1915(c) waiver programs from the CMS-64 data in FY 2020 totaled $53.8 billion, 4 percent higher than the $51.8 billion spent in FY 2019 (Figure VII.1 and Appendix Table D.16) and continuing the general increase in waiver program expenditures

[23] 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 2020. Although New Jersey and Rhode Island did not have any section 1915(c) waiver programs in FY 2020, 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 because of their inclusion under line 19A.

[24] People with substance use disorder (SUD) may be included in these programs.

since FY 2008.[25] However, inflation-adjusted expenditures indicate a 1 percent decline in total expenditures in FY 2020 compared with FY 2019.[26]

The majority of states (34 of the 49 with any section 1915(c) waiver program expenditures in FY 2020) had increases in section 1915(c) waiver program expenditures between FY 2019 and 2020.[27] Six states, Michigan, Rhode Island, California, Montana, Washington, and Nevada, had greater than 20 percent increases in expenditures from FY 2019 to 2020.[28] Four states, Colorado, Pennsylvania, Arkansas, and Kansas, also had large declines (greater than 20 percent) in section 1915(c) waiver program expenditures from FY 2019 to 2020.

Sixteen states made up approximately 75 percent of total section 1915(c) waiver program expenditures in FY 2020: New York, California, Ohio, Pennsylvania, Minnesota, Virginia, Massachusetts, New Jersey, Connecticut, Georgia, Indiana, Illinois, Florida, Maryland, Texas, and Missouri. Two states—New York and California—spent between $4.9 billion and $8 billion in waiver program expenditures, together accounting for almost 25 percent of total national section 1915(c) waiver program expenditures in FY 2020.

Annual expenditures rate of change FY 2009 to 2020. The rate of expenditure growth for section 1915(c) waiver programs from FY 2009 to 2020 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. Expenditures declined in FY 2017 compared with FY 2016 (not adjusted and inflation adjusted) but increased again from FY 2018 to 2019. Although expenditures grew in FY 2020 relative to FY 2019 (4 percent not adjusted), there was a small decline in inflation-adjusted expenditures between these years.[30]

[25] We included section 1915(c) waiver program expenditures for Texas and Virginia in FY 2020 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) 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 the CMS-64 under the managed care organization (MCO) line items.

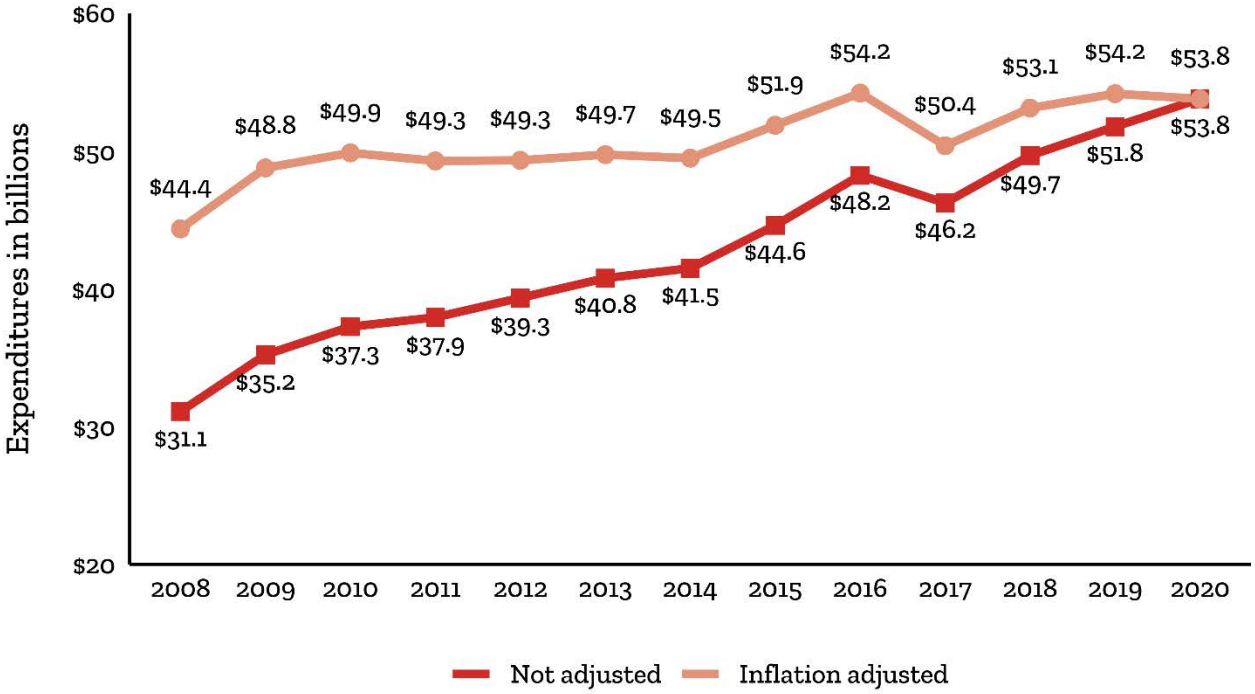
[27] Some of the changes from year to year in particular states appear to be data reporting anomalies and not real changes. Data limitations that we were able to verify are described in Appendix B.

[28] Although New Jersey and Rhode Island did not have any section 1915(c) waiver programs in FY 2020, 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 because of their inclusion under line 19A.

[29] We included section 1915(c) waiver program expenditures for Texas and Virginia in FY 2020 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 2020

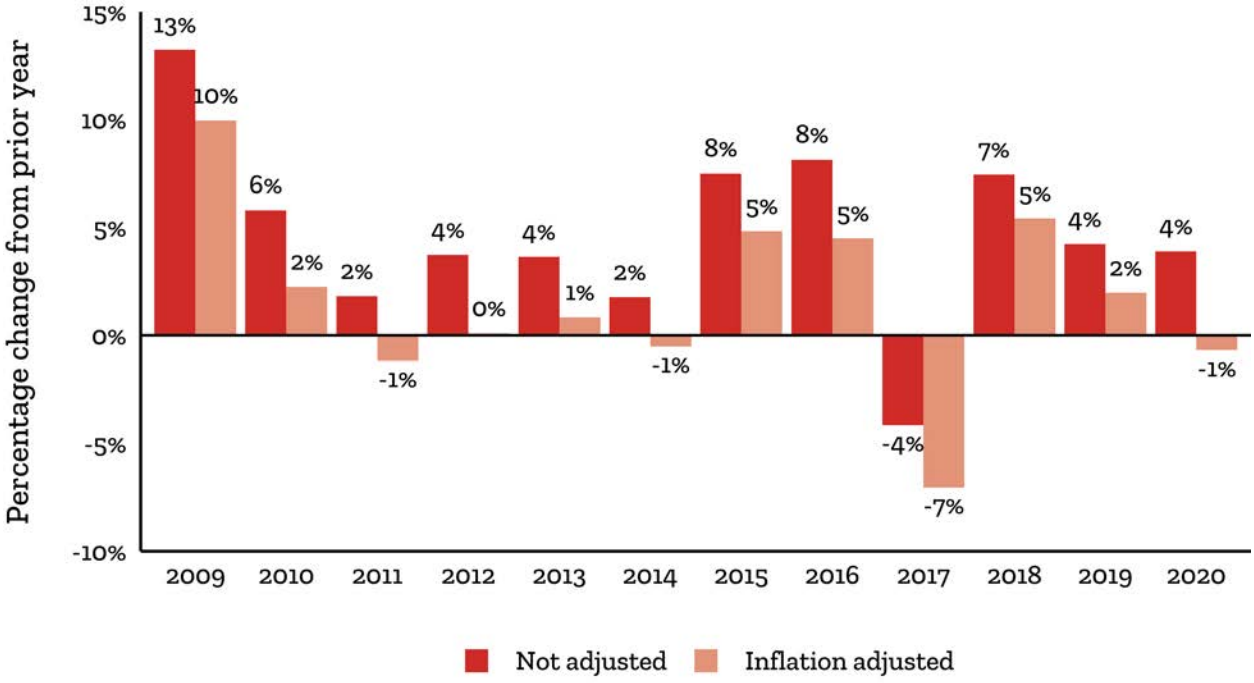


Sources: Mathematica's analysis of FY 2020 CMS-64 and CMS 372 data. Data for FY 2008 to 2014 were obtained from Wenzlow et al. (2016), data for FY 2015 and 2016 were obtained from an unpublished version of the FY 2017 1915(c) Expenditure Report, data for FY 2017 and 2018 were obtained from Murray et al. (2021a), and data for FY 2019 were obtained from Murray et al. (2021b).

Notes: We calculated inflation-adjusted expenditures by adjusting expenditures to FY 2020 dollars using the medical CPI. We included California, Illinois, New York, and Virginia in FY 2017 and 2018, California, Delaware, Illinois, and Virginia in FY 2019, and Texas and Virginia in FY 2020 based on CMS-64 data. 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. There were several major changes to the methodology in FY 2017 that impact the interpretation of trending to prior years. 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 2020



Sources: Mathematica's analysis of FY 2020 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, data for FY 2017 and 2018 were obtained from Murray et al. (2021a), and data for FY 2019 were obtained from Murray et al. (2021b).

Notes: We calculated inflation-adjusted expenditures by adjusting expenditures to FY 2020 dollars using the medical CPI. We included California, Illinois, New York, and Virginia in FY 2017 and 2018, California, Delaware, Illinois, and Virginia in FY 2019, and Texas and Virginia in FY 2020 based on CMS-64 data. 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. There were several major changes to the methodology in FY 2017 that impact the interpretation of trending to prior years. 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.

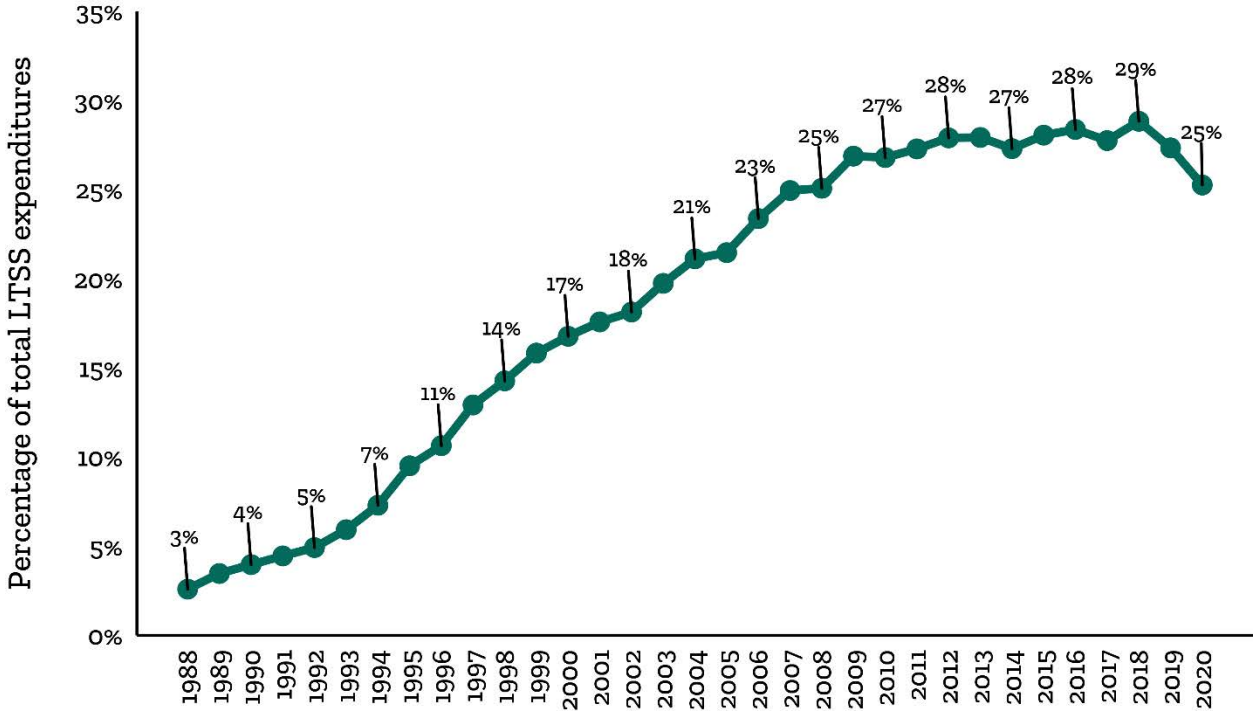
Section 1915(c) waiver program spending as a share of total Medicaid LTSS. Section 1915(c) waiver program spending represented 25 percent of total Medicaid LTSS in FY 2020 (Figure VII.3).[31] The share of expenditures on section 1915(c) waiver programs of total Medicaid LTSS expenditures grew rapidly from FY 1988 until around FY 2009, when it reached 27 percent, fluctuated from 27 to 29 percent until FY 2019, and declined slightly to 25 percent in FY 2020.

Overall, section 1915(c) waiver program expenditures accounted for 43.1 percent of total HCBS expenditures in FY 2020 (Figure VI.1), a decline from 50.7 percent in FY 2019. As in recent years, section 1915(c) waiver programs continue to play a major role in HCBS delivery across states, but states

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

are increasingly using other Medicaid authorities to deliver HCBS, including section 1115 demonstrations, and section 1915(i) and section 1915(k) State Plan HCBS options. The share of section 1915(c) waiver program expenditures out of total HCBS expenditures varies widely 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.

Figure VII.3. Medicaid section 1915(c) waiver program expenditures as a percentage of total Medicaid LTSS, FY 1988 to 2020



Sources: Mathematica's analysis of FY 2020 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 data for FY 2017 and 2018 were obtained from Murray et al. (2021a), and data for FY 2019 were obtained from Murray et al. (2021b).

Notes: We excluded California, Illinois, New York, and Virginia from FY 2017 and 2018 calculations; California, Delaware, Illinois, and Virginia from FY 2019 calculations; and Texas and Virginia from FY 2020 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.

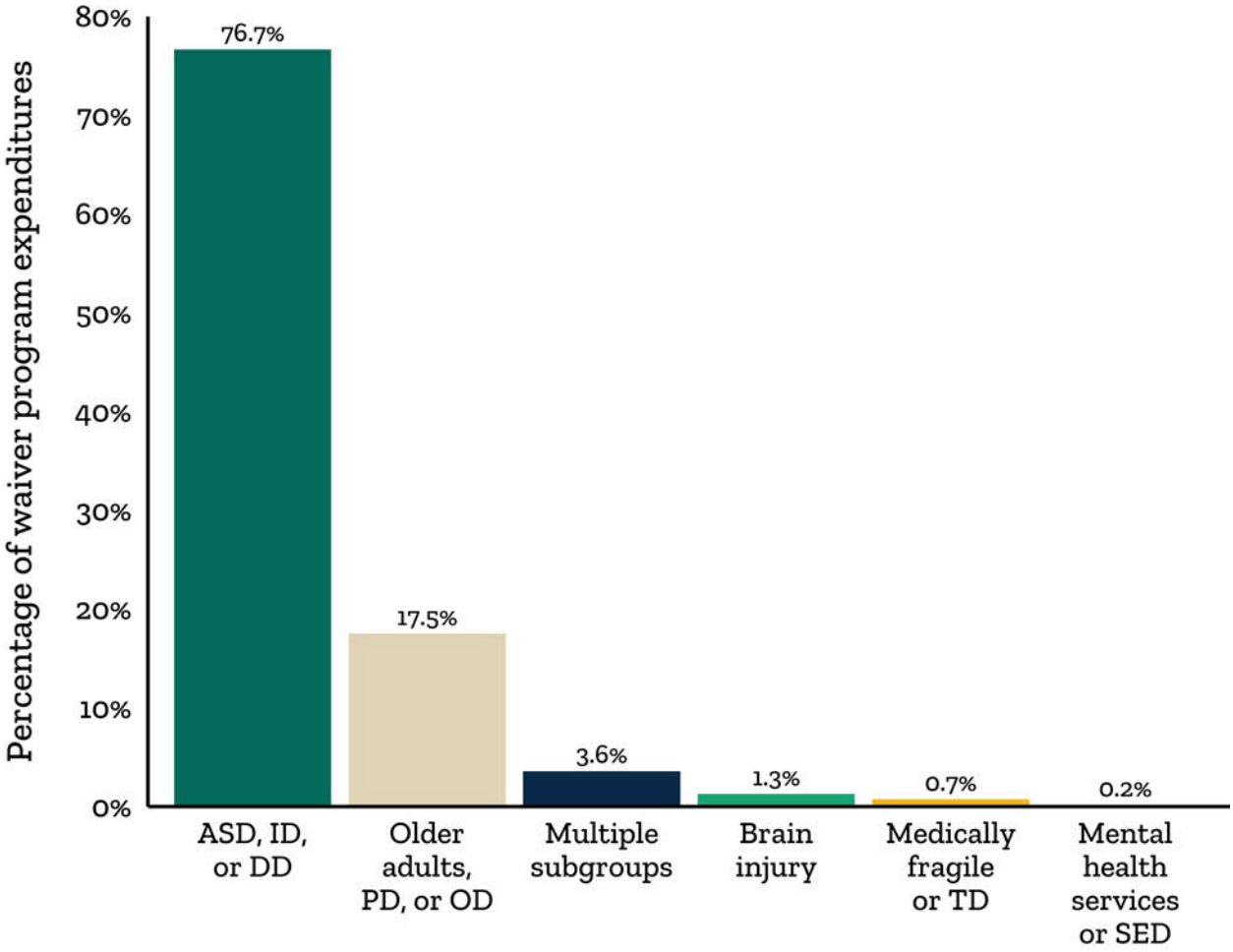
B. Trends in section 1915(c) waiver program expenditures for LTSS populations

Section 1915(c) waiver program expenditures for each of the major LTSS 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 76.7 percent of the $53.8 billion in total waiver program expenditures in FY 2020. 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, people with physical disabilities, or people with other disabilities accounted for about 17.5 percent of total section 1915(c) waiver program expenditures nationally in FY 2020. In total, waiver program expenditures for these two groups—people with ASD, ID, or DD and older adults, people with physical disabilities, or people with other disabilities—made up around 94.2 percent of all section 1915(c) waiver program expenditures in FY 2020.

Compared with these two LTSS populations, fewer waiver programs served other LTSS populations, and these other waiver programs collectively accounted for about 5.8 percent of waiver program spending. Waiver programs for the multiple subgroups population accounted for 3.6 percent of total waiver program expenditures in FY 2020. Waiver programs for people with brain injuries made up 1.3 percent of total expenditures in FY 2020. The remaining waiver programs for people who are medically fragile or technologically dependent, for with SED or accessing mental health services, and for those with HIV/AIDS accounted for 0.7, 0.2, and less than 0.1 percent of all section 1915(c) waiver program expenditures, respectively, in FY 2020.

Figure VII.4. Percentage of total Medicaid section 1915(c) waiver program expenditures by LTSS population, FY 2020



Sources: Mathematica's analysis of FY 2020 CMS-64 and CMS 372 data.

Figure VII.4 (*continued*)

Notes: We included Texas 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 the FY 2020 CMS-64 data, but these are not counted in the totals by population because they cannot be accurately attributed to specific population groups. 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 = people with other disabilities; PD = people with physical disabilities; SED = serious emotional disturbance; TD = technologically dependent.

