Child TRENDS

Study Methods

In 2014, the Centers for Medicaid and Medicare Services (CMS) introduced new guidance allowing Medicaid reimbursement for school-based health services provided for free to Medicaid-enrolled students. This brief provides an overview of the study methods that Child Trends, in partnership with the National Health Law Program, used to examine the relationship between state Medicaid policy and school capacity to deliver health services since the 2014 federal policy shift. The study is broken into three parts: first, a content analysis of state Medicaid policies; second, a quantitative analysis comparing state policy to Medicaid expenditures; and third, a qualitative study of state Medicaid policy. Note that this brief is provided as a supplement to the full report, https://www.childtrends.org/publications/early-evidence-medicaid-role-school-based-heath-services.

Part I: Analysis of State-Level School Medicaid Policy

This overview provides the research protocol for collecting, reviewing, coding, and analyzing state Medicaid plans (SMPs), state plan amendments (SPAs), and state Managed Care Contract Policies (MCCPs)—which included the actual contracts and requests for proposals (RFPs) for the contracts when the contracts were unavailable.

Protocol

The National Health Law Program (NHeLP), Child Trends' project partner, maintains a database of SMPs and MCCPs from each state. This database was the source NHeLP used to publish *Medicaid's "Free Care Policy:" Results from Review of State Medicaid Plans*, a 2016 summary of state policies influencing Medicaid billing for school-based health services. NHeLP uses state Medicaid and Department of Health and Human Services websites and, when necessary, public records requests to state agencies to gather SMPs and MCCPs. NHeLP tracks the term length of the SMP and MCCPs and periodically checks the database to see what has expired. When new versions and SMPs—including SPAs—or MCCPs—including RFP for contracts—are available, NHeLP downloads the documents. If a new plan or contract is not available online, NHeLP searches for the information of the state's public information officer and request the document. Occasionally, NHeLP requests assistance from state Medicaid advocacy partners who may have the information or can connect NHeLP with personnel at the state government to help locate the SMP or MCCP. NHeLP also obtains information about new and pending SPAs from the Healthy Schools Campaign's free care brief and the CMS SPA website.

The project team gathered state information current as of September 2019 and then, using new state plan amendments only, updated this information again to be current as of October 2020. Whenever the team identified language in SMPs or MCCPs concerning the provision of school-

based services, the team compiled the information in a document on a state-by-state basis. The team focused on identifying new information included in the SMPs and MCCPs. When changes were identified or information was found in the contracts and plans not previously included in the NHeLP database, that change was cross-checked against the 2016 summary report to see if a state implemented a policy change.

Using the SMPs and MCCPs, the project team performed a keyword search of the following terms: free care; free of charge; no cost; Early and Periodic Screening, Diagnostic and Treatment (EPSDT); and school. Researchers looked for language restricting the provision of school-based services. The most common restrictions require school-based services to be provided through an Individualized Education Plan (IEP) or Individualized Family Service Plan (IFSP) for special education students as defined under the Individuals with Disabilities Education Act (IDEA).

In the SMPs, the project teams focused the keyword search on Sections 3.1, 4.19, and 4.22 and their accompanying attachments and supplements. These are the sections of the plans which typically contain the provisions for EPSDT. Section 3.1 is the *Amount, Duration, and Scope of Services*. The coverage of EPSDT services is described in Section 3.1 and in Attachment 3.1-A part 4b. Section 4.19 is *Payment for Services*, which details how services are reimbursed. If a state is providing a service for free, for example, it is typically discussed in this section. Section 4.22 is *Third Party Liability*. This section explains that Medicaid will not cover services that another entity is the responsible payor for, such as another insurer or state or federal program. Prior to the free care policy reversal, states might have listed school-based health services in this section.

