IssueBrief

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Estimates of Medicaid Nursing Facility Payments Relative to Costs

Medicaid is the primary payer for most nursing facility residents, but information about Medicaid payment rates is limited. The net payments a nursing facility receives consist of base payments, which are typically paid on a per diem basis, and supplemental payments, which are generally paid in a lump sum, reduced by provider contributions to the non-federal share of their Medicaid payments.

In this brief, we present estimates of 2019 Medicaid base payments across states compared to facility costs, using a standard methodology developed based on feedback from a technical expert panel convened by MACPAC in 2022. Overall, we find that:

- Across states, average base Medicaid payment rates for nursing facility services varied considerably, ranging from 62 to 182 percent of the national average, after adjusting for differences in area wages and resident acuity. This variation is similar to what has been observed with Medicaid physician and hospital base payments (MACPAC 2017; Zuckerman et al. 2017).
- Across facilities within states, base payment rates and costs also vary considerably. Facilities that serve a high share of Medicaid-covered residents generally have lower base payment rates but also have lower facility costs, in part because they generally have lower staffing levels than other facilities.
- Measures of base payments relative to costs vary widely, ranging from less than 70 percent of costs for 15 percent of facilities to more than 100 percent of costs for 19 percent of facilities. The median Medicaid base payment rate in 2019 was 86 percent of reported facility costs.

In addition to considering base payment rates (the amount that nursing facilities are paid per day for a specific resident), it is also important to consider supplemental payments, which are lump sum payments that some facilities receive in addition to base payments. In 2019, supplemental payments to nursing facilities totaled $3.4 billion (MACPAC 2020a). In states with available data, we find that supplemental payments can substantially affect measures of Medicaid nursing facility payments relative to costs, but unfortunately, complete data on supplemental payments to nursing facilities are not yet available at the facility level. In addition, we lack facility-level data on the amount of funding that nursing facilities contribute toward the non-federal share of their Medicaid payments, which reduces the net payments that providers receive.

The issue brief begins by reviewing background information on Medicaid coverage and payment for nursing facility services and the challenges of accurately measuring the costs of care for Medicaid-covered residents. It concludes by summarizing our estimates of Medicaid base payments relative to costs and discussing the limits of available data. Additional state-specific results are included in Appendix A, and more information about the methods for this analysis are described in Appendix B.

Background

Nursing facilities are institutions certified by a state to offer 24-hour medical and skilled nursing care, rehabilitation, or health-related services to individuals who do not require hospital care.[1] They serve residents who need intensive, short-term care following a hospital stay as well as residents who need long-term help with activities of daily living.

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In 2019, Medicaid was the primary payer for 59 percent of nursing facility residents and mostly covered residents with long nursing facility stays (Abt 2020). Medicare is the second-largest payer of nursing facility care and only covers short-stay residents for up to 100 days. Most Medicaid-covered residents are dually eligible for Medicare and Medicaid, meaning that generally Medicare Part A covers the first part of their stay and Medicaid covers subsequent days of long-term care.[2] Medicare Part B also helps cover additional therapy services for long-stay residents who are dually eligible for Medicare and Medicaid.

Because of differences in the services covered and differences in resident acuity, Medicare payment rates are not a good benchmark for assessing the adequacy of Medicaid payment rates for Medicaid-covered nursing facility residents. For example, in 2019, the nursing case-mix weight, a measure of the intensity of care needed, was 17 percent lower for residents whose primary support was Medicaid compared to residents whose primary support was Medicare (Abt Associates 2020). In addition, Medicare payments exceed costs for most facilities; according to the Medicare Payment Advisory Commission (MedPAC), facilities reported an 11.3 percent margin on Medicare-covered patients in the aggregate in 2019, though margins vary greatly across facilities (MedPAC 2021).

Costs have historically been used to assess Medicaid nursing facility payments, but they are an imperfect measure of what facilities should be paid.[3] On one hand, costs for some facilities may be too low to meet resident care needs, especially if the facilities are understaffed. On the other hand, some facilities may report costs that are higher than what would be needed to operate the facility efficiently and economically. For example, in recent years, there have been concerns that some facilities that are part of larger chains have used related-party transactions to inflate costs reported on facility-specific cost reports by including costs incurred by other entities that are part of the overall chain (Rau 2017).

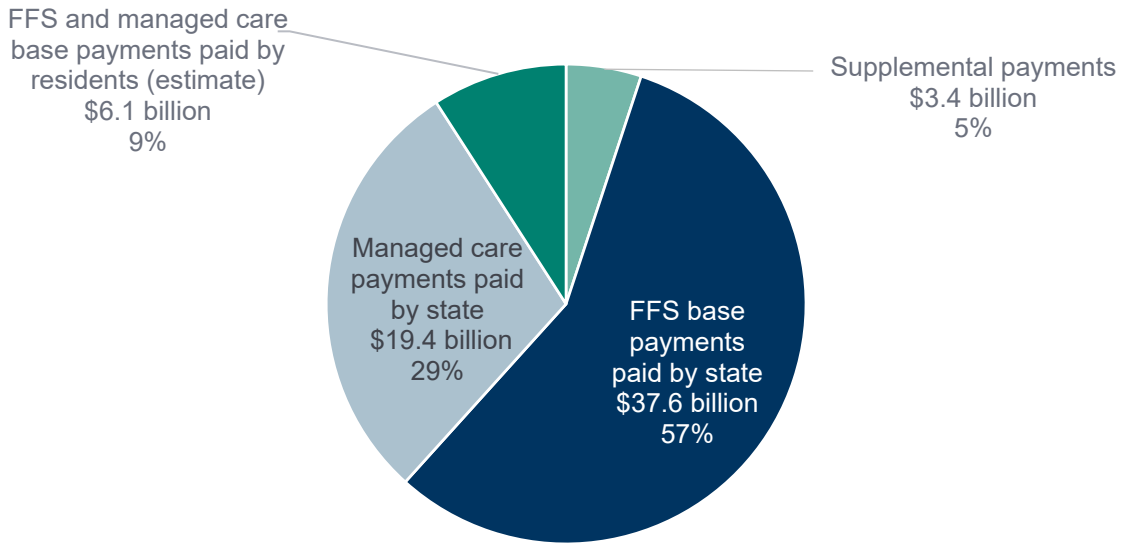
Currently, most states set Medicaid nursing facility payments based on the costs for various cost centers, such as direct care (i.e., medical supplies and wages of staff providing direct care), indirect care (e.g., the costs of social services and patient activities), administration, and capital. However, Medicaid payments are not intended to cover all costs for all facilities because states set limits on which costs are allowable and set ceilings on the amount of costs that can be reimbursed for particular cost centers (e.g., a fixed percentage of the median or average costs for a particular cost center among similar facilities in the state). Fifteen states use a price-based method to set payments prospectively based on historic costs adjusted for inflation and other factors (MACPAC 2019a; MACPAC 2019b).