VIII. Conclusions

National Medicaid LTSS expenditures grew from $162.1 billion in FY 2019 to $199.4 billion in FY 2020, although there was considerable variation at the state and service category levels, with some expenditures even decreasing. The PHE, which began halfway through FY 2020, substantially affected the people who use LTSS and LTSS providers, which in turn affected FY 2020 spending patterns. However, the extent to which the PHE impacted FY 2020 expenditures is unclear and difficult to disentangle from other factors that impacted FY 2020 spending, including more complete MLTSS data in FY 2020, changes in how some states report their MLTSS data, and state-level LTSS program changes (refer to Appendices A and B for more information). Over the next year, CMS will continue to assess the impact of the PHE on expenditures and access to HCBS.

Medicaid LTSS expenditures are almost certain to continue shifting in future report years as we analyze more expenditure data coinciding with the same period as the PHE. Federal and state policy developments that resulted from the PHE are also likely to affect Medicaid LTSS spending in FY 2021 and beyond, most prominently section 9817 of the American Rescue Plan Act of 2021 (ARP). Signed into law on March 11, 2021, ARP section 9817 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 (U.S. Congress 2021). States originally had from April 1, 2021 through March 31, 2024 to use the available state funds, attributable to the ARP's increased FMAP, on activities to "implement, or supplement the implementation of, one or more activities to enhance, expand, or strengthen" Medicaid HCBS (Centers for Medicare & Medicaid Services 2021), but this was extended through March 31, 2025.[32] Initial estimates show that states plan to spend between $32 million and $4.6 billion on activities under ARP section 9817, which would increase overall HCBS spending by about $25 billion (Centers for Medicare & Medicaid Services n.d.a.). For comparison, this is about 20 percent of the total $124.6 billion HCBS expenditures in FY 2020, and would therefore substantially alter Medicaid LTSS spending and rebalancing ratios in future report years. We will continue to explore these changes at the service category, state, and national levels in future reports.

[32] For more information, see https://www.hhs.gov/about/news/2022/06/03/hhs-extends-american-rescue-plan-spending-deadline-states-expand-enhance-home-community-based-services-people-medicaid.html.

References

Centers for Medicare & Medicaid Services. "American Rescue Plan Act of 2021 (ARP) Section 9817 Overview." Washington, DC: Centers for Medicare & Medicaid Services, U.S. Department of Health and Human Services, n.d.a. Available at https://www.medicaid.gov/medicaid/home-community-based-services/downloads/arp-sec9817-overview-infographic.pdf. Accessed May 17, 2022.

Centers for Medicare & Medicaid Services. "Implementation of American Rescue Plan Act of 2021 Section 9817: Additional Support for Medicaid Home and Community-Based Services During the COVID-19 Emergency." Washington, DC: Centers for Medicare & Medicaid Services, U.S. Department of Health and Human Services, May 13, 2021. Available at https://www.medicaid.gov/medicaid/home-community-based-services/guidance/strengthening-and-investing-home-and-community-based-services-for-medicaid-beneficiaries-american-rescue-plan-act-of-2021-section-9817-spending-plans-and-narratives/index.html. Accessed May 24, 2021.

Centers for Medicare & Medicaid Services. "Long-Term Services & Supports." Washington, DC: Centers for Medicare & Medicaid Services, U.S. Department of Health and Human Services, n.d.b. Available at https://www.medicaid.gov/medicaid/long-term-services-supports/index.html. Accessed April 21, 2022.

Chidambaram, P. "Key Questions About the Impact of Coronavirus on Long-Term Care Facilities Over Time." San Francisco, CA: KFF, September 1, 2020. Available at https://www.kff.org/report-section/key-questions-about-the-impact-of-coronavirus-on-long-term-care-facilities-over-time-issue-brief/. Accessed May 3, 2022.

Corallo, B., and S. Moreno. "Analysis of Recent National Trends in Medicaid and CHIP Enrollment." San Francisco, CA: KFF, May 2, 2022. Available at https://www.kff.org/coronavirus-covid-19/issue-brief/analysis-of-recent-national-trends-in-medicaid-and-chip-enrollment/. Accessed May 10, 2022.

Dolan, R., M. Musumeci, J. Tolbert, and R. Rudowitz. "Medicaid Maintenance of Eligibility (MOE) Requirements: Issues to Watch." San Francisco, CA: KFF, December 17, 2020. Available at https://www.kff.org/medicaid/issue-brief/medicaid-maintenance-of-eligibility-moe-requirements-issues-to-watch/. Accessed May 10, 2022.

Eiken, S., K. Sredl, B. Burwell, and A. Amos. "Medicaid Expenditures for Long-Term Services and Supports in FY 2016." Cambridge, MA: IBM Watson, May 2018. Available at https://www.medicaid.gov/sites/default/files/2019-12/ltssexpenditures2016.pdf. Accessed July 7, 2020.

Houser, A., W. Fox-Grage, and K. Ujvari. "Across the States: Profiles of Long-Term Services and Supports." Washington, DC: AARP Public Policy Institute, August 2018. Available at https://www.aarp.org/content/dam/aarp/ppi/2018/08/across-the-states-profiles-of-long-term-services-and-supports-full-report.pdf. Accessed May 4, 2021.

Mann, D., J. Ross, and A. Wysocki. "Medicaid Section 1915(c) Waiver Programs Annual Expenditures and Beneficiaries Report: Analysis of CMS 372 Annual Reports, 2018–2019." Chicago, IL: Mathematica, June 9, 2023.

Medicaid and CHIP Payment and Access Commission. "Functional Assessments for Long-Term Services and Supports." Washington, DC: Medicaid and CHIP Payment and Access Commission, June 2016. Available at https://www.macpac.gov/wp-content/uploads/2016/06/Functional-Assessments-for-Long-Term-Services-and-Supports.pdf. Accessed May 4, 2021.

Medicaid and CHIP Payment and Access Commission. "MACStats: Medicaid and CHIP Data Book." Washington, DC: Medicaid and CHIP Payment and Access Commission, December 2020. Available at https://www.macpac.gov/wp-content/uploads/2020/12/MACStats-Medicaid-and-CHIP-Data-Book-December-2020.pdf. Accessed May 4, 2021.

Moser, W., and C. Kelly. "Introducing the Long-Term Care COVID Tracker: Tracing COVID-19's Dramatic Toll on a Uniquely Vulnerable Population." The COVID Tracking Project at The Atlantic, September 1, 2020. Available at https://covidtracking.com/analysis-updates/long-term-care. Accessed May 9, 2022.

Murray, C., A. Tourtellotte, D. Lipson, and A. Wysocki. "Medicaid Long-Term Services and Supports Annual Expenditures Report: Federal Fiscal Years 2017 and 2018." Chicago, IL: Mathematica, January 7, 2021a. Available at https://www.medicaid.gov/medicaid/long-term-services-supports/downloads/ltssexpenditures-2017-2018.pdf. Accessed May 4, 2021.

Murray, C., A. Tourtellotte, D. Lipson, and A. Wysocki. "Medicaid Long-Term Services and Supports Annual Expenditures Report: Federal Fiscal Year 2019." Chicago, IL: Mathematica, December 9, 2021b. Available at https://www.medicaid.gov/medicaid/long-term-services-supports/downloads/ltssexpenditures2019.pdf. Accessed April 22, 2022.

Musumeci, M., R. Dolan, and M. Guth. "State Actions to Sustain Medicaid Long-Term Services and Supports During COVID-19." San Francisco, CA: KFF, August 26, 2020. Available at https://www.kff.org/medicaid/issue-brief/state-actions-to-sustain-medicaid-long-term-services-and-supports-during-covid-19/. Accessed May 3, 2022.

O'Malley Watts, M., M. Musumeci, and M. Ammula. "Medicaid Home & Community-Based Services: People Served and Spending During COVID-19." San Francisco, CA: KFF, March 4, 2022. Available at https://www.kff.org/report-section/medicaid-home-community-based-services-people-served-and-spending-during-covid-19-issue-brief/. Accessed April 21, 2022.

State Health and Value Strategies. "Medicaid Enrollment Trends During the COVID-19 Pandemic." March 2022. Available at https://www.shvs.org/wp-content/uploads/2022/03/Medicaid-Enrollment-Trends-During-the-COVID-19-Pandemic.pdf. Accessed May 10, 2022.

U.S. Census Bureau. "Annual Estimates of the Resident Population for the United States, Regions, States, District of Columbia and Puerto Rico: April 1, 2020 to July 1, 2021 (NST-EST2021-POP)." Washington, DC: Population Division, U.S. Census Bureau, December 2021. Available at https://www.census.gov/data/tables/time-series/demo/popest/2020s-national-total.html. Accessed April 2022.

U.S. Congress. "American Rescue Plan Act of 2021." Pub. Law 117-2. H.R. 1319. March 11, 2021.

Walker, L., and J. Accius. "Access to Long-Term Services and Supports: A 50-State Survey of Medicaid Financial Eligibility Standards." Washington, DC: AARP Public Policy Institute, September 2010. Available at https://assets.aarp.org/rgcenter/ppi/ltc/i44-access-ltss_revised.pdf. Accessed May 4, 2021.

Wenzlow, A., S. Eiken, and K. Sredl. “Improving the Balance: The Evolution of Medicaid Expenditures for Long-Term Services and Supports (LTSS), FY 1981–2014.” Ann Arbor, MI: Truven Health Analytics, June 3, 2016. Available at https://www.medicaid.gov/sites/default/files/2019-12/evolution-ltss-expenditures.pdf. Accessed July 7, 2020.

Yi, S.H., I. See, A.G. Kent, N. Vlachos, J.C. Whitworth, K. Xu, K.A. Gouin, et al. “Characterization of COVID-19 in Assisted Living Facilities — 39 States, October 2020.” Washington, DC: Centers for Disease Control and Prevention, U.S. Department for Health and Human Services. In *Morbidity and Mortality Weekly Report*, vol. 69, no. 46, November 20, 2020, pp. 1730–1735. http://doi.org/10.15585/mmwr.mm6946a3. Accessed May 3, 2022.

Appendix A

Data Sources and Methods

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 population groupings (Murray et al. 2021a). These changes potentially impact the interpretation of trending between FY 2017–2020 and prior years. For more detailed information on these changes, refer to Appendix A in the FY 2017 and 2018 report.

Starting in FY 2019, we switched to using the CMS-64 Waiver Expenditures by COS report to calculate section 1915(c) waiver program expenditures, added several new service categories, streamlined the MLTSS state data request, and removed the LTSS population subgroups reporting from the total expenditure and percentage of LTSS expenditures for HCBS calculations (Murray et al. 2021b). These changes may also impact the interpretation of trending between FY 2019–2020 and prior years. For more detailed information on these changes, refer to Appendix A in the FY 2019 report.

The FY 2020 methodology largely mirrors the methodology used the previous report year with two minor exceptions to the MLTSS state-reported data collection: we updated the guidance on how states should report their home health expenditures and we did not collect hospice expenditures.

Updates to state reporting of MLTSS home health expenditures. In prior years, states had questions about how to report their home health expenditures when this benefit is covered under their Medicaid managed care acute/physical benefit package rather than under the MLTSS component of their plan for MLTSS enrollees. This year, we updated the guidance to clarify that states should report home health expenditures that are covered under either their Medicaid managed care acute/physical benefit package or under the MLTSS component of their plan for MLTSS enrollees. We are aware of at least one state for which this change will impact home health expenditure trends (see Tennessee state notes in Appendix B), however it may impact other states as well.

Removal of hospice expenditures from the MLTSS state-reported data collection. In FY 2019, we considered including hospice as an HCBS LTSS expenditure category and asked that states report hospice expenditures by MLTSS programs in their state MLTSS submission. We ultimately did not include hospice as an HCBS LTSS expenditure category and instead reported hospice as a non-LTSS category (see Appendix G in the FY 2019 report). In calculating the FY 2019 hospice expenditures, we combined the MLTSS hospice expenditures with the FFS hospice expenditures from the CMS-64 to report total hospice expenditures. To ease burden for FY 2020, we removed hospice from the MLTSS state-reported data collection and are now only using FFS hospice expenditures from the CMS-64 to report this category. Because of this change, some states may have a decrease in hospice expenditures between FY 2019 and 2020 in Appendix G.

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 expenditures, for the state's Medicaid costs.[33] 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.[34]

Data from the FY 2020 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 an 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 2018 section 1915(c) waiver program expenditure data were pulled from the FY 2017 and 2018 report (Murray et al. 2021a); the CMS-64 Schedule A Waiver Report data were used to calculate these expenditures. For more detailed information on the Schedule A Waiver Report, refer to Appendix A in Murray et al. (2021a).

Starting with the FY 2019 data, we switched to using the CMS-64 Waiver Expenditures by COS to calculate section 1915(c) waiver program expenditures. This 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.

[33] For reference, the CMS-64 forms used for state reporting are available at https://www.medicaid.gov/medicaid/downloads/chip-cms64-expenditure-forms.pdf.

[34] 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.

Data from FY 2019 and 2020 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.

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 2020 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.[35] 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.[36,37] 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.

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 2018	FY 2019	FY 2020
Arizona	Arizona Long-Term Care System (ALTCS)	X	X	X
Arkansas	Provider-led Arkansas Shared Savings Entity (PASSE)	n.a.	NA	X
California	Geographic Managed Care (GMC) Model (excluding Coordinated Care Initiative (CCI))	NA	NA	X
California	Two-Plan Model (excluding CCI)	NA	NA	X
California	Senior Care Action Network (SCAN)	NA	NA	X
California	County Organized Health Systems (COHS) (excluding CCI)	NA	NA	X
California	CalMediConnect (CMC)	NA	NA	X
California	CCI Duals (Non-CMC)	NA	NA	X
Delaware	Diamond State Health Plan-Plus	X	NA	X
Florida	Long-Term Care Program	X	X	X
Florida	Managed Medical Assistance Program	NA	NA	X
Hawaii	Hawaii QUEST Integration	X	X	X
Iowa	IA Healthlink	X	X	X
Idaho	Medicare-Medicaid Coordinated Plan	X	X	NA
Idaho	Medicaid Plus (IMPlus)	n.a.	X	NA

[35] Other relevant institutional services that may fall into the Other Institutional MLTSS category include expenditures for short-term residential care at behavioral health facilities and nursing home supplemental funds.

[36] Other relevant HCBS services that may fall into the Other HCBS MLTSS 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.

[37] 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 2020 and removed the section 1915(c) and non–1915(c) distinctions.

State	Program	FY 2018	FY 2019	FY 2020
Illinois	HealthChoice Illinois - MLTSS	NA	NA	X
Illinois	IL Medicare-Medicaid Alignment Initiative	NA	NA	X
Illinois	YouthCare	n.a.	n.a.	X
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
North Carolina	Traumatic Brain Injury (TBI) Waiver	NA	NA	X
New Jersey	Fully Integrated Dual Eligible Special Needs Plan (FIDE SNP)	NA	X	X
New Jersey	Non-FIDE SNP NJ FamilyCare	X	X	X
New Mexico	Centennial Care	X	X	X
New York	Fully Integrated Duals Advantage (FIDA)	NA	X	X
New York	Fully Integrated Duals Advantage - Intellectual and Developmental Disabilities (FIDA-IDD)	NA	X	X
New York	MLTC Partial Capitation (MLTC)	NA	X	X
New York	Medicaid Advantage Plus (MAP)	NA	X	X
Ohio	MyCare Ohio Opt-out	X	X	X
Ohio	MyCare Ohio	X	X	X
Pennsylvania	Adult Community Autism Program	X	NA	X
Pennsylvania	Community HealthChoices	X	X	X
Rhode Island	Rhody Health Options I	X	n.a.	n.a.
Rhode Island	RI Integrated Care Initiative	X	X	X
South Carolina	Healthy Connections Prime	NA	X	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	NA
Texas	STAR+PLUS	X	X	NA
Texas	STAR Health	X	X	NA
Texas	Texas Dual Eligible Integrated Care	X	X	NA
Virginia	Commonwealth Coordinated Care Plus	NA	NA	NA
Vermont	Global Commitment to Health Demonstration	X	NA	X
Wisconsin	Wisconsin Partnership Program	X	X	X
Wisconsin	Family Care	X	X	X

Notes: NA indicates that data were not available for a program that was active during the report year, while n.a. indicates that data were not collected because the program was not active during the report year. We

collected state-submitted PACE data from Florida, Kansas, Massachusetts, North Carolina, New Mexico, Ohio, Pennsylvania, Tennessee, and Wisconsin for FY 2018–2020; Michigan and Texas for FY 2018 and 2019; New York and South Carolina for FY 2019 and 2020; and Arkansas, Delaware, Iowa, and Rhode Island for FY 2020. All other PACE data came from the CMS-64 FMR Net Services report. For FY 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 and 2020. Vermont was categorized as having an MLTSS program in FY 2018 because data need 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 and 2020 labeling for Vermont has been updated so it is not listed as an MLTSS program. In addition, new service categories (Other HCBS LTSS and Other Institutional LTSS) were added in FY 2019 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; 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 year 2019 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 2020, we summed the appropriate calendar year quarters from 2019 to 2020 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, most of the FY 2020 MFP data shown in this report include projected expenditures.

U.S. Census Bureau data

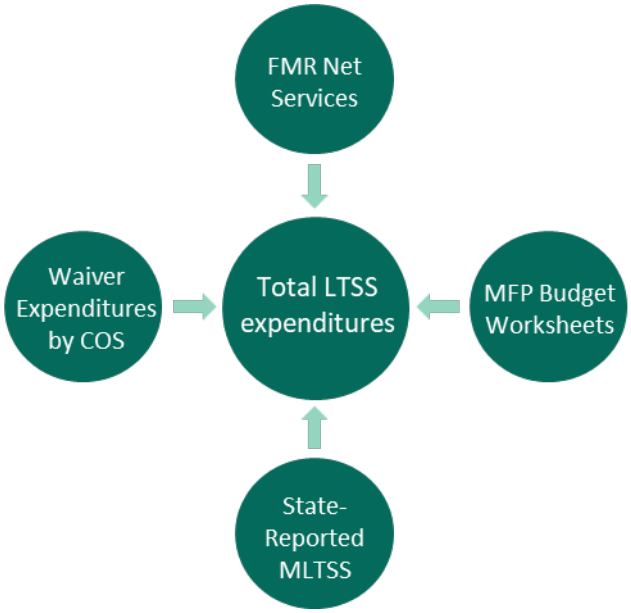
To calculate expenditures per state resident, we extracted the state-level population estimates from the U.S. Census Bureau. Each year, the U.S. Census Bureau publishes currently residing population estimates calculated as of July 1 of that year. To calculate the estimates, the U.S. Census Bureau starts 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).[38] We downloaded the annual population table that includes yearly estimates for all states and the District of Columbia from 2020 to 2021. For this report, we applied the 2020 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 2020: 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.

Figure A.1. Data flow diagram of FY 2020 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 2020, 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 prior year data—including the exclusion logic used for states with missing or aggregate MLTSS data, how New Hampshire's section 1915(c) waiver program 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 reports (Murray et al. 2021a, Murray et al. 2021b).

