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U.S. Fiscal Federalism During the COVID-19 Pandemic

Jeffrey Clemens, Benedic Ippolito, and Stan Veuger

December 2020

Abstract: The likely impact of the COVID-19 pandemic on state and local government revenues is increasingly well understood. The condition of state and local government finances depends further, however, on the pandemic's effects on expenditure needs, which have received less attention. Confusion also remains regarding both the quantity and purpose of federal support that has been and ought to be directed to state and local governments. In this paper, we attempt to have a unified discussion of these issues, with an emphasis on health spending needs and the role of the Medicaid program.

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Federal Fiscal Stabilization in the United States

Our aim in this paper is to describe the fiscal challenges that confront state and local governments as a result of the COVID-19 pandemic, and the federal government's role in addressing them. As we have discussed elsewhere (Clemens and Veuger, 2020a), challenges arise due to three factors. First, to varying degrees, state and local governments are constrained by balanced budget requirements. Second, the pandemic has adversely affected revenues. Third, the pandemic has increased certain expenditure needs.

The likely impact of the COVID-19 pandemic on state and local government revenues is increasingly well understood (e.g. Auerbach et al., 2020). Less well understood are the pandemic's effects on expenditure needs. Additionally, there is confusion regarding both the quantity and purpose of federal support that has been directed to state and local governments. In this paper, we attempt to have a unified discussion of these issues, with an emphasis on health spending needs and the role of the Medicaid program.

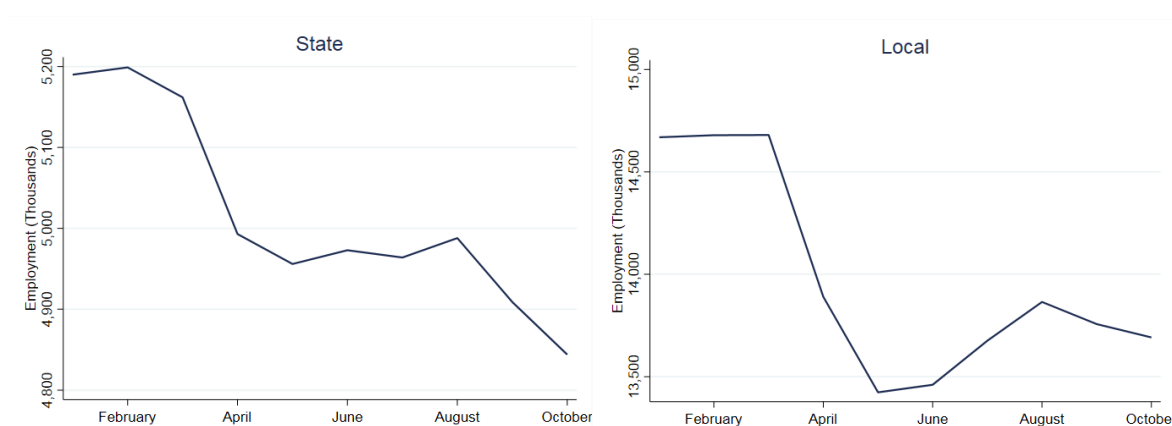
It is worth dwelling briefly on the scale of state and local governments. Taken together, state and local governments serve a broad set of functions. They administer and at least partially finance many public services, as well as major income-support programs. The services provided by state and local governments range from education to public safety and public utilities. In recent years, the delivery of these services had led state and local governments to employ just under 20 million workers (Shoag and Veuger, 2020). This accounts for roughly 13 percent of all nonfarm employment.

The motivation for federal fiscal stabilization arises from state and local balanced-budget constraints. When state governments face downturns, their balanced budget rules prevent them from contributing to countercyclical policy. As revenues decline and spending needs rise, compliance with balanced-budget rules dictates increases in tax rates and a search for budgetary savings. Savings may come from wage freezes and layoffs for members of the public-sector work force. Figure 1 illustrates the reductions in state and local government employment that took place between February and October of this year. This can, in turn, imply reductions in service delivery just as needs run high.

Given the existence of states' balanced-budget requirements, it is not surprising that the federal government has a history intervening to reduce states' fiscal stress. The 2009 American

Recovery and Reinvestment Act, which included \$232 billion in support for state governments, is a prominent example (US Bureau of Economic Analysis (BEA), 2020b). In the current crisis, federal support for state and local governments has come piecemeal through existing and new legislation discussed below. This support is of central importance to the US system of fiscal federalism, which is characterized by heavy reliance on the central fiscal authority for countercyclical policy.¹

Figure 1: State and Local Government Employment in 2020



Note: Data are from the Bureau of Labor Statistics (2020a; 2020b) and show employment levels for each month in 2020 in thousands.

There are a number of inputs for the estimation of optimal, reasonable, or likely federal transfers. Political considerations aside, perhaps the most salient factor is the downturn's effect on state and local government revenues, to which we turn next. After that we turn to the second factor, namely the extent to which federal transfers have already been authorized. Third, we highlight that in the short run and in the aggregate, at least, new spending needs are of particular importance. We discuss these first in the context of the Medicaid and CHIP programs, which highlight the complex relationships between new spending needs, intergovernmental transfers, and the conditions on which the federal government makes its aid contingent. We then provide a high-level overview of other new spending needs, after which we conclude.

¹ European institutions demonstrate that this is not an inevitable feature of continent-spanning economic and currency unions (EU, 2019; Lenzi and Zoppè, 2020).

Estimates of the Revenue Shortfalls Facing State and Local Governments in the 2021 Fiscal Year

Several analyses have undertaken the task of estimating the revenue shortfalls that are likely to face state and local governments over the current fiscal year. The preferred approach for projecting shortfalls considers the pandemic's impact on states' tax bases. More specifically, it makes use of forecasts for macroeconomic variables that are reasonably close proxies for major tax bases. This is the approach two of us have taken in our own work (Clemens and Veuger, 2020a; Clemens and Veuger, 2020b). Independent analyses from Whitaker (2020a; 2020b), from Auerbach et al. (2020) and from Chernick et al. (2020) take similarly motivated approaches.

