Medicaid Statistical Information System (MSIS): A Data Source for Quality Reporting for Medicaid and the Children's Health Insurance Program (CHIP)

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Abstract

Section 401 of the Children's Health Insurance Program Reauthorization Act of 2009 (CHIPRA) requires the Department of Health and Human Services (HHS) to identify and publish healthcare quality measures for children enrolled in the Children's Health Insurance Program (CHIP) or Medicaid. CHIPRA also requires core measures to identify disparities by race and ethnicity, among other factors. State Medicaid and CHIP programs are currently facing significant budgetary pressures that are likely to increase with eligibility expansions and programmatic changes resulting from the Patient Protection and Affordable Care Act (PPACA). To limit the burden on states and increase the likelihood of states' voluntarily reporting on core pediatric quality measures, HHS may consider utilizing existing data sources. This article examines the feasibility of utilizing Medicaid Statistical Information System (MSIS) data to identify and analyze the core children's healthcare quality measures required by CHIPRA.

Five key themes related to the feasibility of using MSIS as a data source for quality measures are identified: states have significant experience with data collection, performance measurement, and quality oversight for children in Medicaid and CHIP; CHIPRA provisions related to reporting of quality measures will be implemented at a time when states are facing major fiscal constraints; MSIS provides potential opportunities as it offers a rich source of data, but the difficulties in obtaining clean data should not be underestimated; MSIS has limitations; and states, the federal government, providers, and enrollees benefit from standardization in data and quality measurement.

Key words: MSIS, children's quality measures, Medicaid, CHIP

Introduction

On February 4, 2009, President Obama signed the Children's Health Insurance Program Reauthorization Act of 2009 (CHIPRA). Section 401 of CHIPRA requires the Department of Health and Human Services (HHS), in consultation with states, providers, and national organizations that represent children, to identify and publish a core set of children's healthcare quality measures for children enrolled in the Children's Health Insurance Program (CHIP) or Medicaid.[1–2] Under CHIPRA, states are not required to report on the core children's healthcare quality measures established by HHS. States *are*, however, required to report state-specific children's healthcare quality measures to HHS on an annual basis. In order to encourage states' utilization of the core measures developed by HHS, CHIPRA requires HHS to consult with states to develop a standardized template for reporting the measures. A standardized template should help reduce the administrative burden on states and ensure consistent data definitions across states.[3]

As HHS and states work to develop the core quality measures and the standardized template, it is important to consider the cost of obtaining data in relation to its value. Utilizing an existing data source that is validated and contains consistent definitions and standardized formats is one way to contain costs and obtain reliable data. The purpose of this article is to examine the feasibility of utilizing Medicaid Statistical Information System (MSIS) data to identify and analyze the core children's healthcare quality measures required by CHIPRA.

Background

MSIS is a national eligibility and claims database maintained by the Centers for Medicare and Medicaid Services (CMS). CMS establishes specifications for MSIS data submissions, including definitions of terms, categories of services, record layouts, data formatting requirements, and validation and encryption methods. MSIS also has requirements for state-assigned unique personal identifiers. This information is important in terms of providing valid enrollment and service use data at the individual level.[4–5] Based on these specifications, states are required to submit demographic and eligibility data for all individuals enrolled in Medicaid or CHIP during the quarter. These data include, but are not limited to, age, race, sex, income, days of continuous eligibility, home and community-based services (HCBS) waiver status, health insurance status, and type of health plan.[6]

States are also required to submit core claims data elements, including place-of-service codes, procedure codes, and diagnosis codes. Both dollars and units of service categories (Table 1) are included. The International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) is the current version of diagnosis codes used by states, but the transition to the International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) is anticipated.[7] In addition, states are required to provide eligibility and service coding crosswalks from their state-specific codes to the federally specified codes.

As MSIS covers all Medicaid and CHIP service categories, it can provide data for measures that seek to address whether benefits appropriate to healthcare needs are provided. It can also provide an expanded data source for issues concerning access to providers and healthcare disparities by utilizing eligibility and service data.

