



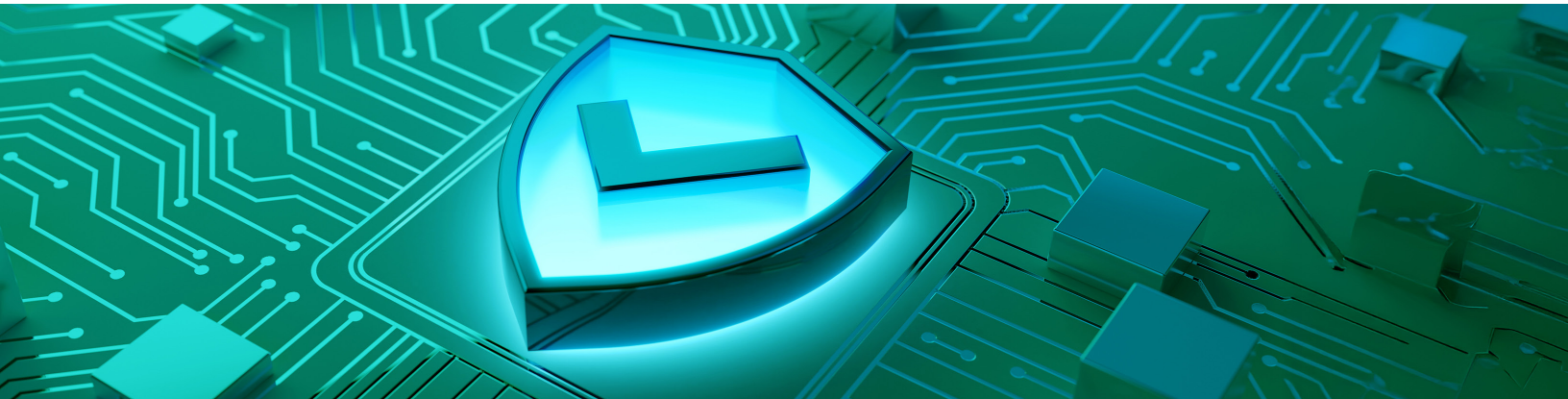
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WHITE PAPER

Using T-MSIS and TAF to Elevate Medicaid Program Integrity

July 2025



Federal and state policymakers face significant changes in Medicaid and the Children's Health Insurance Program (CHIP). Budgets are tightening, costs are shifting to states, and demand is growing for accelerated data use and novel methods. Federal and state officials, including members of Medicaid program integrity teams, Medicaid fraud units, and offices of state attorneys general, are seeking robust tools to detect and prevent fraud, waste, abuse, and improper payments, and to provide services to enrollees as cost effectively as possible.

In this white paper, we explore how states can tap into the [Transformed Medicaid Statistical Information System](#) (T-MSIS) data set—the most complete set of Medicaid data available—to strengthen oversight, uncover patterns, and enhance impact.

Emerging needs for program integrity prompt search for new data perspectives

States have historically leaned largely on their own data to ensure the integrity of the Medicaid program. Access to data is one of the most critical needs for advancing current fraud, waste, and abuse initiatives. However, there are opportunities to find and access data that would help solve historically challenging oversight issues, including:

- Identifying insights across state managed care plans that might reveal trends or discrepancies in provider billing
- Proactively intervening to remediate federally identified issues
- Identifying trends across state lines and supporting cross-state collaboration to resolve interstate issues
- Accessing data for better oversight related to the enrollment of recently deceased beneficiaries, beneficiaries who move to different states, and program disenrollments

The use of a national data set like T-MSIS would allow for large-scale systematic analyses to help states identify issues and prioritize their responses. T-MSIS does not replace internal data sources that enable states to intervene on suspected fraud before making a payment. Rather, it is an additional tool that could enhance states' efforts to promote program integrity.

Using T-MSIS and TAF to ensure program integrity in states

T-MSIS and TAF are data assets worth considering for state program integrity units, not only because their national scale lends them to answering the kinds of questions that can be difficult for state-specific data sources to address, but also because T-MSIS is used by CMS's Center for Program Integrity, which is charged with detecting fraud, waste, and abuse in the Medicare, Medicaid, and federally-facilitated marketplace programs.

Because CMS and the Government Accountability Office (GAO) review T-MSIS data at the federal level for program integrity purposes, it creates a window for states to identify and remediate issues proactively. In addition, TAF is unique in that it allows for cross-state comparisons and can support the creation of national and regional benchmarks.

Relatively straightforward but impactful analyses using TAF could include reviewing utilization across key diagnosis areas and identifying outliers. These analyses serve a dual purpose because they could find not only outliers that signal the need for a fraud investigation but also issues that indicate waste. For states already conducting trend and outlier analyses, more advanced methods using TAF can support increasingly sophisticated investigative work, such as the following:



Anomaly detection

Identifying patterns or deviations that warrant further investigation.



Clustering analysis

Grouping similar claims or providers to find unexpected relationships.



Machine-learning techniques

Using predictive modeling to identify areas at high risk for fraud, waste, and abuse.



Data linking

Connecting TAF with external data sets (for example, state licensure databases and Medicare enrollment records) to uncover discrepancies, redundancies, and risks.

Cross-state analysis can help inform cross-border referrals and help states better understand the work of large national entities, such as multistate health plans, insurers when Medicaid is a secondary payer, pharmacy benefit managers, and durable medical equipment suppliers operating across many states. To investigate issues that cross state borders, states would need to access the TAF through the [Research Data Assistance Center](#) or work with a partner like Mathematica that has access to cross-state data.