States also make a number of adjustments to base payment rates that are not directly tied to costs. In 2019, 42 states adjusted payments based on resident acuity or case-mix, 43 states provided additional payments for residents with particular high need conditions (e.g., ventilator use), 38 states adjusted rates based on bed size, geography, and other facility characteristics, and 25 states made incentive payments for quality initiatives (MACPAC 2019a). In addition, 23 states made lump-sum supplemental payments to nursing facilities in 2019 (MACPAC 2020a).[4] These payments are generally based on the difference between Medicaid fee-for-service (FFS) base payments and the amount that Medicare would have paid for the same service, which is referred to as the upper payment limit (UPL).

Types of Medicaid Payments to Nursing Facilities

In 2019, nursing facilities were paid approximately $66.5 billion for care to Medicaid-covered residents (Figure 1). Most payments are base payments made through the FFS delivery system, but a growing share of Medicaid payments to nursing facilities are made through managed care and supplemental payments. Below, we discuss each of these types of payments in more detail as well as the limitations of available data for measuring these payments.

FIGURE 1. Base and Supplemental Payments to Nursing Facilities, 2019



Notes: FFS is fee for service. Resident contributions to their share of cost are estimated based on the difference between allowed payment rates and actual Medicaid payment amounts in states with available data.

Source: MACPAC, 2022, analysis of CMS-64 net expenditure data and the Transformed Medicaid Statistical Information System (T-MSIS).

FFS base payments

Medicaid programs typically pay nursing facilities a daily rate for Medicaid-covered residents according to a state fee schedule. As noted above, this daily rate is often adjusted based on a variety of resident-specific factors, making it difficult to calculate total base payment rates for each facility from publicly available fee schedules. In this analysis, we used national Medicaid claims data from the Transformed Medicaid Statistical Information System (T-MSIS) to calculate FFS base payment rates per day based on actual spending, inclusive of base payment rate adjustments.

States typically pay facilities a lower daily rate to hold a nursing facility bed due to a temporary leave of absence for a hospital stay or other reason, which is referred to as a bed-hold payment. In our analyses, we excluded days with these bed-hold payments. We also excluded days for which Medicaid was not the primary payer (i.e., the Medicare-covered portion of a nursing facility stay).

The base payments that states pay are reduced by resident contributions to their cost of care, which are paid to the facility directly. Unlike many other Medicaid beneficiaries, recipients of long-term services and supports are required to contribute most of their income toward the cost of their care through a process known as post-eligibility treatment of income. The amount of income that a beneficiary can retain is set by the state's personal needs allowance and other exceptions.[5] In fiscal year (FY) 2018, the median state personal needs allowance for institutional care was $50 per month, meaning that in most states all but a small amount of a Medicaid-covered resident's income went toward the cost of their care (Musumeci et al. 2019). Based on our analysis of T-MSIS, resident contributions to their cost of care accounted for about 10 percent of base payments to nursing facilities in 2019.

Managed care base payments

In 2019, 24 states paid for some or all nursing facility care through managed care organizations, up from just 8 states in 2004. Most states with managed long-term services and supports (MLTSS) include full coverage for nursing facility services, although some states carve out long-stay nursing facility residents from some programs (Dobson et al. 2021; Lewis et al. 2018).

The limited data available on managed care payments to nursing facilities suggest that they are similar to FFS rates in many states. In 2020, MACPAC interviewed state officials and health plans in four states with MLTSS (Kansas, New York, Rhode Island, and Wisconsin) and learned that managed care payments to nursing facilities in these states closely tracked FFS spending either because of a state requirement or because the managed care organizations (MCOs) did not have the capacity to develop a different rate methodology and thus preferred to use the state FFS rate as a benchmark in their negotiations with providers (MACPAC 2020b).

In April 2016, the Centers for Medicare & Medicaid Services (CMS) established a new option for states to require managed care plans to pay particular types of providers according to specified rates or methods, which is referred to as directed payments. Based on MACPAC's review of directed payment arrangements approved as of December 31, 2020, 14 states established minimum fee schedules for nursing facility services provided in managed care (typically no less than the Medicaid FFS rate), and 6 states required managed care plans to increase payments to nursing facilities by a fixed amount above base payment rates, similar to supplemental payments in FFS (MACPAC 2022a).

Managed care payments to nursing facilities are also subject to post-eligibility treatment of income rules, but information on resident contributions to their cost of care is not available for all states. In our analysis of the T-MSIS, five states with MLTSS reported managed care base payments paid by the state but did not report the total allowed amount, after accounting for resident contributions to their share of cost (California, Massachusetts, New Jersey, Rhode Island, and Virginia), and so we could not include managed care payments in these states in our analysis.

Supplemental payments

In 2019, 23 states made a total of $3.4 billion in UPL supplemental payments to nursing facilities, which accounted for approximately 5 percent of total nursing facility payments. The use of supplemental payments varies widely by state: 27 states and the District of Columbia did not make any supplemental payments and 6 states made payments that were more than 30 percent of total FFS Medicaid payments to nursing facilities (MACPAC 2020a).

Medicaid FFS base payment rates and supplemental payments cannot exceed the UPL, which is an estimate of what Medicare would have paid for the same service in the aggregate.[6] States are required to submit provider-level information on base and supplemental payments to CMS annually to demonstrate compliance with these UPL requirements (CMS 2022).

MACPAC's review of these UPL demonstration data found several discrepancies between the amount of payments reported on UPL demonstrations and the amount of payments claimed by states on CMS-64 reports in the Medicaid Budget and Expenditure System (MBES), which is the official record of actual Medicaid spending.[7] CMS is currently in the process of implementing a new process for states to report provider-level supplemental payment data through MBES, which is intended to improve the reliability of these data in future years (CMS 2021).

Provider contributions toward the non-federal share

To finance the non-federal share of Medicaid nursing facility payments, states often use provider taxes, intergovernmental transfers (IGTs), or certified public expenditures (CPEs) from local governments, including

publicly owned nursing facilities. For example, in 2019, 45 states had a nursing facility provider tax, and 22 of these states had taxes that exceeded 5.5 percent of provider revenue (Gifford et al. 2019; KFF 2020).[8] Supplemental payments are more likely than base payment rates to be financed by provider taxes, IGTs, or CPEs (GAO 2021).