Modifications to standard expenditure aggregation

Exclusion of states with missing or aggregate MLTSS data

Three states could not submit MLTSS expenditure data in FY 2020 (Idaho, Texas, and Virginia). Idaho's MLTSS program 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 two states, the MLTSS programs account for such a large

[38] For detailed methodology on how the Census Bureau estimates annual population, see Methodology for the United States Population Estimates: Vintage 2021 at https://www2.census.gov/programs-surveys/popest/technical-documentation/methodology/2020-2021/methods-statement-v2021.pdf.

share of overall LTSS expenditures that it would not have been possible to reliably calculate the percentage of HCBS out of total LTSS expenditures.[39] Therefore, we excluded Texas 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 2020 MLTSS data and only reported total institutional MLTSS and/or total HCBS MLTSS expenditures: California and Massachusetts did not provide service category breakouts for their total institutional MLTSS or total HCBS MLTSS expenditures; and Pennsylvania did not provide HCBS MLTSS service category breakouts for its Community HealthChoices program, which accounted for the majority of the state's MLTSS expenditures, but did provide HCBS MLTSS service category breakouts for the Adult Community Autism Program. Therefore, the sum of the FY 2020 institutional service categories shown in the appendix tables will not equal the FY 2020 total institutional expenditures for California and Massachusetts (nor will the institutional MLTSS service categories sum to the total institutional MLTSS expenditures). Likewise, the sum of the FY 2020 HCBS service categories shown in the appendix tables will not equal the FY 2020 total HCBS expenditures for California, Massachusetts, and Pennsylvania (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 2020: nursing facilities (Table D.7), 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.

[39] Based on the last published report (Murray et al. 2021b), Texas reported $7,068,492,401 in MLTSS expenditures (about 61 percent of its total LTSS expenditures). Based on the FY 2016 LTSS Expenditures report (Eiken et al. 2018), Virginia reported $300,057,019 in MLTSS expenditures (about 9 percent of its total LTSS expenditures). Because Virginia has had changes to their MLTSS program since FY 2016, this may be an underestimate of the potential share of LTSS in more recent years.

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

States reported HCBS service categories (personal care, home health, rehabilitative services, targeted case management, and other HCBS) into two overarching categories in FY 2018: section 1915(c) waiver program expenditures and non–section 1915(c) waiver program expenditures. Starting 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 2018 HCBS MLTSS data to the FY 2019 and 2020 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 2020

To more accurately depict long-term trends in expenditure growth from FY 2009 to 2020, we adjusted expenditures in Figures VII.1 and VII.2 for inflation based on the medical consumer price index (CPI) in 2020, obtained from the U.S. Bureau of Labor Statistics.[40] We calculated the medical CPI for the fiscal 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 2020 dollars, with *x* being a given fiscal year:

$$Expenditures_{2020} = Expenditures_x \left(\frac{CPI_{2020}}{CPI_x}\right)$$

LTSS population subgroup calculations

There are three service categories for which it is possible to map expenditures to LTSS population groups: 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 2020 to assign the populations served in each state to the appropriate LTSS 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 population group information at the waiver program level. The seven CMS 372 population groups 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.

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

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

CMS 372 population group	1915(c) target populations as reported in Appendix E
Autism, intellectual disability, or developmental 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 = people with other disabilities; PD = people with physical disabilities.

Although this year's report no longer reports total expenditure and percentage of LTSS expenditures for HCBS by LTSS population subgroups, we have included the methodology used to map LTSS service categories to population groups 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 population subgroup. The four LTSS population subgroups included older adults and people with physical or other disabilities; people with autism spectrum disorder, intellectual or developmental disabilities; people with behavioral health conditions; and multiple populations.[41]

Table A.3. FY 2017 and 2018 service categories used to define LTSS population subgroup expenditures (not used in FY 2019 or FY 2020 reports)

FY 2017 and 2018 service categories	Older adults and people with physical or other disabilities	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		

[41] For any service category intended to serve multiple LTSS targeted population subgroups, we assigned the expenditures to the multiple populations category. For instance, states use the Community First Choice section 1915(k) State Plan Option to serve all LTSS population subgroups, so we assigned this service category to the multiple populations category.

FY 2017 and 2018 service categories	Older adults and people with physical or other disabilities	People with ASD, ID, or DD	People with behavioral health conditions	Multiple populations
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 facility for individuals with intellectual disabilities; ID = intellectual disabilities; MFP = Money Follows the Person; MLTSS = managed long-term services and supports; PACE = Program of All-Inclusive Care for the Elderly.

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.	Other HCBS LTSS	Other HCBS LTSS
State-submitted MLTSS data	n.a.	Other HCBS MLTSS	Other HCBS MLTSS
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.	Other Institutional LTSS	Other Institutional LTSS
State-submitted MLTSS data	n.a.	Other Institutional MLTSS	Other Institutional MLTSS
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
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.** We corrected waiver program ID numbers to allow linkage across sources. **2.** Alabama 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 CMS-64 FMR Net Services report. This issue should be fixed in the FY 2019 and 2020 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 CMS-64 FMR Net Services report. **3.** 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 and 2020.
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 because it provides similar services to HCBS-eligible populations under a section 1115 demonstration. **State-reported MLTSS expenditures:** **1.** For FY 2018, other institutional expenditures include expenditures for dialysis, laboratory, x-ray and imaging, medical equipment and supplies, rehabilitative services, mental health facilities, and some ICF/IID services. For FY 2019 and 2020, other institutional expenditures include expenditures for short-term residential care at behavioral health facilities and some ICF/IID services. **2.** The Division of Developmental Disabilities could not break out personal care expenditures; those services are included in the other HCBS category for FY 2018–2020. **3.** Attendant care expenditures are categorized as personal care for FY 2018–2020. **4.** Expenditures for home health are specific to services provided by a nurse or aide. **5.** For FY 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 and 2020, 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. **Data anomalies or notable state trends:** **1.** State expenditure trends may vary considerably between FY 2019 and 2020 due to changes in the methodology the state used to calculate MLTSS expenditures. For their FY 2018 and 2019 MLTSS data, the state reported actual expenditures from their MCPs and from the Division of Developmental Disabilities. For FY 2020, the state calculated MLTSS expenditures based on the estimated proportion of total capitation payments (LTSS and non-LTSS costs) attributable to LTSS, which is consistent with how the vast majority of states calculate their MLTSS expenditures for this report.

State	Notes
Arkansas	**CMS-64 expenditures:** **1.** Arkansas had approved section 1915(i) State Plan HCBS program in FY 2019 and 2020 but did not report any expenditures for FY 2019 or 2020. **State-reported MLTSS expenditures:** **1.** Arkansas was unable to report FY 2019 expenditures for its MLTSS program, which was implemented March 1, 2019. **2.** For FY 2020, Arkansas reported limited nursing facility expenditures because skilled nursing facilities are an excluded service, with the exception of Limited Rehabilitation Stay. Limited Rehabilitation stay is defined as a stay in a facility-based care setting directly related to an acute medical need due to an injury or illness and of limited duration for rehabilitation purposes, including notwithstanding the limitation on skilled nursing services. **3.** Other HCBS expenditures for FY 2020 include Durable Medical Equipment (DME) - Expansion - Early and Periodic Screening, Diagnostic, and Treatment (EPSDT), prosthetic devices EPSDT, orthotic appliances EPSDT, and counseling support. **4.** Other institutional expenditures for FY 2020 include developmental rehabilitation services and rehabilitative services for persons with physical disabilities/residential rehabilitation. **5.** For FY 2018 and 2019, CMS-64 FMR Net Services data were used to report PACE expenditures. For FY 2020, state-reported MLTSS PACE expenditures were used to report PACE expenditures. **MFP:** **1.** Arkansas reported projected MFP expenditures for FY 2019 and 2020. **Data anomalies or notable state trends:** **1.** Arkansas implemented a new MLTSS program (Provider-led Arkansas Shared Savings Entity (PASSE)) on March 1, 2019. The state was unable to report FY 2019 expenditures but was able to report $754,977,464 in expenditures for FY 2020, which impacts state expenditure trends.
California	**CMS-64 expenditures:** **1.** No expenditures were reported in the FY 2018-2020 CMS-64 waiver report for waiver number 1166 (effective date 7/1/2018). **2.** California 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 CMS-64 FMR Net Services report. This issue should be fixed in the FY 2019 and 2020 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 CMS-64 FMR Net Services report. **3.** California reported $0 in Health Home SPA expenditures in FY 2018 even though one of the state's Health Home SPAs went into effect in July 2018. **4.** For FY 2018-2020, CMS-64 FMR Net Services data were used to report PACE expenditures as the state did not report MLTSS PACE expenditures. **State-reported MLTSS expenditures:** **1.** California was unable to report expenditures for its MLTSS and FAI programs for FY 2018 and 2019. **2.** For FY 2020, California did not provide institutional nor HCBS category of service breakouts and instead only reported total institutional, total HCBS, and total MLTSS expenditures. **MFP:** **1.** California reported projected MFP expenditures for FY 2019 and 2020. **Data anomalies or notable state trends:** **1.** State expenditure trends may vary considerably between FY 2018 and 2020 due to MLTSS data availability. California was unable to report expenditures for its MLTSS and FAI programs

State	Notes
	for FY 2018 and 2019, but was able to report $5,252,744,000 in MLTSS expenditures for FY 2020. **2.** California's FY 2020 MLTSS data includes expenditures for all Medicaid managed care enrollees in the programs the state reported. Because most states only reported MLTSS expenditures for MLTSS enrollees in their relevant programs, California may be overestimating their FY 2020 MLTSS expenditures compared to other states.
Colorado	**CMS-64 expenditures:** **1.** We corrected waiver program ID numbers to allow linkage across sources. **2.** 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 and 2020. 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 and 2020.
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 2018-2020 but did not report any expenditures for those years. **MFP:** **1.** Connecticut reported projected MFP expenditures for FY 2019 and 2020.
Delaware	**CMS-64 expenditures:** **1.** Delaware reported $0 in Health Home SPA expenditures in FY 2018-2020 even though the state had 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 and 2020. 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. **2.** Other institutional expenditures for FY 2020 include room and board (per diem) claims in long-term care facility settings. **3.** Other HCBS expenditures for FY 2020 include assistive technology, day habilitation, durable medical equipment, home modifications, employment navigation, financial coaching, non-medical transportation, and respite care, among other services. **4.** For FY 2018 and 2019, CMS-64 FMR Net Services data were used to report PACE expenditures. For FY 2020, state-reported MLTSS PACE expenditures were used to report PACE expenditures. **MFP:** **1.** Delaware reported projected MFP expenditures for FY 2018 and 2019. Delaware did not submit MFP budget worksheet data to CMS for 2020. **Data anomalies or notable state trends:** **1.** State expenditure trends may vary considerably between FY 2018 and 2020 due to changes in the methodology the state used to calculate MLTSS expenditures and due to missing data. For their FY 2018 MLTSS data, the state reported actual expenditures from their MCPs. For FY 2019, the state was unable to report MLTSS expenditure data. For FY 2020, the state

State	Notes
	calculated MLTSS expenditures based on the estimated proportion of total capitation payments (LTSS and non-LTSS costs) attributable to LTSS, which is consistent with how the vast majority of states calculate their MLTSS expenditures for this report.
District of Columbia	**MFP:** **1.** District of Columbia reported projected MFP expenditures for FY 2019.
Florida	**CMS-64 expenditures:** **1.** Waiver program number 40166 was active during FY 2020, but the state did not report expenditures for this program in the CMS-64 data. **2.** Waiver program number 0194 was terminated in January 2018 but continued to report prior period adjustments in FY 2019. **3.** Waiver program number 0392 was terminated in January 2018. **4.** No expenditures were reported in the FY 2018-2020 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. For FY 2018-2020 waiver program expenditures for 0962 are captured under the MLTSS state-reported data. **5.** Florida reported section 1115 demonstration expenditures under the section 1915(c) waiver program expenditures in FY 2020. 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.** Other institutional expenditures for FY 2018 include institutional hospice care. Institutional hospice care expenditures are not included in other institutional expenditures for FY 2019 or 2020. **2.** Other HCBS expenditures for FY 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 and 2020 include assisted living expenses, medical equipment/supplies, transportation services, non-targeted case management, expanded benefits, and settlements. **3.** MLTSS expenditures for FY 2018 do not include expenditures for ICF/IID, mental health facilities, and section 1915(c) waiver program targeted case management. MLTSS expenditures for FY 2019 do not include expenditures for ICF/IID. MLTSS expenditures for FY 2020 do not include expenditures for ICF/IID or targeted case management. **4.** State-reported MLTSS PACE expenditures were used instead of CMS-64 FMR Net Services PACE expenditures for FY 2018-2020. **Data anomalies or notable state trends:** **1.** 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. **2.** 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. **3.** 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. **4.** State expenditure trends vary considerably between FY 2018 and 2020 due to MLTSS data reporting. Florida did not submit expenditures for their Managed Medical Assistance Program in

State	Notes
	FY 2018 or 2019, but did submit $1,316,365,216 in MLTSS expenditures for this program for FY 2020. **5.** Florida's FY 2020 Managed Medical Assistance Program MLTSS data includes expenditures for all Medicaid managed care enrollees in this program. Because most states only reported MLTSS expenditures for MLTSS enrollees in their relevant programs, Florida may be overestimating some of their FY 2020 MLTSS expenditures compared to other states. **6.** Between FY 2019 and 2020, PACE expenditures increased by 16 percent. The state reported that this was due to an increase in PACE utilization. **7.** Between FY 2019 and 2020, Long-Term Care Program total HCBS expenditures increased by 18 percent. The state reported that this was due to an increase in enrollment and from certified HCBS capitation rates increasing between 2.2 percent and 15.8 percent for ten of the state's eleven regions.
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 2018-2020 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 the FY 2018 CMS-64 Schedule A waiver report. **MFP:** **1.** Georgia reported projected MFP expenditures for FY 2019 and 2020.
Hawaii	**State-reported MLTSS expenditures:** **1.** For FY 2019 and 2020, institutional expenditures do not include expenditures for ICF/IID and mental health facilities. **2.** For FY 2018-2020, other institutional expenditures include nursing home supplemental funds but exclude spend down costs. **3.** For FY 2018, HCBS expenditures do not include expenditures for home health, rehabilitative services, and targeted case management. For FY 2019 and 2020, HCBS expenditures do not include expenditures for home health and rehabilitative services, but LTSS-related case management costs are included in other HCBS expenditures. **4.** For FY 2020, other HCBS expenditures include adult day care/day health, home delivered meals, personal emergency response system, assisted living facility, community care foster home, counseling and training, environmental accessibility adaptions, moving assistance, residential care, specialized case management, and specialized medical equipment and supplies. **MFP:** **1.** Hawaii reported projected MFP expenditures for FY 2019 and 2020. **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.** For FY 2018 and 2019, HCBS expenditures for the Medicare-Medicaid Coordinated Plan and IMPlus programs do not include expenditures for rehabilitative services and targeted case management. **2.** For FY 2018 and 2019, other HCBS expenditures for the Medicare-Medicaid Coordinated Plan program include expenditures for state plan personal care services. **3.** The state reported ICF/IID expenditures for the Medicare-Medicaid Coordinated Plan program in FY 2018, but these services were carved out of the Medicare-Medicaid Coordinated Plan program starting January 1, 2018. **4.** Idaho was unable to report expenditures for its MLTSS program for FY 2020. **MFP:** **1.** Idaho reported projected MFP expenditures for FY 2019 and 2020. **Data anomalies or notable state trends:** **1.** State expenditure trends may vary considerably between FY 2019 and 2020 due to the state being unable to report expenditures for its MLTSS programs for FY 2020. In FY 2019, MLTSS expenditures accounted for 9 percent of total LTSS expenditures in Idaho; however, the state indicated that MLTSS enrollment increased by 29 percent between FY 2019 and 2020. As a result, we are likely excluding a greater proportion of state Medicaid LTSS expenditures in FY 2020. The state previously reported MLTSS expenditures for these programs in FY 2018 and 2019. **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 2018 expenditures. The state's vendor reported aggregated home health data in FY 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.

State	Notes
Illinois	**State-reported MLTSS expenditures:** **1.** Illinois was unable to report usable expenditures for its MLTSS and FAI programs for FY 2018 and 2019. **2.** Illinois did not report any ICF/IID MLTSS expenditures for FY 2020 because this service is carved out of managed care. **3.** For FY 2020, other HCBS expenditures include expenditures for adult day services, behavioral services, community transition services, crisis services, environmental modification, habilitation services, home delivered meals, home health aide, intermittent nursing, non-medical transportation, occupational therapy, personal assistant, physical therapy, respite care, service facilitation, skilled nursing, specialized medical equipment/supplies, speech therapy, supported employment, and training/counseling unpaid caregivers. **MFP:** **1.** Illinois reported a combination of both actual and projected MFP expenditures for FY 2018 and projected MFP expenditures for FY 2019. Illinois did not submit MFP budget worksheet data to CMS for 2020. **Data anomalies or notable state trends:** **1.** State expenditure trends may vary considerably between FY 2018 and 2020 due to MLTSS data availability. Illinois was unable to report usable expenditures for its MLTSS and FAI programs for FY 2018 and 2019, but was able to report $1,659,912,836 in MLTSS expenditures for FY 2020. **2.** The state's MLTSS submission includes expenditures for YouthCare, a new managed care program that was implemented in September 2020.
Indiana	**CMS-64 expenditures:** **1.** Waiver program number 0003 was terminated in September 2017. Minor prior period adjustments were reported in FY 2018. **MFP:** **1.** Indiana reported projected MFP expenditures for FY 2019 and 2020.
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 MCPs. 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 2018 and 2020. **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. **3.** Iowa only reported a Health Home SPA prior period adjustment in FY 2020 even though the state had an approved Health Home SPA in FY 2020. **State-reported MLTSS expenditures:** **1.** For FY 2018-2020, other HCBS expenditures include expenditures for habilitation services. **2.** For FY 2018 and 2019, CMS-64 FMR Net Services data were used to report PACE expenditures. For FY 2020, state-reported MLTSS PACE expenditures were used to report PACE expenditures. **MFP:** **1.** Iowa reported projected MFP expenditures for FY 2019 and 2020. **Data anomalies or notable state trends:** **1.** Between FY 2018 and 2019, MLTSS targeted case management expenditures decreased by 99 percent. The state indicated that these services are provided by the plans so are considered administrative costs.

State	Notes
	2. Between FY 2018 and 2019, MLTSS 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. **3.** Between FY 2018 and 2019, MLTSS home health expenditures increased by 7,087 percent. The state reported that these services were expanded. **4.** Iowa reported MLTSS rehabilitative service expenditures for the first time in FY 2020. A total of $45,188,096 in MLTSS rehabilitative services expenditures were reported for FY 2020. Because of the substantial size of these expenditures, their inclusion is likely to impact trending to prior years. **5.** Between FY 2019 and 2020, MLTSS nursing facility expenditures increased by 71 percent. The state reported that this increase was due to an increase in the number of enrollees using these services. In addition, there was an increase in the add-on payment as of July 1, 2019, a pass-through for the quality assurance assessment fee increased, nursing facility rebase was 2 percent, and the COVID-19 PHE Relief Rate (of $300/day per member) went into effect in March 2020.
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 MCPs (MLTSS). 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. No state expenditures were reported in the FY 2020 CMS-64 Waiver Expenditures by Category of Service report for waiver program number 0304, 0320, 0476, 4164, or 4165. FY 2018-2020 waiver program expenditures are captured under the MLTSS state-reported data. **2.** Kansas reported Health Home SPA prior period adjustments in FY 2018 even though the state did not have an approved Health Home SPA in FY 2018. Two Health Home SPAs became effective on April 1, 2020, although the state only reported prior period adjustments in FY 2020. Because the two Health Home SPAs covered different subpopulations, the state's FY 2020 Health Home 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 2018–2020, HCBS expenditures include expenditures for intellectual/developmental disabilities, physical disability, frail elderly, technology assisted, brain injury, serious emotional disturbance, and autism waiver services. **2.** For FY 2018–2020, 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 2018–2020, 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 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 and 2020, 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 health maintenance monitoring. **5.** State-reported MLTSS PACE expenditures were used instead of CMS-64 FMR Net Services PACE expenditures for FY 2018-2020.