The analysis in Clemens and Veuger (2020a) uses May Congressional Budget Office (CBO) projections of consumption and personal income to forecast state governments' sales and income tax bases (CBO, 2020b). The analysis draws on historical estimates of the elasticity of revenues with respect to the size of each tax base to convert changes in forecasted tax bases into changes in forecasted revenues.² This early analysis estimated a \$106 billion income and sales tax shortfall for the 2021 fiscal year (the third quarter of 2020 through the second quarter of 2021). Clemens and Veuger (2020b) update this initial analysis using July updates to CBO's projections (CBO, 2020c); the latter analysis arrives at a similar estimate of \$105 billion. The analysis in Clemens and Veuger (2020b) takes the further step of extrapolating these estimates to arrive at an estimate of the total revenue shortfall facing state and local governments. The estimated grand total shortfall for the 2021 fiscal year is \$236 billion.

The extrapolation exercise conducted by Clemens and Veuger (2020b) draws on the more detailed analysis of Whitaker (2020a; 2020b). Whitaker's analysis takes a similar approach, but makes use of proxies for a much broader set of tax bases. Whitaker uses data on motor fuel consumption and the consumption of alcoholic beverages, for example, as proxies for the gasoline and liquor tax bases. Whitaker generates estimates for three scenarios. A common thread across all three scenarios is that local government revenues are projected to be more stable than state government revenues. This largely reflects the stability of property tax revenue,

² Estimates of states' counterfactual tax revenues combine data from the Annual Survey of State and Local Government Finances (UC Census Bureau, 2017) with CBO's pre-pandemic projections for aggregate output and consumption (CBO, 2020a).

through which local governments generate a substantial share of their funds, relative to sales and income tax revenues (Lutz, Molloy, and Shan, 2011).

A more recent, comprehensive assessment of state and local government revenue shortfalls comes from a Brookings Paper on Economic Activity prepared by Auerbach et al. (2020). In some respects, this paper's estimates are built from the bottom up at a more granular level than other analyses. Auerbach et al.'s estimates of income tax shortfalls, for example, apply detailed employment projections to observations from the Current Population Survey. This generates a sample of simulated households, which the authors then run through the NBER's TAXSIM model to generate estimates of the population's income tax obligations. Auerbach et al.'s estimates of sales tax revenues apply information on each state's sales tax bases, while their estimates of changes in other revenue sources follow an approach similar to that of Whitaker. For calendar year 2021, Auerbach et al. estimate a state and local government revenue shortfall totaling \$189 billion. This includes a \$167 billion shortfall from sources other than hospitals and higher education, and \$22 billion from these latter two sources, which are inherently more uncertain under recent circumstances.

Across the studies discussed above, a rough consensus estimate is that state and local governments will face a 2021 shortfall of roughly \$200 billion relative to what they would have projected prior to the pandemic. A key caveat to these calculations is that aggregate income and consumption have run higher than CBO's forecasts during the 3rd quarter of 2020, which corresponds to the first quarter of most states' 2021 fiscal years.³ If this pattern continues, then revenue shortfalls may ultimately be much smaller than implied by summer forecasts. Consequently, it will be important to monitor how aggregate consumption, employee compensation, and income evolve over coming months. The key question is whether the 3rd quarter's unexpectedly strong income and consumption data reflect the frontloading of the federal government's aid in response to the pandemic.

The aggregate revenue shortfall across states reflects significant heterogeneity. Across states, for example, Auerbach et al. estimate a loss of revenue as a share of own-source revenue, excluding fees to hospitals and institutions of higher-education, that ranges from 3.1% in Kansas to 9.6% in Nevada. This variation reflects, among other things, variation in state and local

³ Further, realized revenues during the 3rd quarter of 2020 reflect legislative actions states took to increase revenues as they passed their budgets for the current fiscal year.

governments' reliance on different tax instruments as well as differences in the distribution of economic activity across sectors.

Federal Support for State and Local Governments During the COVID-19 Crisis

A second factor to consider are the actions already taken by the federal government to support state and local government budgets. The federal government's initial response to the economic downturn triggered by the COVID-19 pandemic was swift and sizable. In March, Congress and the executive branch passed a number of pieces of legislation that together provided trillions of dollars in relief. The Federal Reserve intervened early on by reducing interest rates and has set up a number of new lending facilities to support a wide range of credit markets. This section provides a short summary of the various components of these initiatives that are of particular importance to state and local governments. We emphasize the components of these initiatives that are meant to directly make up for revenue shortfalls, provide funding for new expenditure needs, or channel funds to individuals and households through joint federal-state programs.⁴

A core part of the response to the COVID-19 crisis has been to extend and expand eligibility and generosity of the Unemployment Insurance (UI) program. Between the Families First Coronavirus Response Act (FFCRA) and the Coronavirus Aid, Relief, and Economic Security (CARES) Act, federal funding was appropriated to expand eligibility to certain categories of self-employed workers, to extend the eligibility of unemployed workers for UI benefits to 39 weeks, and to supplement regular UI benefits, through the end of July, with a temporary \$600 weekly benefit.

The FFCRA also raised the federal matching assistance percentage for the bulk of states' Medicaid expenditures by 6.2 percentage points. This increase, which we discuss at length in the next section, applies for the duration of the formally declared public health crisis.

The Cares Act included several additional provisions of importance to state and local governments. Most saliently, it provided \$150 billion in funding to state, local, territorial, and tribal governments through the Coronavirus Relief Fund. Other Cares Act provisions were

⁴ Clemens and Veuger (2020a) discuss relief provided to state governments during the first half of 2020 in more detail.

targeted more specifically at certain sectors that are at least partially within the scope of state and local government activities. Through the Public Health and Social Service Emergency Fund, \$100 billion was appropriated for hospitals and other health care providers, to which \$75 billion was added in April under the Paycheck Protection Program and Health Care Enhancement (PPPHCE) Act. The PPPHCE Act also provided \$11 billion for states and localities to develop so-called “test and trace” programs. Returning to the Cares Act, \$45 billion went to the FEMA Disaster Relief Fund, \$30.9 billion to the Education Stabilization Fund, and \$25 billion to transit infrastructure grants.⁵

Taken together, Auerbach et al. (2020) calculate that these provisions add up to “\$212 billion in aid to state and local governments, excluding aid to public hospitals and higher ed, and \$250 billion including that aid” in 2020. This number is similar in magnitude to the one-year revenue loss estimates discussed in the previous section. This suggests that - for the current fiscal year and in the aggregate across the country - new spending needs are the remaining source of fiscal stress at the state and local level. We next begin our discussion of these needs by highlighting how federal transfers and new spending interact in the context of the Medicaid program.