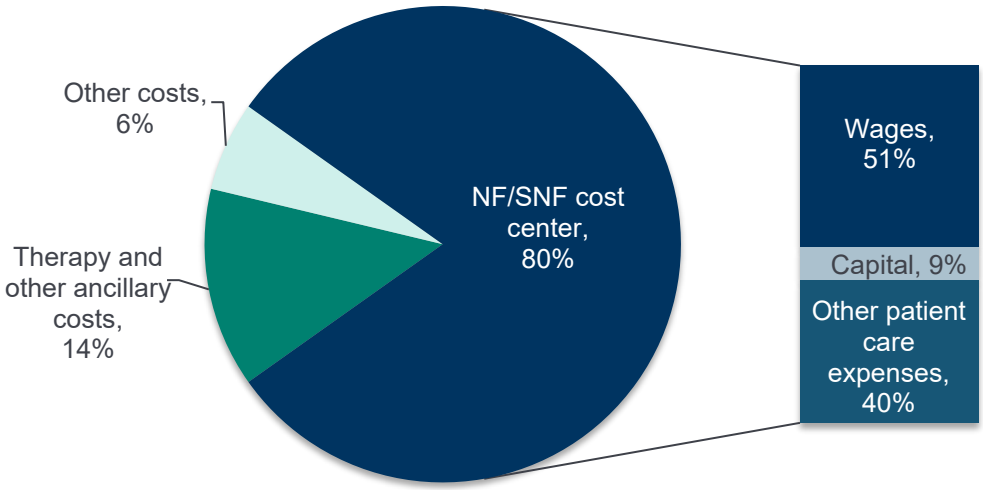
There are limited data available to measure the extent to which provider contributions to the non-federal share reduce the net payments that providers receive. Two state UPL demonstrations that we examined included information on provider tax costs, showing that these taxes reduced net payments by 2–3 percent. However, the costs of provider taxes are often included on Medicare cost reports, so they may be partially accounted for in our analyses, discussed further below.

Measuring Medicaid-specific Costs

Because nursing facilities serve a wide range of residents with different care needs, the costs of care for each resident is not the same. In general, the costs of care for long-stay residents whose primary support is Medicaid is lower than the costs of care for short-stay residents who are primarily covered by Medicare. Long-stay residents generally receive less intensive nursing and therapy services, and the therapy services that Medicaid-covered residents do receive are typically paid for by Medicare rather than Medicaid.

The nursing facility services that Medicaid pays for accounted for 80 percent of total nursing facility costs in 2019, according to Medicare cost reports (Figure 2). Ancillary costs, such as therapy, are generally not paid for by Medicaid, so we excluded these costs from our analyses. Additionally, we found that about 6 percent of reported costs were for other expenses that are typically not covered by Medicare or Medicaid.[9]

FIGURE 2. Components of Nursing Facility Costs, 2019



Notes: NF is nursing facility. SNF is skilled nursing facility. The NF/ SNF cost center includes costs for skilled nursing facility services provided to short-stay residents and other nursing facility services provided to long-stay residents. Cost components are a weighted average of costs per day, based on the total number of nursing facility resident days for each facility.

Source: Abt Associates, 2022, analysis for MACPAC of Medicare cost reports.

Staff wages account for the majority of nursing costs, but cost reports do not specify how direct care staff allocate their time between residents with different nursing care needs. In our analysis, we used data on resident acuity from the Minimum Data Set (MDS) to better estimate costs of care for Medicaid-covered residents. More information about this method is described in Appendix B.

After adjusting for resident acuity, we found that the average costs of care for Medicaid-covered residents were lower than the average costs per day for all nursing facility residents (Table 1). However, even after acuity adjustments, facilities that serve a higher share of Medicaid-covered residents still reported lower costs on average than other facilities. Some of these lower costs may be explained by the fact that facilities that serve a higher share of Medicaid-covered residents generally have lower staffing levels than other facilities. For example, in 2019, 49 percent of facilities serving the highest share of Medicaid-covered residents had a 1- or 2- star staffing rating on CMS's Five-Star Nursing Home Quality Rating System, compared to only 21 percent of facilities serving the lowest share of Medicaid covered residents. Facilities that serve a high share of Medicaid-covered residents also tend to serve a higher share of racial and ethnic minorities, so low staffing levels in these facilities may contribute to health disparities (MACPAC 2022b).

TABLE 1. Average Nursing Facility Costs Per Day Under Different Methods, by Payer Mix, 2019

Cost measure	All facilities	Share of residents whose primary support is Medicaid			
		Lowest quartile (<51%)	Second quartile (51–65%)	Third quartile (65–76%)	Highest quartile (>76%)
Total facility costs per day	$293.36	$360.12	$302.99	$278.88	$265.63
Medicaid-covered costs per day	243.61	270.31	250.23	238.76	229.59
Acuity-adjusted Medicaid costs per day	239.35	264.62	245.43	234.58	226.37

Notes: Medicaid-covered costs per day are estimated based on costs for the nursing cost center and exclude ancillary costs. Average costs per day are calculated as a weighted average based on the total number of Medicaid nursing facility resident days for each facility.

Source: Abt Associates, 2022, analysis for MACPAC of Medicare cost reports.

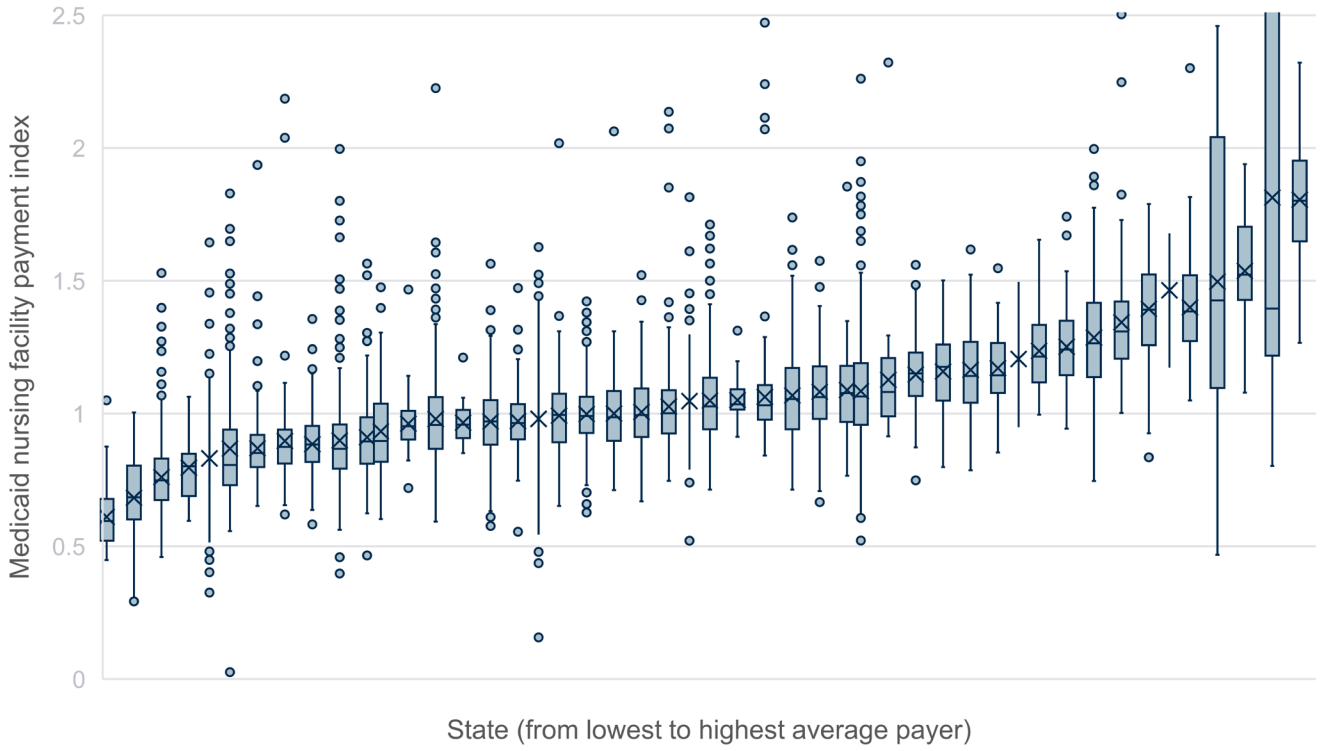
Payment and Cost Estimates

We worked with Abt Associates to develop estimates of Medicaid base payments relative to acuity-adjusted Medicaid costs by state and facility for calendar year 2019 using T-MSIS and Medicare cost report data. These estimates do not include supplemental payments, which as discussed below, can substantially affect measures of payments relative to costs in some states. In addition, as noted earlier, costs are an imperfect measure of payment adequacy and do not account for whether a facility has sufficient staff to meet residents' care needs or whether the facility is operated efficiently and economically.