State Medicaid Plans

The team categorized SMPs into one of five categories:

1. States that had specific barriers to covering EPSDT services provided free of charge, which included school-based services.
2. States with provisions related to EPSDT services that could present a barrier to reimbursement for coverage. Most of these states have policies that limit coverage of Medicaid services in schools to those provided to children with disabilities through an IEP authorized by IDEA. This means that other services are provided free of charge if they are not included in IEPs.
3. States with provisions related to EPSDT services that likely would not impede reimbursement for school-based services. For example, New Mexico's SMP addresses reimbursement to local education agencies for direct medical services but does not expressly limit coverage of services in schools to those included in an IEP.
4. States with no provisions that would negatively affect coverage of EPSDT services provided in schools.
5. States with express authorization for covering school-based services without limiting them to services included in an IEP or IFSP. States in this category have amended their state plans to include this authorization.

State Managed Care Contracts

The team reviewed MCCs; in cases the team was unable to obtain an MCC, the team reviewed RFPS for MCCs for states that have comprehensive managed care for children. The team categorized states into one of four categories:

1. States with explicit prohibition of services provided free of charge.
2. States with provisions indicating a barrier to coverage of school-based services.
3. States that expressly authorizes coverage of services in schools that are not included in IEP.
4. States with no relevant/no negative impact.

The team did not include states that do not have Medicaid managed care, like Alaska, or states that have managed care systems that do not restrict beneficiaries to a specified network that includes all medical services. The team was unable to obtain a contract for Hawaii, where new contracts were awarded in January 2020 but then postponed and rescinded by May 2020 due to the COVID-19 public health emergency. Additionally, only Arizona's and Tennessee's MCCPs indicated a likely barrier to coverage of school-based health services that was not already present in their SMPs. In these instances, the team adhered to each state's SMP language to determine their categorization of "no likely barrier".

Part II: Quantitative Analysis Comparing State-Level School Medicaid Policy to Medicaid Expenditures

Child Trends sought to test whether the states with low policy barriers had different expenditures for school-based health services following CMS's change in 2014, compared to states with high policy barriers. The team hypothesized that states with low policy barriers would have higher expenditures, compared to states with high policy barriers.

Data Analysis

The project team used Medicaid financial and enrollment data to create a measure of a state's expenditures for school-based health services per enrolled child. This is a common measure used to compare Medicaid expenditures between states, which have large variation in the size of their enrolled populations. In theory, the ratio could mask situations like enrollment increasing at a faster pace than expenditures, meaning the ratio would be decreasing over time when really a state's investment in school-based health services is likely increasing. The team carefully examined the data for such patterns and did not find them. Further, as the team was comparing two groups of states, if unique patterns existed at the state level, they would be unlikely to affect the group measure. This ratio is likely an overestimate of the costs of providing school-based health services to children as presumably more children than just those enrolled in Medicaid will benefit from school-based health services.

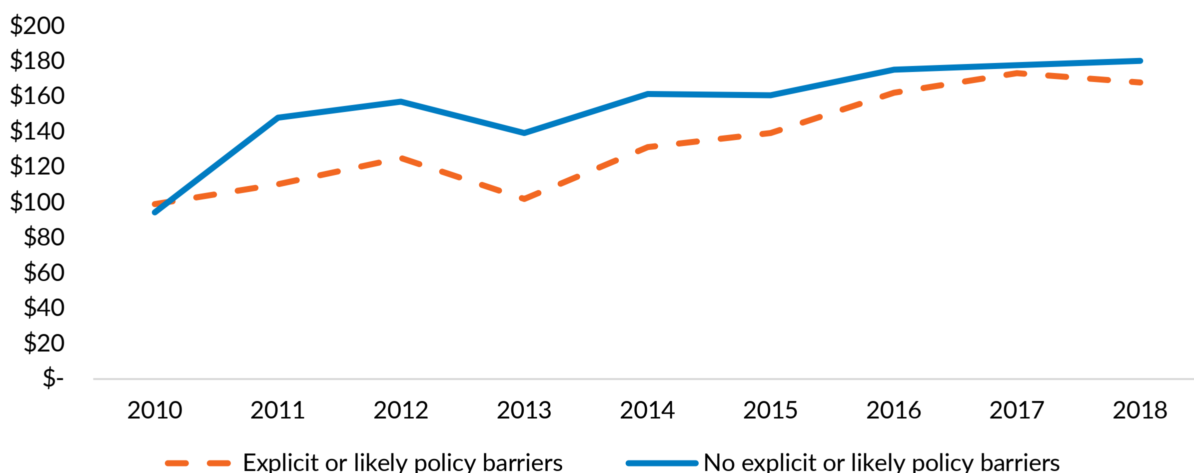
Child Trends retrieved the Medicaid financial data for fiscal years 2010 to 2018 from the automated Medicaid Budget and Expenditure System/State Children's Health Insurance Program Budget and Expenditure Systems (MBES/CBES) annual reports. Within each state, the team

