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Medicaid Expansion in Mississippi: A Literature Review

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Table of Contents

Executive Summary	i
Introduction.....	1
Policy Context.....	2
Mississippi-Specific Studies.....	3
Economic Impact Studies.....	4
Actuarial Studies.....	8
National Studies.....	10
Other Mississippi Studies and Reports.....	12
Other State Studies	13
Expansion States.....	14
Non-Expansion States.....	18
Other Studies.....	19
Provider Participation.....	19
Provider Financing	21
Conclusion	22
References	23
Appendix. Additional State-Specific Results.....	29

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Executive Summary

As of April 2021, Mississippi was 1 of 12 states to not have expanded its Medicaid program under the Affordable Care Act (Kaiser Family Foundation, 2021). Recent discussion on a possible expansion within the state, however, has demonstrated the need for timely, non-partisan research on this topic. To that end, The Hilltop Institute conducted a targeted literature review in order to inform an eventual study of the impact of a (hypothetical) Medicaid expansion with a focus on Mississippi's Medicaid program, state budget, and provider landscape.

This review encompasses studies from Mississippi, studies from other states, and national studies that can inform the Mississippi expansion study. From Mississippi, there have been two economic impact studies (Neal, 2012; Becker & Morrissey, 2013), two actuarial studies (Milliman, 2010; 2012), two national models applied to Mississippi (Holahan et al., 2012; Simpson, 2020), and one economic impact study of a proposed alternative Medicaid expansion (the Perryman Group, 2019). These existing studies offer a wide range of outcomes: expansion could result in 207,000 to 311,750 new enrollees, with annual net state cost estimates ranging from \$64.6 million to *savings* of \$34 million by 2020. It is important to note that only three of these studies attempted to account for offsetting tax revenues as a result of Medicaid expansion, and few attempted to account for offsetting spending reductions (either within Medicaid, or for other general fund line items) that would occur as a result of expansion. There is a clear need for up-to-date, transparent estimates that account for both costs and cost offsets due to Medicaid expansion in Mississippi.

The studies reviewed from other states focused on states that were either geographically proximal to Mississippi, were published recently, or that were otherwise relevant to an eventual Mississippi study. This yielded a pool of eight states: Louisiana (expanded in July 2016), Arkansas (expanded in January 2014), Kentucky (expanded in January 2014), Alabama (not expanded), Missouri (expansion planned for July 2021), Michigan (expanded in April 2014), Kansas (not expanded), and Montana (expanded in January 2016) (Kaiser Family Foundation, 2021). While the impacts of Medicaid expansion are necessarily state-specific, these studies offer valuable data on actual (or estimated) impacts of expansion on Medicaid enrollment and expenditures that can guide the eventual Mississippi expansion study. For example, studies from Arkansas and Kentucky offer year-by-year estimates of certain cost offsets due to Medicaid expansion; studies from Alabama, Missouri, and Kansas offer detailed analyses of the changes in the composition of Medicaid eligibility groups resulting from expansion; and studies from Michigan and Montana offer excellent discussions of methodological issues.

Finally, we examined national studies on the effects of Medicaid expansion on providers that are intended to inform our methodological approach for this aspect of the analytic plan.

Medicaid Expansion in Mississippi: A Literature Review

Introduction

As of the writing of this review (April 2021), Mississippi was 1 of 12 states to have not expanded its Medicaid program under the Affordable Care Act (ACA) (Kaiser Family Foundation, 2021). Recent discussion on a possible expansion within the state, however, has demonstrated the need for timely, non-partisan research on this topic. To that end, the Center for Mississippi Health Policy contracted with The Hilltop Institute at the University of Maryland, Baltimore County (UMBC) to conduct a study of the economic impact of a (hypothetical) Medicaid expansion, with a focus on Mississippi's Medicaid program, state budget, and provider landscape. As part of the development of the analytic plan for the study, Hilltop conducted a literature review in order to document relevant findings that can help inform the study design.

Given the substantial literature on the subject of Medicaid expansion—a regularly updated review by the Kaiser Family Foundation includes 404 studies on the topic (Guth et al., 2020)—we had to be selective in including studies in this literature review. The eventual study on Medicaid expansion in Mississippi is intended to estimate effects on the state Medicaid program (enrollment and costs), state budget (expenditure and tax revenue), and providers (most likely, hospitals and community health centers). Thus, while many studies document the impact of Medicaid expansion on, for example, individuals' health outcomes or access to care, we did not include these studies in our review. We sought to focus only on the studies that would be directly relevant to the final research output.

Even with this selection criteria, there is a large body of evidence comprising national overviews of state-specific effects and individual, state-specific studies (Ward, 2020; Bacharach et al., 2016). Practically every state has conducted one or more such studies for planning purposes, although these are typically not published in peer-reviewed journals and are occasionally not publicly available. Every state is unique, however, and the effects of Medicaid expansion in a state like California may not generalize to Mississippi; therefore, with this review, we sought to focus on studies *that are especially relevant to Mississippi*. Thus, we chose to identify studies from other southern states, with an emphasis on southern states with actual expansion experience. Additionally, we included studies that were either recently published or were otherwise considered to be useful for the development of the analytic plan.

This review proceeds in four parts. First, we provide policy context for Medicaid expansions, including a discussion of the relevant provisions of the American Rescue Plan. Next, we detail the existing studies from Mississippi. These studies are the best potential source of information for our analytic plan, so we conducted a thorough analysis of this evidence base. Third, we discuss studies from other states that we will use to inform the analytic plan. Finally, we discuss other studies that, while not specific to Mississippi, can also be used in the analytic plan. While additional studies that could inform key parameters in the eventual study (for example, estimates of take-up rate) may arise, we anticipate relying meaningfully on the studies listed here.

Policy Context

As part of the passage of the ACA, states were required to expand their Medicaid programs by extending eligibility to all adults under age 65 with income below 138% of the federal poverty level (FPL).¹ This was a significant shift in Medicaid eligibility policy and “moved the program for the first time to a purely means-tested program, rather than one based on categorical eligibility (such as parental status or pregnancy, disability, or age group—i.e., children and the elderly)” (Gruber & Sommers, 2019). In the 2012 Supreme Court decision *National Federation of Independent Business v. Sebelius*, however, mandatory Medicaid expansion was deemed unconstitutional and, as a result, Medicaid expansion became optional for states (Rosenbaum & Westmoreland, 2012). At the time of this writing, 39 states and the District of Columbia have expanded their Medicaid programs.

Medicaid is jointly financed by the federal and state governments, with the federal government paying a portion of overall costs. This portion—the Federal Medical Assistance Percentage (FMAP)—is a sliding scale in which the federal government pays a higher percentage of costs in lower-income states. Mississippi currently receives the highest FMAP in the nation, at 77.76%. Additionally, the Medicaid expansion population has a separate FMAP. In order to offset the state costs of expansion, the federal government reimburses states at a higher rate for their expansion population than it does for traditional eligibility groups: 100% from 2014-2016, then gradually lowering to 93% from 2017-2019, and then 90% from 2020 onward.

Recent developments have led to two changes in FMAP policy. First, as part of the federal COVID-19 response, effective January 1, 2020, the FMAP rate for traditional Medicaid enrollees has been increased by 6.2 percentage points for states that meet certain maintenance of eligibility requirements, including “providing continuous coverage of Medicaid enrollees during the public health emergency period.” This rate increase is effective until “the last day of the calendar quarter in which COVID-19 public health emergency period ends” (Congressional Research Service, 2020).² Second, the American Rescue Plan Act of 2021 “encourages non-expansion states to take up the expansion by providing an additional temporary fiscal incentive for states to newly implement the ACA Medicaid expansion” (Rudowitz et al., 2021). Specifically, under this new legislation, states that expand their Medicaid programs would be eligible for a 5 percentage point increase in the FMAP for *traditional* Medicaid enrollees for two years after expansion.

Another component of the ACA was the establishment of insurance marketplaces: regulated marketplaces where individuals can shop for insurance coverage. Advanced premium tax credits and cost-sharing subsidies are intended to offset premium costs and are available for individuals with 100% to 400% of the FPL. It is crucial to note, however, that financial premium assistance

¹ Technically, eligibility was expanded for adults below 133% of the FPL and a 5% income disregard, for an effective income threshold of 138% of the FPL. Additionally, to be eligible, individuals must be citizens of the United States or certain qualifying non-citizens (<https://www.medicaid.gov/medicaid/eligibility/index.html>).

² Additionally, per a letter from the Biden administration to governors, this 6.2 percentage point increase will likely be in place at least through March 2022 (Rudowitz et al., 2021).

for ACA plans is not available for individuals earning less than 100% of the FPL. This is known as the “coverage gap”: individuals with incomes that “exceed their state’s eligibility for Medicaid but below poverty, the minimum income eligibility for tax credits through the ACA marketplace” are not eligible for any form of premium assistance and thus pay the full “sticker price” for marketplace plans (Garfield et al., 2021). In Mississippi, the current monthly income eligibility limits for parents and caretaker adults is \$572 for a family of four, with an implied FPL of roughly 26% (Mississippi Division of Medicaid, 2019a; ASPE Office of Health Policy, 2021a). Because of the coverage gap, if that family earned \$600 per month, a parent or caretaker adult would exceed the income eligibility limits for Medicaid and yet not qualify for financial assistance for ACA plan premiums. Researchers have estimated that approximately 102,000 Mississippians were in the coverage gap in 2019 (Garfield et al., 2021).