State and facility variation

Overall, after adjusting for differences in the area wage index and differences in resident case-mix, we found considerable variation in base payment rates across states and facilities (Figure 2). Almost half of states (22) had average payment amounts that were within 10 percent of the national average, but within those states many facilities received payments that were substantially above or below these amounts. In addition, the states with the highest allowed base payment amounts paid more than twice as much per day on average as the states with the lowest allowed payment amounts. This wide variation across and within states is similar to what we have found in our prior analyses of Medicaid base payments to hospitals (MACPAC 2017).

FIGURE 3. Distribution of Medicaid Allowed Base Payment Amounts per Day, by State and Facility, 2019



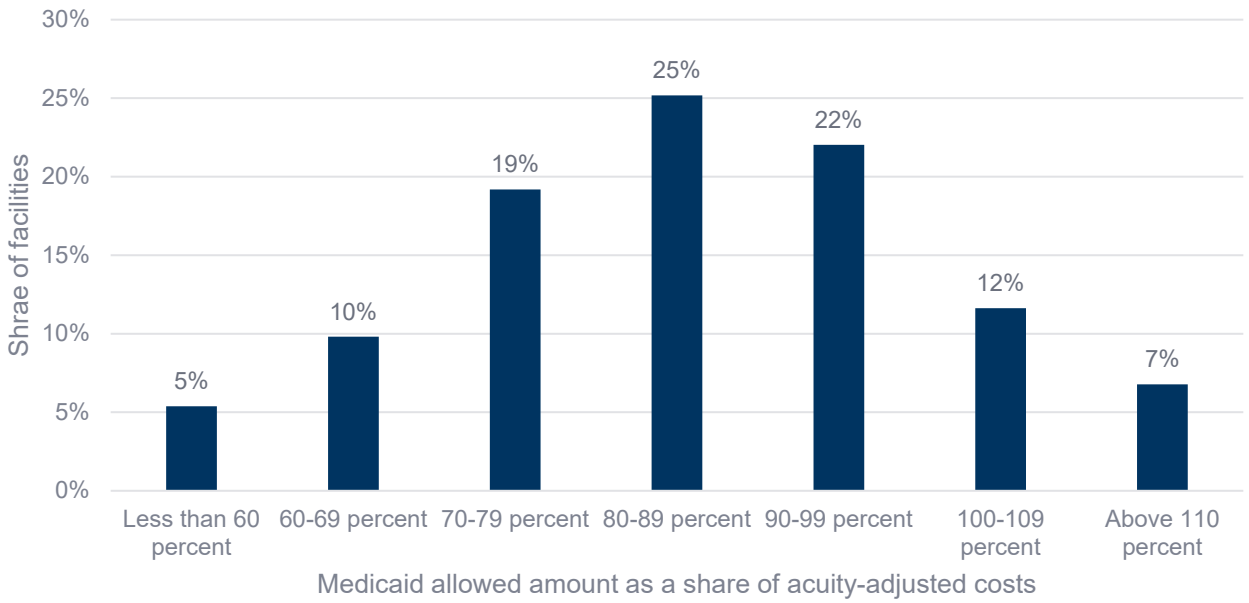
Notes: Base payment amounts include resident contributions to their share of costs, are case-mix adjusted based on the resource utilization group (RUG-IV) nursing index, and are wage adjusted using the Medicare wage index. Medicaid nursing facility payment index values are normalized around the national average, which has a value of 1. For example, a facility with an index value of 1.1 would have Medicaid allowed payments 10 percent higher than the national average, after adjusting for wages and case mix. The box in the figure indicates the first and third quartile range for each state. X indicates the state average payment amount. Dots indicate outlier values greater than 1.5 times the interquartile range from the first or third quartile. Lines indicate minimum or maximum values that are within 1.5 times the interquartile range. Values above 2.5 times the national average are excluded from this figure. Alaska, Idaho, and New Hampshire are excluded because of missing or outlier data. Managed care allowed amounts in California, Massachusetts, New Jersey, Rhode Island, and Virginia were not available, and so only fee for service spending is included for these states. See Appendix B for more information on the methodology.

Source: Abt Associates, 2022, analysis for MACPAC of the Transformed Medicaid Statistical Information System (T-MSIS), the Minimum Data Set (MDS), and the Medicare wage index.

Payments relative to costs

We also found a wide range in allowed base payment rates compared to acuity-adjusted costs (Figure 3). The median facility had allowed payment amounts that were 86 percent of costs. About one-fifth of facilities had allowed payment amounts greater than 100 percent of costs, and 15 percent of facilities had allowed payment amounts less than 70 percent of costs.

FIGURE 4. Distribution of Medicaid Base Payment Amounts as a Share of Acuity-Adjusted Costs, 2019



Notes: Base payments include resident contributions to their share of costs. Analysis excludes Alaska, New Hampshire, and Idaho because of unreliable or missing data. Managed care allowed amounts in California, Massachusetts, New Jersey, Rhode Island, and Virginia were not available, and so only fee-for-service spending is included for these states.

Source: Abt Associates, 2022, analysis for MACPAC of the Transformed Medicaid Statistical Information System (T-MSIS), Medicare cost reports, and the Minimum Data Set (MDS).

Relationship to payer mix

On average, facilities that served a higher share of residents whose primary support was Medicaid reported higher Medicaid base payment rates relative to costs because their average costs were lower than other facilities (Table 2). However, even though these facilities reported higher Medicaid margins, they reported lower total facility margins in the aggregate, which may reflect the fact that these facilities have less revenue from Medicare and private pay residents.