State	Notes
	MFP: **1.** Kansas's MFP program ended in August 2020. The state did not submit MFP budget worksheet data to CMS for 2019 or 2020. **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. **2.** For FY 2019, the state underreported MLTSS targeted case management expenditures. The correct amount for MLTSS targeted case management in FY 2019 was $15,648,817. This amount was not available at the time of the FY 2019 analysis. For FY 2020, MLTSS targeted case management expenditures were correctly categorized as such. Therefore the 1,170 percent increase in MLTSS targeted case management expenditures between FY 2019 and 2020 is not reflective of a real change. In actuality, expenditures increased 0.2 percent. **3.** Kansas's MLTSS rehabilitation services expenditures increased 74 percent between FY 2019 and 2020. The state reported this is due to extending brain injury benefits to persons with an acquired brain injury. Previously only persons with traumatic brain injuries were served.
Kentucky	**MFP:** **1.** Kentucky reported projected MFP expenditures for FY 2019 and a combination of both actual and projected MFP expenditures for FY 2020.
Louisiana	**CMS-64 expenditures:** **1.** No expenditures were reported in the FY 2018-2020 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 2018 CMS-64 Schedule A waiver reports. **MFP:** **1.** Louisiana reported projected MFP expenditures for FY 2019 and 2020.
Maine	**MFP:** **1.** Maine reported projected MFP expenditures for FY 2019 and 2020.
Maryland	**CMS-64 expenditures:** **1.** Waiver program number 0265 was active during FY 2019 and 2020, 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 2018-2020. **3.** Maryland reported expenditures for several uncategorized waiver programs (including prior period adjustments for a waiver program that was terminated in 2013) in FY 2018-2020 CMS-64 waiver reports. **4.** Maryland had an approved section 1915(i) State Plan HCBS program in FY 2018-2020 but only reported minor expenditures for those years. **MFP:** **1.** Maryland reported projected MFP expenditures for FY 2019 and a combination of both actual and projected MFP expenditures for FY 2020.

State	Notes
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 FY 2018 and 2019 institutional expenditures are categorized as other institutional and all FY 2020 institutional expenditures are categorized as total institutional; and all FY 2018 and 2019 HCBS expenditures are categorized as other HCBS and all FY 2020 HCBS expenditures are categorized as total HCBS. The state did not report service category-level institutional or HCBS expenditures for FY 2018-2020. **2.** State-reported MLTSS PACE expenditures were used instead of CMS-64 FMR Net Services PACE expenditures for FY 2018-2020. **MFP:** **1.** Massachusetts reported projected expenditures for FY 2018. The state exhausted MFP funding in December 2017 and reactivated their program in March 2022. **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 and 2020, we used state-reported PACE expenditures but found these were considerably lower than what was reported in the CMS-64 FMR Net Services report. However, the state indicated that the state-reported expenditures were correct. **3.** Between FY 2019 and 2020, total HCBS expenditures for the One Care program increased by 24 percent. This was due to both a 13 percent increase in enrollment and to time-limited COVID-19 PHE rate increases that were in effect from April 2020 – July 2020 for most HCBS providers. **4.** Between FY 2019 and 2020, total institutional expenditures for the Senior Care Options program decreased by 8 percent despite increased enrollment. The state reported this was due to declining nursing facility use in the early months of the COVID-19 PHE.
Michigan	**CMS-64 expenditures:** **1.** Waiver program number 1126 operates under a concurrent section 1915(b) authority, and waiver services are provided through MCPs. **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 2018. The state also reported MLTSS expenditures for this MLTSS program in the state-reported MLTSS expenditure data for FY 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 2018. This issue should be fixed in the FY 2019 and 2020 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 reported section 1115 demonstration expenditures under the section 1915(c) waiver program expenditures in FY 2020. These are included in the section 1915(c) waiver program total and in the section 1115 and 1915(b) waiver program category. **4.** Michigan had an approved section 1915(i) State Plan HCBS program in FY 2019 but did not report any expenditures for that year. **5.** We corrected waiver program ID numbers to allow linkage across sources.

State	Notes
	State-reported MLTSS expenditures: **1.** For FY 2018–2020, 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 2018-2020, expenditures for the MI Choice program do not include expenditures for rehabilitative services. **4.** For FY 2018-2020, expenditures for MI Health Link do not include expenditures for ICF/IID and mental health facilities. **5.** For FY 2018 and 2019, state-reported MLTSS PACE expenditures were used instead of CMS-64 FMR Net Services PACE expenditures. For FY 2020, CMS-64 FMR Net Services PACE expenditures were used as the state did not report MLTSS PACE expenditures. **MFP:** **1.** Michigan reported a combination of both actual and projected MFP expenditures for FY 2018. Michigan's MFP program ended in February 2020 and the state did not submit MFP budget worksheet data to CMS for 2019 or 2020. **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.
Minnesota	**CMS-64 expenditures:** **1.** Minnesota 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 CMS-64 FMR Net Services report. This issue should be fixed in the FY 2019 and 2020 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 CMS-64 FMR Net Services report. **2.** Minnesota had an approved section 1915(i) State Plan HCBS program that became effective on July 1, 2020 but did not report any expenditures for FY 2020. **State-reported MLTSS expenditures:** **1.** For FY 2018-2020, 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.** For FY 2018-2020, 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.** For FY 2018-2020, other institutional expenditures primarily include expenditures for inpatient mental health facilities for patients ages 21 to 64.

State	Notes
	4. In FY 2020, other HCBS included adult companion services, adult day services, case management aide, CDCS background check, CDCS mandatory case management, certified peer specialist, chore services, comprehensive community support services, consumer directed community supports, customized living, environmental accessibility adaptations, family caregivers, foster care, home care nursing, home delivered meals, home health aides, homemaker services, individual community living support, membership fees (exercise classes, health club/fitness center), MSHO/MSC+ home care services, overnight assistance, pers installation and testing, pers monthly service fee, pers purchase, personal care assistance, post-discharge case consultation and collaboration, respite care services, specialized supplies and equipment, transitional services, transportation, and youth assertive community treatment. **MFP:** **1.** Minnesota reported projected MFP expenditures for FY 2019 and a combination of both actual and projected MFP expenditures for FY 2020. **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). **3.** Between FY 2019 and 2020, MLTSS home health expenditures increased by 15 percent. The state reported that this was due to a temporary rate increase for 24-hour customized living services to support providers hardest hit by the COVID-19 PHE.
Mississippi	**CMS-64 expenditures:** **1.** Mississippi had an approved section 1915(i) State Plan HCBS program in FY 2018, 2019, and 2020 but did not report any expenditures for those years and reported only minor expenditures for FY 2020. **MFP:** **1.** Mississippi reported projected MFP expenditures for FY 2019. Mississippi's MFP program ended in May 2021 and the state did not submit MFP budget worksheet data to CMS for 2020.
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 and 2020.
Montana	**MFP:** **1.** Montana reported projected MFP expenditures for FY 2019 and 2020.
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. Nebraska's MFP program ended in December 2020 and the state did not submit MFP budget worksheet data to CMS for 2020.
Nevada	**CMS-64 expenditures:** **1.** Nevada's section 1915(i) State Plan HCBS program did not have a target population until March 1, 2020. Therefore, the FY 2018 and 2019 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. Because the target population included two different subpopulations, the FY 2020 expenditures were also assigned to the "multiple populations" category.

State	Notes
	MFP: **1.** Nevada reported projected MFP expenditures for FY 2019 and 2020.
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 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 2018. Although New Hampshire's section 1915(c) waiver program expenditure totals are reported for FY 2018, the waiver program-level expenditures for each waiver are not reported for these years because of the reliance on the CMS-64 FMR Net Services total. For the FY 2019 and 2020 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 2018-2020 but did not report any expenditures for those years. **MFP:** **1.** New Hampshire's MFP program ended in February 2021. The state did not submit MFP budget worksheet data to CMS for 2019 or 2020.
New Jersey	**CMS-64 expenditures:** **1.** New Jersey waiver program 0031 was terminated on November 1, 2017 but continued to report prior period adjustments in FY 2018-2020. **2.** New Jersey appears to be capturing other services provided under its FY 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 CMS-64 FMR Net Services report. This issue should be fixed in the FY 2019 and 2020 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 CMS-64 FMR Net Services report. **3.** New Jersey reported section 1115 demonstration expenditures under the section 1915(c) waiver program expenditures in FY 2019 and 2020. These are included in the section 1915(c) waiver program total and in the section 1115 and 1915(b) waiver program category. **4.** New Jersey reported $0 in Health Home SPA expenditures in FY 2019 and 2020 even though the state had an approved Health Home SPA during those years. **5.** For FY 2018-2020, CMS-64 FMR Net Services data were used to report PACE expenditures as the state did not report MLTSS PACE expenditures. **State-reported MLTSS expenditures:** **1.** The state was unable to report expenditures for their FIDE SNP program in FY 2018 but was able to report these expenditures in FY 2019 and 2020. **2.** For FY 2018 and 2019, expenditures for personal care and home health services also include expenditures for self-directed services. **3.** For FY 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. **4.** For FY 2020, other HCBS expenditures include Assisted Living, Adult Medical DayCare, Social DayCare, Home Delivered Meals, and Private Duty Nursing. **5.** For FY 2020, Personal Care Expenses include both agency-provided and self-directed personal care assistance.

State	Notes
	MFP: **1.** New Jersey reported projected MFP expenditures for FY 2019 and 2020. **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. **2.** State expenditure trends may vary considerably between FY 2018 and 2019 due to MLTSS data availability. New Jersey was unable to report expenditures for its FIDE SNP program for FY 2018, but was able to report $231,359,442 in FIDE SNP expenditures for FY 2019. **3.** For FY 2018-2020, New Jersey was unable to report the following MLTSS expenditure categories: ICF/IID, mental health facility, and targeted case management services.
New Mexico	**CMS-64 expenditures:** **1.** Waiver program 0449 was terminated in January 2014 but continued to report prior period adjustments in FY 2018. **State-reported MLTSS expenditures:** **1.** For FY 2018-2020, 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 2018 and 2019, a small subset of the Expansion Adult population enrolled in the Centennial Care program was excluded from personal care expenditures. For FY 2020, a small subset of the Expansion and Non-Expansion Adult populations enrolled in the Centennial Care program were excluded from personal care expenditures. **3.** For FY 2018-2020, the Healthy Dual population enrolled in Centennial Care was excluded from the state's MLTSS expenditures. **4.** For FY 2018-2020, institutional expenditures do not include expenditures for ICF/IID as these services are carved out. **5.** For FY 2018–2020, New Mexico was unable to break out expenditures for mental health facilities, so these expenditures are not included in institutional expenditures. **6.** For FY 2018–2020, New Mexico was unable to break out expenditures for rehabilitative services or targeted case management, so these expenditures are not included in HCBS expenditures. **7.** For FY 2018–2020, other HCBS expenditures include expenditures for respite, adult day health, assisted living, environmental modifications (to a residence), private duty nursing, and emergency response systems. **8.** State-reported MLTSS PACE expenditures were used instead of CMS-64 FMR Net Services PACE expenditures for FY 2018-2020. **Data anomalies or notable state trends:** **1.** For FY 2019 and 2020, we used state-reported PACE expenditures but found these were considerably lower than what was reported in the CMS-64 FMR Net Services report. However, the state indicated that the state-reported expenditures were correct. **2.** Between FY 2019 and 2020, MLTSS nursing facility expenditures increased by 39 percent. The state reported that this increase was due to a Health Care Quality Surcharge (HCQS) adjustment effective January 1, 2020 targeting Nursing Facilities with over 60 beds. In addition, there was an adjustment to the Nursing Facility Market Basket Index (NF MBI) effective July 1, 2020 which compounded on the NF MBI percentage effective July 1, 2019.

State	Notes
New York	**CMS-64 expenditures:** **1.** Waiver program numbers 0296, 0469, 0470, 0471, and 40176 were consolidated into waiver program number 4125 in April 2019. **2.** Waiver program number 40200 was terminated in January 2017 but continued to report prior period adjustments in FY 2018. **3.** Waiver program number 0034 was terminated in May 2016 but continued to report prior period adjustments in FY 2018-2020. **4.** New York 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 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 2018 data were pulled from Murray et al. (2021a). **2.** For the MLTC, MAP, and FIDA programs in FY 2019 and 2020, other HCBS expenditures include expenditures for adult day health care and social day care. For the FIDA IDD program in FY 2019 and 2020, 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.** For FY 2018, CMS-64 FMR Net Services report data was used to calculate Community First Choice expenditures for New York. For FY 2019 and 2020, 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. **4.** For FY 2018, CMS-64 FMR Net Services data were used to report PACE expenditures. For FY 2019 and 2020, state-reported MLTSS PACE expenditures were used to report PACE expenditures. **MFP:** **1.** New York reported projected MFP expenditures for FY 2019. **Data anomalies or notable state trends:** **1.** State expenditure trends may vary considerably between FY 2018 and 2019 due to MLTSS data availability. New York was unable to report expenditures for its MLTSS and FAI programs for FY 2018, but was able to report $13,333,969,125 in MLTSS and FAI expenditures for FY 2019. **2.** For FY 2019 and 2020, we used state-reported 1915(k) expenditures but found these were considerably lower than what was reported in the CMS-64 FMR Net Services report. However, the state indicated that the state-reported expenditures were correct. **3.** For 2020, we used state-reported PACE expenditures but found these were considerably higher than what was reported in the CMS-64 FMR Net Services report. However, the state indicated that the state-reported expenditures were correct. **4.** The FIDA program ended on December 31, 2019, so there are only three months of expenses reported for FY 2020. **5.** For FY 2020, MLTSS nursing home expenditures decreased due to the service being carved out of MLTC capitation in August 2020. **6.** The FY 2020 MLTSS Community First Choice data includes expenditures for members that were not eligible for this program but that were unable to be excluded. The state reported that these members accounted for less than 1 percent of all members included in this calculation.

State	Notes
North Carolina	**CMS-64 expenditures:** **1.** No expenditures were reported in the FY 2018-2020 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 2018-2020 waiver reports. **3.** No expenditures were reported in the FY 2018-2020 CMS-64 waiver report for waiver program number 1326 (effective May 1, 2018). **4.** North Carolina reported Health Home SPA prior period adjustments in FY 2020 even though the state did not have an approved Health Home SPA in FY 2020. **State-reported MLTSS expenditures:** **1.** For FY 2018, North Carolina was unable to report expenditures for HCBS and institutional break outs but provided total LTSS expenditures. However, the state was able to report HCBS service category break outs for FY 2019 and 2020. The state did not report any institutional expenditures for FY 2018—2020. **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. For FY 2020, other HCBS expenditures include community living and supports, community navigator, community networking, day supports, residential supports, respite, supported employment, financial support services, assistive technology, community transition, crisis services, home modifications, individual goods and services, natural supports education, specialized consultation, supported living – periodic, supported living – transition, supported living, and vehicle modifications. **3.** State-reported MLTSS PACE expenditures were used instead of CMS-64 FMR Net Services PACE expenditures for FY 2018-2020. **MFP:** **1.** North Carolina reported projected MFP expenditures for FY 2019 and 2020. **Data anomalies or notable state trends:** **1.** Expenditures for the Local Management Entities – Managed Care Organization Behavioral Health Program were not able to be disaggregated to report LTSS expenditures. Therefore, this program is excluded from the report and LTSS expenditures (particularly for ICF/IID) are likely underreported for North Carolina. **2.** Between FY 2018 and 2019, total MLTSS expenditures increased by 17 percent. The state reported that this was due to the addition of 400 waiver slots during FY 2018. **3.** Between FY 2019 and 2020, PACE expenditures increased by 18 percent. The state reported that this increase was due to payments that were corrected in FY 2020 and to a 5 percent rate increase a result of the COVID-19 PHE. For FY 2018 and 2019, the state did not submit MLTSS expenditures for their TBI waiver program. For FY 2020, the state reported $2,168,675 in MLTSS expenditures for this program. Because expenditures are relatively small, their inclusion is not expected to have a substantial impact on state expenditures trends.
North Dakota	**CMS-64 expenditures:** **1.** Waiver program number 1266 was active during FY 2020, but the state did not report expenditures for this program in the CMS-64 data. **2.** No expenditures were reported in the FY 2018 or 2019 CMS-64 waiver report for waiver program number 0834. **MFP:** **1.** North Dakota reported projected MFP expenditures for FY 2019 and 2020.

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 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 adjustments for FY 2019 and 2020. **4.** Ohio reported Health Home SPA expenditures in FY 2019 and 2020 even though the state did not have an approved Health Home SPA in these years. Ohio terminated their Health Home SPA in July 2018. **State-reported MLTSS expenditures:** **1.** For FY 2018-2020, 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 2018-2020, 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 2018-2020, Ohio's fiscal year deviates from the federal fiscal year; therefore, reported expenditures for PACE for FY 2018 correspond to July 2017 through June 2018, expenditures for FY 2019 correspond to July 2018 through June 2019, and expenditures for FY 2020 correspond to July 2019 through June 2020. **4.** State-reported MLTSS PACE expenditures were used instead of CMS-64 FMR Net Services PACE expenditures for FY 2018—2020. **MFP:** **1.** Ohio reported projected MFP expenditures for FY 2019 and 2020. **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 and 2020, we used state-reported PACE expenditures but found these were considerably lower than what was reported in the CMS-64 FMR Net Services report. However, the state indicated that the state-reported expenditures were correct.
Oklahoma	**MFP:** **1.** Oklahoma reported projected MFP expenditures for FY 2019 and 2020.
Oregon	**CMS-64 expenditures:** **1.** Oregon 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 CMS-64 FMR Net Services report. This issue should be fixed in the FY 2019 and 2020 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 CMS-64 FMR Net Services report. **2.** Oregon reported Health Home SPA prior period adjustments in FY 2018 and 2020 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.** Pennsylvania reported expenditures for an uncategorized waiver program in the FY 2019 and 2020 CMS-64 Waiver Expenditures by Category of Service reports. **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 period. **2.** Pennsylvania did not provide HCBS category of service breakouts for FY 2018 and 2019. For FY 2020, Pennsylvania only provided HCBS category of service breakouts for the Adult Community Autism program but did not provide these breakouts for the Community HealthChoices program. **3.** For FY 2020, other HCBS services include community support, non-medical transportation, respite, day habilitation, residential habilitation, supported employment, assistive technology, family counseling, homemaker/chore, and behavioral specialist services. **4.** State-reported MLTSS PACE expenditures were used instead of CMS-64 FMR Net Services PACE expenditures for FY 2018-2020. **MFP:** **1.** Pennsylvania reported projected MFP expenditures for FY 2019 and 2020. **Data anomalies or notable state trends:** **1.** Between FY 2018 and 2019, total MLTSS expenditures increased by 383 percent and between FY 2019 and 2020, total MLTSS expenditures increased 91 percent. The state reported that these increases were due to the geographic phase-in of the Community HealthChoices program. The Southwest geographic zone transitioned to Community HealthChoices on January 1, 2018 (Phase 1), the Southeast geographic zone transitioned on January 1, 2019 (Phase 2), and the Northeast, Northwest, and Lehigh-Capital geographic zones transitioned on January 1, 2020 (Phase 3). FY 2020 is the first report year that accounts for four reporting quarters of Southeast geographic zone expenditures, which is both the most urban part of the state and also has the highest capitation rates. In addition, capitation rates increased between CY 2019 and 2020. **2.** Pennsylvania's reported MLTSS expenditures for its Adult Community Autism Program for FY 2018 and 2020, but not for FY 2019. Because program expenditures are relatively small, their inclusion and exclusion over this period is not expected to have a substantial impact on state expenditures trends.
Rhode Island	**CMS-64 expenditures:** **1.** Rhode Island did not operate any section 1915(c) waiver programs in FY 2018—2020 because it provides similar services to HCBS-eligible populations under a section 1115 demonstration. **2.** Rhode Island reported section 1115 demonstration expenditures under the section 1915(c) waiver program expenditures in FY 2019 and 2020. These are included in the section 1915(c) waiver program total and in the section 1115 and 1915(b) waiver program category. **3.** Rhode Island reported $0 in Health Home SPA expenditures in FY 2018-2020 even though the state had an approved Health Home SPA in these years. **State-reported MLTSS expenditures:** **1.** For FY 2018 and 2019, Rhode Island calculated nursing home expenditures based on members with a custodial level of care as determined by the members' Resource Utilization Group (RUG) code. For FY 2020, Rhode Island calculated nursing home expenditures based on all nursing facility encounters, regardless of level of care. **2.** For FY 2018 and 2019, Rhode Island did not report mental health facility expenditures. For FY 2020, Rhode Island updated their reporting to include mental health facility expenditures based on all encounters for residential behavioral health services.