Mississippi-Specific Studies

To date, Hilltop has located two economic impact studies that examine the effect of Medicaid expansion in Mississippi, two actuarial reports on the impact of Medicaid expansion on the Mississippi budget, one recent study on the economic impact of a proposed alternative Medicaid expansion, and two national models that forecasted the effects of Mississippi Medicaid expansion.³ Below is a discussion of these, and Table 1 provides a summary.

Before discussing these studies in detail, however, it is important to note certain general caveats. First, many of these studies attempted to quantify the impact of a Medicaid expansion without explicitly specifying the *counterfactual*: that is, the world against which they compare the hypothetical Medicaid expansion. Many of the significant provisions of the ACA went into effect in January 2014, and these provisions—for example, the establishment of insurance marketplaces and the individual mandate—almost certainly affected Medicaid enrollment *independent of Medicaid expansion*. Thus, studies from 2012 or 2013 may be implicitly comparing the hypothetical future of “ACA implementation and Medicaid expansion” with a counterfactual world of “no ACA implementation.” Given the assumption that the ACA will not be repealed in the near future, this is not a meaningful comparison for the purposes of the analytic plan and eventual final study. A more useful comparison is “ACA continuation with Medicaid expansion” and “ACA continuation without Medicaid expansion.”

Second, while states must balance the costs and benefits of expansion in making the decision whether to expand Medicaid, none of these studies attempted to quantify all the *benefits* of potential Medicaid expansion. In general, the costs of Medicaid expansion are relatively straightforward to calculate, and the cost structure does not tend to vary from state to state. As a result of expansion, more people will gain health coverage and use health services, and the state is responsible for a portion of that expenditure (depending on the FMAP). Additionally, individuals who are not members of the expansion group may enroll in Medicaid at the standard—not the enhanced (90/10)—FMAP rate (the so-called “welcome mat effect”). Finally,

³ While there have been multiple iterations of these models since 2012, we included the earlier and most recent versions in order to provide both a comparison point for the early studies and context for the current expansion debate.

there are additional (and potentially non-trivial) administrative costs that occur with Medicaid expansion, some of which are front-loaded; for example, IT systems must be altered to accommodate the new eligibility group.

However, the benefits (that is, cost savings) are more diffuse and differ from state to state. Virtually all states should experience Medicaid savings as individuals who were eligible for existing Medicaid enrollment groups are transferred into the expansion group, and the state can thus save the difference in the FMAP. While this source of savings is greatest for states with low traditional Medicaid FMAP, Mississippi—with the highest national FMAP—will still realize some savings from this channel.⁴ Additionally, states will experience fiscal savings as health-related programs (for example, certain behavioral health services) that were previously funded purely by state general funds can be (at least partially) replaced by the predominantly federal funding from Medicaid expansion. Additional state and local tax revenue will accrue from both direct health spending and the indirect economic stimulus. Hospitals face improved financial outlook as patients who were formerly uninsured—and for whom the hospital provided uncompensated care—gain Medicaid coverage. Community health centers may also see improvements in financial health. These benefits are more difficult to quantify than direct cost outlays for Medicaid expansion, but they are real. Studies that do not attempt to capture these are not providing a full accounting of the costs and benefits of Medicaid expansion.

Finally, these studies vary in transparency, data sources, and methodology. We strongly believe that transparency and replicability are necessary requirements of high-quality evidence; where possible, we attempt to highlight data sources and assumptions.

Economic Impact Studies

Neal, 2012

The Fiscal and Economic Impacts of Medicaid Expansion in Mississippi, 2014-2015 is an economic impact study published in October 2012 as an economic brief from the University Research Center at the Mississippi Institutions of Higher Learning. The study modeled the impact of Medicaid expansion on Medicaid enrollment, state Medicaid costs, additions to the state general fund, and net state fiscal burden from 2014 to 2025.

Neal used three alternative take-up scenarios: high participation (starting at 85% of newly eligible individuals, ramping up to 95% by 2016), medium participation (starting at 75%, ramping up to 85% by 2016), and low participation (starting at 65%, ramping up to 75% by 2016). Under the “high participation” scenario, which he argued is most likely to occur, Neal found that there would be approximately 310,000 additional Medicaid expansion group enrollees per year. Using a baseline per-enrollee cost of \$2,957 with annual cost growth of 3.5%, Neal estimated that the total projected Medicaid costs of expansion range from \$435 million in 2014 to \$1.38 billion in 2025, with total costs of \$1.17 billion in 2020. The state’s share of costs in that year is \$117.8

⁴ As of FY 2021, the Mississippi Medicaid FMAP is 77.76%. Congressional Research Service. (July 2020). *Medicaid’s Federal Medical Assistance Percentage (FMAP)*. <https://fas.org/sgp/crs/misc/R43847.pdf>

million. The author used the REMI model to project the economic impact and estimates that expansion would generate roughly 9,000 additional jobs each year, thus leading to approximately \$50 million in additional state general fund revenue each year (rising over time).⁵ This study projected a net state fiscal impact of \$64.6 million in 2020, after accounting for the additional state general fund revenue.

Hilltop notes several issues with Neal's methodology that may not have been apparent at the original time of writing (2012).⁶ First, while the author provided estimates of the additional state general fund revenue resulting from the additional economic activity generated by Medicaid expansion, he did not appear to estimate the impact of *new* federal spending. Individuals switching to Medicaid from the ACA marketplace do not represent an influx of *new* federal dollars into Mississippi since, by virtue of receiving advanced premium tax credits, they already represented an infusion of federal expenditure into the state. Failure to account for this would tend to overstate the magnitude of the federal stimulus into Mississippi resulting from Medicaid expansion, thus overstating the economic impacts. However, any overestimate of state tax revenue is mitigated by the fact that the author did not attempt to calculate the additional *local* government revenue resulting from the fiscal stimulus of expansion.

Second, the study did not account for health insurer taxes. Per Mississippi Code Title 27, Chapter 15, Section 109, insurance companies in Mississippi pay a 3% premium tax.⁷ To the extent that new enrollees would be enrolled in MississippiCAN, the state's managed care program, the additional premium dollars that flow from the state to the managed care organizations (MCOs) would be taxed at 3%, and these taxes would return to the state treasury.⁸ Crucially, these taxes are built into the capitation rates that are paid to these MCOs. Thus, while the state pays part of the tax that flows back to itself, the federal government pays much more of the tax. Using the traditional FMAP (which, pre-COVID, was roughly 77% federal, 23% state), "the state realizes net proceeds from the MississippiCAN premium tax (DOI collections less DOM [Mississippi Division of Medicaid] costs) equivalent to the 2.3% federal contribution" (Milliman, 2019). Therefore, if the additional direct expenditure is \$1.16 billion in 2020, the state of Mississippi would earn back \$26.7 million in premium taxes along with any additions to state tax revenue due to the

⁵ The REMI model is an input-output model that is used to estimate the economy-wide impacts of a particular economic stimulus. The model accounts for inter-connections between various aspects of the economy to estimate the "multiplier effect" as an injection of federal funding into an economy leads to rounds of additional expenditure. The REMI model is generally considered to be the most sophisticated of available economic impact models. For additional details, see Neill (2013) and Levy et al. (2020).

⁶ We do not enumerate minor issues here. For example, Neal used as an adult population of individuals aged 20 to 64, when in fact he should have used the pool of individuals aged 19 to 64. While technically inaccurate, this should not meaningfully change the study's results.

⁷ Miss. Code Ann. § 27-15-109.

⁸ Whether the expansion population would be covered by MississippiCAN is a policy decision; however, given that participation in MississippiCAN is mandatory for parents and caretakers, it seems likely that the expansion population would also be enrolled (Mississippi Division of Medicaid, 2019b).

stimulated state economy. Moreover, given that the FMAP for the expansion population is 90%, not 77%, the true direct MCO tax effect is likely to be even higher than \$26.7 million.

Third, Neal assumed a flat 50% FMAP for the additional administrative costs that are generated by the Medicaid expansion. This is an underestimate: the administrative FMAP depends on the activity, and ranges from 90% for the “design, development, or installation of mechanized claims systems,” to 75% for “performance of medical and utilization review activities,” to 50% for all other administrative activities (Congressional Research Service, 2020). The true FMAP for administrative activities will be a weighted average of the different administrative FMAPs, weighted by the volume of activities in each category. Other sources offer different estimates. For example, the Milliman 2012 study (detailed below) used an administrative FMAP of 57%; the *2018 Actuarial Report for the Financial Outlook for Medicaid* implies an administrative FMAP of 63.7%; and the Georgia Department of Community Health has estimated that “the aggregate FMAP ranges from 68% to 72%.” Neal estimated that, in 2020, there would be \$44.3 million of Medicaid expansion administrative costs (Table A3), and of this, Mississippi’s share is \$22.2 million. As calculated, this represents over 1/3rd of the study’s estimated net state cost of Mississippi of expansion in 2020.