TABLE 2. Average Medicaid Base Payments Per Day and Acuity-Adjusted Costs, by Share of Residents whose Primary Support is Medicaid, 2019

Share of residents whose primary support is Medicaid	Number of facilities in analysis	Average Medicaid base payment rate per day	Average cost of care for Medicaid-covered residents	Average Medicaid base payment as a share of costs	Aggregate total facility margins (all-payer)
All facilities	**12,785**	**$200.39**	**$238.94**	**84%**	**1.3%**
Lowest quartile (<51%)	2,978	205.29	264.57	78%	1.8
Second quartile (51–65%)	3,264	203.28	245.06	83%	1.4
Third quartile (65–76%)	3,279	198.56	234.18	85%	1.4
Highest quartile (>76%)	3,264	197.40	225.83	87%	0.5

Notes: Base payments include resident contributions to their share of costs. Average costs and payments are weighted by the number of Medicaid days in each facility. Aggregate total facility margins include revenue from all payers, including Medicaid, Medicare, and private-pay residents. Alaska, Idaho, and New Hampshire were excluded from analyses due to data quality

issues. Analysis of margins excluded facilities with outlier values on Medicare cost reports greater than 1.5 times the interquartile range (n = 758). See Appendix B for more information on the methodology.

Source: Abt Associates, 2022, analysis for MACPAC of the Transformed Medicaid Statistical Information System (T-MSIS), Medicare cost reports, and the Minimum Data Set (MDS).

Relationship to staffing

In our analysis, we did not find a clear relationship between Medicaid payments rates and staffing (Table 3). Average base payment rates were higher for facilities with a five-star staffing rating (the highest) compared to facilities with a one-star rating (the lowest). However, the Medicaid payment-to-cost ratios in facilities with one-star ratings was 7 percentage points higher on average than facilities with a five-star rating, in part because the staffing costs for these facilities were lower. We also found that facilities with higher staffing ratings also paid higher hourly wages on average to direct care nursing staff.

TABLE 3. Average Medicaid Base Payments Per Day and Acuity-Adjusted Costs, by Five-Star Staffing Rating, 2019

Five-star staffing rating in the CMS Nursing Home Quality Rating System	Number of facilities in analysis	Average Medicaid base payment rate per day	Average cost of care for Medicaid-covered residents	Average Medicaid base payment as a share of costs	Average hourly wages for all nursing staff
All facilities	**12,785**	**$200.39**	**$238.94**	**84%**	**$22.96**
1 star (lowest)	1,935	184.89	212.46	87%	21.25
2 star	3,498	197.35	230.12	86%	22.68
3 star	3,787	202.68	245.12	83%	23.77
4 star	2,603	209.80	257.59	81%	24.50
5 star (highest)	844	230.64	287.56	80%	25.60

Notes: CMS is Centers for Medicare & Medicaid Services. Base payments include resident contributions to their share of costs. Average costs and payments are weighted by the number of Medicaid days in each facility. Average hourly wages for nurse staff include wages for registered nurses, licensed practical nurses, and certified nursing assistants employed or contracted with the facility. Alaska, Idaho, and New Hampshire were excluded from analyses due to data quality issues. See Appendix B for more information on methodology.

Source: Abt Associates, 2022, analysis for MACPAC of the Transformed Medicaid Statistical Information System (T-MSIS), Medicare cost reports, the Minimum Data Set (MDS), and Nursing Home Care Compare.

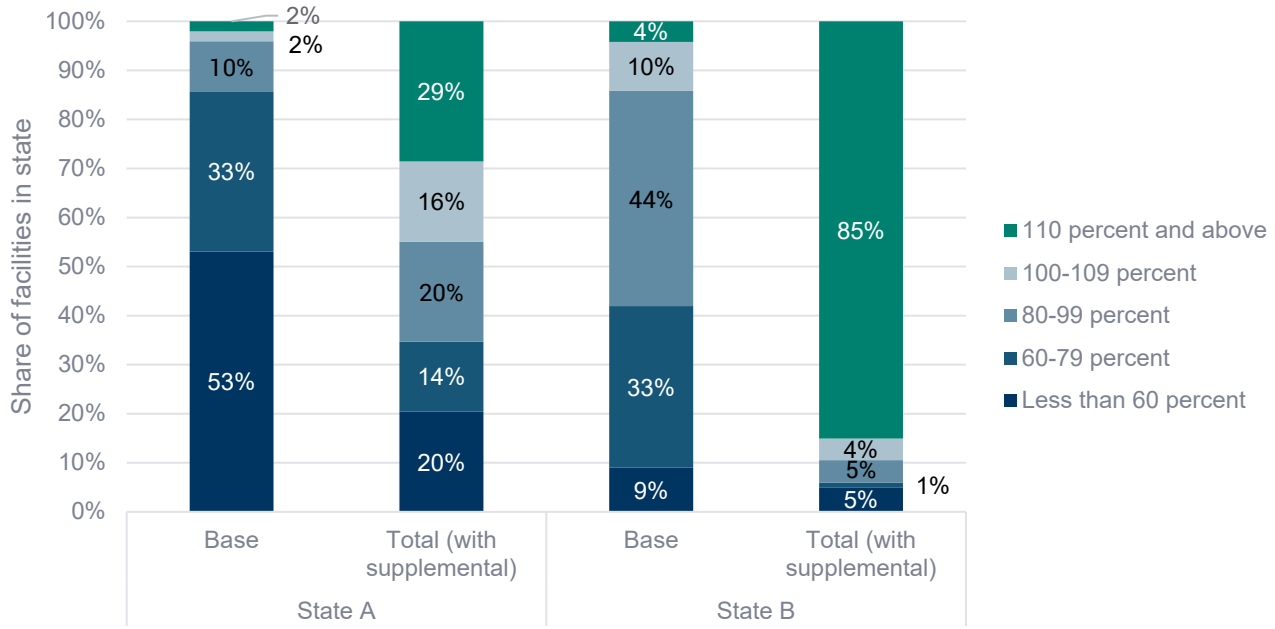
We did find that higher staffed facilities paid nursing staff higher wages, but more research is needed to understand how the wages that facilities pay are affected by Medicaid payment policies and other factors, such as demand from private-pay residents. According to MACPAC's review of state policies related to staffing, 39 states have state minimum staffing standards that go above current federal requirements and 11 states have implemented wage-pass through policies that require facilities to spend a specified portion of the Medicaid rate on staffing. Prior research suggests that these types of policies are associated with higher staffing rates, regardless of a state's Medicaid payment rate (MACPAC 2022b).

Supplemental payments have a substantial effect on payments in some states

In two states that appeared to have the most reliable UPL demonstration data, supplemental payments substantially affected the distribution of Medicaid payments relative to costs (Figure 4). In both states, supplemental payments accounted for about one third of total Medicaid nursing facility payments. In state A, the median base payment rate relative to cost was below the national average (55 percent of costs) and supplemental payments increased the median payment rate to 95 percent of costs. However, in state B, the median base payment rates were similar to the national average (82 percent of costs), but after accounting for supplemental payments the median payment rate was much higher (139 percent of costs).

In other states, the base and supplemental payment data reported on UPL demonstrations did not match CMS-64 expenditure data or T-MSIS, so we could not reliably examine the effects of supplemental payments on provider-level payments.

FIGURE 5. Comparison of Two States' Shares of Facilities with Medicaid Payments as a Share of Acuity-Adjusted Costs at Various Thresholds, Before and After Supplemental Payments, 2019



Notes: Payment data is based on state UPL demonstrations, which differs slightly from base payment data reported in the Transformed Medicaid Statistical Information System. Base payments include resident contributions to their share of costs.