State	Notes
	3. For FY 2018 and 2019, Rhode Island calculated personal care expenditures based on expenditures with a personal care aid/assistant provider type on the encounter record. For FY 2020, Rhode Island calculated personal care expenditures based on all encounters for personal care/ homemaker services, using the procedure codes for attendant care and homemaker services, regardless of provider type on the encounter record. **4.** For FY 2018 and 2019, Rhode Island calculated home health expenditures based on the skilled nursing provider type. The provider type was not present on encounters for FY 2018 and 2019 therefore the state did not report any home health expenditures for those years. For FY 2020, Rhode Island calculated home health expenditures based on procedure codes for the following services: Adult Day, Companion Care, Emergency Response Systems, Transportation, Respite, Home Delivered Meals, Home Assessments, Home Modifications, and Other Professional/HCBS services. **5.** For FY 2018 and 2019, Rhode Island calculated rehabilitative service expenditures based on nursing facility expenditures for members with a rehabilitative level of care (based upon their RUG code assignment). Rhode Island did not report any rehabilitative service expenditures in FY 2019. For FY 2020, Rhode Island calculated rehabilitative service expenditures based on procedure codes for the following services: Community Psychiatric Treatment Program, Residential Behavioral Health, Assertive Community Treatment Program, Rehabilitation Program, Residential Care, Habilitation Day Program, and Other Mental Health and Substance Abuse Treatment services. **6.** For FY 2018 and 2019, Rhode Island calculated case management expenditures based on expenditures submitted with the case management provider type. For FY 2020, Rhode Island calculated case management expenditures based on procedure codes for the following services: Case Management (per 15 minutes), Case Management (per month), Peer Services, Service Assessment/Plan of Care Development, and Targeted Case Management. **7.** For FY 2018 and 2019, Rhode Island calculated other HCBS expenditures based on expenditures for members with an active HCBS waiver for the following provide types: Durable Medical Equipment (DME) Supplier, Assisted Living Facility, Waiver Case Manager, Habilitation Group Home, Personal Choice/Habilitation Case Management, Other Therapies, and Home Meal Delivery. For FY 2020, Rhode Island calculated other HCBS expenditures based on procedure codes for the following services: Assisted Living, Physical Therapy, and Other Therapy services. **8.** For FY 2018-2020, institutional expenditures do not include expenditures for ICF/IID and other institutional services. **9.** For FY 2018 and 2019, CMS-64 FMR Net Services data were used to report PACE expenditures. For FY 2020, state-reported MLTSS PACE expenditures were used to report PACE expenditures. **MFP:** **1.** Rhode Island reported projected MFP expenditures for FY 2019 and 2020. **Data anomalies or notable state trends:** **1.** Rhode Island significantly changed the methodology used to report their MLTSS expenditures for FY 2020. In FY 2018 and 2019, the state categorized expenditures based on provider types and claim types. In FY 2020, the state switched to categorizing expenditures based on procedure codes submitted on claims, which allowed for more inclusive and granular reporting. This approach also allowed Rhode Island to report expenditures for several categories it had previously been unable to report, including home health, mental health facilities, and rehabilitative services. As a result, MLTSS expenditures dramatically increased between FY 2019 and 2020 for most service categories. **2.** With the new MLTSS methodology, expenditures for long-term residential treatment of alcohol and drug abuse that were previously categorized as MLTSS targeted case management in FY 2018 and 2019 were newly categorized as MLTSS rehabilitative service expenditures in FY 2020.

State	Notes
	3. Rhode Island reported that the RI Integrated Care Initiative was missing approximately $30 million in claims for FY 2019 and approximately $22 million in claims for FY 2020 for the MLTSS expenditure reporting. The state estimates that a disproportionate share of these missing claims are for personal care and other HCBS. Accordingly, the state indicated that the methodology employed to proxy capitation payments based on underlying encounter data may underestimate MLTSS expenditures. The decrease in the amount of missing RI Integrated Care Initiative claims data also likely contributed to higher MLTSS expenditures in FY 2020 compared to FY 2019. **4.** Despite the state's new MLTSS methodology in FY 2020 to not limit MLTSS nursing home expenditures based on level of care, MLTSS nursing home expenditures fell by 8 percent between FY 2019 and FY 2020. This was due to decreases in nursing home utilization in FY 2020 as a result of the PHE. **5.** State expenditure trends may vary considerably between FY 2018 and 2019 due to the Rhody Health Options I program ending in September 2018.
South Carolina	**CMS-64 expenditures:** **1.** Waiver program number 0456 was terminated in December 2017. **2.** We corrected waiver program ID numbers to allow linkage across sources. **3.** South Carolina 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 CMS-64 FMR Net Services report. This issue should be fixed in the FY 2019 and 2020 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 CMS-64 FMR Net Services report. **State-reported MLTSS expenditures:** **1.** At the time of the FY 2018 analysis, South Carolina had not reported expenditures for its FAI demonstration, so those expenditures are not included in this report. All FY 2018 data were pulled from Murray et al. (2021a). **2.** In FY 2019 and 2020, other institutional expenditures include expenditures for nursing home swing beds. **3.** In FY 2019 and 2020, other HCBS expenditures include expenditures for attendant/companion care, home delivered meals, waiver nursing services, and adult day health care. **4.** For FY 2018, CMS-64 FMR Net Services data were used to report PACE expenditures. For FY 2019 and 2020, state-reported MLTSS PACE expenditures were used to report PACE expenditures. **MFP:** **1.** South Carolina reported projected MFP expenditures for FY 2019 and 2020. **Data anomalies or notable state trends:** **1.** State expenditure trends may vary considerably between FY 2018 and 2019 due to MLTSS data availability. South Carolina was unable to report expenditures for its MLTSS program for FY 2018, but was able to report $52,992,846 in MLTSS expenditures for FY 2019. **2.** Between FY 2019 and 2020, MLTSS personal care expenditures increased by 36 percent, MLTSS nursing home expenditures increased by 35 percent, MLTSS targeted case management expenditures increased by 29 percent, other HCBS expenditures increased by 26 percent, and MLTSS home health expenditures increased by 24 percent. The state reported that these increases were due to an increase in enrollment. **3.** Between FY 2019 and 2020, MLTSS mental health facility expenditures increased by 138 percent. The state reported that this increase was due to an increase in utilization. **4.** Between FY 2019 and 2020, PACE expenditures increased by 17 percent. The state reported that this increase was due to an increase in the CY 2020 capitation rate.

State	Notes
	5. For FY 2020, we used state-reported PACE expenditures but found these were considerably lower than what was reported in the CMS-64 FMR Net Services report. However, the state indicated that the state-reported expenditures were correct.
South Dakota	**MFP:** **1.** South Dakota reported projected MFP expenditures for FY 2019 and 2020.
Tennessee	**CMS-64 expenditures:** 1. Tennessee reported $0 in Health Home SPA expenditures in FY 2020 even though the state had an approved Health Home SPA in FY 2020. **State-reported MLTSS expenditures:** **1.** For FY 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. **2.** Institutional expenditures do not include expenditures for ICF/IID because ICF/IID services are carved out of the managed care program. **3.** State-reported MLTSS PACE expenditures were used instead of CMS-64 FMR Net Services PACE expenditures for FY 2018-2020. **4.** For FY 2019 and 2020, other HCBS expenditures include expenditures for adult day care, assisted care living facility, assistive technology, community living supports, community transportation, home delivered meals, job coaching, and respite care, among other services. **MFP:** **1.** Tennessee reported projected MFP expenditures for FY 2019. The state did not submit MFP budget worksheet data to CMS for 2020. **Data anomalies or notable state trends:** **1.** For FY 2018, the state reported that a large amount of MLTSS 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 amount for personal care was $226,884,228 in FY 2018. The correct amount for other HCBS was $50,580,408 in FY 2018. For the ECF CHOICES program, the correct amount for MLTSS personal care was $3,024,757 in FY 2018. The correct amount for other HCBS was $19,123,367 in FY 2018. These amounts were not available at the time of the FY 2018 analysis. For FY 2019 and 2020, MLTSS personal care expenditures were correctly categorized as such. **2.** Between FY 2018 and 2019, expenditures for MLTSS nursing facility expenditures increased by 14 percent. The state reported that this was due to retrospective acuity and quality-based rate adjustments. **3.** For FY 2020, the state reported $251,637,803 in home health expenditures. Because home health expenditures were excluded from prior report years, this is likely to have a substantial impact on trending. The home health expenditures include expenditures for all Medicaid managed care enrollees. **4.** In FY 2020, the state reported that HCBS expenditures were due to increased enrollment from adding two new benefit groups in 2019.

State	Notes
Texas	**CMS-64 expenditures:** **1.** Texas 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 CMS-64 FMR Net Services report. This issue should be fixed in the FY 2019 and 2020 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 CMS-64 FMR Net Services report. **2.** Texas reported section 1915(b) waiver expenditures under the section 1915(c) waiver program expenditures in FY 2019 and 2020. 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.** Texas was unable to report expenditures for its MLTSS and FAI programs for FY 2020. **2.** For FY 2018 and 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 2018 and 2019. **4.** For FY 2018 and 2019, state-reported MLTSS PACE expenditures were used instead of CMS-64 FMR Net Services PACE expenditures. For FY 2020, CMS-64 FMR Net Services PACE expenditures were used as the state did not report MLTSS PACE expenditures. **5.** For FY 2018 and 2019, 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. For FY 2020, CMS-64 FMR Net Services report data was used to calculate Community First Choice expenditures for Texas as the state did not submit MLTSS expenditures. **MFP:** **1.** Texas reported projected MFP expenditures for FY 2019 and a combination of both actual and projected MFP expenditures for FY 2020. **Data anomalies or notable state trends:** **1.** State expenditure trends may vary considerably between FY 2019 and 2020 due to the state being unable to report expenditures for its MLTSS and FAI programs for FY 2020. The state previously reported MLTSS expenditures for these programs in FY 2018 and 2019. **2.** For FY 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. **3.** For FY 2019, we used state-reported 1915(k) expenditures but found these were considerably higher than what was reported in the CMS-64 FMR Net Services report. 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.
Vermont	**CMS-64 expenditures:** **1.** Vermont did not operate any section 1915(c) waiver programs in FY 2018–2020 because it provides similar services to HCBS-eligible populations under a section 1115 demonstration. The CMS-64 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 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 2018-2020 CMS-64 FMR Net Services report even though the state had an approved Health Home SPA in these years.

State	Notes
	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 2018, Vermont's program design did not lend itself to reporting the standard categories of service used for this report. However, for FY 2019 and 2020, 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 and 2020, 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.** CMS-64 FMR Net Services nursing facility expenditures were used instead of state-reported nursing facility expenditures because the state confirmed the CMS-64 FMR Net Services expenditures were correct. **MFP:** **1.** Vermont reported projected MFP expenditures for FY 2019 and 2020. **Data anomalies or notable state trends:** **1.** For FY 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 that year, which affected year-over-year trends for the state. This issue was corrected for the FY 2019 and 2020 data. **2.** Between FY 2019 and 2020, MLTSS mental health facility expenditures decreased by 16 percent and MLTSS other institutional expenditures decreased by 25 percent, both of which were driven by decreases in utilization of these services.
Virginia	**CMS-64 expenditures:** **1.** Waiver program number 4149 was combined into waiver program 0321 in June 2017 but continued to report prior period adjustments in FY 2018 and 2019. **2.** We corrected waiver program ID numbers to allow linkage across sources. **3.** 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 2018-2020. **MFP:** **1.** Virginia reported projected MFP expenditures for FY 2019. The state did not submit MFP budget worksheet data to CMS for 2020.
Washington	**CMS-64 expenditures:** **1.** Waiver program number 0449 was terminated in January 2014 but continued to report prior period adjustments in FY 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 CMS-64 FMR Net Services report. This issue should be fixed in the FY 2019 and 2020 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 CMS-64 FMR Net Services report.

State	Notes
	4. Washington only reported a Health Home SPA prior period adjustment in FY 2020 even though the state had an approved Health Home SPA in FY 2020. **MFP:** **1.** Washington reported projected MFP expenditures for FY 2019 and 2020.
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 and 2020. 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 and 2020.
Wisconsin	**CMS-64 expenditures:** **1.** Waiver program numbers 0154 and 0229 were terminated in July 2018 but continued to report prior period adjustments in FY 2018 and 2019. **2.** No expenditures were reported in the FY 2018-2020 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. **3.** Waiver program numbers 0413 and 0415 were terminated in March 2017 but continued to report prior period adjustments in FY 2018. **4.** Wisconsin reported section 1915(i) State Plan HCBS program expenditures in FY 2018-2020 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 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 CMS-64 FMR Net Services report. This issue should be fixed in the FY 2019 and 2020 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 CMS-64 FMR Net Services report. **6.** Wisconsin indicated that they reported PACE expenditures within line 18A (Medicaid managed care premiums) in the CMS-64 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 CMS-64 FMR Net Services PACE expenditures for FY 2018-2020. **2.** Other HCBS expenditures include adult day care, Community-Based Residential Facility (CBRF), counseling and therapeutic resources, day habilitation services, durable medical equipment, home modifications, housing assistance, respite care, and transportation, among other services. **MFP:** **1.** Wisconsin reported projected MFP expenditures for FY 2019 and 2020. **Data anomalies or notable state trends:** **1.** In FY 2020, institutional MLTSS expenditures increased 13 percent. The state reported this was due to the COVID-19 PHE which led to increased staffing costs as well as a shift in service delivery. **2.** Between FY 2019 and 2020, MLTSS targeted case management expenditures decreased 61 percent and MLTSS personal care expenditures decreased 14 percent. The state reported these decreases were due to decreases in demand for in-person services due to the COVID-19 PHE as well as a suspension of services due to stay-at-home orders.

State	Notes
Wyoming	**CMS-64 expenditures:** **1.** Waiver program numbers 1060 and 1061 changed their target population groups in 2020. In prior years these waivers served individuals with intellectual or developmental disabilities, while in 2020 the population expanded to include individuals with brain injuries ages 21 and over. For FY 2018 and 2019, waiver program numbers 1060 and 1061 were categorized as having ASD, ID, or DD LTSS populations. For FY 2020, these two waivers were categorized as having multiple subgroups. **2.** Wyoming reported section 1915(b) waiver expenditures under the section 1915(c) waiver program expenditures in FY 2020. These are included in the section 1915(c) waiver program total and in the section 1115 and 1915(b) waiver program category. **3.** Waiver program number 0370 was terminated in April 2018 but continued to report prior period adjustments in FY 2018 and 2019. **4.** No expenditures were reported in the FY 2018-2020 CMS-64 waiver reports for waiver program number 0451. The waiver program is authorized under a concurrent section 1915(b) authority, and waiver services are provided through PAHPs. **5.** 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 = eligible for Medicaid on the basis of being 65 years old or older or having blindness or disabilities ("ABD"); 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 facility for individuals with intellectual disabilities; IMD = institutions for mental disease; IMPlus = Idaho Medicaid Plus; LTSS = Long-Term Services and Supports; MAP = Medicaid Advantage Plus; MCO = managed care organization; MCP = managed care plan; 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; PHE = public health emergency; 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 2018–2020

Service category	FY 2018 expenditures	FY 2019 expenditures	FY 2019 % change	FY 2020 expenditures	FY 2020 % change
Total Institutional LTSS	**$55,049,387,032**	**$67,076,322,198**	**21.8**	**$74,783,244,946**	**11.5**
Nursing facilities	$43,043,302,176	$53,370,167,370	24.0	$54,584,127,465	2.3
ICF/IID: total	$7,073,038,247	$7,873,488,377	11.3	$8,115,071,126	3.1
Mental health facilities	$1,873,862,959	$2,582,933,368	37.8	$3,895,324,688	50.8
Mental health facilities: DSH	$2,187,583,913	$2,696,905,616	23.3	$2,905,584,721	7.7
Other institutional LTSS	NA	$6,323,252	NA	$4,736,380	-25.1
Other institutional MLTSS	$370,630,137	$207,004,046	-44.1	$303,800,301	46.8
Total HCBS	**$70,396,100,687**	**$95,049,580,683**	**35.0**	**$124,602,046,310**	**31.1**
Section 1915(c) waiver program	$35,745,742,892	$44,331,900,113	24.0	$50,366,388,109	13.6
Personal care	$7,778,429,236	$18,957,430,648	143.7	$23,964,990,919	26.4
1915(k) / Community First	$5,250,365,172	$6,491,057,819	23.6	$14,337,953,545	120.9
Other HCBS LTSS	NA	$372,141,599	NA	$386,347,402	3.8
Other HCBS MLTSS	$5,403,946,195	$7,474,517,162	38.3	$9,767,746,884	30.7
Home health	$3,728,759,150	$4,391,098,081	17.8	$5,660,346,300	28.9
Rehabilitative services (non-school-based)	$3,171,587,603	$2,499,256,060	-21.2	$3,074,804,000	23.0
Case management	$1,893,887,326	-$1,144,045,039	-160.4	$3,088,554,655	370.0
PACE	$939,947,498	$1,658,620,841	76.5	$2,722,122,018	64.1
Private duty nursing	$567,873,461	$829,637,931	46.1	$1,051,785,200	26.8
Health homes	$392,276,640	$610,713,701	55.7	$819,957,821	34.3
1915(i) / state plan HCBS	-$607,748,021	$246,745,312	140.6	$1,031,443,262	318.0
1915(j) / self-directed personal assistance	$342,620,890	$377,961,031	10.3	$432,493,510	14.4
MFP	$318,859,268	$289,568,853	-9.2	$191,668,846	-33.8
Total LTSS	**$128,766,166,201**	**$162,125,902,881**	**25.9**	**$199,385,291,255**	**23.0**
Total Medicaid	**$400,267,806,358**	**$477,506,394,060**	**19.3**	**$597,619,943,034**	**25.2**

Sources: Mathematica's analysis of FY 2020 CMS-64 data, state-submitted MLTSS data, and MFP budget worksheet for proposed budget data. Data for FY 2018 were obtained from Murray et al. (2021a), and data for FY 2019 were obtained from Murray et al. (20201b).