pulled the amount spent on each of two service categories—School Based Administration and School Based Services—and summed them. The team also pulled the unduplicated number of children ever enrolled in Medicaid within each state during fiscal years 2010 to 2018 from annual enrollment reports published by CMS. A limitation of using state expenditures on school-based health services is they include all school-based health services, not just free care, which the team was most interested in. However, the team could not identify a more accessible measure.

There were seven instances where a state's school-based health expenditures were negative. The team confirmed with external experts that these instances were cases of states having to give money back to the federal government due to billing errors. There were 22 cases (5%) of states reporting zero school-based health expenditures in a given year. These values were set to missing as the team could not decipher whether a state truly spent nothing on school-based health services that year or whether a state reported the expenditures under a billing code other than school-based health services. It is important to note that the school-based health services billing option is new within the past 10 years and states started using it at different points during that timeframe.

Overall, the Medicaid expenditure data were highly variable over time. Nearly 42 percent of states' expenditures on school-based health services changed by more than 50 percent within a given year. In consultation with external experts, the team determined this variability was expected, so the team took no steps to clean the variability in the data. Figure 1 below shows the average expenditures on school-based health services by policy category over time. Given the considerable volatility in the data, it is unlikely the gaps between these two lines are statistically significant. Also, from 2015 to 2018, several states changed policy categories, adding further variability to the data. Thus, it is interesting that expenditures on school-based health services increased for both policy categories. One reason expenditures would increase among states with policy barriers would be if states were providing more services to students with IEPs or if there were a higher number of students with IEPs. Indeed, it does seem during this study period, the number and proportion of students with IEPs increased, thereby helping explain the rise in expenditures.

Figure 1. Average state per child expenditures on school-based health services by policy category (FY 2010–2018)



Analytic method: Difference in difference model

The team used a difference in difference (DID) model to test whether expenditures on school-based health services per child were different after 2014 in states with low policy barriers, compared to states with high policy barriers. The DID model compares the rate of change in expenditures from 2014 to 2018 between the two groups of states and tests whether they are statistically significantly different. The team modeled this by creating an indicator of the years following 2014 (the treatment period) and interacting this with the independent variable of high or low policy barriers in a regression where expenditures on school-based health services was the dependent variable.

Using a DID model requires that the rate of change in expenditures between low and high policy barrier states are not significantly different before 2014; this is called the "parallel paths" assumption. The team tested this assumption by reversing the indicator for treatment time to flag years before 2014 and re-running the model. In this way, the team tested the model in the reverse direction, looking at the time period before the policy change. As expected, though the expenditure amounts differed by policy barriers, states' rates of change over time were not statistically significantly different.

Results

After 2014, expenditures on school-based health services per child did not differ between states with low policy barriers and states with high policy barriers. The team performed two sets of sensitivity analyses. For the first, the team altered in what year state expenditures may change in response to the federal rule change. The federal rule change happened in 2014, so the first state changes in expenditures would not be seen until 2015 in the base model the team assumed. In the sensitivity analyses, the team also tried 2014 and 2016—neither changed the results. The second set of sensitivity analyses dropped the four states who changed their state Medicaid plans between 2016 and 2018. As these states recently changed their policy, the team assumed that it may be too early to see changes in their expenditures, and the states could thus be diluting any treatment effect. This sensitivity analysis also did not change the results.

Part III: Implementation Study and Qualitative Analysis

From the fall of 2019 to the summer of 2020, the team spoke with representatives of state health and education agencies as well as district-level leaders, including individuals responsible for managing Medicaid reimbursement, to better understand how the changes in Medicaid reimbursement were unfolding. The team had originally planned to interview school leaders in the spring of 2020; however, this was not possible due to pandemic-related school closures.