Fourth, while Neal did estimate the cost offsets due to reduced health spending on the incarcerated population (Table A4), it is unclear how this is included in his estimates of the net cost of Medicaid expansion. Additionally, he did not attempt to estimate other cost offsets from Medicaid expansion. Neal (2012) stated, “Some state agencies (Mississippi Department of Mental Health, Mississippi State Department of Health, etc.) may realize additional costs or savings associated with Medicaid expansion. Currently, there is insufficient data to estimate these costs or savings” (p. 21).

In general, cost offsets come from two sources: 1) the state can save money as individuals that are currently covered by traditional Medicaid eligibility groups shift to the expansion group, thus earning a higher FMAP and 2) Medicaid expansion can reduce other state spending by offering services (with a 90% FMAP) that used to be solely (or largely) state-funded. Estimating the magnitude of these offsets is challenging, and a complete accounting of all possible cost offsets is typically not possible. Other studies have attempted to estimate certain cost offsets, however, and we discuss these below.

Given Mississippi’s high FMAP, the scope for savings from individuals changing from traditional eligibility groups to the expansion group is low relative to other states; this type of change means that instead of paying 22.24 percent for enrollees, the state would pay 10 percent.⁹ Still, this type of eligibility change represents meaningful state savings of 12.24% per enrollee. Studies from other southern states with similarly high FMAPs suggested that there is the potential for significant savings from this avenue. A recent study in Alabama (a state that has not expanded) estimated that this would result in state savings of \$20.8 million in SFY 2021 (Manatt Health,

⁹ The FY 2021 FMAP for Mississippi is 77.76%, which is the highest in the nation; the next highest is West Virginia (74.99), New Mexico (73.46), Alabama (72.58), Kentucky (72.05), and Arkansas (71.23) (Congressional Research Service, 2020).

2019). A 2016 Arkansas Health Reform Legislative Task Force report estimated that the continued implementation of the Private Option would generate \$106 million in savings due to cost-shifting from traditional Medicaid in 2020 (although the comparison group for this estimate is unclear).

In addition to cost-shifting, Mississippi would experience reductions in general fund expenditure as certain services that used to be state-funded are now available to the expansion population through Medicaid (and thus, are 90% federally funded). A 2015 study from Kentucky estimated that Medicaid expansion would lead to general fund reductions of \$45.2 million in 2020 from the Department for Public Health (DPH) and the Department for Behavioral Health, Developmental, and Intellectual Disabilities (DBHDID) as previously state-only funding was replaced by a combination of state and federal funds (Commonwealth of Kentucky, 2015). Michigan reduced its non-Medicaid line item on Community Mental Health (CMH) from \$283.7 million in FY 2013-2014 to \$97.1 million in FY 2014-2015, a reduction of 65.8%. The associate director of the Michigan Senate Fiscal Agency wrote, “This reduction was made because many of the low-income uninsured people served by and services provided by the CMHs became eligible for Medicaid reimbursement due to the expansion” (Angelotti, 2014). Given that, as of 2018, Mississippi’s Community Mental Health Centers provided \$33 million in uncompensated indigent care, it seems likely that Medicaid expansion would lead to the substitution of federal funding for currently state-funded services (Smith, 2019).

The Neal (2012) report has been cited numerous times in the Mississippi media and was influential in shaping the debate about Medicaid expansion in Mississippi.¹⁰ Given what we now know about cost offsets occurring in nearby states, it is likely that the true cost of Medicaid expansion to Mississippi would be lower than indicated in this study.

Becker and Morrissey, 2013

An Economic Analysis of the State and Local Impact of Medicaid Expansion in Mississippi is an economic impact study released in December 2013 by the Mississippi Health Advocacy Program. The authors, Becker and Morrissey, modeled the impact of expansion on enrollment, state and federal costs, employment, and state tax revenues from 2014 to 2020.

As above, the study used three different take-up scenarios of newly eligible individuals: high, intermediate, and low. As opposed to the 2012 Neal study, which imposed a flat take-up rate that gradually increases over time, Becker and Morrissey used different take-up rates depending on previous insurance status of the new enrollees: uninsured, with private group coverage, or with private non-group coverage. Under the intermediate take-up scenario, which was the authors’ preferred specification, expansion would result in an additional 212,362 enrollees in 2020.

¹⁰ For example, see Associated Press (2012); Pettus (2012); and Nave (2012). Additionally, Dr. Neal testified to the Mississippi House Medicaid Committee in 2013 (<https://mhanewsnow.typepad.com/liaison/2013/03/house-holds-medicaid-hearing.html>).

The authors derived their per-enrollee spending estimates from the Medical Expenditure Panel Survey (MEPS), a widely used data source on medical spending, and estimated that the per-capita medical cost per enrollee would be \$6,381 in 2020. Under the intermediate take-up scenario, the authors estimated that the total Medicaid spending in 2020 would be \$1.39 billion, with the federal share \$1.22 billion and state share before offsets \$167 million. Becker and Morrissey (2013) used the IMPLAN model to project the economic impact and estimated that expansion would generate 19,318 additional jobs in 2020, with \$200 million in additional state and local tax revenue in 2020.¹¹ The authors projected an overall net budgetary *savings* of \$34.0 million in 2020 due to Medicaid expansion.

Although this study was more transparent than the Neal (2012) study and clearly detailed its data sources and methodology, it was not without issue. First, as above, Becker and Morrissey (2013) did not account for the fact that individuals switching to Medicaid from the ACA marketplaces do not represent an influx of new federal dollars. Second, in estimating the impact of Medicaid expansion on state and local tax revenues, the authors applied a flat 10.1% tax rate to all additional spending due to Medicaid expansion—both direct spending and indirect spending generated by the stimulus to the economy. This may result in an overestimate of the state tax revenue resulting from expansion because direct Medicaid spending for health services may, in the case of non-profit hospital spending, not be subject to taxation. Additionally, as with Neal (2012), the authors did not account for the 3% health insurer tax. Finally, the authors did not attempt to estimate cost offsets due to reductions in other state-funded expenditures or due to the changing composition of Medicaid eligibility groups.

Considering these factors, the Becker and Morrissey study may have overestimated the extent to which Medicaid expansion would increase state tax revenue, but this is to some extent mitigated by not accounting for cost offsets.

Actuarial Studies

Milliman, Inc., 2010

The Mississippi Division of Medicaid retained Milliman, Inc. “to perform analysis related to changes to the Medicaid program resulting from federal healthcare reform.” The report, titled *Financial Impact Review of the Patient Protection and Affordable Care Act as Amended by H.R. 4782, The Reconciliation Act of 2010 on the Mississippi Medicaid Budget*, was published in October 2010 and estimated Mississippi Medicaid’s budget exposure to the ACA from state fiscal year (SFY) 2011 to SFY 2020. It is important to note that this incorporates effects of both the ACA and Medicaid expansion; as such, it does not isolate the effects of Medicaid expansion.

¹¹ The IMPLAN model is an input-output model that is used to estimate the economy-wide impacts of a particular economic stimulus. Like the REMI model, it accounts for inter-connections between various aspects of the economy to estimate the “multiplier effect.” The IMPLAN model differs from the REMI model on a number of technical points. For additional details, see Neill (2013).

As above, the study modeled three take-up scenarios: high, moderate, and low. The authors argued that moderate or low scenarios are most likely to occur. They used as medical costs the Mississippi Division of Medicaid's SFY 2009 Medicaid expenditures for current Medicaid enrollees in the "MA Family" and "Child < 19" categories of eligibility adjusted for the expected demographics of the expansion population, or \$4,540 and \$2,421, respectively. They used a composite 7% annual growth rate, consisting of health care inflation (about 4%) and enrollment growth (3%).

The report estimated that, under the moderate participation scenario, there would be 67,000 additional Medicaid children enrolled; 243,000 additional adults (split between 115,000 caregivers and 128,000 non-caregivers); and no impact on other enrollees or Children's Health Insurance Program (CHIP) enrollees. The state share of Medicaid spending would increase by \$1.267 billion from 2011 to 2020; of this \$1.267 billion, \$598 million was for the currently eligible population and \$430 million was the newly eligible population. There was an additional cost as children shift from CHIP to Medicaid, which was effectively canceled out because of the higher CHIP FMAP, and there was a \$6 million savings (over the decade) from the projected elimination of the Breast and Cervical Cancer program. The study estimated that as of SFY 2020, Medicaid expansion would lead to an additional \$280 million in costs to Mississippi Medicaid: \$110 million for the currently eligible population, \$171 million for the newly eligible population, and a cost offset of \$1 million from the elimination of the Breast and Cervical Cancer program.

The 2010 Milliman report used non-public Mississippi Division of Medicaid budget, cost, and eligibility data, and the analysis and its assumptions were "thoroughly peer reviewed by qualified actuaries." It explicitly focused on Mississippi Medicaid's budget and did not attempt to estimate cost offsets from other state programs or from additional tax revenue. However, even within Medicaid, this study did not appear to address potential Medicaid cost savings due to changes in the composition of eligibility groups.