Notes: Excludes FY 2018 data for California, Illinois, New York, and Virginia, FY 2019 data for California, Delaware, Illinois, and Virginia, and FY 2020 data for Texas 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.

Table C.2. State Summary: Medicaid LTSS expenditures, FY 2020

State	FY 2020 expenditures: Total institutional	FY 2020 expenditures: Total HCBS	FY 2020 expenditures: Total LTSS	FY 2020 expenditures: Total Medicaid
Alabama	$1,101,573,672	$758,058,593	$1,859,632,265	$6,096,166,669
Alaska	$218,988,819	$324,206,451	$543,195,270	$2,019,250,659
Arizona	$818,000,741	$2,889,560,108	$3,707,560,849	$14,380,097,500
Arkansas	$1,065,822,306	$1,074,097,727	$2,139,920,033	$6,619,665,977
California	$8,942,491,835	$20,997,690,713	$29,940,182,548	$97,209,600,476
Colorado	$924,214,391	$2,369,788,490	$3,294,002,881	$9,571,142,660
Connecticut	$1,489,507,298	$1,960,003,109	$3,449,510,407	$8,488,113,264
Delaware	$354,376,163	$392,740,455	$747,116,617	$2,376,256,838
District of Columbia	$407,888,032	$664,459,535	$1,072,347,567	$3,116,473,398
Florida	$4,882,629,468	$4,150,070,147	$9,032,699,615	$25,287,463,190
Georgia	$1,647,587,985	$1,757,562,149	$3,405,150,134	$11,298,595,472
Hawaii	$289,220,512	$271,163,542	$560,384,054	$2,330,861,339
Idaho	$178,608,573	$405,717,756	$584,326,329	$2,486,061,085
Illinois	$2,137,866,964	$2,638,374,763	$4,776,241,727	$22,387,970,467
Indiana	$3,009,646,849	$1,703,877,537	$4,713,524,386	$14,269,009,974
Iowa	$1,143,146,546	$1,207,285,575	$2,350,432,121	$5,822,570,106
Kansas	$530,494,885	$1,429,268,842	$1,959,763,727	$3,829,902,734
Kentucky	$1,263,800,896	$1,101,592,719	$2,365,393,615	$11,905,613,440
Louisiana	$1,631,650,409	$883,543,183	$2,515,193,592	$12,559,462,713
Maine	$536,672,482	$831,882,706	$1,368,555,188	$3,208,972,015
Maryland	$1,404,687,734	$2,335,988,182	$3,740,675,916	$11,901,582,041
Massachusetts	$1,868,553,272	$4,745,388,380	$6,613,941,652	$17,967,352,114
Michigan	$2,493,502,735	$1,846,773,127	$4,340,275,862	$19,110,820,883
Minnesota	$1,338,998,414	$5,414,942,868	$6,753,941,282	$13,611,654,951
Mississippi	$1,098,217,821	$517,580,328	$1,615,798,149	$5,596,349,573
Missouri	$1,468,212,474	$2,229,549,668	$3,697,762,142	$10,905,114,581
Montana	$228,641,963	$312,595,839	$541,237,802	$1,992,926,465
Nebraska	$449,077,021	$586,496,629	$1,035,573,650	$2,290,915,253
Nevada	$397,334,331	$522,353,127	$919,687,458	$4,119,506,708
New Hampshire	$463,765,891	$438,183,415	$901,949,306	$2,252,876,680
New Jersey	$2,813,883,563	$2,732,515,730	$5,546,399,293	$16,411,726,557
New Mexico	$352,730,046	$884,523,035	$1,237,253,081	$6,287,136,348
New York	$8,839,260,283	$21,808,120,167	$30,647,380,450	$70,674,153,157
North Carolina	$1,874,267,609	$2,085,070,125	$3,959,337,734	$14,778,330,531
North Dakota	$403,270,333	$296,904,908	$700,175,241	$1,274,342,537
Ohio	$3,835,997,241	$5,202,112,724	$9,038,109,965	$25,194,454,160
Oklahoma	$831,834,713	$690,590,187	$1,522,424,900	$4,971,314,398
Oregon	$523,924,126	$2,731,911,755	$3,255,835,881	$10,660,624,000
Pennsylvania	$4,860,017,691	$10,198,307,379	$15,058,325,070	$34,964,896,749

State	FY 2020 expenditures: Total institutional	FY 2020 expenditures: Total HCBS	FY 2020 expenditures: Total LTSS	FY 2020 expenditures: Total Medicaid
Rhode Island	$409,546,861	$514,502,457	$924,049,318	$2,810,004,409
South Carolina	$969,909,172	$818,467,538	$1,788,376,711	$6,651,671,712
South Dakota	$205,129,738	$212,395,582	$417,525,320	$926,188,243
Tennessee	$1,332,127,099	$1,482,924,201	$2,815,051,299	$11,538,272,557
Texas	NA	NA	NA	NA
Utah	$433,673,371	$497,950,303	$931,623,674	$3,084,967,869
Vermont	$173,438,780	$390,013,526	$563,452,306	$1,616,960,203
Virginia	NA	NA	NA	NA
Washington	$1,105,276,157	$3,337,748,081	$4,443,024,238	$13,616,067,808
West Virginia	$886,590,919	$614,218,608	$1,500,809,527	$4,145,950,758
Wisconsin	$989,943,878	$3,166,496,398	$4,156,440,276	$9,345,285,225
Wyoming	$156,282,167	$173,703,738	$329,985,905	$610,632,960
US Territories	$960,717	$2,774,206	$3,734,923	$3,044,613,628
United States	**$74,783,244,946**	**$124,602,046,310**	**$199,385,291,255**	**$597,619,943,034**

Sources: Mathematica's analysis of FY 2020 CMS-64 data, state-submitted MLTSS data, and MFP budget worksheet for proposed budget data.

Notes: Excludes data for Texas 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 2020

State	FY 2020 total LTSS: % HCBS	FY 2020 total LTSS: % institutional	FY 2020 total Medicaid: % LTSS
Alabama	40.8	59.2	30.5
Alaska	59.7	40.3	26.9
Arizona	77.9	22.1	25.8
Arkansas	50.2	49.8	32.3
California	70.1	29.9	30.8
Colorado	71.9	28.1	34.4
Connecticut	56.8	43.2	40.6
Delaware	52.6	47.4	31.4
District of Columbia	62.0	38.0	34.4
Florida	45.9	54.1	35.7
Georgia	51.6	48.4	30.1
Hawaii	48.4	51.6	24.0
Idaho	69.4	30.6	23.5
Illinois	55.2	44.8	21.3
Indiana	36.1	63.9	33.0
Iowa	51.4	48.6	40.4
Kansas	72.9	27.1	51.2
Kentucky	46.6	53.4	19.9
Louisiana	35.1	64.9	20.0
Maine	60.8	39.2	42.6
Maryland	62.4	37.6	31.4
Massachusetts	71.7	28.3	36.8
Michigan	42.5	57.5	22.7
Minnesota	80.2	19.8	49.6
Mississippi	32.0	68.0	28.9
Missouri	60.3	39.7	33.9
Montana	57.8	42.2	27.2
Nebraska	56.6	43.4	45.2
Nevada	56.8	43.2	22.3
New Hampshire	48.6	51.4	40.0
New Jersey	49.3	50.7	33.8
New Mexico	71.5	28.5	19.7
New York	71.2	28.8	43.4
North Carolina	52.7	47.3	26.8
North Dakota	42.4	57.6	54.9
Ohio	57.6	42.4	35.9
Oklahoma	45.4	54.6	30.6
Oregon	83.9	16.1	30.5
Pennsylvania	67.7	32.3	43.1
Rhode Island	55.7	44.3	32.9

State	FY 2020 total LTSS: % HCBS	FY 2020 total LTSS: % institutional	FY 2020 total Medicaid: % LTSS
South Carolina	45.8	54.2	26.9
South Dakota	50.9	49.1	45.1
Tennessee	52.7	47.3	24.4
Texas	NA	NA	NA
Utah	53.4	46.6	30.2
Vermont	69.2	30.8	34.8
Virginia	NA	NA	NA
Washington	75.1	24.9	32.6
West Virginia	40.9	59.1	36.2
Wisconsin	76.2	23.8	44.5
Wyoming	52.6	47.4	54.0
US Territories	74.3	25.7	0.1
United States	**62.5**	**37.5**	**33.4**

Sources: Mathematica's analysis of FY 2020 CMS-64 data, state-submitted MLTSS data, and MFP budget worksheet for proposed budget data.

Notes: Excludes data for Texas 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 2018–2020

State	FY 2020 expenditures per state resident	FY 2020 rank	FY 2018 expenditures	FY 2019 expenditures	FY 2019 % change	FY 2020 expenditures	FY 2020 % change
Alabama	$1,213.22	43	$5,546,416,592	$5,880,233,770	6.0	$6,096,166,669	3.7
Alaska	$2,756.88	4	$2,033,389,399	$2,096,340,139	3.1	$2,019,250,659	-3.7
Arizona	$2,003.36	21	$12,132,120,126	$13,167,873,159	8.5	$14,380,097,500	9.2
Arkansas	$2,197.59	18	$6,308,079,740	$6,842,930,884	8.5	$6,619,665,977	-3.3
California	$2,461.02	12	NA	NA	NA	$97,209,600,476	NA
Colorado	$1,654.67	32	$8,925,796,867	$9,201,828,436	3.1	$9,571,142,660	4.0
Connecticut	$2,357.64	15	$8,175,809,143	$8,168,318,604	-0.1	$8,488,113,264	3.9
Delaware	$2,395.70	13	$2,237,920,184	NA	NA	$2,376,256,838	NA
District of Columbia	$4,516.02	1	$2,804,976,949	$2,892,033,951	3.1	$3,116,473,398	7.8
Florida	$1,172.35	44	$22,893,250,365	$24,384,268,451	6.5	$25,287,463,190	3.7
Georgia	$1,053.40	47	$10,839,404,783	$10,851,623,393	0.1	$11,298,595,472	4.1
Hawaii	$1,605.37	35	$2,213,115,909	$2,178,370,796	-1.6	$2,330,861,339	7.0
Idaho	$1,345.44	38	$1,901,290,685	$2,143,001,207	12.7	$2,486,061,085	16.0
Illinois	$1,751.08	30	NA	NA	NA	$22,387,970,467	NA
Indiana	$2,102.82	20	$11,241,808,216	$12,439,243,969	10.7	$14,269,009,974	14.7
Iowa	$1,826.02	26	$4,828,425,247	$5,199,821,191	7.7	$5,822,570,106	12.0
Kansas	$1,304.52	40	$3,437,703,549	$3,601,873,235	4.8	$3,829,902,734	6.3
Kentucky	$2,643.37	7	$9,801,380,491	$10,207,733,005	4.1	$11,905,613,440	16.6
Louisiana	$2,700.26	5	$10,835,742,015	$11,642,038,286	7.4	$12,559,462,713	7.9
Maine	$2,355.59	16	$2,686,772,711	$2,867,136,972	6.7	$3,208,972,015	11.9
Maryland	$1,928.11	22	$11,417,338,026	$11,730,186,550	2.7	$11,901,582,041	1.5
Massachusetts	$2,558.64	9	$17,655,414,020	$17,412,670,180	-1.4	$17,967,352,114	3.2
Michigan	$1,898.24	23	$16,286,594,101	$18,257,869,906	12.1	$19,110,820,883	4.7
Minnesota	$2,385.01	14	$12,324,543,789	$12,720,672,282	3.2	$13,611,654,951	7.0
Mississippi	$1,892.66	24	$5,278,728,403	$5,506,770,865	4.3	$5,596,349,573	1.6
Missouri	$1,771.90	27	$10,296,294,908	$10,534,803,881	2.3	$10,905,114,581	3.5
Montana	$1,834.78	25	$1,830,172,657	$1,857,962,976	1.5	$1,992,926,465	7.3
Nebraska	$1,167.97	45	$2,126,639,801	$2,141,794,131	0.7	$2,290,915,253	7.0
Nevada	$1,322.87	39	$3,922,474,284	$3,978,540,873	1.4	$4,119,506,708	3.5
New Hampshire	$1,635.07	34	$2,150,375,296	$1,985,132,112	-7.7	$2,252,876,680	13.5

State	FY 2020 expenditures per state resident	FY 2020 rank	FY 2018 expenditures	FY 2019 expenditures	FY 2019 % change	FY 2020 expenditures	FY 2020 % change
New Jersey	$1,768.55	28	$14,843,185,053	$15,908,523,928	7.2	$16,411,726,557	3.2
New Mexico	$2,969.04	3	$5,112,309,656	$5,262,891,223	2.9	$6,287,136,348	19.5
New York	$3,506.54	2	NA	$58,094,211,692	NA	$70,674,153,157	21.7
North Carolina	$1,413.22	37	$13,339,097,405	$13,595,881,059	1.9	$14,778,330,531	8.7
North Dakota	$1,635.95	33	$1,222,239,306	$1,163,970,291	-4.8	$1,274,342,537	9.5
Ohio	$2,136.83	19	$21,743,887,373	$23,465,691,647	7.9	$25,194,454,160	7.4
Oklahoma	$1,254.74	42	$4,433,479,661	$4,760,177,632	7.4	$4,971,314,398	4.4
Oregon	$2,513.38	11	$8,877,365,993	$9,426,870,932	6.2	$10,660,624,000	13.1
Pennsylvania	$2,691.76	6	$29,863,557,849	$32,079,703,325	7.4	$34,964,896,749	9.0
Rhode Island	$2,563.34	8	$2,620,033,271	$2,586,208,738	-1.3	$2,810,004,409	8.7
South Carolina	$1,296.44	41	$6,006,492,924	$6,305,731,666	5.0	$6,651,671,712	5.5
South Dakota	$1,044.06	48	$865,504,172	$899,072,690	3.9	$926,188,243	3.0
Tennessee	$1,667.35	31	$9,680,798,504	$10,091,876,637	4.2	$11,538,272,557	14.3
Texas	NA	NA	$37,585,413,327	$40,025,676,488	6.5	NA	NA
Utah	$940.06	49	$2,421,929,601	$2,724,326,505	12.5	$3,084,967,869	13.2
Vermont	$2,516.69	10	$1,595,969,592	$1,637,796,926	2.6	$1,616,960,203	-1.3
Virginia	NA	NA	NA	NA	NA	NA	NA
Washington	$1,764.02	29	$12,093,602,904	$13,128,258,799	8.6	$13,616,067,808	3.7
West Virginia	$2,316.44	17	$3,854,175,868	$3,926,176,801	1.9	$4,145,950,758	5.6
Wisconsin	$1,586.01	36	$8,768,743,868	$9,132,546,898	4.1	$9,345,285,225	2.3
Wyoming	$1,057.80	46	$595,439,375	$584,259,094	-1.9	$610,632,960	4.5
US Territories	NA	NA	$2,612,602,400	$2,815,467,885	7.8	$3,044,613,628	8.1
United States	**$2,035.13**	**NA**	**$400,267,806,358**	**$477,506,394,060**	**19.3**	**$597,619,943,034**	**25.2**

Sources: Mathematica's analysis of FY 2020 CMS-64 data and U.S. Census Bureau data. Data for FY 2018 were obtained from Murray et al. (2021a), and data for FY 2019 were obtained from Murray et al. (2021b).

Notes: Excludes FY 2018 data for California, Illinois, New York, and Virginia, FY 2019 data for California, Delaware, Illinois, and Virginia, and FY 2020 data for Texas 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, Texas 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 2018–2020

State	FY 2020 expenditures per state resident	FY 2018 expenditures	FY 2019 expenditures	FY 2019 % change	FY 2020 expenditures	FY 2020 % change
Alabama	$370.09	$1,782,664,352	$1,794,605,651	0.7	$1,859,632,265	3.6
Alaska	$741.62	$530,407,151	$541,942,093	2.2	$543,195,270	0.2
Arizona	$516.52	$2,226,696,458	$2,420,711,969	8.7	$3,707,560,849	53.2
Arkansas	$710.41	$2,037,737,117	$1,655,703,552	-18.7	$2,139,920,033	29.2
California	$757.98	NA	NA	NA	$29,940,182,548	NA
Colorado	$569.47	$1,853,012,716	$3,214,279,509	73.5	$3,294,002,881	2.5
Connecticut	$958.13	$3,644,644,001	$3,543,104,141	-2.8	$3,449,510,407	-2.6
Delaware	$753.23	$603,470,170	NA	NA	$747,116,617	NA
District of Columbia	$1,553.92	$927,100,093	$981,742,214	5.9	$1,072,347,567	9.2
Florida	$418.76	$6,812,027,805	$7,341,397,535	7.8	$9,032,699,615	23.0
Georgia	$317.47	$2,939,057,523	$3,198,084,751	8.8	$3,405,150,134	6.5
Hawaii	$385.96	$576,046,176	$568,529,224	-1.3	$560,384,054	-1.4
Idaho	$316.23	$740,310,194	$813,031,075	9.8	$584,326,329	-28.1
Illinois	$373.57	NA	NA	NA	$4,776,241,727	NA
Indiana	$694.63	$4,202,757,731	$4,494,005,467	6.9	$4,713,524,386	4.9
Iowa	$737.12	$2,000,301,949	$1,904,021,318	-4.8	$2,350,432,121	23.4
Kansas	$667.52	$1,739,132,310	$1,778,985,296	2.3	$1,959,763,727	10.2
Kentucky	$525.18	$2,089,164,452	$2,200,584,131	5.3	$2,365,393,615	7.5
Louisiana	$540.76	$2,276,868,675	$2,369,529,561	4.1	$2,515,193,592	6.1
Maine	$1,004.61	$1,173,545,936	$1,252,690,501	6.7	$1,368,555,188	9.2
Maryland	$606.01	$3,565,644,012	$3,792,355,436	6.4	$3,740,675,916	-1.4
Massachusetts	$941.86	$6,981,533,833	$6,896,248,450	-1.2	$6,613,941,652	-4.1
Michigan	$431.11	$3,940,540,827	$3,778,674,626	-4.1	$4,340,275,862	14.9
Minnesota	$1,183.41	$6,182,259,145	$6,197,996,329	0.3	$6,753,941,282	9.0
Mississippi	$546.46	$1,595,822,255	$1,662,160,309	4.2	$1,615,798,149	-2.8
Missouri	$600.82	$3,422,158,924	$3,670,190,602	7.2	$3,697,762,142	0.8
Montana	$498.29	$500,504,002	$494,277,657	-1.2	$541,237,802	9.5
Nebraska	$527.96	$949,926,399	$968,097,371	1.9	$1,035,573,650	7.0
Nevada	$295.33	$866,140,558	$859,590,650	-0.8	$919,687,458	7.0
New Hampshire	$654.61	$817,986,057	$853,962,043	4.4	$901,949,306	5.6
New Jersey	$597.69	$4,063,338,000	$5,304,036,441	30.5	$5,546,399,293	4.6
New Mexico	$584.28	$1,043,805,221	$1,056,533,631	1.2	$1,237,253,081	17.1
New York	$1,520.59	NA	$26,846,627,847	NA	$30,647,380,450	14.2
North Carolina	$378.62	$3,320,678,481	$3,537,889,696	6.5	$3,959,337,734	11.9
North Dakota	$898.86	$637,219,693	$641,437,438	0.7	$700,175,241	9.2
Ohio	$766.55	$8,966,157,825	$8,801,821,048	-1.8	$9,038,109,965	2.7
Oklahoma	$384.25	$1,317,148,258	$1,377,710,915	4.6	$1,522,424,900	10.5
Oregon	$767.61	$2,882,307,719	$2,997,197,087	4.0	$3,255,835,881	8.6