CHIPRA includes a number of provisions related to improving the quality and utilization of MSIS data. It requires states to provide timelier Medicaid and CHIP enrollment data to CMS. CHIPRA also allocated $5 million to CMS in fiscal year 2009 to improve the MSIS enrollment and eligibility data.[8] Finally, beginning October 1, 2009, HHS must collect and analyze annual MSIS data within six months of state submission.[9]

MSIS data are currently used to analyze and share data on national and state-based enrollment, eligibility, and service utilization among Medicaid enrollees. MSIS data are also used to conduct trend analyses to predict future utilization and program expenditures.[10] In recent years, the MSIS database has also been instrumental in identifying cases of Medicaid fraud, waste, and abuse.[11]

Given the economic burdens on state Medicaid and CHIP programs and the eligibility expansions that will result from the Patient Protection and Affordable Care Act (PPACA), finding a data source that provides comparable information that is already collected by all state Medicaid agencies enhances the possibility of states' voluntarily reporting on core pediatric quality measures.[12]

Methods

This study sought to understand the feasibility of using MSIS as a data source for measuring and reporting child health quality measures. To ensure that the analysis was as informed and thorough as possible, the MSIS requirement documents were reviewed in depth, and interviews of appropriate CMS staff and state Medicaid leaders were conducted in person and via e-mail. Responses from all interviews were reviewed and categorized based on a “majority” or “minority” classification. Key themes that emerged from the interviews were identified based on a “majority” consensus among interviewees.

Results

The five key themes presented below relate to the feasibility of using MSIS as a data source for assessing quality measures for Medicaid/CHIP children and were identified based on experience, policy analysis, and ongoing discussions with several state officials.

States have significant experience with data collection, performance measurement, and quality oversight for children in Medicaid and CHIP.

The sophistication and use of data, performance measurement, and quality oversight for children in Medicaid and CHIP vary by state. All states, however, are familiar with the opportunities and limitations associated with data collection and the transformation of that data into usable information. If the use of MSIS data analyzed at the state level for national reporting of quality performance measures for children is a viable option for states, it must be implemented in the context of the other activities states are already undertaking related to reporting their own measures. Most states likely would still want the option to report their own measures or, at a minimum, the option to validate the data or data interpretation CMS uses.

CHIPRA provisions related to reporting of quality measures will be implemented at a time when states are facing major fiscal constraints.

State economic conditions are such that almost every state is facing budget shortfalls.[13] States will be implementing core measures at a time when fiscal issues are affecting all programmatic decisions. Reducing the burden of collecting data and also improving the standardization of data collection and reporting methods for comparability are important to states. Meeting these goals will require having valid data sources, using a clear data dictionary, using only standardized measures or metrics, starting with a very limited set of measures, having adequate human and financial resources, and fully utilizing information technology capability. At a time when states are seeking to maintain their programs, putting resources into infrastructure to support new and additional performance measures may not be feasible practically or politically.

MSIS provides potential opportunities as it offers a rich source of data, but the difficulties in obtaining clean data should not be underestimated.

MSIS has the advantage of being an existing data source. State Medicaid agencies are already required to report MSIS data to CMS. Because this process has evolved over multiple years, many significant data issues related to eligibility and claims have been worked through. MSIS edits include data validation edits and distributional checks. Coding requirements are specified, and state Medicaid agency staffs are provided with the information they need to prepare and submit MSIS files.[14] Since MSIS files contain personal information on Medicaid enrollees, the data are subject to the Privacy Act and are encrypted before they are submitted to CMS. Since MSIS data have age breakouts, it is realistic to identify children and match them with the MSIS service detail in order to measure continuity of insurance, access, and utilization. Because MSIS includes both claims and encounter data (Table 2), Healthcare Effectiveness Data and Information Set (HEDIS) and HEDIS-like measures are potentially feasible if a child stays enrolled in Medicaid or CHIP for a full year.

MSIS has limitations.

States may be compared with each other when the measures are reported. This makes it critically important that the data source and performance measures selected be unambiguous and report the same thing in each state the same way.

Although comparison is conceptually feasible, two specific operational issues affect the practicality of MSIS to report Medicaid or CHIP measures with comparability and consistency across states: (1) the validity and completeness of encounter data and (2) the gap created as a result of some states' not reporting their CHIP programs through MSIS. Even if the use of MSIS is pursued for measures that rely mostly on eligibility and utilization counts, these limitations would need to be addressed.

States would need to choose this mechanism for their voluntary reporting, as there is no mandate to use it. CMS and the states would need to engage in dialogue to determine if using the data with the current limitations is acceptable. Appropriate core performance measures that are based on eligibility or claims would need to be identified. Some state Medicaid Management Information Systems (MMIS) and/or eligibility systems would require technology enhancements, and sufficient time and funding would be required to make the necessary changes.

Historically, the eligibility files have been viewed by CMS and state Medicaid agencies as the biggest problem because of the complexity of Medicaid eligibility; however, CMS indicates most states now submit eligibility data correctly. Although there is a perception that many states are years behind in submitting quarterly MSIS data, only a few states are not current with the submission of their claims data based on CMS tracking. Reporting for 2008 is complete as of July 2009 for 27 states, and 47 states are complete for 2007. According to CMS, issues remain related to drug files, crosswalks from state specifications to federal specifications, and eligibility due to variations in state requirements.