Milliman, Inc., 2012

This report is an update to the 2010 Milliman report in response to the 2012 Supreme Court decision that made it optional for states to expand Medicaid. As above, the Mississippi Division of Medicaid retained Milliman, Inc. to estimate the impact of the ACA on Mississippi Medicaid's budget exposure. The resulting study, titled *Financial Impact Review of the Patient Protection and Affordable Care Act on the Mississippi Medicaid Budget*, was published in December 2012.

The 2012 Milliman report modeled enrollment and expenditures from SFY 2014 to SFY 2020 without any ACA elements, under ACA mandates without a Medicaid expansion, under ACA mandates with a partial Medicaid expansion, and under ACA mandates with a full Medicaid expansion (up to 138% of the FPL). As above, the study used three participation scenarios: lower, higher, and full, although the authors argued that the full participation scenario was unlikely to occur. They used as medical costs the Mississippi Division of Medicaid's SFY 2011 Medicaid expenditures for current Medicaid enrollees in the "MA Family" and "Child < 19" categories of eligibility adjusted for the expected demographics of the expansion population, or \$4,250 and

\$2,300, respectively. They used a composite 6% annual growth rate, consisting of health care inflation (about 4%) and enrollment growth (2%).

Under the higher participation scenario, the authors estimated that, by 2020, a full Medicaid expansion would cost Mississippi \$155 million in addition to the costs due to other elements of the ACA. As with their 2010 study, Milliman (2012) estimated that “the largest driver of spending growth related to the ACA is the enrollment of the ‘woodwork effect’ population that is estimated to occur even if DOM decides against the ACA Medicaid expansion.” Under the higher participation scenario, the authors estimated that Medicaid expansion would lead to an additional 231,000 Medicaid enrollees as of SFY 2014, concentrated among caretakers and childless adults.

Notably, under the “higher participation” scenario, the authors estimated that 63,000 additional participants would enroll in Medicaid in SFY 2014 even without Medicaid expansion (44,000 children and 19,000 adults). Additionally, the study used an administrative cost FMAP of 57%, “based on SFY 2012 actual average FMAP for administration” and assumed an administrative cost percentage of 2.5% of medical costs based on the Mississippi Division of Medicaid’s SFY 2014 budget.

Finally, this study assumed that the expansion population would not be enrolled in MississippiCAN and instead would remain in the fee-for-service program. The authors wrote, “If the ACA expansion population were to be enrolled in MississippiCAN, DOM could expect to save approximately 2.5% of cost (a net managed care savings of 5% less the 2.5% ACA Health Insurer fee impact).” As above, this report used non-public Mississippi Division of Medicaid budget, cost, and eligibility data, and the analysis and its assumptions were “thoroughly peer reviewed by qualified actuaries.” It explicitly focused on Mississippi Medicaid’s budget and did not attempt to estimate cost offsets from other state programs or from additional tax revenue. However, even within Medicaid, it did not address potential Medicaid cost savings due to changes in the composition of eligibility groups.

National Studies

Holahan et al., 2012

This widely cited study, *The Cost and Coverage Implications of the ACA Medicaid Expansion: National and State-by-State Analysis*, published in November 2012, was a partnership between the Kaiser Family Foundation and the Urban Institute. It used Urban’s Health Insurance Policy Simulation Model (HIPSM) to forecast the effect of Medicaid expansion on costs and enrollment, both nationally and state by state from 2013 to 2022. While other organizations have created national Medicaid expansion projection models, we focus on Urban’s HIPSM due to its high forecasting accuracy: a 2015 comparison of five ACA forecasting models found that Urban’s 2010 forecast model was the most (or tied for the most) accurate at forecasting Medicaid enrollment,

the change in the uninsured population, and the total uninsured population as of 2014 (Glied et al., 2015, exhibit 2).¹²

Notably, Holahan and colleagues (2012) compared three scenarios: no-ACA baseline, ACA with all states expanding, and ACA with no states expanding. For the purposes of this analysis, the relevant comparison is “ACA with all states expanding” and “ACA with no states expanding.” The HIPSM uses various public data sources—including the Current Population Survey and the Medical Expenditure Panel Survey—to model individual decision-making; as such, certain parameters such as take-up rates “are modeling outcomes, not modeling assumptions.”

Holahan et al. estimated that Medicaid expansion in Mississippi (assuming that the ACA was implemented) would cost Mississippi \$1.048 billion in state funds from 2013 to 2022 but did not provide annual estimates. Accounting for the declining expansion population FMAP over this period, we calculate that this implies a cost to Mississippi of \$180.7 million in 2020.¹³ Additionally, the authors estimated that expansion would lead to 231,000 additional enrollees as of 2022, with a concurrent reduction in the uninsured population of 169,000 in that year. It is important to note that this represents the gross cost increase without any cost offsets; the authors did not attempt to model Medicaid cost savings due to changes in the composition of eligibility groups, changes in funding sources for other previously state-funded health programs, or increases in tax revenue.

Simpson, 2020

This study, titled *The Implications of Medicaid Expansion in the Remaining States: 2020 Update*, forecasted the impacts of Medicaid expansion for the fifteen states that, as of 2020, had not implemented Medicaid expansion. Published in June 2020 and offering both national (among all non-expansion states) and state-by-state analysis, the study used the Urban Institute’s HIPSM to estimate the impact of expansion on Medicaid enrollment and costs. The model used the “latest available data on Medicaid and marketplace enrollment” and “consistent with current law, no individual mandate penalties are simulated.” Based on their observations of Medicaid expansion states, the author used take-up rates of 72% for uninsured individuals and 13% for individuals with employer-sponsored insurance. These simulations did not reflect COVID-19-related job losses, which would tend to increase the coverage and expenditure impact of Medicaid expansion in the short term.

Simpson estimated that Medicaid expansion in Mississippi would lead to an additional 207,000 Medicaid enrollees and an estimated \$177 million increase in state spending on Medicaid and CHIP. As above, the author did not attempt to estimate any cost offsets or revenue gains.

¹² The Congressional Budget Office’s 2012 model performed equally as well at forecasting Medicaid enrollment and the change in the total uninsured population in terms of deviation from actual experience. We define accuracy as absolute value difference from actual experience.

¹³ We calculate this by assuming that costs start in 2014 and applying the (declining) FMAPs for the expansion population: 100% from 2014 to 2017, 95% in 2017, 94% in 2018, 93% in 2019, and 90% thereafter (MACPAC, 2021).

Other Mississippi Studies and Reports

The Perryman Group, 2019

The Mississippi Hospital Association has proposed an alternative Medicaid expansion plan: Mississippi Cares. Mississippi Cares is a proposal to create a public-private partnership that would extend coverage to non-disabled adults aged 19 to 64 earning up to 138% of the FPL. This is not a traditional Medicaid expansion; instead, it would impose \$20/month premiums on beneficiaries and a \$100 copay for non-emergency use of hospital emergency departments (Mississippi Cares, n.d.). Non-employed enrollees would be required to be enrolled in job training or educational programs (with certain exceptions), and the plan would mirror Medicaid benefits for adults (except for non-emergency transportation services) along with dental and vision coverage. Hospital investments would fund the remaining portion of state costs, thus obviating the need for general fund expenditure for the expansion population.

The Perryman Group published an economic impact study of Mississippi Cares in 2019. Using its own proprietary economic impact model, the study estimated that the proposal would add an additional 36,253 job-years on an average annual basis in the first 11 years of implementation, with roughly half of these additional jobs due to the additional health spending in the state and half due to higher productivity and reduced morbidity and mortality. Furthermore, the implementation of Mississippi Cares would lead to an additional \$200.3 million in state tax revenue from 2020 to 2030, an annual reduction of \$251.6 million in uncompensated care, and a reduction of private insurance premiums of \$52.6 million per year. The report was ambiguously worded, however, and it is not clear whether the additional \$200.3 million in state tax revenue applied to the entire 2020-2030 period (as indicated on page 3), or for each year within that period (as indicated in Table 1).

The Perryman Group (2019) study is unique among other Mississippi Medicaid impact studies in that it did not attempt to estimate the effect on enrollment, and also in that it attributed almost half of the impact of the program to additional productivity due to improved health of Mississippians. While there is likely to be an improvement in population health and a reduction in morbidity due to Medicaid expansion, these effects would be slow to materialize. Additionally, the study did not model the impact of work requirements (which is a component of the Mississippi Hospital Association plan) on enrollment, which have been shown to lead to “significant coverage losses and worse access to care” (ASPE Office of Health Policy, 2021b). However, it is notable that in other estimates of the impact of this plan, the Mississippi Hospital Association has incorporated the budgetary savings due to the existing 3% insurer tax (Mississippi Hospital Association, 2019, slide 7).