Source: Abt Associates, 2022, analysis for MACPAC of upper payment limit (UPL) demonstration data, Medicare cost reports, and the Minimum Data Set (MDS).

These examples also illustrate that supplemental payments are not targeted evenly to all providers in each state, which is consistent with the trends observed in all 20 states that provided provider-level UPL supplemental payment data. In the 2019 UPL data we reviewed, publicly owned nursing facilities received about twice as much in supplemental payments per day as other types of facilities. We did not observe substantial differences in levels of supplemental payments by payer mix or urban/rural status.

Many nursing facility supplemental payments are financed by providers, which would reduce the net payments that providers receive. However, we do not have provider-level data on Medicaid financing needed to make this adjustment. Many public providers finance supplemental payments through IGTs or CPEs, which may explain why they are more likely to receive these payments, but more provider-level information is needed to fully assess the relationship between financing and the targeting of supplemental payments.

Conclusions

This analysis shows that Medicaid nursing facility payments vary widely both across states and across facilities within a state. Although Medicaid payment rates are generally lower than other payers, Medicaid payments appear to exceed the costs of care for Medicaid-covered residents in some facilities.

This analysis also demonstrates the challenges in using costs as a benchmark for assessing Medicaid payment adequacy. We found that facilities with lower staffing rates generally have lower costs, which affects measures of Medicaid payments relative to costs for these facilities. We were not able to examine the effects of related-party transactions and other practices that may artificially inflate the costs reported on Medicare cost reports. States have the flexibility to develop their own Medicaid cost reports that could potentially be used to examine these issues in more detail, but because state definitions of allowable costs differ, it is difficult to use state cost reports to compare payment rates and costs across states.

Finally, this analysis reinforces MACPAC's longstanding concern about the need for additional payment and financing data at the facility level, especially for supplemental payments. Such data are needed to provide a complete understanding of all types of Medicaid payments to nursing facilities, which can help inform assessments of the link between payment and access, quality, and value.

Notes

[1] In this brief, we use the term nursing facility rather than the commonly used term "nursing home" because nursing facility is the term used in the Medicaid statute. The analyses in this brief are limited to free-standing nursing facilities that are not part of a hospital and are dually certified by Medicare and Medicaid.

[2] Medicare only covers skilled nursing facility services following a hospital stay.

[3] Before 1980, states were required to pay nursing facilities according to Medicare cost principles. In 1980, Congress gave states more flexibility to set payment rates as long as they were reasonable and adequate to meet the costs incurred by efficiently and economically operated facilities. This requirement (known as the Boren amendment) was repealed in 1996, but states are still required to ensure that payment rates and methods are consistent with the statutory goals of efficiency, economy, quality, and access (§1902(a)(30)(A) of the Social Security Act).

[4] According to MACPAC's compendium of state FFS payment policies, 25 states made lump sum supplemental payments to nursing facilities as of July 2019 (MACPAC 2019a; MACPAC 2019b). However, according to CMS-64 expenditure reports, the official record of Medicaid spending, only 23 states reported making supplemental payments in 2019. MACStats exhibit 25, which describes supplemental payments to nursing facilities and intermediate care facilities for the intellectually and developmentally disabled (ICF/IDs), includes 24 states that provide supplemental payments. However, one state, Tennessee, only provides supplemental payments to ICF/IDs, not nursing facilities (MACPAC 2020a).

[5] For example, if a Medicaid-covered resident has a spouse residing in the community, the resident can protect a greater portion of their income from post-eligibility treatment of income rules.

[6] Because Medicare's skilled nursing facility payment covers therapy costs and Medicaid nursing facility payments typically do not, CMS requires to adjust Medicare payment rates used in UPL calculation to exclude non-covered services (CMS 2022).

[7] In 14 of the 23 states reporting supplemental payments on CMS-64 expenditure reports, the reported spending on UPL demonstrations was similar, while in 2 states spending reported did not match. In several states, supplemental payments were recorded on CMS-64 expenditure reports but not on UPL demonstrations (3 states) or no UPL demonstration was submitted (4 states). Nine states reported supplemental payments on UPL demonstrations that are not listed as supplemental payments on CMS-64 expenditure reports.

[8] Provider taxes for which 75 percent or more of taxpayers in a class receive 75 percent or more of their total tax costs back from Medicaid are generally limited to 6 percent of providers' net patient revenue. More information about provider taxes is available in MACPAC's issue brief *Health Care-Related Taxes in Medicaid*.

[9] For example, about 10 percent of nursing facilities operate an attached continuing care retirement community (CCRC), which may provide services that are not covered by Medicare or Medicaid.

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Appendix A. State-Specific Results

TABLE A-1. Estimated Medicaid Base Payments Per Day Relative to Costs, by State, 2019

State	Average Medicaid base payment	Average cost of care for Medicaid-covered residents	Average Medicaid base payment-to-cost ratio	Share of facilities with Medicaid base payment-to-cost ratios at specified levels						
				<60%	60–69%	70–79%	80–89%	90–99%	100–109%	>110%
National	**$200.39**	**$238.94**	**0.84**	**5.4%**	**9.8%**	**19.2%**	**25.2%**	**22.0%**	**11.6%**	**6.8%**
Alabama	204.60	205.36	1.00	0.5	1.5	3.9	9.8	24.0	37.3	23.0
Arizona	209.32	257.50	0.81	12.1	19.2	27.3	23.2	10.1	3.0	5.1
Arkansas	186.85	198.41	0.94	0.0	1.0	3.5	21.0	33.5	25.5	15.5
California[1]	225.53	269.25	0.84	1.0	9.8	27.4	30.9	22.7	6.2	2.1
Colorado	227.42	265.56	0.86	1.2	5.4	18.0	33.5	28.1	7.8	6.0
Connecticut	226.83	278.34	0.82	0.6	4.5	21.5	40.7	26.0	6.2	0.6
Delaware	375.82	290.39	1.29	0.0	0.0	12.1	21.2	9.1	15.2	42.4
District of Columbia	299.07	305.04	0.98	0.0	0.0	0.0	0.0	55.6	33.3	11.1
Florida	184.31	250.37	0.74	17.6	21.3	29.3	19.8	8.2	2.6	1.3
Georgia[2]	187.66	199.86	0.94	0.3	1.3	8.7	17.8	26.5	31.5	13.8
Hawaii	357.14	309.72	1.15	4.8	9.5	9.5	4.8	4.8	4.8	61.9
Illinois	192.87	213.70	0.90	7.1	10.5	18.7	23.1	17.7	8.5	14.4
Indiana[2]	210.75	238.78	0.88	1.2	9.1	16.3	25.0	26.0	13.0	9.4
Iowa	185.06	206.15	0.90	1.3	3.9	14.2	30.0	32.3	14.7	3.6
Kansas	188.46	209.02	0.90	0.4	2.7	9.7	19.0	38.4	20.9	8.9
Kentucky	195.17	221.37	0.88	4.8	7.2	14.5	30.5	22.5	15.7	4.8
Louisiana	162.56	180.55	0.90	0.4	5.6	13.9	23.4	29.8	20.6	6.3
Maine	247.74	271.30	0.91	0.0	0.0	7.7	32.1	38.5	21.8	0.0
Maryland	263.69	284.95	0.93	0.5	4.9	9.7	21.6	38.4	18.9	5.9
Massachusetts[1]	209.87	256.59	0.82	3.2	7.6	28.4	38.1	15.8	5.9	0.9
Michigan[2]	208.49	258.01	0.81	5.1	12.3	28.3	29.3	20.3	4.1	0.5
Minnesota	275.77	288.62	0.96	0.0	0.8	2.7	22.9	40.8	24.0	8.8
Mississippi	202.65	215.42	0.94	0.0	1.9	5.6	14.4	29.4	33.8	15.0