Understanding the Pandemic’s Implications for States’ Medicaid Programs

The pandemic’s unusually sharp impact on employment has had substantial effects on both eligibility for Medicaid and the availability of employer provided coverage. This increase in need adds to the strain facing state budgets.

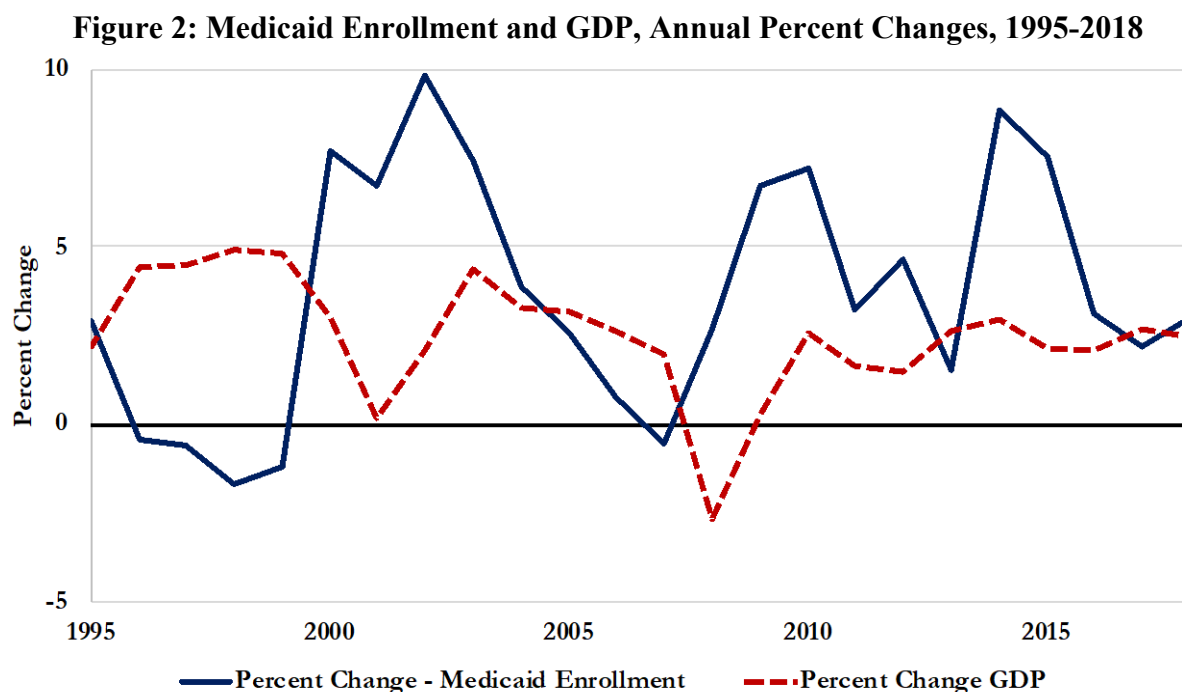
We will proceed here in three parts. First, we provide evidence on the magnitudes of the total increase in Medicaid and CHIP enrollment and expenditure. We place these increases in context by contrasting them with changes that occurred during the both the Great Recession and the recession of the early 2000s. Second, we discuss aspects of the federal response to COVID-19 that have both increased the Medicaid program’s expenditures and increased the extent of

⁵ The Cares Act also allocated \$454 billion to the Treasury Department to backstop losses the Federal Reserve might incur in the operation of its various new credit facilities. One of these, the Municipal Liquidity Facility, can in principle purchase up to \$500 billion of short-term notes directly from US states, counties, and cities (Board of Governors of the Federal Reserve System, 2020), though it has barely been used so far.

federal support. Third, we assess the implications of the pandemic and federal response for states' net exposure to expenditures through the Medicaid and CHIP programs.

The Pandemic's Impacts on Medicaid Enrollment and Expenditure

Owing to the Medicaid program's income-based eligibility requirements, program enrollment and spending typically follow a countercyclical pattern. As shown in Figure 2, for example, Medicaid enrollment increased substantially surrounding both the 2001 recession and Great Recession. Note that the large spike in enrollment in 2014 reflects eligibility expansion connected to the Affordable Care Act (ACA).