Commission on Expansion of Medicaid Managed Care for Medicaid Recipients in Mississippi, 2018

During the 2018 regular session, the Commission on Expansion of Medicaid Managed Care met regularly to “make recommendations as to whether the existing Medicaid managed care program should be expanded.” In the course of these meetings, the Mississippi Insurance

Department offered “high level considerations around the expansion of Medicaid in Mississippi.” They predicted that expanding Medicaid would result in “virtually all” ACA exchange participants with incomes from 100% to 133% of the FPL moving to Medicaid, with an overall reduction in Exchange membership of one-fourth to one-third (Commission, 2018, Tab E). Furthermore, they predicted that a Medicaid expansion, and resulting shift in Exchange membership to Medicaid, would likely reduce premiums for individuals who remain in the Exchange. This is consistent with peer-reviewed research on this topic (Peng, 2017).

Table 1. Summary of Mississippi-Specific Medicaid Expansion Studies

Study	Impact on 2020 Enrollment	Impact on State Medicaid Costs in 2020	Net Impact on State Costs in 2020
Neal, 2012 ¹	311,750	\$117.8 million	\$64.6 million cost
Becker & Morrissey, 2013 ²	212,362	\$167 million	\$34.0 million savings
Milliman, 2010 ³	310,000	\$280 million	Not estimated
Milliman, 2012 ⁴	231,000	\$155 million	Not estimated
Holahan et al., 2012 ⁵	231,000	\$180.7 million	Not estimated
Simpson, 2020 ⁶	207,000	\$177 million	Not estimated
The Perryman Group, 2019 ⁷	Not estimated	Not estimated	Ambiguous

¹ This uses 2020 data from Table 1 (enrollment) and Table 4 (net fiscal impact), “high” participation scenario. Net cost estimates account for additional state tax revenue.

² This uses 2020 data from Table 3 and Table 9, “intermediate” take-up scenario. Net cost estimate account for additional state and local tax revenue.

³ The enrollment estimate is from Table 1, Moderate Participation, “Additional Medicaid Enrollees.” The cost estimate is from Exhibit 2, Moderate Participation, and is calculated as currently eligible (\$110 million) + newly eligible (\$171 million) – savings from elimination of breast and cervical cancer program (\$1 million). The 310,000 additional enrollees are split between 67,000 additional children, and 243,000 additional adult enrollees. The enrollment estimate applies to SFY 2011.

⁴ The spending estimate is from Table 1B, higher participation scenario, SFY 2020, Segment 2 (\$95 million) + Segment 3 (\$60 million). The enrollment estimate is from Table 3b (higher participation scenario), SFY 2014, Segment 2 (135,000) + Segment 3 (96,000). Segment 1 is not included because this is related to non-Medicaid expansion provisions of the ACA that have already gone into effect. The enrollment estimate applies to SFY 2014. Additionally, the cost estimate to Medicaid assumes that the expansion population would be enrolled in Medicaid fee-for-service. If they were enrolled in managed care, projected costs would be approximately 2.5% lower.

⁵ The enrollment estimate is from Table ES-3, “Incremental Impact of Medicaid Expansion” column. The enrollment estimate applies to 2022. The expenditure estimate is from Table ES-2, “Incremental Impact of Medicaid Expansion.” Additionally, the study presents aggregate cost estimates from 2013-2022; we assume costs start in 2014 and apply the annual FMAPs to recover the estimated Mississippi-specific costs in 2020 (source for FMAPs: <https://www.macpac.gov/subtopic/state-and-federal-spending-under-the-aca/>).

⁶ The enrollment estimate is from Table 2 and applies to 2020 (assuming no pandemic). The expenditure estimate is from Table 5.

⁷ It is unclear whether this would lead to \$200.3 million in additional state revenue *per year* from 2020-2030 or over the entire period.

Other State Studies

As noted above, Mississippi is currently 1 of 12 states to not have expanded its Medicaid program under the ACA as of April 2021. This has had the unintended benefit of providing a base of evidence that can be used to help project the effects of an expansion in Mississippi.¹⁴

For this literature review, Hilltop focused on states that were either geographically proximal to Mississippi, studies that were published recently, or studies that were otherwise deemed to be relevant to an eventual Mississippi expansion study. This yielded a pool of eight states: Louisiana (expanded in July 2016), Arkansas (expanded in January 2014), Kentucky (expanded in January

¹⁴ The FMAP for the expansion population was 100% for 2014-2016, 95% for 2017, 94% for 2018, 93% for 2019, and 90% for 2020 onward (MACPAC, 2021).

2014), Alabama (not expanded), Missouri (expansion planned for July 2021), Michigan (expanded in April 2014), Kansas (not expanded), and Montana (expanded in January 2016) (Kaiser Family Foundation, 2021). We also selected these states because of the variety of their experience: for example, neighboring Arkansas expanded using a §1115 waiver, while Kentucky used a traditional Medicaid expansion. Missouri passed expansion through a ballot initiative, which may be relevant to ongoing discussions in Mississippi.¹⁵ Kentucky expanded in 2014, while Louisiana expanded in 2016; states that expanded early may have experienced higher-than-expected enrollment due to publicity surrounding the ACA implementation or other concurrent policy changes (the welcome mat effect), while late-enrolling states should allow us to better isolate the impact of Medicaid expansion.

In each of these studies, Hilltop focused on the elements that can inform an eventual Mississippi-specific study. While the existing Mississippi studies for the most part did not, for example, estimate the impact of cost offsets, many of these other studies did; it may be possible, then, to apply these lessons to Mississippi. Additionally, it is tremendously valuable to observe the actual expansion experience from states that did expand; this, more than anything else, can help inform the model that will eventually be used for Mississippi. Having said that, every state is unique in terms of its Medicaid program, other health programs, tax structure, and economy. Additionally, cost offsets are not automatic; they depend on concurrent policy and operational adjustments leading up to, and at the time of, expansion (Powers et al., 2020). We will proceed cautiously when applying the experience of other states to Mississippi.

Below is a summary of these studies. See the Appendix for additional details.

Expansion States

Arkansas

Arkansas expanded its Medicaid program in 2014 using a §1115 waiver that “provided most eligible adults with premium assistance to purchase private insurance on the state-based exchange” (Self et al., 2021). This expansion is otherwise known as the private option (PO). The Arkansas legislature created the Arkansas Health Reform Legislative Task Force in 2015 in order to recommend alternative health care coverage models before the expiration of the Health Care Independence Program (that is, the PO) in 2016.

The final report, released in 2016, is a wide-ranging document that analyzed the impact of the introduction of the PO, examined aspects of the current Medicaid program, and made recommendations as to whether to proceed with requesting waivers from the Centers for Medicare & Medicaid Services for work requirements (Arkansas Health Reform Legislative Task Force, 2016). Given that Arkansas is a neighboring state to Mississippi, and that Arkansas expanded Medicaid in 2014, this report offers valuable data points for our study. In particular, it documents the impact of the introduction of the PO on uncompensated hospital care, physician

¹⁵ As of early March 2020, media outlets are reporting that a ballot initiative is in development in Mississippi (Brown, 2021).

licensure rates, “the apparent impact of the PO on the general fund,” and Medicaid-specific enrollment group shifting. In particular, the report found that, as of SFY 2020, the PO would lead to \$25 million in savings from optional Medicaid waiver programs being discontinued after the establishment of the PO, \$106 million in “state fund savings from cost-shifting from traditional Medicaid to PO,” and \$43 million in savings due to reductions in state fund outlays for uncompensated care. The study also estimated that, as of 2020, the PO would yield an additional \$100 million in tax revenue, with a net *savings* to the state of \$97 million (Arkansas Health Reform Legislative Task Force, 2016). Additionally, there is detailed enrollment data by category of aid before and after expansion that indicates the source and directionality of Medicaid enrollment group shifting.

Louisiana

Louisiana expanded its Medicaid program in July 2016, and a team of researchers from Louisiana State University (LSU) has released multiple reports on the impact of the expansion. These studies were prepared for the Louisiana Department of Health (LDH) and funded by LDH in conjunction with the LSU Health Science Center.

In their 2018 study, the authors estimated that the Medicaid expansion in Louisiana led to 19,195 additional jobs in 2017 with a corresponding \$103.2 and \$74.6 million in state and local tax receipts, respectively (Richardson et al., 2018, Table 7). Given the state’s spending of \$47.43 million in 2017, this implies significant budgetary savings for the state. In 2019, Richardson et al. updated their report and estimated that state costs of expansion in SFY 2018 would be approximately \$128 million, which was offset by additional state and local tax receipts of \$83.8 million and \$60.6 million, respectively. While the authors did not estimate a bottom-line impact of Medicaid expansion on the state budget, it appears that virtually all of the state cost was offset by additional tax revenues. However, Richardson et al. (2019) cautioned that the “cost of Medicaid Expansion will increase for the state as the FMAP gradually declines to 90%.”

The 2019 report documented extensive changes in the composition of enrollment groups: “from May 2016 to October 2018, Medicaid enrollment in the state increased by 204,159 ... enrollment through the Medicaid Expansion program increased by 480,739 persons.” This suggests that over half of the expansion group enrollees were coming from other Medicaid coverage groups. Additionally, the 2019 report used data from the 2017 Louisiana Health Insurance Survey, which documented the detailed source of insurance coverage for non-elderly adults under 138% of the FPL in pre- and post-expansion years (Richardson et al., 2019, Table 1).