State	Average Medicaid base payment	Average cost of care for Medicaid-covered residents	Average Medicaid base payment-to-cost ratio	Share of facilities with Medicaid base payment-to-cost ratios at specified levels						
				<60%	60–69%	70–79%	80–89%	90–99%	100–109%	>110%
Missouri	$161.24	$178.49	0.90	4.3%	6.9%	12.4%	19.3%	28.2%	16.7%	12.1%
Montana	204.52	244.31	0.84	4.2	16.7	14.6	25.0	27.1	10.4	2.1
Nebraska	129.53	223.91	0.58	51.5	35.7	12.3	0.6	0.0	0.0	0.0
Nevada[2]	151.89	263.36	0.58	71.1	13.2	13.2	2.6	0.0	0.0	0.0
New Jersey[1]	193.66	268.08	0.72	3.5	15.7	32.6	27.8	13.9	4.8	1.7
New Mexico	198.46	240.49	0.83	3.6	7.3	34.5	36.4	14.5	3.6	0.0
New York	228.81	302.07	0.76	2.5	11.5	27.7	30.9	20.2	4.7	2.5
North Carolina	186.25	208.07	0.90	4.9	8.4	13.8	20.3	24.9	16.2	11.6
North Dakota	282.42	301.20	0.94	0.0	0.0	2.4	26.2	50.0	19.0	2.4
Ohio	196.72	230.11	0.86	3.9	7.9	19.2	32.0	23.4	9.1	4.5
Oklahoma	153.03	169.65	0.90	2.0	5.6	8.0	21.9	34.7	20.3	7.6
Oregon	354.36	318.75	1.11	0.0	0.0	0.0	1.9	17.5	24.3	56.3
Pennsylvania[2]	186.77	254.67	0.73	8.0	17.9	26.5	32.9	11.2	2.8	0.7
Rhode Island[1]	226.79	252.59	0.90	0.0	8.0	14.7	24.0	41.3	12.0	0.0
South Carolina	158.50	205.07	0.77	7.0	9.8	46.2	30.8	5.6	0.7	0.0
South Dakota	125.51	209.02	0.60	43.5	34.8	17.4	4.3	0.0	0.0	0.0
Tennessee	203.33	219.71	0.93	0.4	3.7	11.6	23.2	32.2	21.3	7.5
Texas	157.76	195.28	0.81	6.9	13.1	24.5	26.2	17.5	6.9	5.0
Utah	201.73	263.03	0.77	7.4	29.4	32.4	13.2	7.4	8.8	1.5
Vermont	244.82	281.58	0.87	0.0	6.3	12.5	37.5	31.3	3.1	9.4
Virginia[1, 2]	196.19	204.16	0.96	2.2	2.6	11.0	16.7	28.2	25.1	14.1
Washington	229.57	285.65	0.80	3.0	13.6	26.0	33.7	15.4	6.5	1.8
West Virginia	305.83	305.85	1.00	0.0	0.0	14.0	15.1	16.3	18.6	36.0
Wisconsin	185.85	249.14	0.75	20.1	19.7	19.0	18.7	9.9	6.1	6.5
Wyoming[2]	175.93	254.82	0.69	0.0	28.6	42.9	19.0	9.5	0.0	0.0

Notes: Base payment amounts are based on allowed payments in the Transformed Medicaid Statistical Information System (T-MSIS), which include resident contributions to their share of cost but exclude lump sum supplemental payments. Analysis excludes bed-hold days (temporary absences from the facility) and cross-over claims, for which Medicaid is not the primary payer. Costs of care for Medicaid-covered residents exclude costs for services not covered by Medicaid and are adjusted based on resident acuity. Average costs and payments are weighted by Medicaid days for each facility. Payment amounts were Winsorized at the 5th and 95th percentile. Analysis also excludes facilities with outlier costs per day that were greater than 1.5 times the interquartile range

from the first and third quartiles. Alaska, Idaho, and New Hampshire were excluded from analyses due to data quality issues. For further discussion of this methodology and limitations, see Appendix B.

[1] Managed care allowed amounts were not available for California, Massachusetts, New Jersey, Rhode Island, and Virginia, so base payment amounts only reflect FFS spending.

[2] Supplemental payments accounted for more than 10 percent of total FFS payments to nursing facilities in this state in 2019, so estimates of Medicaid base payments relative to costs are likely much lower than total Medicaid payments relative to costs for some facilities.

Source: Abt Associates, 2022, analysis for MACPAC of the Transformed Medicaid Statistical Information System (T-MSIS), Medicare cost reports, and the Minimum Data Set (MDS).

Appendix B. Methods

To better understand the challenges of measuring Medicaid nursing facility payments and costs, MACPAC convened a Technical Expert Panel (TEP) in February 2022 with experts from states, nursing facilities, accounting firms, and academia. The discussion focused on the extent to which available federal data could be used to inform national analyses of Medicaid payments relative to costs.

In this analysis, nursing facility costs were measured using Medicare cost reports, Medicaid payments were measured using the transformed Medicaid statistical information (T-MSIS), and supplemental payments were measured using state upper payment limit (UPL) demonstrations. The limitations of these data sources and the inclusion and exclusion criteria for our analyses are discussed below.

Medicare cost reports

Inclusion and exclusion criteria. Medicare cost reports are only available for free-standing nursing facilities that are dually certified by Medicare and Medicaid. Of the 15,462 nursing facilities nationwide, 90 percent are free-standing (i.e., not part of a hospital) and dually certified (n=13,984) and 97 percent of these facilities had cost report data available in calendar year 2019 (n=13,589).

We excluded facilities with outlier values of Medicaid costs per day, which were defined using the interquartile range. Specifically, outlier values were defined as greater than 1.5 times the interquartile range above the 75th percentile or below the 25th percentile. After excluding these outliers, a total of 13,128 nursing facilities were included in our analytic sample for examining nursing facility costs.

All nursing facilities in Alaska were excluded from the analyses because of outlier costs. However, since most nursing facilities in Alaska are hospital-based, the limited cost report information that we did have for the free-standing facilities in the state would not have been representative of the state even if it had been included.