While claims data are connected to actual reimbursement for primary care case management (PCCM) and fee-for-service (FFS) care, encounter data received by a state through its managed care organization (MCO) contractors do not necessarily have the same direct connection to payment. In some situations, MCOs do not pay their providers on a fee-for-service basis but rather subcapitate payment. In this case, the MCO does not receive individual claims from these providers. Some states run encounter data through their FFS claims process and only report encounters they would have paid based on the states' FFS edits. Any valid encounters that did not survive the FFS edits are not reported. This process affects the completeness of encounter data. In addition, encounter claims are included in the MSIS database only to the extent they are routinely received by the state. While both federal and state personnel agree the encounter data are better at this time, they do not match the level of completeness and accuracy of the claims data. CMS is working with states to improve encounter data submissions.

Since states do not draw down their federal match based on MSIS data, these data are not as critical to them as the data submitted through the federal financial reports (CMS-64 and CMS-37), which directly impact their federal match. In addition, MSIS data do not match one-to-one with federal financial report (CMS-64 and CMS-37) data, as states still submit the federal financial reports directly and do not build them from this data set. Service categories, for instance, are similar but are not an exact match.

Most notably, CMS would need additional personnel and financial resources to provide support to transform the data into more time-sensitive information, provide feedback to states on their state-specific information as well as national and/or regional data, and determine how to make the information transparent to the public and providers. The way to more quickly improve the database and the data within the database would be to make them more of a priority and consider economic incentives for improvement.

States, the federal government, providers, and enrollees benefit from standardization in data and quality measurement.

States may use various types of quality measures for Medicaid and CHIP enrollees based on the sophistication of their information systems, their expertise with quality measurement, and the availability of data for performance measurement and quality oversight. Given their extensive experience with the operational aspects of data collection, states and the federal government concur that affected parties benefit when quality measurement and the data used to develop the measurement are standardized.

Some of the National Committee for Quality Assurance (NCQA) measures included in the initial core set of CHIPRA measures may be able to use MSIS as the data source. These measures include chlamydia screening for ages 16 to 20; well-child visits/preventive visits for the first 15 months and for three- to six-year-olds; adolescent dental care, which looks at the receipt of any preventive dental service in the past year; the appropriate medications for people with asthma ages 10 to 17; the percentage of members ages 6 to 12 with attention deficit/hyperactivity disorder (ADHD) who had one follow-up visit with a practitioner within 30 days of the first prescription for ADHD medication; follow-up after hospitalization for mental illness for children ages six and older within 7 days and 30 days; inpatient utilization; mental health utilization; outpatient drug utilization based on per member, per year average number of prescriptions; and dental treatment using the percentage of members who received any dental treatment in the past year (see Table 3).

AHRQ Inpatient Quality Indicators (IQIs) for children are a set of indicators that reflect quality of care inside hospitals, including utilization of procedures.[15] Several of these IQIs could be collected through MSIS if a secondary diagnosis is provided in the MSIS file. Examples include admission rates for short-term complications of diabetes, gastroenteritis, asthma, urinary tract infection, and perforated appendix.

The National Quality Forum (NQF) also endorsed several pediatric quality indicators for which MSIS might be a viable data source, such as hospital measures related to the percentage of maternity patients that deliver via cesarean section.[16]

Discussion

While many data sources for performance measures for children's healthcare are available, only a limited number of available data sources could be an appropriate and efficient source for these measures. One of those potential sources is MSIS.

States are already collecting information regarding health status and quality of healthcare delivery for children in their state. What does not exist today is comparability across states. One major advantage of MSIS is that it already exists. The implementation of CHIPRA is an opportunity to standardize core children's quality measures across states through the use of a common data set. The challenge is how to assure states, the federal government, providers, and the public that the data are valid, the analytical methods are standardized, and the results are reliable. To meet this challenge, CMS and states must work with groups such as NCQA, AHRQ, and NQF to implement the necessary improvements to MSIS to ensure that the data are clean, reliable, and comparable across states.

While MSIS has shortcomings as a data source in its current format, adjustments in policy and in technology have the potential to address these operational challenges. For instance, clinical data are not included in MSIS submissions; however, the American Recovery and Reinvestment Act of 2009 (ARRA) requires eligible hospitals and providers to report clinical quality measures in order to be eligible for electronic health record incentive payments. New opportunities could result from a linkage between MSIS data and the "meaningful use" quality measurement data.

Conclusions

The five key themes identified above highlight the opportunities and challenges of utilizing MSIS as a data source for pediatric quality measures required under CHIPRA. With sufficient funding, enough lead time, and some feasible but not insignificant adjustments, MSIS may serve as an efficient and economical source of data for certain quality measures.

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Notes

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