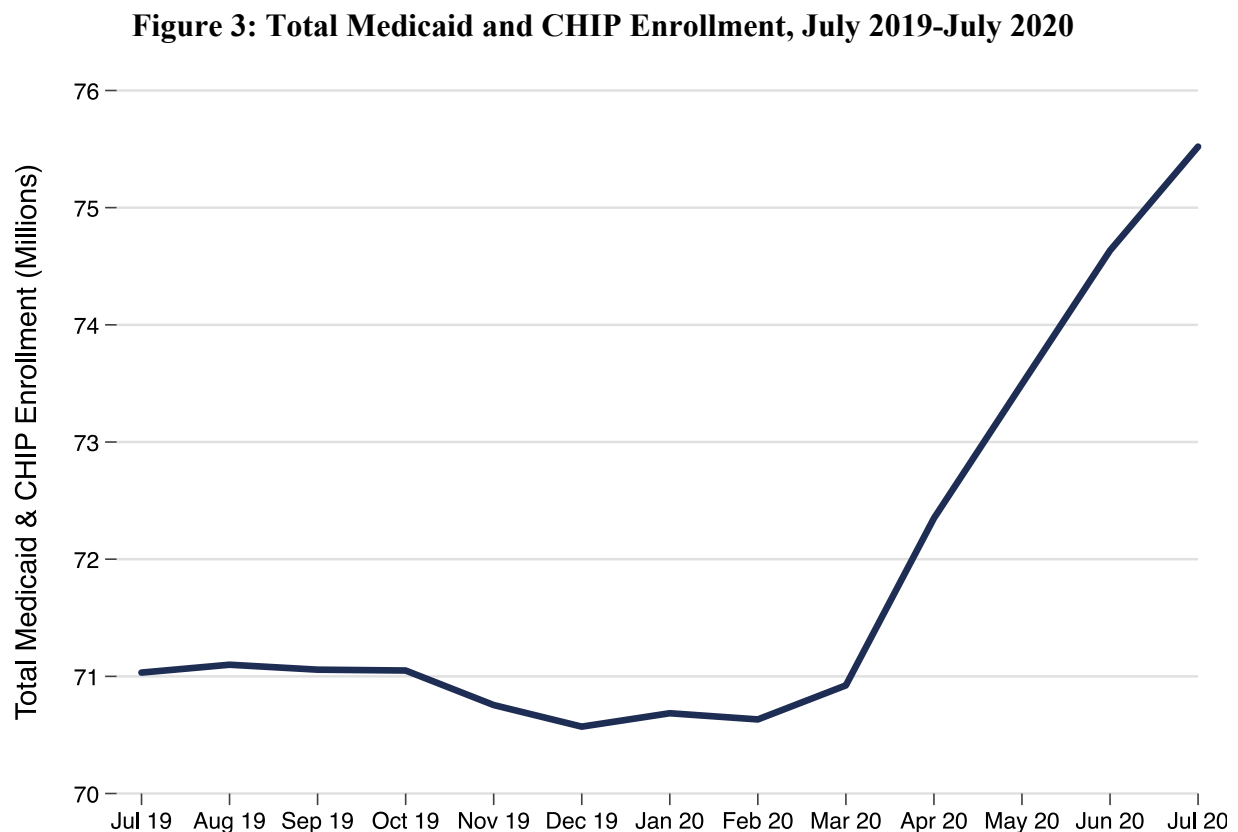


Note: Medicaid enrollment data taken from Medicaid and CHIP Payment Access Commission (MACPAC) (2019). Percent change in seasonally adjusted annual GDP taken from BEA (2020a).

The baseline nature of Medicaid's countercyclicality has evolved in recent years owing to the ACA's Medicaid expansion for childless adults. In states which adopted the ACA's Medicaid expansion (39 states plus DC), adults with incomes below 138 percent of the [Federal Poverty Level](#) (\$17,608 for singles, \$36,156 for family of four) can qualify for Medicaid coverage (Kaiser Family Foundation, 2020b). This represented something of a break from the previously categorical nature of eligibility, which generally required that adults have both low incomes and

be aged, disabled, or pregnant. The non-categorical nature of the Medicaid expansion should amplify the growth of enrollment in economic downturns.

Unsurprisingly, the economic downturn associated with COVID-19 has resulted in a sharp increase in Medicaid and CHIP enrollment. Using data from the Centers for Medicare and Medicaid Services (CMS), Figure 3 shows that total enrollment across both programs increased by 4.9 million, or 6.9 percent, from February to July of 2020.

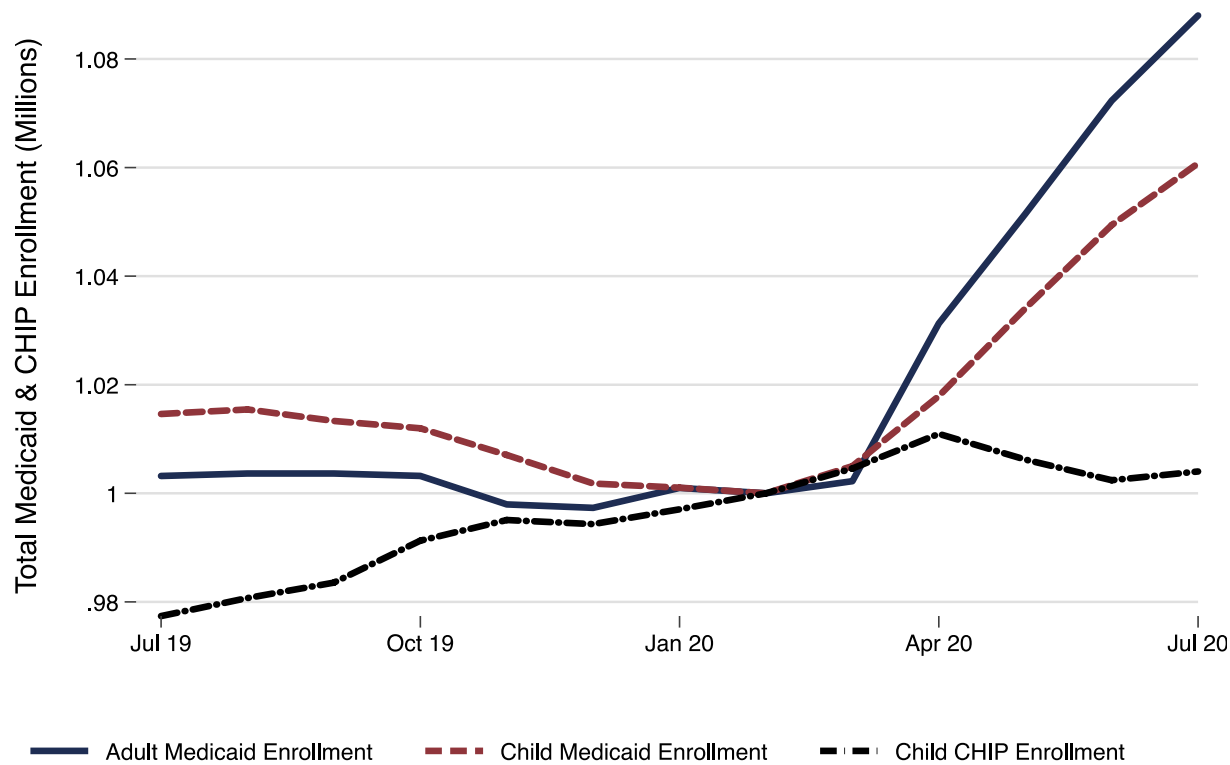


Note: Data are from Centers for Medicare and Medicaid Services (CMS) (2020b).

Recent enrollment increases have differed meaningfully across eligibility groups. Figure 4 shows enrollment in Medicaid and CHIP for both adults and children, relative to their levels in February of 2020. Note that income eligibility limits are generally higher for children on Medicaid than adults, and higher still for children covered by CHIP (Kaiser Family Foundation, 2020a). Enrollment was relatively stable leading up to February of 2020, particularly since October of 2019. However, Medicaid enrollment has increased markedly since, and most so

among adults. In July 2020, child Medicaid enrollment had increased 6.1 percent since February, while CHIP coverage saw little change (together, child enrollment across Medicaid and CHIP was up 1.75 million or 5.0%). Over that same period, adult Medicaid enrollment was up 8.8 percent.