State	FY 2020 expenditures per state resident	FY 2018 expenditures	FY 2019 expenditures	FY 2019 % change	FY 2020 expenditures	FY 2020 % change
Pennsylvania	$1,159.26	$11,935,229,350	$13,900,568,721	16.5	$15,058,325,070	8.3
Rhode Island	$842.93	$511,255,449	$734,999,846	43.8	$924,049,318	25.7
South Carolina	$348.56	$1,619,991,283	$1,786,843,912	10.3	$1,788,376,711	0.1
South Dakota	$470.66	$367,980,514	$379,922,184	3.2	$417,525,320	9.9
Tennessee	$406.79	$2,503,072,912	$2,633,757,508	5.2	$2,815,051,299	6.9
Texas	NA	$11,691,284,027	$11,592,488,249	-0.8	NA	NA
Utah	$283.89	$750,177,876	$852,198,710	13.6	$931,623,674	9.3
Vermont	$876.98	$675,364,094	$550,496,178	-18.5	$563,452,306	2.4
Virginia	NA	NA	NA	NA	NA	NA
Washington	$575.61	$3,560,712,467	$3,899,671,818	9.5	$4,443,024,238	13.9
West Virginia	$838.54	$1,381,973,156	$1,457,280,995	5.4	$1,500,809,527	3.0
Wisconsin	$705.40	$4,253,239,834	$4,215,474,991	-0.9	$4,156,440,276	-1.4
Wyoming	$571.63	$303,855,978	$309,198,885	1.8	$329,985,905	6.7
United States	**$678.99**	**$128,766,166,201**	**$162,125,902,881**	**25.9**	**$199,385,291,255**	**23.0**

Sources: Mathematica's analysis of FY 2020 CMS-64 data, state-submitted MLTSS data, MFP budget worksheet for proposed budget data, and U.S. Census Bureau data. Data for FY 2018 were obtained from Murray et al. (2021a), and data for FY 2019 were obtained from Murray et al. (2021b).

Notes: Total LTSS expenditures include expenditures from Tables C.6 and C.7. Excludes FY 2018 data for California, Illinois, New York, and Virginia, FY 2019 data for California, Delaware, Illinois, and Virginia, and FY 2020 data for Texas 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 2020, total LTSS expenditures for U.S. territories represented $3,734,923. FY 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, Texas 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 2018–2020

State	FY 2020 expenditures per state resident	FY 2018 expenditures	FY 2019 expenditures	FY 2019 % change	FY 2020 expenditures	FY 2020 % change
Alabama	$219.23	$1,019,064,970	$1,051,771,593	3.2	$1,101,573,672	4.7
Alaska	$298.98	$200,195,418	$210,791,304	5.3	$218,988,819	3.9
Arizona	$113.96	$552,306,118	$594,168,318	7.6	$818,000,741	37.7
Arkansas	$353.83	$979,225,237	$926,645,589	-5.4	$1,065,822,306	15.0
California	$226.39	NA	NA	NA	$8,942,491,835	NA
Colorado	$159.78	$829,110,824	$905,863,772	9.3	$924,214,391	2.0
Connecticut	$413.72	$1,620,446,209	$1,622,691,315	0.1	$1,489,507,298	-8.2
Delaware	$357.28	$317,005,377	NA	NA	$354,376,163	NA
District of Columbia	$591.06	$356,225,529	$383,267,771	7.6	$407,888,032	6.4
Florida	$226.36	$4,284,466,306	$4,616,521,232	7.8	$4,882,629,468	5.8
Georgia	$153.61	$1,513,915,646	$1,608,597,841	6.3	$1,647,587,985	2.4
Hawaii	$199.20	$314,013,399	$288,069,528	-8.3	$289,220,512	0.4
Idaho	$96.66	$295,976,962	$337,741,784	14.1	$178,608,573	-47.1
Illinois	$167.21	NA	NA	NA	$2,137,866,964	NA
Indiana	$443.53	$2,742,139,873	$2,921,455,788	6.5	$3,009,646,849	3.0
Iowa	$358.50	$1,169,261,329	$877,751,801	-24.9	$1,143,146,546	30.2
Kansas	$180.69	$574,088,480	$501,021,325	-12.7	$530,494,885	5.9
Kentucky	$280.60	$1,195,979,858	$1,197,463,320	0.1	$1,263,800,896	5.5
Louisiana	$350.80	$1,498,031,092	$1,530,878,052	2.2	$1,631,650,409	6.6
Maine	$393.95	$498,142,912	$452,945,771	-9.1	$536,672,482	18.5
Maryland	$227.57	$1,395,419,231	$1,467,105,797	5.1	$1,404,687,734	-4.3
Massachusetts	$266.09	$2,020,407,726	$1,910,548,911	-5.4	$1,868,553,272	-2.2
Michigan	$247.67	$2,257,174,215	$2,370,869,164	5.0	$2,493,502,735	5.2
Minnesota	$234.62	$1,394,240,901	$1,446,700,584	3.8	$1,338,998,414	-7.4
Mississippi	$371.41	$1,075,738,957	$1,107,821,768	3.0	$1,098,217,821	-0.9
Missouri	$238.56	$1,362,250,459	$1,489,024,749	9.3	$1,468,212,474	-1.4
Montana	$210.50	$219,781,491	$221,338,432	0.7	$228,641,963	3.3
Nebraska	$228.95	$449,072,461	$437,818,376	-2.5	$449,077,021	2.6
Nevada	$127.59	$334,778,444	$344,585,615	2.9	$397,334,331	15.3
New Hampshire	$336.59	$436,748,735	$450,467,135	3.1	$463,765,891	3.0
New Jersey	$303.23	$2,666,195,326	$2,784,983,263	4.5	$2,813,883,563	1.0
New Mexico	$166.57	$253,321,921	$258,740,698	2.1	$352,730,046	36.3
New York	$438.57	NA	$9,974,082,658	NA	$8,839,260,283	-11.4
North Carolina	$179.23	NA	$1,516,436,333	NA	$1,874,267,609	23.6
North Dakota	$517.70	$371,517,517	$361,912,841	-2.6	$403,270,333	11.4
Ohio	$325.34	$3,795,136,109	$3,785,986,164	-0.2	$3,835,997,241	1.3
Oklahoma	$209.95	$685,384,120	$730,968,307	6.7	$831,834,713	13.8
Oregon	$123.52	$479,197,055	$499,452,683	4.2	$523,924,126	4.9
Pennsylvania	$374.15	$4,929,569,424	$4,987,309,155	1.2	$4,860,017,691	-2.6
Rhode Island	$373.60	$357,956,860	$366,254,568	2.3	$409,546,861	11.8

State	FY 2020 expenditures per state resident	FY 2018 expenditures	FY 2019 expenditures	FY 2019 % change	FY 2020 expenditures	FY 2020 % change
South Carolina	$189.04	$855,597,936	$908,631,100	6.2	$969,909,172	6.7
South Dakota	$231.24	$184,590,530	$182,950,458	-0.9	$205,129,738	12.1
Tennessee	$192.50	$1,199,544,951	$1,337,027,681	11.5	$1,332,127,099	-0.4
Texas	NA	$4,621,519,362	$4,415,423,452	-4.5	NA	NA
Utah	$132.15	$364,499,845	$409,733,308	12.4	$433,673,371	5.8
Vermont	$269.95	$298,304,152	$175,080,664	-41.3	$173,438,780	-0.9
Virginia	NA	NA	NA	NA	NA	NA
Washington	$143.19	$1,069,395,139	$1,064,385,945	-0.5	$1,105,276,157	3.8
West Virginia	$495.36	$809,361,895	$851,756,356	5.2	$886,590,919	4.1
Wisconsin	$168.01	$1,051,426,070	$1,048,868,093	-0.2	$989,943,878	-5.6
Wyoming	$270.73	$151,117,809	$142,004,424	-6.0	$156,282,167	10.1
United States	**$254.67**	**$55,049,387,032**	**$67,076,322,198**	**21.8**	**$74,783,244,946**	**11.5**

Sources: Mathematica's analysis of FY 2020 CMS-64 data, state-submitted MLTSS data, and U.S. Census Bureau data. Data for FY 2018 were obtained from Murray et al. (2021a), and data for FY 2019 were obtained from Murray et al. (2021b).

Notes: Excludes FY 2018 data for California, Illinois, North Carolina, New York, and Virginia, FY 2019 data for California, Delaware, Illinois, and Virginia, and FY 2020 data for Texas 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 2020, total institutional LTSS expenditures for U.S. territories were $960,717. For the total U.S. expenditures per resident calculation, Texas and Virginia are excluded from the total U.S. Census population. Because California and Massachusetts were unable to report institutional MLTSS data at the service category level, total institutional LTSS expenditures for California and Massachusetts in this table do not equal the sum of institutional expenditures for the separate institutional service categories. For FY 2020, California's total institutional expenditures will be $4,654,906,000 higher than the sum of institutional service categories. For Massachusetts, total institutional expenditures will be $319,694,264 higher for FY 2020. 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 2018–2020

State	FY 2020 expenditures per state resident	FY 2018 expenditures	FY 2019 expenditures	FY 2019 % change	FY 2020 expenditures	FY 2020 % change
Alabama	$150.86	$763,599,382	$742,834,058	-2.7	$758,058,593	2.0
Alaska	$442.64	$330,211,733	$331,150,789	0.3	$324,206,451	-2.1
Arizona	$402.56	$1,674,390,340	$1,826,543,651	9.1	$2,889,560,108	58.2
Arkansas	$356.58	$1,058,511,880	$729,057,963	-31.1	$1,074,097,727	47.3
California	$531.59	NA	NA	NA	$20,997,690,713	NA
Colorado	$409.69	$1,023,901,892	$2,308,415,737	125.5	$2,369,788,490	2.7
Connecticut	$544.41	$2,024,197,792	$1,920,412,826	-5.1	$1,960,003,109	2.1
Delaware	$395.95	$286,464,793	NA	NA	$392,740,455	NA
District of Columbia	$962.86	$570,874,564	$598,474,443	4.8	$664,459,535	11.0
Florida	$192.40	$2,527,561,499	$2,724,876,303	7.8	$4,150,070,147	52.3
Georgia	$163.86	$1,425,141,877	$1,589,486,910	11.5	$1,757,562,149	10.6
Hawaii	$186.76	$262,032,777	$280,459,696	7.0	$271,163,542	-3.3
Idaho	$219.57	$444,333,232	$475,289,291	7.0	$405,717,756	-14.6
Illinois	$206.36	NA	NA	NA	$2,638,374,763	NA
Indiana	$251.10	$1,460,617,858	$1,572,549,679	7.7	$1,703,877,537	8.4
Iowa	$378.62	$831,040,620	$1,026,269,517	23.5	$1,207,285,575	17.6
Kansas	$486.83	$1,165,043,830	$1,277,963,971	9.7	$1,429,268,842	11.8
Kentucky	$244.58	$893,184,594	$1,003,120,811	12.3	$1,101,592,719	9.8
Louisiana	$189.96	$778,837,583	$838,651,509	7.7	$883,543,183	5.4
Maine	$610.65	$675,403,024	$799,744,730	18.4	$831,882,706	4.0
Maryland	$378.44	$2,170,224,781	$2,325,249,639	7.1	$2,335,988,182	0.5
Massachusetts	$675.77	$4,961,126,108	$4,985,699,540	0.5	$4,745,388,380	-4.8
Michigan	$183.44	$1,683,366,612	$1,407,805,461	-16.4	$1,846,773,127	31.2
Minnesota	$948.80	$4,788,018,243	$4,751,295,745	-0.8	$5,414,942,868	14.0
Mississippi	$175.04	$520,083,298	$554,338,541	6.6	$517,580,328	-6.6
Missouri	$362.26	$2,059,908,465	$2,181,165,853	5.9	$2,229,549,668	2.2
Montana	$287.79	$280,722,511	$272,939,225	-2.8	$312,595,839	14.5
Nebraska	$299.01	$500,853,938	$530,278,995	5.9	$586,496,629	10.6
Nevada	$167.74	$531,362,114	$515,005,035	-3.1	$522,353,127	1.4
New Hampshire	$318.02	$381,237,322	$403,494,908	5.8	$438,183,415	8.6
New Jersey	$294.46	$1,397,142,673	$2,519,053,178	80.3	$2,732,515,730	8.5
New Mexico	$417.71	$790,483,300	$797,792,933	0.9	$884,523,035	10.9
New York	$1,082.02	NA	$16,872,545,189	NA	$21,808,120,167	29.3
North Carolina	$199.39	NA	$2,021,453,363	NA	$2,085,070,125	3.1
North Dakota	$381.15	$265,702,176	$279,524,597	5.2	$296,904,908	6.2
Ohio	$441.21	$5,171,021,716	$5,015,834,884	-3.0	$5,202,112,724	3.7
Oklahoma	$174.30	$631,764,138	$646,742,608	2.4	$690,590,187	6.8
Oregon	$644.08	$2,403,110,664	$2,497,744,404	3.9	$2,731,911,755	9.4

State	FY 2020 expenditures per state resident	FY 2018 expenditures	FY 2019 expenditures	FY 2019 % change	FY 2020 expenditures	FY 2020 % change
Pennsylvania	$785.11	$7,005,659,926	$8,913,259,566	27.2	$10,198,307,379	14.4
Rhode Island	$469.34	$153,298,588	$368,745,278	140.5	$514,502,457	39.5
South Carolina	$159.52	$764,393,347	$878,212,812	14.9	$818,467,538	-6.8
South Dakota	$239.43	$183,389,984	$196,971,726	7.4	$212,395,582	7.8
Tennessee	$214.29	$1,303,527,961	$1,296,729,827	-0.5	$1,482,924,201	14.4
Texas	NA	$7,069,764,665	$7,177,064,797	1.5	NA	NA
Utah	$151.74	$385,678,031	$442,465,402	14.7	$497,950,303	12.5
Vermont	$607.03	$377,059,943	$375,415,514	-0.4	$390,013,526	3.9
Virginia	NA	NA	NA	NA	NA	NA
Washington	$432.42	$2,491,317,328	$2,835,285,873	13.8	$3,337,748,081	17.7
West Virginia	$343.18	$572,611,261	$605,524,639	5.7	$614,218,608	1.4
Wisconsin	$537.39	$3,201,813,764	$3,166,606,898	-1.1	$3,166,496,398	0.0
Wyoming	$300.91	$152,738,169	$167,194,461	9.5	$173,703,738	3.9
United States	**$424.32**	**$70,396,100,687**	**$95,049,580,683**	**35.0**	**$124,602,046,310**	**31.1**

Sources: Mathematica's analysis of FY 2020 CMS-64 data, state-submitted MLTSS data, MFP budget worksheet for proposed budget data, and U.S. Census Bureau data. Data for FY 2018 were obtained from Murray et al. (2021a), and data for FY 2019 were obtained from Murray et al. (2021b).

Notes: Excludes FY 2018 data for California, Illinois, North Carolina, New York, and Virginia, FY 2019 data for California, Delaware, Illinois, and Virginia, and FY 2020 data for Texas 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 2020, total HCBS expenditures for U.S. territories were $2,774,206. For the total U.S. expenditures per resident calculation, Texas and Virginia are excluded from the total U.S. Census population. Because California, Massachusetts, and Pennsylvania 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. For FY 2020, California's total HCBS expenditures will be $597,838,000 higher than the sum of HCBS service categories; Massachusetts's total HCBS expenditures will be $1,089,350,704 higher; and Pennsylvania's total HCBS expenditures will be $6,018,255,134 higher. 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 2018–2020

State	FY 2019 rank	FY 2020 rank	FY 2018	FY 2019	FY 2020
Alabama	42	46	42.8	41.4	40.8
Alaska	16	19	62.3	61.1	59.7
Arizona	4	3	75.2	75.5	77.9
Arkansas	39	35	51.9	44.0	50.2
California	NA	11	NA	NA	70.1
Colorado	9	7	55.3	71.8	71.9
Connecticut	25	22	55.5	54.2	56.8
Delaware	NA	31	47.5	NA	52.6
District of Columbia	17	16	61.6	61.0	62.0
Florida	44	40	37.1	37.1	45.9
Georgia	31	32	48.5	49.7	51.6
Hawaii	32	38	45.5	49.3	48.4
Idaho	20	12	60.0	58.5	69.4
Illinois	NA	26	NA	NA	55.2
Indiana	46	47	34.8	35.0	36.1
Iowa	27	33	41.5	53.9	51.4
Kansas	8	6	67.0	71.8	72.9
Kentucky	38	39	42.8	45.6	46.6
Louisiana	45	48	34.2	35.4	35.1
Maine	12	17	57.6	63.8	60.8
Maryland	15	15	60.9	61.3	62.4
Massachusetts	7	8	71.1	72.3	71.7
Michigan	43	43	42.7	37.3	42.5
Minnesota	2	2	77.4	76.7	80.2
Mississippi	47	49	32.6	33.4	32.0
Missouri	19	18	60.2	59.4	60.3
Montana	23	20	56.1	55.2	57.8
Nebraska	24	24	52.7	54.8	56.6
Nevada	18	23	61.3	59.9	56.8
New Hampshire	36	37	46.6	47.2	48.6
New Jersey	35	36	34.4	47.5	49.3
New Mexico	3	9	75.7	75.5	71.5
New York	13	10	NA	62.8	71.2
North Carolina	21	29	NA	57.1	52.7
North Dakota	40	44	41.7	43.6	42.4
Ohio	22	21	57.7	57.0	57.6
Oklahoma	37	42	48.0	46.9	45.4
Oregon	1	1	83.4	83.3	83.9
Pennsylvania	11	14	58.7	64.1	67.7
Rhode Island	30	25	30.0	50.2	55.7
South Carolina	34	41	47.2	49.1	45.8

State	FY 2019 rank	FY 2020 rank	FY 2018	FY 2019	FY 2020
South Dakota	29	34	49.8	51.8	50.9
Tennessee	33	28	52.1	49.2	52.7
Texas	14	NA	60.5	61.9	NA
Utah	28	27	51.4	51.9	53.4
Vermont	10	13	55.8	68.2	69.2
Virginia	NA	NA	NA	NA	NA
Washington	6	5	70.0	72.7	75.1
West Virginia	41	45	41.4	41.6	40.9
Wisconsin	5	4	75.3	75.1	76.2
Wyoming	26	30	50.3	54.1	52.6
United States	**NA**	**NA**	**56.1**	**58.6**	**62.5**

Sources: Mathematica's analysis of FY 2020 CMS-64 data, state-submitted MLTSS data, and MFP budget worksheet for proposed budget data. Data for FY 2018 were obtained from Murray et al. (2021a), and data for FY 2019 were obtained from Murray et al. (2021b).