Some nursing facilities have cost reports that cover part of 2019 and part of 2020. To account for potential impacts of the COVID-19 Public Health Emergency (PHE) on costs for nursing facilities with cost reporting periods on or after the PHE effective date (January 27, 2020), we replaced their 2019 cost reports with the corresponding 2018 cost reports if available. In addition, for a small proportion of nursing facilities with multiple cost reports, we kept the report with the most days in 2019 for each applicable nursing facility.

Identifying Medicaid-covered costs. The costs of care for Medicaid-covered nursing facility residents were calculated based on the total costs for the skilled nursing facility (SNF) and nursing facility (NF) cost center on Medicare cost reports, adjusted for acuity. Specifically, unadjusted Medicaid-covered services costs are the sum of: (1) total SNF/NF inpatient routine service cost (lines 30 and 31, column 18) of the Medicare cost report Worksheet B Part I and (2) allocated capital costs to SNF/NF (lines 30 and 31, column 18) inpatient cost centers of Worksheet B Part II. For the vast majority of facilities, we found that their routine service costs were reported on the SNF line only.

Feedback from the TEP led us to exclude ancillary costs and other cost centers. Overall, most, if not all, ancillary costs are not Medicaid-related. Worksheet D, Part I provides an option for facilities to report ancillary costs that are specific to Medicaid, but in practice we found that few facilities completed the entry, and when they did, the costs were close to $0. In addition, for patients dually eligible for Medicare and Medicaid, some of these ancillary costs may be paid for by Medicare Part B or Part D. Generally, facilities that serve a high share of Medicaid-covered patients report much lower ancillary costs.

Acuity-adjustment. The wage-related portion of the SNF and NF cost center was adjusted for acuity using the average nursing case mix index (CMI) value for Medicaid-covered residents compared to all residents in the facility, which is a method that has previously been used by the Medicare Payment Advisory Commission (MedPAC). We used the most recent MDS assessments for individuals residing in a nursing facility as of September 30, 2019 in order to calculate the nursing component CMI values according to the Resource Utilization Groups Version IV (RUG-IV).

We used a multi-step process to adjust staffing costs for resident acuity:

- **Step 1:** Calculate staffing costs based on total adjusted salaries paid for employed staff in the SNF and NF cost center. They are reported on line 13 of Worksheet S-3, Part II of the Medicare cost reports.
- **Step 2:** Determine the nursing share of SNF/ NF operating costs. The nursing share is calculated as the percentage of staffing costs (calculated in Step 1) in total operating expenses that are reported on line 4 of Worksheet G-3 of the Medicare cost reports.
- **Step 3:** Multiply the SNF/NF inpatient routine service costs (reported on lines 30-31 of Worksheet B, Part I) by the nursing share of SNF/ NF operating costs (calculated in Step 2). The cost after this calculation is the cost component that is subject to resident acuity adjustment.
- **Step 4:** Calculate the relative acuity ratio for Medicaid residents among all residents for each nursing facility. In this step, the average nursing CMI value was calculated for both Medicaid residents and all residents using the 2019 MDS data. More specifically, the relative CMI ratio is calculated as the RUG-IV nursing CMI for Medicaid-covered patients divided by the RUG-IV nursing CMI for all residents in the facility.
- **Step 5:** Multiply the staff portion of SNF/NF inpatient routine services costs (calculated in Step 3) by the Medicaid/Total residents CMI ratio that is calculated in Step 4.
- **Step 6:** Add adjusted staffing costs of the SNF/NF inpatient routine service costs (calculated in Step 5) to other nursing facility costs not subject to acuity adjustment (SNF/NF inpatient routine service costs minus the staff portion of SNF/NF inpatient routine services costs that is calculated in Step 3).
- **Step 7:** Calculate acuity-adjusted total Medicaid-covered service costs by adding the acuity-adjusted SNF/NF inpatient routine service costs (calculated in Step 6) with the unadjusted allocated capital costs to SNF/NF cost centers (reported on lines 30-31 of Worksheet B, Part II). The corresponding per diem cost is calculated by dividing the total costs by the total SNF/NF inpatient days (reported on lines 1-2 of Worksheet S-3, Part I).

T-MSIS

Inclusion and exclusion criteria. We matched T-MSIS data to Medicare cost reports using the national provider identifier (NPI) reported on T-MSIS claims and encounters. Overall, we identified matching T-MSIS data for 12,846 providers (97.9 percent of the facilities with useable Medicare cost report data).

In New Hampshire, only 25 percent of facilities had matching T-MSIS data and so we excluded this state from our analysis because the state-level results would not have been representative.

Nursing facility claims and encounters were identified based on the type of service code in T-MSIS. Nursing facility type of service codes include 009, 045, 047, and 059. If the type of service codes were missing on claims or encounters in Florida, Nebraska, New Hampshire, or Texas, then we identified nursing facility records using billing provider types 43 and 45. For records with missing type of service codes in California, Hawaii, or South Dakota, we identified nursing facility records using billing provider taxonomies 314000000X and 313M00000X. For records with missing type of service codes in New Mexico, we used provider facility type code 310000000.

We excluded nursing facility claims and encounters for bed hold days (where a resident is not in the facility) and cross-over claims (which are used for Medicaid payment of Medicare cost sharing).

To limit the impact of extreme outliers, we Winsorized payment amounts by limiting allowed amounts above the 95th percentile and below the 5th percentile to these threshold levels. As part of this process, we also excluded claims and encounters that had a paid amount but not an allowed payment amount.

Managed care payments. Five states with managed long-term services and supports (MLTSS) reported paid amounts but did not report allowed amounts for managed care in T-MSIS. As a result, after Winsorizing T-MSIS allowed amounts, we were not able to include managed care payment information for these states (California, Massachusetts, New Jersey, Rhode Island, and Virginia).

In general, managed care allowed amounts were similar to fee for service (FFS) spending in most states. (In the aggregate, allowed amounts were about 7 percent lower in managed care). However, in Idaho, the average FFS allowed amount per day was more than twice the managed care allowed amount per day, and we decided to exclude Idaho from our analyses because of the likelihood of data anomalies in T-MSIS.

Overall, after excluding Alaska, Idaho and New Hampshire, there were 12,785 nursing facilities with useable payment and cost data in our analytic sample.

UPL demonstrations

CMS provided MACPAC with provider-level UPL demonstrations for state fiscal year (SFY) 2019 for 44 states. Overall, UPL demonstration data was available for 10,857 providers in our analytic sample (83 percent). For these facilities with T-MSIS and UPL demonstration data that could be matched at the facility level, allowed amounts were similar (T-MSIS payments were about 2 percent lower).

UPL demonstration data also include information on supplemental payments, which are not included in T-MSIS. Supplemental payment data was available for 20 states, but supplemental payment amounts often did not match the aggregate amount of supplemental payment spending reported on CMS-64 expenditure reports, which are the official record of Medicaid spending. The two states included in the illustrative example in this issue brief both had supplemental payment amounts as a share of base payments that were within 10 percent of the amount reported on CMS-64 expenditure reports.