Figure 4: Medicaid and CHIP Enrollment as a Fraction of February 2020 Levels, July 2019-July 2020

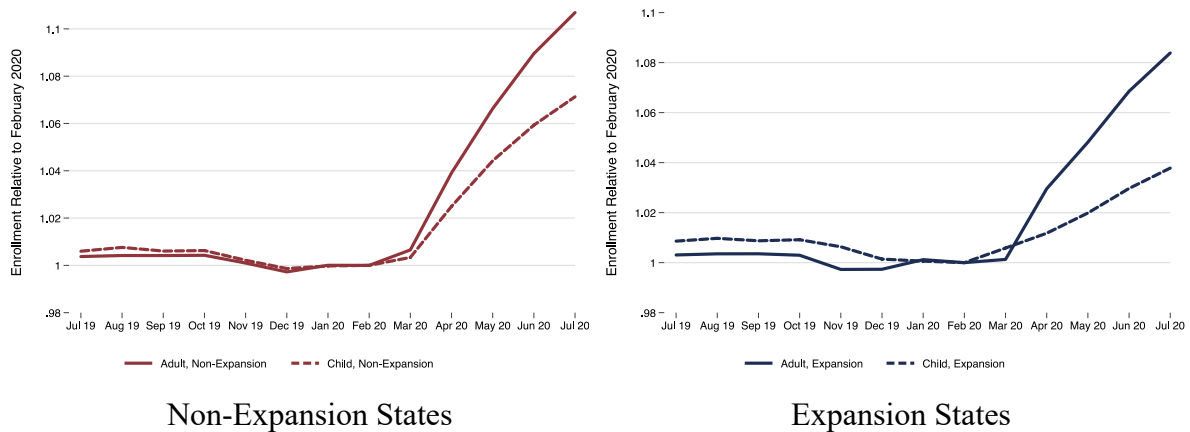


Note: Data are from CMS (2020b).

The difference between adult and child enrollment growth has been particularly pronounced in expansion states, as depicted in Figure 5. In expansion states, total adult enrollment grew by roughly 2.2 times as much as child enrollment (8.4 percent versus 3.8 percent). In non-expansion states adult enrollment outpaced that of children by just 49 percent (10.7 percent versus 7.1 percent).⁶

⁶ These results are consistent with our own discussions with a state budget officer in an expansion state. Preliminary data from that state indicated that enrollment growth in the expansion population exceeded that of the non-expansion population from March through September of 2020. Note that expansion states generally have higher income limits

Figure 5: Medicaid and CHIP Enrollment as a Fraction of February 2020 Levels, July 2019-July 2020



Note: Data are from CMS (2020b). States were classified as expansion states if enrollment in that group had occurred by July of 2020 (34 states). Information about expansion decisions taken from Kaiser Family Foundation (2020b).

It is not immediately obvious how these enrollment trends translate to state expenditure needs. Because Medicaid and CHIP are financed jointly by the state and federal governments, the cost of increased enrollment does not fall entirely on the states. States have considerable latitude to design programs and the federal government “matches” expenditures at a prespecified Federal Medical Assistance Percentage (FMAP). The federal government pays at least 50 percent of costs, with that share rising in states with lower per-capita incomes. For fiscal year 2021 the primary matching rates in Medicaid and CHIP averaged 60 and 72 percent, respectively (Federal Financial Participation in State Assistance Expenditures, 2019). Notably, however, expenditures for the ACA expansion group are matched at the enhanced level of 90 percent.

The CMS data for 2020 do not separately report enrollment growth for all coverage categories. Given markedly different per-capita expenditures across enrollment groups, this makes it challenging to translate observed enrollment growth into costs for the states and the federal government. Using recent CBO reports, however, we can more precisely estimate total program costs associated with anticipated enrollment increases for a near and medium-term horizon. In particular, the agency estimates that, due to policy changes (discussed in more detail below) and the impact of COVID-19 on the economy, total program enrollment will be 9 million

for CHIP (Kaiser Family Foundation, 2020a), which complicates an a priori assessment of how relative enrollment patterns are expected to differ across states.

higher in 2021 than it had forecast prior to the pandemic (CBO, 2020e). CBO further forecasts that enrollment will remain above the pre-pandemic baseline until 2027.⁷ Moreover, enrollment growth is expected to differ meaningfully across categories of beneficiaries. Consistent with the evidence shown above, for example, CBO estimates that enrollment will remain flat in CHIP but increase across Medicaid enrollment categories.⁸ Given average expenditures for each group, these enrollment changes imply an additional \$59.8 billion in combined state and federal costs in 2021, and \$225.6 billion additional costs for 2020-2030.⁹ These enrollment and spending increases have the distinct potential to strain state budgets; however, the ultimate burden on states depends heavily on the effects of recent federal legislation.

How Has the Federal Response to COVID-19 Impacted Medicaid and CHIP?

The FFCRA aided states by increasing the federal matching assistance percentage (FMAP) by 6.2 percentage points for the duration of the public health crisis. Indirectly, this increased CHIP matching rates by roughly 4.3 percent (CMS, 2020a). The increased match rate did not directly apply to groups with already enhanced match rates, including the ACA expansion population. Importantly, receipt of the enhanced FMAP was conditional on states maintaining continuous coverage for enrollees, regardless of changes to their eligibility status, for the duration of the health emergency.¹⁰ Further, states were prohibited from tightening eligibility rules or increasing premiums.

The FMAP enhancement and continuous coverage provisions have opposing effects on state expenditures. A higher FMAP delivers pure transfers from the federal government—state financing needs fall one-for-one with each dollar in federal transfers. The continuous coverage provision, however, increases program enrollment and total expenditures. States must still fund their portion of these new program costs. The net effect on state expenditures is ambiguous.

The CBO estimates that, together, the Medicaid provisions increased federal spending by \$79 billion in 2021 and by \$172 billion over the years 2020-2023 (CBO, 2020d). As with prior

⁷ For this calculation we assume zero growth in Medicaid enrollment for those over age 65.

⁸ For example, they estimate enrollment increases of 1, 4, 2, and 2 million for blind and disabled, children in Medicaid, adults made eligible by the ACA, and adults otherwise eligible for Medicaid, respectively (CBO, 2020e).