Kentucky

Kentucky expanded its Medicaid program in 2014 (a traditional expansion at 138% of the FPL), and the Commonwealth of Kentucky, along with Deloitte, published a report in 2015 documenting the early impacts of expansion. Notably, the report compared pre-expansion estimates with actual expansion experience and highlighted the points at which projections substantially diverged from experience. For example, the study reported that while about 165,000 individuals were expected to enroll in SFY 2014, 311,000 actually enrolled

(Commonwealth of Kentucky, 2015). The authors estimated that the expansion would generate \$161.6 million in additional state and local taxes in 2020, and that, from SFY 2014 to SFY 2021, expanding Medicaid would yield a positive savings of \$919.1 million to Kentucky.

This study offers several valuable data points. First, as noted above, it detailed the cost shifting for previously state-funded programs that was a result of Medicaid expansion, thus offering a potential model that can be applied to Mississippi. Second, it considered the impact of expansion on both providers and managed care rates, which few other studies do. Finally, this study compared the demographics, health status, and health care expenditure of the expansion enrollees with previously eligible adult enrollees. Interestingly, the Commonwealth of Kentucky (2015) study reported that, “despite their demographic differences, the average health care costs of the Medicaid expansion population are comparable to the health care costs of the comparative group.” This suggests that using the observed costs for enrolled caretaker adults may be a good approximation of the costs for the expansion population in Mississippi.

Michigan

A team of researchers from the University of Michigan published *Macroeconomic Feedback Effects of Medicaid Expansion: Evidence from Michigan* in 2020 with the goal of “evaluating the state-level fiscal impact of Medicaid expansion, with particular attention to the importance of macroeconomic feedback effects” (Levy et al., 2020). The authors used budgetary estimates published by Michigan’s House Fiscal Agency along with the REMI model to project the state-level costs and benefits of the expansion from 2014 to 2021. Levy and colleagues (2020) paid special attention to the dynamic macroeconomic effects: that is, the broad, economy-wide spillover effects from the additional federal expenditure that accompanies Medicaid expansion. The authors found that cost offsets and provider taxes were “just enough” to cover the state’s share of expansion costs; crucially, accounting for the indirect economic activity that results from Medicaid expansion generates “an additional \$140 million in state tax revenue each year.” This study is notable for its clear treatment of complex methodological issues relating to modeling the macroeconomic feedback effects of Medicaid expansion. It aimed to “help increase researchers’ and policy makers’ understanding of these models so that they can help guide future decisions about Medicaid expansion and other public policy choices” (Levy et al., 2020, p. 8).

Missouri

Missouri expanded its Medicaid program through a ballot initiative in August 2020, and the program is set to be implemented starting July 2021. *Analysis of the Fiscal Impact of Medicaid Expansion in Missouri* was published in February 2019 by the Center for Health Economics and Policy at Washington University in St. Louis and estimated the impact of Medicaid expansion in Missouri on the state’s Medicaid costs and enrollment.

Using publicly available data, the Center for Health Economics and Policy (2019) found that “a Medicaid expansion in Missouri is approximately revenue neutral and could create cost savings.” In their preferred specification, they estimated that 271,500 individuals would enroll in an

expansion (231,000 adults and 40,500 children) and that as of 2020, expansion would lead to an estimated savings of \$38.9 million (with a range of \$94.6 million in cost savings to \$42.3 million in costs, depending on the assumptions used). The authors considered only Medicaid costs and did not attempt to estimate other cost offsets or any tax revenue effects.

This study stands out for several reasons. First, the authors were explicit about the assumptions they used in the analysis and made efforts to check their results against alternative assumptions. Second, they released a companion spreadsheet with their study that allows users to vary the assumptions that were used in the baseline model. Third, the authors carefully considered the role of changes in the composition of eligibility groups in their analysis. In particular, the Center for Health Economics and Policy (2019) highlighted the fact that some individuals who would have been in the Permanently and Totally Disabled (P&TD) coverage group “would [in the event of expansion] not elect to apply for Medicaid through obtaining P&TD eligibility if they were instead eligible through an expansion.” Since individuals in the expansion group receive a higher FMAP than individuals in traditional Medicaid coverage groups, this would result in a \$55 million savings to Missouri Medicaid in FY 2020. While the experience of Missouri cannot be directly applied to that in Mississippi given that Missouri is a 209(b) state, the Center for Health Economics and Policy study’s careful treatment of changes to the composition of eligibility groups provides a useful model for an eventual Mississippi study.

Montana

Montana expanded Medicaid in 2016, and there have been three studies to date (Ward & Bridge, 2018; Ward & Bridge, 2019; Ward, 2021) funded by the Montana Healthcare Foundation and Headwaters Foundation that estimated the impact of expansion on Montana’s economy and state budget. These studies found that Medicaid expansion in Montana reduces state spending, increases state revenues, and, as such, “Medicaid expansion generates health, well-being, and economic opportunity for Montanans at minimal (or no) cost to the state budget” (Ward, 2021).

These studies are notable for their careful treatment of publicly available data and use of an alternative methodological approach. Virtually all Medicaid expansion studies are “ground up.” That is, they generate estimates of what will happen in a state based on estimates of eligible populations, assumptions of take-up rates and Medicaid spending per-person, projections about cost offsets, and tax increases from the additional economic activity that results from the stimulus of federal expenditure. The Montana studies, however, used a “top down,” backward-facing approach that considers all states’ experience to estimate the effects of Medicaid expansion based on what has *already* happened. This data-driven approach avoids reliance on assumptions and the “black box” methodology of the popular economic impact models. However, this approach does implicitly assume that states are comparable, and that the experiences of one state can apply to another.

Non-Expansion States

Alabama

Alabama has not expanded its Medicaid program, but there are ongoing discussions within the state on this issue. As part of this discussion, Manatt Health released a 2019 study estimating the costs and savings from SFY 2020 to SFY 2023 of a Medicaid expansion in Alabama (prepared for the Alabama Hospital Association). The study estimated that as of SFY 2021, Medicaid expansion in Alabama would result in 337,300 to 398,200 individuals gaining coverage for a total state cost between \$129.5 million and \$164.6 million, net of cost offsets. Manatt Health (2019) estimated costs for both newly eligible and “woodwork” individuals, as well as administrative costs. Additionally, the authors estimated \$20.8 million in state savings to Medicaid through reductions in pregnant women, Supplemental Security Income blind or disabled (excluding aged), non-dual home and community-based services waiver enrollees, breast and cervical cancer, and family planning coverage groups. Additionally, the study estimated that there will be savings due to reductions in other state spending for corrections (\$12.2 million per year starting in SFY 2021), mental health and substance abuse (\$33.1 million per year starting in SFY 2021), and public health (\$16.5 million per year starting in SFY 2021) (Manatt Health, 2019).

Given Alabama’s relatively high FMAP (72.58% in FY 2021), these results suggest that Mississippi (with an FMAP of 77.76% in FY 2021) is also likely to experience savings due to Medicaid eligibility shifting (Congressional Research Service, 2020, Table A-1). However, the Manatt Health study did not attempt to estimate the additional state and local tax revenue that would result from the additional economic activity resulting from Medicaid expansion; as such, this study likely substantially overstated the net expansion costs to Alabama.

Kansas

Although Kansas has not expanded its Medicaid program, discussions on the subject are ongoing. The Kansas Health Institute released a study in 2021 that projected the impact of Medicaid expansion in Kansas on enrollment, costs, and revenues from 2022 to 2031. Notably, this study discussed potential effects of the COVID-19 pandemic on the expansion population (Steiner et al., 2021). The study estimated that expansion would lead to 87,573 additional adult enrollees (of which 58,416 were previously uninsured and 29,157 are currently insured), and 38,525 additional child enrollees due to the welcome mat effect (Steiner et al., 2021). In 2022, expansion is predicted to lead to a net cost to Kansas of \$56 million: a gross cost of \$117.9 million, with \$61.9 million in cost offsets due to changes in Medicaid coverage groups, reduction in state-funded health spending on corrections, and increases in provider tax revenue.

The study is notable for the transparency of its methodology and clarity of its analysis regarding changes in eligibility group composition. However, this cost estimate was likely overstated. The authors did not include potential expenditure reductions in other state programs that may result from expansion and failed to incorporate additional tax revenue resulting from the expansion. They cited an alternative study (Leatherman, 2019) that estimated that expansion would increase state and local tax revenues by 5.3 to 6.6% of the federal cost of new enrollees.

Applying the low estimate to the additional federal spending of new enrollees for 2020 from Figure 3 (\$768.5 million – \$117.9 million = \$650.6 million) suggests that expansion would result in \$34.5 million in state and local tax revenues in 2022. This significantly defrays the net cost estimate of \$56 million; moreover, to the extent that other offsetting state spending reductions were not modeled, this implies that Medicaid expansion in Kansas may be close to being revenue-neutral.

Other Studies

In general, state-specific studies on Medicaid expansion focus on the ways in which it impacts Medicaid enrollment, Medicaid costs, and net state costs; they do not tend to address the ways in which expansion impacts providers. A separate literature has focused on the impact of Medicaid expansion on supply-side factors, with two general themes: the impact of Medicaid expansion on provider participation in Medicaid, and the impact of Medicaid expansion on providers' finances (Guth et al., 2020).