Sample

Given the small number of states that had made changes to the school-based Medicaid reimbursement, especially considering that many states made changes within the past year, the team employed a purposive sampling strategy.

The team consulted with leaders at the Healthy Students Promising Futures Learning Collaborative, an initiative to support states exploring how to leverage Medicaid to fund school-based health services, to identify states for recruitment. Initially, the plan was to recruit one Republican-led and one Democrat-led state for participation in the study. The team restricted recruitment to states that had begun to implement changes to ensure collection of implementation data from school districts and schools. Ultimately, the team expanded their sample in the spring of 2020 when it became apparent that school-level data collection would not be possible because of pandemic-related school closures. The team consulted once again with Healthy Students Promising Futures to identify an additional set of states, including states that had not yet implemented changes at the district level but could speak to their process for making changes at the state level as well as their plans for disseminating information and supporting implementation at the district and school level. Ultimately, six states were recruited (see Table 2 in the report for state demographics). Leaders at Healthy Students Promising Futures helped connect the team to state-level officials in each of the six states. When the initial point of contact was at the state department of health, the team asked to be connected to their counterpart at the state department of education and vice versa. In some states, state-level officials also connected the team to a third-party Medicaid administrator. Interviews were generally scheduled separately, although some states requested a joint interview which the team arranged. Across the six states, the team conducted nine interviews with 16 individuals.

Within these six states, the team identified districts within three states that had already begun to implement changes to Medicaid reimbursement for school-based health services at the district level. The team used census data and the Department of Education's Common Core of Data to identify up to four districts in each state that varied in size, racial demographics, and urbanicity. State-level representatives were provided with the district names and given the option to either approve the districts or provide alternative districts with similar characteristics. The team contacted approved districts and provided them with a screener to identify up to two officials who could speak on the expansion of Medicaid billing for school-based health services. Ultimately, nine districts were recruited for this study (see Table 3 in the report for district demographics). After interviewing the initial point of contact, the team asked to be connected with additional contacts at the district level. However, due to the COVID-19 pandemic, many district-level representatives had limited availability. As a result, the team only interviewed one representative for each district, except for two districts where district-level representatives connected the team to an additional contact. District representatives held a range of roles, including Superintendents, Medicaid Coordinators, and Directors of Special Education Services. Across the nine districts, the team conducted 10 interviews with 11 individuals (two representatives joined one interview).

Data collection

Once the team identified state and district-level representatives, they were invited to participate in 45- to 60-minute interviews. The team obtained consent from all participants before beginning the interview. Interviews were over the phone and audio recorded. After the interviews, a member of the team sent the audio recordings to TranscribeMe for transcription.

The team developed protocols that were approved by Child Trends' Institutional Review Board for both states and districts interviews. State-level interviews focused on states' motivations for changing Medicaid reimbursement for school-based health services as well as the process for determining what changes to make, how they communicated changes, and what implementation supports they provided to local jurisdictions. District-level interviews focused on how districts learned about the changes related to Medicaid reimbursement for school-based health services, their perceptions of those changes, and things that helped or hindered their ability to implement the changes.

Data analysis

Interview transcripts were uploaded into Dedoose, a web-based qualitative data analysis platform. Four members of the project team coded the transcripts using a content analysis approach to coding, beginning with an initial coding scheme based on the research questions and interview protocol. Codes were refined, and additional codes were added to the initial coding scheme based on interviews' content and consensus among the coders.

Before coding in Dedoose, all coders coded the same transcript to discuss their interpretations of the codes and reach an understanding about code definitions and how to apply them. The research team also conducted an inter-rater reliability assessment to ensure that codes were being applied consistently across coders; the team calculated an 84 percent agreement across coders.

Each coder coded 7–8 transcripts, which included a combination of state and district level interviews. Once the team finished coding, they looked for recurring patterns at both the state- and district-level. The team identified codes that occurred the most frequently—either separately or in combination (co-occurrence)—and coders reviewed and summarized the content of the selected codes to identify key themes.