⁹ This reflects median total expenditures among states that CMS deems to have a high level of data usability. Results are similar if we use estimates from all states. Data are from 2018 (CMS, 2020a).

¹⁰ As observed by Baicker, Clemens, and Singhal (2012), the U.S. federal government has a long history of conditioning its intergovernmental transfers on states' compliance with rules that sometimes have substantial costs.

recessions, this is a substantial portion of total federal spending aimed at states. For example, the American Reinvestment and Recovery Act of 2009 included a similar FMAP enhancement that was in effect from October of 2008 through June of 2011. This increased federal spending by roughly \$100 billion (Clemens and Ippolito, 2018; Kaiser Family Foundation, 2011),¹¹ which represented a substantial portion of the total \$232 billion in grants-in-aid that was transferred to states through the ARRA (BEA, 2020b). In the current context, the gross transfers triggered by the Medicaid provisions in the FFCRA exceed the \$150 billion allocated to state and local governments through the Coronavirus Relief Fund in the CARES Act. However, the \$172 billion in federal spending is not a form of pure budgetary support for the states. To estimate the net budgetary effects, we calculate the transfers and costs associated with the FMAP increase and continuous coverage provision separately. As detailed below, we conclude that a significant share of the fiscal relief owing to the FMAP increase is offset by expenditures linked to the continuous coverage provision.

Net State Fiscal Stress Connected to the Medicaid Program

Let us now parse the effects of the FMAP increase and continuous coverage provision to estimate the net fiscal effect of COVID-related Medicaid legislation. The available data imply that the FMAP increase will transfer about \$39 billion to states in 2021, and a total of \$89.9 billion from 2020 to 2023. The continuous coverage provision partially offsets this transfer by increasing state expenditures by \$20 billion in 2021, and by \$41.0 billion for the 2020-2023 period. We conclude that these provisions provided an estimated \$18.8 billion in net general fiscal relief to states in 2021, and a total of \$43.8 billion for 2020-2023.

These estimates are informed by recent CBO reports. Specifically, the two Medicaid provisions are expected to increase federal expenditures by \$41, \$79, \$47, and \$5 billion in 2020, 2021, 2022, and 2023, respectively (Table A-2, CBO, 2020d). CBO also notes that the FMAP provision accounts for \$30 billion in federal spending in 2021 for the population under age 65 (CBO, 2020e). Scaling by the portion of Medicaid spending attributable to those under 65, we conclude that the FMAP provision is responsible for \$38.9 billion in total federal costs for

¹¹ Note that the FMAP increase from the ARRA was initially set to expire in December of 2010 but was then extended through June of 2011 with some modifications (GAO, 2011). Cost estimates which exclude the extension are lower—approximately \$89 billion (Chodorow-Reich et al, 2012).

2021.¹² This implies that federal costs of the two provisions are split nearly evenly in 2021: 49.2% owing to the FMAP increase and 50.8% due to the continuous coverage provision.

CBO's assumption for 2021 provides a useful reference point for allocating federal costs for 2020 through 2023. In 2020, the continuous coverage provision should account for a modest share of federal costs, since the pandemic's negative effects on low-earning households' incomes will limit the continuous coverage provision's bite. Subsequent income growth, however, will increase the continuous coverage provision's impact so long as the public health emergency remains in effect. For our preferred calculations, we assume that the FMAP provision accounts for 75 percent of federal costs in 2020, roughly 50 percent in 2021 (as calculated above), 40 percent in 2022, and 30 percent in 2023.¹³ In aggregate, we assume that the FMAP provision accounts for 52 percent of federal costs over the 2020-2023 period. This implies a total federal cost of \$82 billion for the continuous coverage provision. After adjusting by the average FMAP nationwide (inclusive of the 6.2 percentage point increase), state expenditures owing to the continuous coverage provision are \$41.0 billion from 2020 to 2023, and \$20.0 billion in 2021. On net, the FMAP and the continuous coverage provisions reduce states' exposure to Medicaid and CHIP expenditures by \$43.8 billion over the four years during which they are assumed to be in effect. Table 1 summarizes these results.

¹² Specifically, MACPAC reports that those over the age of 65 account for \$94.2 of \$409.3 billion in total Medicaid benefit spending, or 23% (MACPAC, 2019). We assume that 23% of enhanced FMAP spending will be spent on enrollees over age 65 in 2021

¹³ If we instead assume that the nearly 50/50 split in 2021 is constant across years, we estimate that total net transfers to states for 2020-2023 are a similar \$41 billion. However, the distribution across years differs somewhat, with smaller net transfers occurring in 2020 owing to larger costs of the continuous coverage provision and vice versa for 2022/2023.

Table 1: Estimated State and Federal Costs of Enhanced FMAP and Continuous Coverage Provisions (\$ billions)

		2020	2021	2022	2023	2020-2023
Federal Costs	FMAP Only	30.8	38.9	18.8	1.5	89.9
	Continuous Coverage Only	10.3	40.1	28.2	3.5	82.1
	FMAP + Continuous Coverage	41	79	47	5	172
State Costs	FMAP Only	-30.8	-38.9	-18.8	-1.5	-89.9
	Continuous Coverage Only	5.1	20.0	14.1	1.7	41.0
	FMAP + Continuous Coverage	-25.6	-18.8	-4.7	0.2	-43.8

Note: The estimated federal cost of the FMAP and Continuous Coverage provisions together are from Table A-2 of CBO (2020d). The FMAP provision is assumed to represent a particularly large portion of federal costs in 2020 (75%), 49.3% of total federal costs in 2021 (based on CBO, 2020e), 40% in 2022, and 30% in 2023. The state cost of the continuous coverage provision assumes a federal matching rate of 66.7% (normal matching rate inclusive of 6.2 percent add on). Numbers within columns may not add due to rounding.