Notes: Excludes FY 2018 data for California, Illinois, New York, North Carolina, and Virginia, FY 2019 data for California, Delaware, Illinois, and Virginia, and FY 2020 data for Texas 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 2018–2020

State	FY 2020 expenditures per state resident	FY 2018 expenditures	FY 2019 expenditures	FY 2019 % change	FY 2020 expenditures	FY 2020 % change
Alabama	$0.00	$0	$0	0.0	$0	0.0
Alaska	$0.00	$0	$0	0.0	$0	0.0
Arizona	$487.07	$2,103,215,657	$2,244,432,997	6.7	$3,496,175,086	55.8
Arkansas	$250.64	$0	NA	NA	$754,977,464	NA
California	$132.98	NA	NA	NA	$5,252,744,000	NA
Colorado	$0.00	$0	$0	0.0	$0	0.0
Connecticut	$0.00	$0	$0	0.0	$0	0.0
Delaware	$478.66	$361,829,497	NA	NA	$474,773,487	NA
District of Columbia	$0.00	$0	$0	0.0	$0	0.0
Florida	$271.54	$4,131,163,455	$4,382,797,061	6.1	$5,857,165,584	33.6
Georgia	$0.00	$0	$0	0.0	$0	0.0
Hawaii	$285.44	$433,326,265	$410,800,957	-5.2	$414,433,909	0.9
Idaho	NA	$27,855,345	$70,999,142	154.9	NA	NA
Illinois	$129.83	NA	NA	NA	$1,659,912,836	NA
Indiana	$0.00	$0	$0	0.0	$0	0.0
Iowa	$698.16	$1,791,990,254	$1,685,143,453	-6.0	$2,226,185,558	32.1
Kansas	$626.12	$1,597,192,050	$1,657,963,878	3.8	$1,838,224,240	10.9
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	$200.66	$1,249,483,662	$1,352,743,882	8.3	$1,409,044,969	4.2
Michigan	$61.09	$540,995,922	$531,618,465	-1.7	$614,984,049	15.7
Minnesota	$186.42	$1,053,872,233	$998,639,852	-5.2	$1,063,956,250	6.5
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	$229.05	$1,609,751,736	$1,938,145,053	20.4	$2,125,527,125	9.7
New Mexico	$345.37	$602,603,917	$594,189,024	-1.4	$731,352,777	23.1
New York	$651.16	NA	$13,333,969,125	NA	$13,124,063,420	-1.6
North Carolina	$90.39	$754,446,145	$885,670,142	17.4	$945,205,759	6.7
North Dakota	$0.00	$0	$0	0.0	$0	0.0
Ohio	$189.08	$2,186,578,238	$2,247,862,568	2.8	$2,229,352,727	-0.8
Oklahoma	$0.00	$0	$0	0.0	$0	0.0
Oregon	$0.00	$0	$0	0.0	$0	0.0

State	FY 2020 expenditures per state resident	FY 2018 expenditures	FY 2019 expenditures	FY 2019 % change	FY 2020 expenditures	FY 2020 % change
Pennsylvania	$674.10	$920,087,915	$4,443,574,545	383.0	$8,756,345,205	97.1
Rhode Island	$101.22	$248,043,893	$66,433,612	-73.2	$110,959,236	67.0
South Carolina	$13.46	NA	$51,810,125	NA	$69,065,196	33.3
South Dakota	$0.00	$0	$0	0.0	$0	0.0
Tennessee	$242.12	$1,243,791,452	$1,414,297,340	13.7	$1,675,497,517	18.5
Texas	NA	$6,729,685,321	$7,068,492,401	5.0	NA	NA
Utah	$0.00	$0	$0	0.0	$0	0.0
Vermont	$0.00	$549,022,026	$0	-100.0	$0	0.0
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	$374.83	$1,935,057,355	$2,122,307,292	9.7	$2,208,620,251	4.1
Wyoming	$0.00	$0	$0	0.0	$0	0.0
United States	**$194.24**	**$30,069,992,338**	**$47,501,890,914**	**58.0**	**$57,038,566,646**	**20.1**

Sources: Mathematica's analysis of FY 2020 state-submitted MLTSS data and U.S. Census Bureau data. Data for FY 2018 were obtained from Murray et al. (2021a), and data for FY 2019 were obtained from Murray et al. (2021b).

Notes: Total MLTSS expenditures include expenditures from Tables C.10 and C.11. FY 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 2018 data for California, Illinois, North Carolina, New York, and Virginia, FY 2019 data for Arkansas, California, Delaware, Illinois, and Virginia, and FY 2020 data for Idaho, Texas, and Virginia due to missing MLTSS data. For the total U.S. expenditures per resident calculation, Texas 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 2018–2020

State	FY 2020 expenditures per state resident	FY 2018 expenditures	FY 2019 expenditures	FY 2019 % change	FY 2020 expenditures	FY 2020 % change
Alabama	$0.00	$0	$0	0.0	$0	0.0
Alaska	$0.00	$0	$0	0.0	$0	0.0
Arizona	$100.22	$461,379,263	$498,732,676	8.1	$719,352,308	44.2
Arkansas	$62.43	$0	NA	NA	$188,040,792	NA
California	$117.85	NA	NA	NA	$4,654,906,000	NA
Colorado	$0.00	$0	$0	0.0	$0	0.0
Connecticut	$0.00	$0	$0	0.0	$0	0.0
Delaware	$310.74	$264,910,705	NA	NA	$308,217,897	NA
District of Columbia	$0.00	$0	$0	0.0	$0	0.0
Florida	$156.77	$3,108,778,810	$3,243,660,650	4.3	$3,381,623,166	4.3
Georgia	$0.00	$0	$0	0.0	$0	0.0
Hawaii	$190.66	$303,443,213	$279,093,016	-8.0	$276,814,135	-0.8
Idaho	NA	$9,154,085	$53,259,290	481.8	NA	NA
Illinois	$40.49	NA	NA	NA	$517,625,535	NA
Indiana	$0.00	$0	$0	0.0	$0	0.0
Iowa	$343.57	$1,080,276,019	$802,522,685	-25.7	$1,095,542,312	36.5
Kansas	$151.96	$462,508,864	$404,374,695	-12.6	$446,121,870	10.3
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	$45.53	$327,001,274	$339,500,166	3.8	$319,694,264	-5.8
Michigan	$13.77	$133,044,921	$114,346,160	-14.1	$138,668,463	21.3
Minnesota	$30.24	$163,577,019	$164,016,966	0.3	$172,566,435	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	$144.94	$971,714,963	$1,191,488,427	22.6	$1,345,025,464	12.9
New Mexico	$148.73	$221,002,948	$225,832,047	2.2	$314,952,216	39.5
New York	$91.91	NA	$2,506,787,319	NA	$1,852,347,606	-26.1
North Carolina	$0.00	$0	$0	0.0	$0	0.0
North Dakota	$0.00	$0	$0	0.0	$0	0.0
Ohio	$125.49	$1,490,165,306	$1,511,588,141	1.4	$1,479,565,352	-2.1
Oklahoma	$0.00	$0	$0	0.0	$0	0.0
Oregon	$0.00	$0	$0	0.0	$0	0.0

State	FY 2020 expenditures per state resident	FY 2018 expenditures	FY 2019 expenditures	FY 2019 % change	FY 2020 expenditures	FY 2020 % change
Pennsylvania	$210.29	$432,830,374	$1,310,722,814	202.8	$2,731,623,458	108.4
Rhode Island	$39.72	$196,540,612	$42,171,277	-78.5	$43,547,022	3.3
South Carolina	$4.61	NA	$17,223,858	NA	$23,632,175	37.2
South Dakota	$0.00	$0	$0	0.0	$0	0.0
Tennessee	$155.64	$944,178,692	$1,079,897,829	14.4	$1,077,050,467	-0.3
Texas	NA	$2,659,218,666	$2,590,165,200	-2.6	NA	NA
Utah	$0.00	$0	$0	0.0	$0	0.0
Vermont	$0.00	$173,968,327	$0	-100.0	$0	0.0
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	$38.53	$183,103,819	$200,091,055	9.3	$227,030,744	13.5
Wyoming	$0.00	$0	$0	0.0	$0	0.0
United States	**$72.58**	**$13,586,797,880**	**$16,575,474,271**	**22.0**	**$21,313,947,680**	**28.6**

Sources: Mathematica's analysis of FY 2020 state-submitted MLTSS data and U.S. Census Bureau data. Data for FY 2018 were obtained from Murray et al. (2021a), and data for FY 2019 were obtained from Murray et al. (2021b).

Notes: Excludes FY 2018 data for California, Illinois, North Carolina, New York, and Virginia, FY 2019 data for Arkansas, California, Delaware, Illinois, and Virginia, and FY 2020 data for Idaho, Texas, and Virginia due to missing MLTSS data. For the total U.S. expenditures per resident calculation, Texas and Virginia are excluded from the total U.S. Census population. Because California and Massachusetts were unable to report institutional MLTSS data at the service category level, total institutional LTSS expenditures for California and Massachusetts in this table do not equal the sum of institutional expenditures for the separate institutional service categories. For FY 2020, California's total institutional MLTSS expenditures will be $4,654,906,000 higher than the sum of institutional MLTSS service categories. For Massachusetts, total institutional MLTSS expenditures will be $319,694,264 higher for FY 2020. 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 2018–2020

State	FY 2020 expenditures per state resident	FY 2018 expenditures	FY 2019 expenditures	FY 2019 % change	FY 2020 expenditures	FY 2020 % change
Alabama	$0.00	$0	$0	0.0	$0	0.0
Alaska	$0.00	$0	$0	0.0	$0	0.0
Arizona	$386.85	$1,641,836,394	$1,745,700,321	6.3	$2,776,822,778	59.1
Arkansas	$188.21	$0	NA	NA	$566,936,672	NA
California	$15.14	NA	NA	NA	$597,838,000	NA
Colorado	$0.00	$0	$0	0.0	$0	0.0
Connecticut	$0.00	$0	$0	0.0	$0	0.0
Delaware	$167.92	$96,918,792	NA	NA	$166,555,590	NA
District of Columbia	$0.00	$0	$0	0.0	$0	0.0
Florida	$114.77	$1,022,384,645	$1,139,136,411	11.4	$2,475,542,418	117.3
Georgia	$0.00	$0	$0	0.0	$0	0.0
Hawaii	$94.79	$129,883,052	$131,707,941	1.4	$137,619,774	4.5
Idaho	NA	$18,701,260	$17,739,852	-5.1	NA	NA
Illinois	$89.34	NA	NA	NA	$1,142,287,301	NA
Indiana	$0.00	$0	$0	0.0	$0	0.0
Iowa	$354.58	$711,714,235	$882,620,768	24.0	$1,130,643,246	28.1
Kansas	$474.17	$1,134,683,186	$1,253,589,183	10.5	$1,392,102,370	11.0
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	$155.13	$922,482,389	$1,013,243,717	9.8	$1,089,350,704	7.5
Michigan	$47.31	$407,951,001	$417,272,304	2.3	$476,315,586	14.1
Minnesota	$156.19	$890,295,213	$834,622,886	-6.3	$891,389,815	6.8
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	$84.11	$638,036,772	$746,656,626	17.0	$780,501,661	4.5
New Mexico	$196.64	$381,600,969	$368,356,977	-3.5	$416,400,561	13.0
New York	$559.25	NA	$10,827,181,806	NA	$11,271,715,815	4.1
North Carolina	$90.39	$0	$885,670,142	100.0	$945,205,759	6.7
North Dakota	$0.00	$0	$0	0.0	$0	0.0
Ohio	$63.59	$696,412,932	$736,274,427	5.7	$749,787,375	1.8
Oklahoma	$0.00	$0	$0	0.0	$0	0.0
Oregon	$0.00	$0	$0	0.0	$0	0.0

State	FY 2020 expenditures per state resident	FY 2018 expenditures	FY 2019 expenditures	FY 2019 % change	FY 2020 expenditures	FY 2020 % change
Pennsylvania	$463.81	$487,257,541	$3,132,851,731	543.0	$6,024,721,747	92.3
Rhode Island	$61.49	$51,503,281	$24,262,335	-52.9	$67,412,214	177.8
South Carolina	$8.86	NA	$34,586,267	NA	$45,433,021	31.4
South Dakota	$0.00	$0	$0	0.0	$0	0.0
Tennessee	$86.48	$299,612,760	$334,399,511	11.6	$598,447,050	79.0
Texas	NA	$4,070,466,655	$4,478,327,201	10.0	NA	NA
Utah	$0.00	$0	$0	0.0	$0	0.0
Vermont	$0.00	$375,053,700	$0	-100.0	$0	0.0
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	$336.30	$1,751,953,536	$1,922,216,237	9.7	$1,981,589,508	3.1
Wyoming	$0.00	$0	$0	0.0	$0	0.0
United States	**$121.66**	**$15,728,748,312**	**$30,926,416,643**	**96.6**	**$35,724,618,965**	**15.5**

Sources: Mathematica's analysis of FY 2020 state-submitted MLTSS data and U.S. Census Bureau data. Data for FY 2018 were obtained from Murray et al. (2021a), and data for FY 2019 were obtained from Murray et al. (2021b).

Notes: Excludes FY 2018 data for California, Illinois, North Carolina, New York, and Virginia, FY 2019 data for Arkansas, California, Delaware, Illinois, and Virginia, and FY 2020 data for Idaho, Texas, and Virginia due to missing MLTSS data. For the total U.S. expenditures per resident calculation, Texas and Virginia are excluded the total U.S. Census population. Because California, Massachusetts, and Pennsylvania 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. For FY 2020, California's total HCBS MLTSS expenditures will be $597,838,000 higher than the sum of HCBS MLTSS service categories; Massachusetts's total HCBS MLTSS expenditures will be $1,089,350,704 higher; and Pennsylvania's total HCBS MLTSS expenditures will be $6,018,255,134 higher. 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 2020 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 2020 CMS-64 Supplemental Feeder Form (4C) data. The following tables included an analysis of FY 2020 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 2020 MFP budget worksheet for proposed budget data. Tables D.13 and D.19 included an analysis of FY 2020 state-submitted LTSS data from Vermont. The following tables included an analysis of FY 2020 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 2020 CMS 372 data. For applicable tables, data for FY 2018 were obtained from Murray et al. (2021a), and data for FY 2019 were obtained from Murray et al. (2021b).
Notes: Medicaid LTSS service category expenditure tables	1. **Tables D.1 and D.4** exclude FY 2018 data for California, Illinois, New York, and Virginia, FY 2019 data for California, Delaware, Illinois, and Virginia, and FY 2020 data for Texas 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 Texas 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 2018 data for California, Illinois, New York, and Virginia, FY 2019 data for California, Delaware, Illinois, and Virginia, and FY 2020 data for Texas 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 2020, total LTSS expenditures for U.S. territories were $3,734,923 (Table D.5), total institutional LTSS expenditures for U.S. territories were $960,717 (Table D.6), and total HCBS expenditures for U.S. territories were $2,774,206 (Table D.15). 5. **For tables D.4 – D.6, D.14, D.15, and D.20**, Texas 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 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 California and Massachusetts were unable to report institutional MLTSS data at the service category level, total institutional LTSS expenditures for California and 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. For FY 2020, California's total institutional expenditures will be $4,654,906,000 higher than the sum of institutional service categories. For Massachusetts, total institutional expenditures will be $319,694,264 higher for FY 2020. 8. **Tables D.7 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 2020, expenditures for U.S. territories were $960,717 for nursing facilities (Table D.7) and $2,774,206 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 California, Massachusetts, and Pennsylvania 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.45-D.35. For FY 2020, California's total HCBS expenditures will be $597,838,000 higher than the sum of HCBS service categories; Massachusetts's total HCBS expenditures will be $1,089,350,704 higher; and Pennsylvania's total HCBS expenditures will be $6,018,255,134 higher. 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 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 and 2020, 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 2018, New York and Texas in FY 2019, and New York in FY 2020, 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 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. For FY 2020, all states in this table are based on the CMS-64 FMR Net Services report data, except for Arkansas, Delaware, Florida, Iowa, Kansas, Massachusetts, North Carolina, New Mexico, New York, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, and Wisconsin. 15. **For table D.26**, total Health Homes expenditures across all LTSS 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 expenditures across all LTSS 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. For FY 2018 and 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. For FY 2020, projected expenditures were used for all states except for Kentucky, Maryland, Minnesota, and Texas, which used 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 2018 data for California, Illinois, New York, North Carolina, and Virginia, FY 2019 data for California, Delaware, Illinois, and Virginia, and FY 2020 data for Texas 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 2018 data for New Hampshire, but include FY 2018 - 2020 data for all other states and the District of Columbia that had at least one active section 1915(c) waiver program in FY 2018 - 2020 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 2020 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 2020 state-submitted MLTSS data: E.3 – E.5, E.8, E.10, E.12, E.14, E.16 – E.17, E.22 – E.24, E.31 – E.34, E.36, E.39 – E.41, E.43, and E.50. Table E.46 included an analysis of FY 2020 state-submitted LTSS data. Data for FY 2018 were obtained from Murray et al. (2021a), and data for FY 2019 were obtained from Murray et al. (2021b).
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 2020 state-submitted MLTSS data and U.S. Census Bureau data. Data for FY 2018 were obtained from Murray et al. (2021a), and data for FY 2019 were obtained from Murray et al. (2021b).
Notes	1. All tables exclude FY 2018 data for California, Illinois, North Carolina, New York, and Virginia, FY 2019 data for Arkansas, California, Delaware, Illinois, and Virginia, and FY 2020 data for Idaho, Texas, and Virginia due to missing MLTSS data. For the total U.S. expenditures per resident calculation in FY 2020, Texas 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 2018 data in Table F.1 for North Carolina includes MLTSS expenditures not able to be reported for FY 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 California and Massachusetts were unable to report institutional MLTSS data at the service category level in FY 2020, total institutional LTSS expenditures in Table F.2 for California and Massachusetts do not equal the sum of institutional expenditures for the separate institutional service categories from tables F.3-F.6. For FY 2020, California's total institutional expenditures will be $4,654,906,000 higher than the sum of institutional service categories. For Massachusetts, total institutional expenditures will be $319,694,264 higher for FY 2020. 4. **For Table F.7**, total HCBS MLTSS expenditures include expenditures from Tables F.8 - F.13. Because California, Massachusetts, and Pennsylvania were unable to report HCBS MLTSS data at the service category level in FY 2020, 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. For FY 2020, California's total HCBS expenditures will be $597,838,000 higher than the sum of HCBS service categories; Massachusetts's total HCBS expenditures will be $1,089,350,704 higher; and Pennsylvania's total HCBS expenditures will be $6,018,255,134 higher.
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 2020 CMS-64 data and U.S. Census Bureau data. Data for FY 2018 were obtained from Murray et al. (2021a), and data for FY 2019 were obtained from Murray et al. (2021b).
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 2020, expenditures for U.S. territories were $75,090,510 for drugs (Table G.1), $355,528,858 for inpatient hospital services (Table G.3), and $2,395,236,965 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.