Provider Participation

Providers (in particular, primary care providers and specialists) decide whether to participate in Medicaid and accept Medicaid beneficiaries as patients, and they must weigh the cost-benefit tradeoff of doing so. Medicaid reimbursement rates for providers tend to be lower than reimbursement rates from other payers, but accepting Medicaid patients offers providers an additional patient population from which to derive revenue (Zuckerman et al., 2017). Nationally, as of 2015, 70.8 percent of physicians accepted new Medicaid patients, although this varied by specialty, ranging from 35.7 percent for psychiatry to 88.4 percent for general surgery (Holgash & Herberlein, 2019). In Mississippi, however, this fraction is higher: as of 2013, 83.2% of office-based physicians accepted new Medicaid patients (Hing et al., 2015).¹⁶

There has been concern that an increase in demand for health care services prompted by Medicaid expansion could overwhelm available supply and lead to shortages. This is potentially a significant issue in Mississippi, given its relative lack of physician workforce. According to the Office of Mississippi Physician Workforce (n.d.), Mississippi has 65.9 per 100,000 population active primary care physicians, compared to 90.8 in the median U.S. state. Indeed, Neal (2012) highlighted this as a potential issue with expansion: "If Mississippi adopts Medicaid expansion, some of the increased demand for healthcare may go unmet because of a shortage of healthcare professionals."

In principle, provider shortages may result from a Medicaid expansion under fee-for-service Medicaid. In a purely competitive market, an increase in demand for a service based on an

¹⁶ Notably, in that same year, 84.9% of office-based physicians in Mississippi accepted new patients with private insurance, and 84.1% accepted Medicare patients. This suggests that the vast majority of physicians accepting new patients in Mississippi in 2013 also accepted Medicaid patients. This stands in contrast with neighboring Louisiana, where 86.5% of physicians were accepting new privately insured patients but only 56.8% accepted new Medicaid patients.

exogenous policy shift would not result in shortages. Instead, the equilibrium price of the service would rise, which would induce suppliers to supply more of that service: markets self-adjust to accommodate shifts in demand through changing prices. For a fixed-price good or service, however, the price cannot rise; thus, it is possible for increases in demand to lead to shortages. That is, at the market price, more individuals demand the service than providers are willing to provide it. In the context of Medicaid, this could manifest itself as longer wait times or potentially lower-quality care.

However, discussions of potential provider shortages resulting from Medicaid expansions often overlook several key points. First, provider shortages are only possible to the extent that individuals seek more care following Medicaid expansion *than they would have otherwise*. Medicaid eligibility confers health insurance, not health care. Individuals who become eligible for Medicaid choose to seek care, and some of these individuals may have also sought care even if they were not Medicaid eligible. Thus, the key parameter is the *additional* care that is sought among the expansion population, net of the care that *would* have been sought had Medicaid not expanded. It is useful to consider two extremes for the expansion population. At one extreme, suppose the expansion population is 200,000 individuals, and none of these individuals sought care prior to being covered by Medicaid but, once covered, they see providers twice a year. Thus, the expansion of Medicaid would lead to $200,000 * 2 = 400,000$ additional provider visits per year. At the other extreme, suppose that all of the 200,000 newly covered individuals saw providers twice a year before being covered as well as once in Medicaid, and that Medicaid coverage does not induce any additional care. Thus, the expansion of Medicaid would lead to no additional provider visits per year and would result only in a shift of payers.

The truth, of course, will lie somewhere in between these two extremes. Numerous studies reported that Medicaid expansion has led to improvements in access to care (Guth et al., 2018). However, results do not unambiguously suggest a large increase in care-seeking, relative to what would have otherwise occurred. In particular, a recent study reported that in non-expansion states, 51% of individuals with an FPL below 138% but who were not eligible for Medicaid under 2014 rules reported having at least one office-based physician visit from 2008 to 2014 (Biener et al., 2018). However, there is still evidence of expansion leading to more care; the authors found that expansion was associated with a 9.1 percentage point increase in the probability that newly eligible individuals had any office-based primary care physician visits in 2014. Sommers et al. (2016) compared the experiences of individuals with family income under 138% of the FPL in Arkansas and Kentucky (both expansion states) to Texas in order to assess the impact of expansion on health care utilization among low-income individuals in these states. The authors found that expansion led to 0.69 additional outpatient visits per year, from a baseline average of 2.80 visits per year in 2013 (i.e., pre-expansion) in the expansion states. Thus, while expansion likely did increase utilization, a significant portion of that utilization would have occurred regardless of expansion.

The second reason provider capacity issues may be less problematic with a Mississippi expansion are the relatively high Medicaid payment rates in the state. Mississippi is one of seven states to have fully continued the “fee bump” for primary care providers in 2013 and 2014. Per

Zuckerman et al. (2017), the Medicaid-to-Medicare fee ratio in 2016 was 0.89 in Mississippi, relative to 0.72 nationally. This suggests that a sudden increase in the number of newly covered Medicaid beneficiaries may induce practices into accepting Medicaid patients.

Finally, provider capacity issues may be mitigated if newly eligible individuals are covered in Mississippi's managed care plan. MCO contracts typically contain network adequacy standards that require MCOs to hit certain benchmarks for their provider networks. For example, a 2017 MCO contract from Mississippi requires the MCO to maintain a network such that there are at least two primary care providers within 15 miles for urban beneficiaries and 30 miles for rural beneficiaries (Mississippi Division of Medicaid, 2017, Table 6, pp. 92). Moreover, "the Contractor must pay for services covered under the Contract on an out-of-network basis for the Member if the Contractor's Provider Network is unable to provide such services within the geographic access standards" (Mississippi Division of Medicaid, 2017, pp. 93-94). MCOs contract privately with providers in order to establish networks; to the extent that an increase in demand overwhelms supply, MCOs will pay higher rates in order to add providers to their network, which will be reflected in future year capitation payments.

Provider Financing

Uncompensated hospital care is a pressing issue in Mississippi; it has been estimated that hospitals in Mississippi provided \$616 million in uncompensated care in 2019 (Mississippi Hospital Association, 2020). Mississippi hospitals do receive disproportionate share hospital (DSH) supplemental payments in order to offset some of this uncompensated care, but there is a significant shortfall; Mississippi's allotment in 2020 was \$231.7 million (\$178.3 federal, the remainder state-funded) (MACPAC, 2020, Table 1A-2). As part of the ACA, DSH allotments were intended to be reduced owing to the (presumptive) reduction in the uninsured population, although implementation has been delayed several times (MACPAC, n.d.).

In principle, Medicaid expansion should substantially reduce hospitals' uncompensated care burdens. Hospitals are required to provide certain emergency care regardless of the insurance status of the patient; thus, much of the uncompensated care is likely due to uninsured patients who receive care but do not provide payment (Centers for Medicare & Medicaid Services, 2021). If uninsured individuals gain Medicaid coverage through expansion, then hospitals should receive Medicaid reimbursement for previously uncompensated care.

The peer-reviewed literature on the subject confirms this: Nikpay et al. (2015) found that in Connecticut, which expanded its Medicaid program in 2010, "uncompensated care in Connecticut was roughly one-third lower than what it would have been without early Medicaid expansion." More recent findings validate this as well; Specifically, Blavin and Ramos (2021) found that hospitals in expansion states experienced a 53.3% decline in uncompensated care costs relative to the FY 2011 to FY 2013 mean of \$12.0 million among hospitals in expansion states. Bai et al. (2020) found that for rural hospitals from 2011 to 2017, "financial viability deteriorated in states that did not expand eligibility for Medicaid." For example, the Bai et al. study included 24 rural hospitals from Mississippi, which displayed a median margin of 6.73% in

2011 and -0.08% in 2017, for a reduction of 6.80 percentage points; neighboring Arkansas, which expanded in 2014, contributed 30 hospitals to the study population and experienced a reduction in median margin of only 2.32 percentage points over this period (exhibit A9).

Individual state experiences from our study sample echo these findings: in Q1-Q3 2013, uncompensated care in Kentucky totaled \$1.9 billion but fell to \$766 million in Q1-Q3 of 2014, following expansion (Commonwealth of Kentucky, 2015). It is important to note, however, that this reduction of 59.7% cannot be solely attributed to Medicaid expansion; it may also be due to individuals joining the ACA exchange. Similarly, in Arkansas, which expanded in 2014, uninsured admissions fell by 48.7% from 2013 to 2014, although, again, this cannot be solely attributed to Medicaid expansion (Arkansas Health Reform Legislative Task Force, 2016).