Legislated transfers via the FMAP increase are projected to outstrip the additional state costs owing to the continuous coverage provision. However, it is not yet clear how these transfers compare to total state Medicaid and CHIP costs owing to COVID-19 pandemic—costs that stem from both the continuous coverage provision and broader economic decline. As noted above, enrollment increases owing to both of these sources stood to increase total state and federal costs by an estimated \$59.8 billion in 2021 and \$225.6 billion for 2020-2030 (though, note that costs are assumed to be zero for the last three years of this budget window as enrollment returns to baseline). At their normal matching rate for these enrollment categories, state expenditures would have increased by \$19.9 billion in 2021 and \$84.2 billion for the entire budget window. The FMAP increase offsets these costs by an estimated \$38.9 billion in 2021 and \$89.9 billion for 2020-2023. On net, federal transfers are projected to effectively offset total state expenditure needs for the Medicaid program over the 2020-2030 window, though somewhat unevenly over time, as shown in Table 2. Note that federal transfers exceed state expenditure needs through 2022. Enrollment, however, is expected to remain above pre-COVID projections beyond the conclusion of the public health emergency. Because the formal conclusion of the health emergency terminates the FMAP and continuous coverage provisions, the pandemic’s long-run effects on enrollment imply a net increase in states’ costs after 2022.

Table 2: Net State Medicaid and CHIP Costs Due to COVID-19 Pandemic

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2020-2030
Enrollment increase due to COVID-19 (millions)	3	9	7	4	2	2	2	-1	0	0	0	28
Potential state costs owing to enrollment increase (\$ billions)	\$4.4	\$19.9	\$17.8	\$13.5	\$9.8	\$9.8	\$9.8	-\$0.7	\$0	\$0	\$0	\$84.2
FMAP transfer (\$ billions)	-\$30.8	-\$38.9	-\$18.8	-\$1.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-\$89.9
Net State Medicaid & CHIP Costs (\$ billions)	-\$26.4	-\$19.0	-\$1.0	\$12.0	\$9.8	\$9.8	\$9.8	-\$0.7	\$0.0	\$0.0	\$0.0	-\$5.8

Note: Enrollment estimates are taken from Tables A-1 and A-3 from CBO (2020d) and are inclusive of economic and legislative effects. State costs assume states would have paid their normal average portion of costs (40 percent). State costs owing to enrollment increase based on median total expenditures in 2018 among states that CMS deems to have a high level of data usability (CMS, 2020c). Value of FMAP transfer from CBO (2020d; 2020e) (see above text for discussion of calculation). Numbers within columns may not add due to rounding.

Across the entire budget window, federal support is well matched to expected state Medicaid and CHIP financing needs owing to the COVID-19 pandemic. Federal transfers overshoot increases in state financing needs for these programs, effectively providing broader fiscal relief during the worst portions of the economic downturn and health crisis. However, federal transfers are expected to expire before economic conditions fully recover, leaving states with elevated financing needs starting in 2023. To the extent that this is deemed problematic by lawmakers, they could consider further increases in state and local transfers, potentially paired with a more gradual phase out that is not explicitly tied to the public health emergency.

The Pandemic's Consequences for Other State and Local Government Expenditures

In total, state and local government expenditures amounted to \$3.7 trillion in 2018 (Raemeka, Moore, Ricks, and St.Onge., 2020). As further summarized by Raemeka et al. (2020), education expenditures accounted for 27 percent of this spending, or just over \$1 trillion. Public welfare expenditures, which include the Medicaid program and cash welfare assistance, accounted for 19 percent, or just over \$700 billion. Additional spending, outside of the Medicaid program, on hospitals and health care accounted for an additional 8 percent, or just over \$300 billion. Expenditure through “insurance trusts” account for roughly 10 percent. While employee retirement benefits account for the bulk of insurance trust expenditures, this category also includes unemployment insurance. Finally, expenditures on public safety, environmental and

housing services (which include sewage and waste management), governmental administration, and utilities expenditures account collectively for an additional 27 percent, or roughly \$1 trillion. Highway costs account for an additional 5 percent, with interest and other miscellaneous categories accounting for the remainder.

It is difficult to gauge the pandemic's implications for all categories of expenditure by state and local governments. Nonetheless, an understanding of their spending's distribution across categories can provide a useful guide. Outside of Medicaid expenditures, the primary categories of potential relevance include education, unemployment insurance, cash welfare assistance, and other expenditures on hospitals and health care. We see little reason to expect the pandemic to have substantial net impacts on spending for highways, public safety, environmental and housing services, governmental administration, and utilities. Expenditure in these latter areas, which account for roughly one third of state and local government spending, may experience an offsetting mix of reductions in office and procurement expenditures, savings from furloughs, and cost increases due to health and safety protocols or rental assistance. A final category of increased expenditures is directly related to the response to the pandemic and includes support for households and businesses above and beyond that provided by the federal government, as well increased spending on public-health measures.

As has been widely discussed, supplements to unemployment insurance (UI) have been the single most important component of federal relief targeted at households. The formal expansions to UI benefits included in the March legislation, scored at the time to cost \$260 billion, are financed exclusively by the federal government. Under legislation that predates the pandemic, states would typically be responsible for 50% of the cost of benefit extensions that are triggered by high unemployment rates; under the FFCRA, however, the federal government will finance 100% of these costs as well. The federal government has also appropriated funds for the increased costs of the UI program's administration, which have been elevated due to the need to process an unprecedented volume of claims and administer the resulting benefits.

The regular components of states' UI programs, for which the states themselves are responsible, will experience increases in payouts as well. The magnitude of these additional expenditures is not yet clear. Typically, these expenses are ultimately financed through countercyclical increases in earmarked payroll taxes states collect from firms (Sherrill, 2010). Importantly, states' UI systems are outside the purview of their balanced budget-requirements. In

particular, federal law requires the states to pay out regular UI benefits and gives them the ability to rely on loans from the federal government in the short run. Under the FFRCA, these loans are interest-free until the end of 2020 (Whittaker, 2020).

Cash welfare assistance has received far less attention than either Medicaid or UI over the course of the pandemic. This reflects the diminished role cash welfare has played in the US safety net in recent decades. In 2019, for example, expenditure through the Temporary Assistance for Needy Families program (TANF) totaled just over \$30 billion nationwide. Because the aggregate federal grants to support states' TANF programs are not benchmarked to program need, incremental expenditures will directly impact states' general funds. From February through June, the number of adult TANF beneficiaries had increased by 14 percent, from 698,000 to 798,000.¹⁴ Over this same time period, the number of child TANF beneficiaries had increased by 7 percent, from just under 2 million to 2.13 million. A combined 9 percent increase in the caseload, if sustained for a year, would add roughly \$3 billion to program expenditures.

There has been considerable discussion of the pandemic's implications for the cost of operating schools. Operating expenditures have been increased by the costs of safety protocols and the need to implement non-standard instructional models. At this time, it is unknown how costly these factors will ultimately be. In a broader discussion of federal aid for school districts, Gordon and Reber (2020) point to an early source of estimates, namely a submission to the Senate committee on Health, Education, Labor, and Pensions from the Council of Chief State School Officers (Miller, 2020). Among the expenditures in a broad request, \$34.2 billion relate clearly to operating costs; this spending is estimated to include \$30.2 billion for new health and safety protocols and \$4 billion in costs associated with access to distance learning equipment.¹⁵

¹⁴ For data on TANF (and SSP) caseloads, see Office of Family Assistance (2020).

¹⁵ The letter from the Council of Chief State School Officers claims that school districts will need between \$158.1 and \$244.6 billion to both re-open safely and make up for lost instructional time from the 2019 to 2020 academic year. The sourcing for the single largest portion of these expenditures is unclear. Specifically, the letter implicitly asserts that spending between \$86.5 and \$173 billion will erase the educational losses associated with learning disruptions during the 2019 to 2020 academic year. Because these numbers do not involve operating costs for the current or future fiscal years, we exclude them from our estimate of documented operating expenditure needs. We also exclude an estimated \$37.4 billion associated with reductions in aid from state governments. Because we are calculating totals across state and local governments combined, cuts in intergovernmental aid from states to local governments would be double counted if we added them here.

Universities face some of the same operating expenditure strains as schools for children in grades K-12. Unfortunately, increases in universities' expenditures have been less extensively analyzed. Notably, however, states' general funds account for a modest share of many public universities' total revenues. It is thus unclear how these expenditures will impact state budgets. Similar budgetary logic applies to public hospitals. It is perhaps reasonable to treat these two types of organizations as more similar, for current purposes, to their private-sector counterparts than to other components of the subnational public sector. As mentioned previously, Auerbach et al. (2020) estimate that federal aid to hospitals and institutions of higher learning, taken together, amount to just over \$30 billion in 2020. To the extent that state and local government revenue shortfalls are driven by reduced revenue at hospitals and institutions of higher learning, this aid will partially offset those shortfalls.

Outside of Medicaid, then, we estimate that state and local governments may face elevated operating costs from their usual activities on the order of \$50 billion for the 2021 fiscal year. The bulk of these costs are linked to the operation of schools for students in grades K-12. We emphasize that, in comparison with our assessment of states' Medicaid programs, this estimate is quite rough and does not include extraordinary public-health and relief spending in direct response to the crisis. A full assessment of the pandemic's effects on the operating expenditures of state and local governments would require far more comprehensive data.

Conclusion

The COVID-19 pandemic has strained state and local governments in several ways. The first is its effect on tax revenues; the second is its effects on the safety net, in particular through the Medicaid program; the third is its effects on operating expenditures, including the costs of running schools. This paper adds to past work on the pandemic's effects on state and local governments' budgets by coupling a detailed look at the Medicaid program with broader discussions of other expenditure needs, revenue impacts, and existing federal aid.

Perhaps the most salient finding from this work is that, in the aggregate, existing federal aid to state and local governments appears sufficient, or at least nearly sufficient, to offset expected revenue shortfalls and increases in Medicaid expenditures for the 2021 fiscal year. Both the aid and the blend of Medicaid expenditures and revenue losses are in the ballpark of \$200-

300 billion. While aid appears comparable to budgetary strain in the aggregate, of course, this will not be true of all states and localities individually.

We emphasize that assessments of further federal transfers should take a number of additional factors into account. On the needs side of the ledger, it is important to keep in mind that state and local governments suffered revenue losses in the second quarter of 2020. These losses pre-date, and thus are not included in estimates for, the 2021 fiscal year. Applying the approach followed by Clemens and Veuger (2020b), we estimate this earlier revenue shortfall to amount to \$67 billion across state and local governments combined. In addition, state and local governments have been exposed to new demands for spending on their regular activities outside the Medicaid program. As discussed in the previous section, these additional expenditure needs may be on the order of \$50 billion for the 2021 fiscal year. Operating costs for public schools account for a substantial share of this estimate.

On the funding side of the ledger, state and local governments entered the recession with about \$119 billion in balances, between rainy-day funds and budget surpluses (Auerbach et al., 2020). These surpluses and reserves are a source of fiscal space. Interestingly, this \$119 billion is similar in magnitude to the costs discussed in the previous paragraph. That is, states' existing fiscal space may, on average across the country, be sufficient to address states' revenue shortfalls from the previous fiscal year (i.e., the shortfalls from the second quarter of 2020), as well as increases in the current year's costs of operating schools and financing cash welfare assistance. Again, the caveat applies that this comparison masks significant heterogeneity across state and local governments.

Our discussion so far paints a picture that, albeit under difficult circumstances, is in some respects optimistic. That is, between substantial federal assistance and previously accumulated reserves, state and local governments should, in the aggregate, be on stable footing for the remainder of the 2021 fiscal year. At the same time, this assessment comes with several caveats.

First, as mentioned, there is significant heterogeneity across states and localities. Not all states, for example, had accumulated substantial reserves in their rainy-day funds. Further, states that rely heavily on sales tax revenue, or where leisure, hospitality, and tourism are important industries, have experienced worse than average losses to revenue. States and localities that have been hardest hit, or that were least prepared, may thus remain in quite difficult straits.

Second, federal aid and accumulated reserves notwithstanding, state and local government employment has declined substantially. As shown previously in Figure 1, state and local government employment was down by 7 percent from February through October. The decline from September to October leaves uncertainty as to whether state and local government employment has stabilized. This tempers the cautious optimism we would otherwise maintain based on our overall assessment of aid, reserves, and sources of budgetary strain.

Finally, there are longer-term considerations that should be taken into account. Revenues are sure to remain below pre-pandemic projections beyond the current fiscal year. While the aggregate numbers may look fine for now, the picture may look worse moving forward. This is particularly likely if the public-health crisis and the concomitant economic downturn extend late into the 2021 calendar year. Long-term forecasts, as from the CBO, suggest that nominal GDP will remain below its pre-pandemic trend through the end of the current decade. While this may support short-run arguments for additional federal aid, it also suggests that state and local government budgets may need to adjust to a new normal of lower revenues and reduced spending.

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