Uncompensated care is not solely an issue for hospitals in Mississippi. Community health centers have long played an important role in the public health landscape of Mississippi. As Ku et al. (1997) explained, “With about a quarter of the state’s people under the FPL, community health centers (CHCs) serve a vital role in the provision of care.” This continues to be true: as of 2019, Health Resources & Services Administration (HRSA) program awardees in Mississippi served 317,170 individuals, or roughly 10.7% of the population (HRSA, n.d.). Community health centers, while partially federally funded, are far from financially secure: based on data from 2018, 43% of health centers had negative financial margins (Shin et al., 2020). The same rationale that suggests that Medicaid expansion should financially benefit hospitals also applies to community health centers, and researchers have also documented this. Cole et al. (2018) found that “Medicaid expansion was associated with an 11.44 percentage-point decline in the share of CHC patients who were uninsured and a 13.15 percentage-point increase in the share with Medicaid.” To the extent that community health centers in Mississippi struggle with uncompensated care, then, Medicaid expansion may serve to provide financial support for this portion of the provider landscape.

Conclusion

As part of the development of an eventual study of the impact of Medicaid expansion in Mississippi, Hilltop conducted a literature review of Medicaid expansion studies from Mississippi and other states. Focusing on studies that estimate the impact of Medicaid expansion on Medicaid costs, state costs, and providers, we reviewed seven existing studies on Mississippi, studies from eight other states, and other national studies. We intend to use these studies in two ways. First, the findings in these studies, in conjunction with the results from stakeholder interviews, will be used to inform the analytic plan and develop the assumptions to be used in the final Mississippi Medicaid expansion study. Second, the existing Mississippi-specific studies will provide a comparison against which to benchmark our (eventual) findings. Hilltop strongly believes that transparency and replicability are the key to high-quality research; thus, this literature review is a crucial step in producing credible evidence on the impact of Medicaid expansion in Mississippi.

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Appendix. Additional State-Specific Results

This appendix presents additional information on the impact of Medicaid expansion on the eight states considered in this literature review. While some of this information is presented in the body of the literature review, this table shows additional selected findings from these states. Readers in search of additional detail are encouraged to consult the original studies (for which there are citations in the notes for this table and in the main literature review).

Table A1. Summary of Medicaid Expansion Studies from Other States

State	Expansion Date	Total Net Cost	Selected Findings
Arkansas ¹	January 2014	\$97 million in net budgetary savings in SFY 2020	<p>1) As of late 2016, it is estimated that if Arkansas had rejected Medicaid expansion in 2017 and returned to the program status prior to 2014, the state budget would have <i>lost</i> approximately \$438 million in total from 2017-2021 due to cost shifting, uncompensated care, premium tax revenue loss, and macro-economic effects.</p> <p>2) This study estimated that as of SFY 2020, the state match of the Private Option (PO) cost is \$173 million. However, this is offset by savings due to discontinuing optional Medicaid programs (\$25 million), cost-shifting from traditional Medicaid to the PO (\$106 million), reductions in state fund outlays for uncompensated care (\$43 million), increases in premium tax revenue (\$26 million), and increases in collections from economically sensitive taxes (\$74 million).</p> <p>3) Updated cost projections based on 2014-2016 actuals are slightly <i>below</i> initial cost estimates.</p>
Louisiana ²	July 2016	\$16.4 million in net budgetary savings in SFY 2018	<p>1) From May 2016 (just prior to expansion) to October 2018, Medicaid enrollment in the state increased by 204,159 enrollees, but enrollment in the Medicaid expansion program increased by 480,739 persons. This implies that a substantial portion of new Medicaid expansion enrollees transition from other Medicaid eligibility categories.</p> <p>2) Medicaid expansion generated an additional \$1.8 billion of federal funding for Louisiana in FY 2018, which is estimated to lead to 14,263 new jobs, \$83.8 million in additional state tax receipts, and \$60.6 million in additional local tax receipts.</p> <p>3) The state's portion of the SFY 2018 Medicaid expansion is estimated at \$128 million.</p>
Kentucky ³	January 2014	\$14.7 million in net budgetary savings in SFY 2020	<p>1) 310,887 individuals enrolled in Medicaid expansion by the end of SFY 2014, which exceeded expectations.</p> <p>2) The net difference between expanding Medicaid and not expanding Medicaid is estimated to be positive \$919.1 million from</p>

State	Expansion Date	Total Net Cost	Selected Findings
			<p>SFY 2014 to SFY 2021. Expansion led an infusion of \$1.16 billion in federal funds in CY 2014, which led to an estimated 12,000 total jobs created during SFY 2014.</p> <p>3) As of SFY 2020, the state’s portion of the Medicaid expansion is estimated to be \$348.5 million. This is offset by \$161.6 million in additional state and local tax revenue and reductions in general fund expenditures of \$201.7 million.</p>
Michigan ⁴	April 2014	\$202.2 million in net budgetary savings in FY 2020	<p>1) As of SFY 2020, the state’s portion of Medicaid expansion costs is \$363.8 million. This is offset by spending reductions of \$235.0 million and additional health provider taxes of \$193.1 million. Furthermore, the additional economic activity generated by the infusion of federal funding into the state is estimated to generate \$138.0 million in additional state tax revenue.</p> <p>2) Medicaid expansion led to a net federal infusion of \$2.8 billion in FY 2020 and created 29,197 new jobs.</p> <p>3) Michigan budget officials estimate the Medicaid expansion led to savings of \$168.0 million on community mental health spending, \$47.0 million in adult benefits waiver spending, \$19.0 million in corrections health care, and \$1.0 million from other health programs.</p>
Missouri ⁵	Planned for July 2021	Did not estimate net budgetary impact	<p>1) Medicaid expansion in Missouri would lead to 231,000 adult and 40,500 child enrollees in 2020.</p> <p>2) Much of the cost of the expansion will be offset by cost-savings within Medicaid, as individuals from traditional coverage groups transition to the high-FMAP expansion group. Even before accounting for non-Medicaid spending offsets and increased tax revenue, expansion is estimated to save Missouri Medicaid \$38.9 million, with a potential range of \$42.3 million in costs to \$94.6 million in savings.</p>
Montana ⁶	January 2016	Approximately budget neutral in FY 2020	<p>1) The state’s share of expansion costs is estimated to be \$80 - \$85 million in FY 2020.</p> <p>2) Montana Healthcare Foundation estimated that Montana saved \$16.3 million in FY 2019 due to changes in composition of eligibility groups (as individuals who would have enrolled in traditional Medicaid shift to the expansion population). Additionally, the same study estimated that Montana also saved \$2.1 million on substance use disorder and mental health programs, and \$10.0 million on inmate hospitalizations in FY 2019.</p> <p>3) Medicaid expansion likely increased tax revenues from the hospital utilization fee by \$14.6 million in 2020, and likely increased tax revenue from additional economic activity by \$43.0 million – \$46.0 million.</p>

State	Expansion Date	Total Net Cost	Selected Findings
Alabama ⁷	Not expanded	Did not estimate net budgetary impact	<p>1) 326,700 – 387,000 individuals are expected to enroll in Medicaid with expansion in SFY 2020.</p> <p>2) Expansion would bring \$1.7 – \$2.0 billion new federal funding into Alabama in SFY 2020, and the state’s portion of the costs in that year (before offsets) is estimated to be \$185.5 million – \$216.6 million.</p> <p>3) In SFY 2020, the study estimated that Alabama would experience \$15.3 million in cost offsets as existing Medicaid coverage groups transition to the higher-FMAP expansion population, and \$43.6 million in savings from cost reductions in non-Medicaid programs such as corrections, public health, and mental health and substance use disorder.</p>
Kansas ⁸	Not expanded	Did not estimate net budgetary impact	<p>1) Expansion would lead to 87,573 new adult enrollees in Medicaid. Of these, 58,416 would be previously uninsured, while 29,157 are currently insured. Additionally, expansion is estimated to lead to 38,525 new children in Medicaid or CHIP.</p> <p>2) The state’s gross cost of new enrollees due to Medicaid expansion is estimated to be \$117.9 million in 2022. However, Kansas would also experience new state revenues, offsetting savings, and administrative costs of an estimated <i>negative</i> \$61.9 million in that year.</p>

¹ Arkansas Health Reform Legislative Task Force, 2016. The state’s Medicaid expansion program is known as the Private Option (PO).

² Richardson et al., 2019. The estimate of the net cost of expansion is calculate using the authors’ estimates of Louisiana’s portion of expansion costs, and the state and local tax revenue from SFY 2018.

³ Commonwealth of Kentucky, 2015.

⁴ Levy et al., 2020. The estimate of the net budgetary impact does not account for additional costs to the state due to migration changes that were induced by expansion. Additionally, the estimate of net budgetary impact does not include any increases in local tax revenue.

⁵ Center for Health Economics and Policy, 2019.

⁶ Ward, 2021; Montana Healthcare Foundation, 2021. Neither study estimated the bottom-line net budgetary cost to Montana from expansion; however, using estimates from both studies, the balance of evidence suggests that expansion has been roughly budget neutral as of FY 2020.

⁷ Manatt Health, 2019. While we present estimates for Alabama from SFY 2021 in the body of the literature review, we present estimates from SFY 2020 here to maximize comparability with the other states in the table.

⁸ Steiner et al., 2021.



The Hilltop Institute

UMBC

Sondheim Hall, 3rd Floor
1000 Hilltop Circle
Baltimore, MD 21250
410-455-6854

www.hilltopinstitute.org