How data quality can masquerade as problems with program integrity

The quality of T-MSIS and TAF data ultimately hinges on the quality of each state’s initial submissions. Mathematica has worked with states and CMS to improve T-MSIS data quality over the last decade, parallel to a variety of federal initiatives that have leaned on the data set for operational, congressional, and public reporting which encouraged the continuous improvement of the underlying submissions in these areas. T-MSIS has high-quality data related to service use, enrollment, and demographics, but has gaps in other areas, such as expenditure reporting, where there is meaningful variation across states.

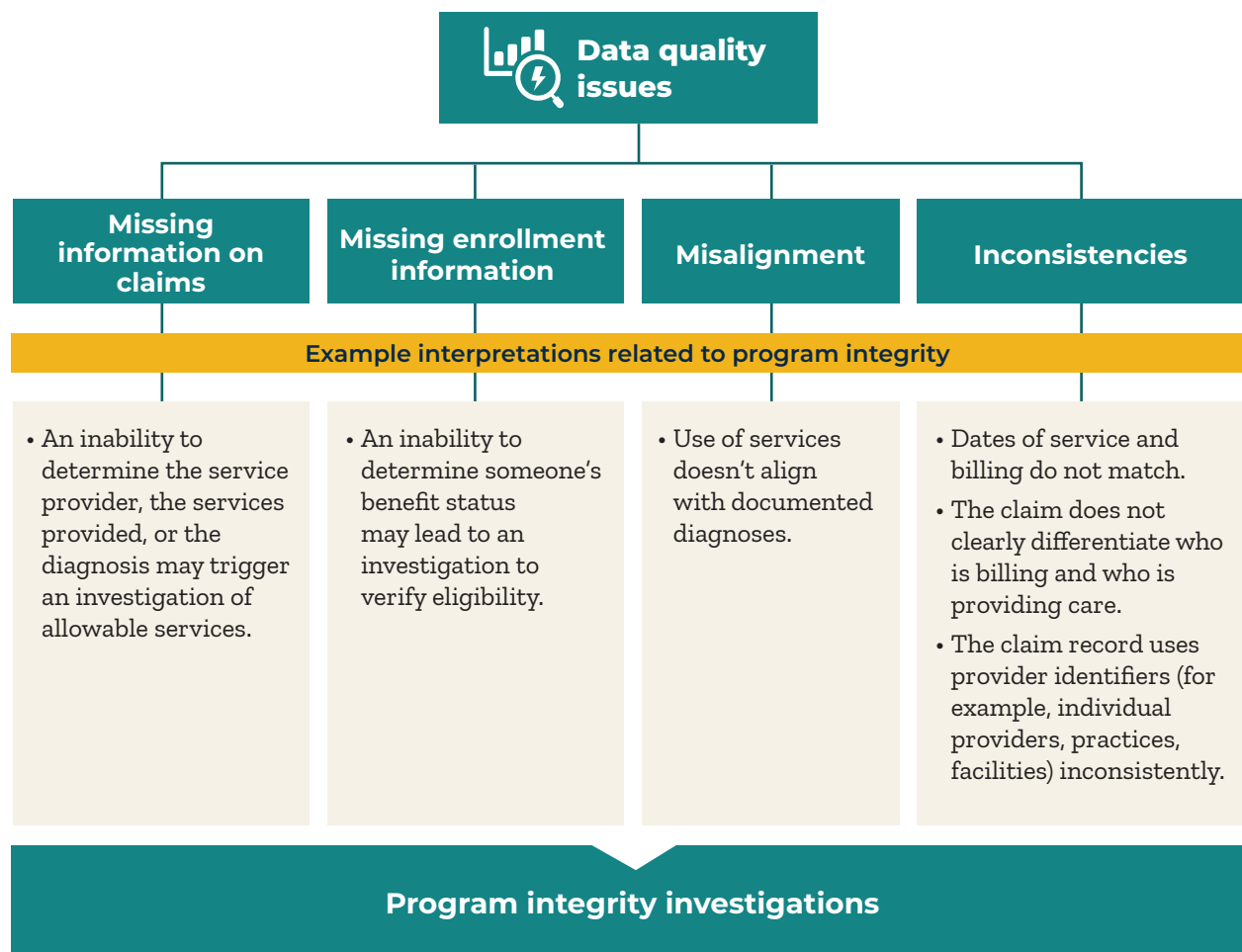
Information on the relative quality of states’ data submissions is available from the [TAF Data Quality Atlas](#) (DQ Atlas) accessible through [Medicaid.gov](#). Mathematica designed and maintains this public tool for researchers and other data users. For states seeking a more proactive and customized approach, Mathematica and NewWave’s [Imersis](#)—a software-as-a-service solution—is designed to help states improve the quality of their T-MSIS data by enabling them to implement the same data quality checks that CMS conducts before submitting their data. Imersis can help states catch data quality issues earlier, when they are less costly to address.

Although the federal government has focused on improving [T-MSIS data quality](#) for program monitoring, patterns of poor data quality in the program integrity context can mimic indicators of fraud, waste, and abuse, creating “false positives” that result in misdirected oversight resources. At a global level, [GAO](#) has investigated and reported on some of these persistent issues, citing Medicaid oversight as a high-risk area and pointing out that although data quality has improved, there are some areas where states are still not meeting GAO’s standards for these data.

How data quality can masquerade as problems with program integrity (continued)

At a more granular level, it's often difficult to tell without further investigation if an issue is a data quality issue or an indicator of fraud. Cleaning up these data is one way to prevent false positives. For example, if an enrollee's death date is recorded incorrectly, it may trigger a costly investigation into supposedly "improper" service use that never actually occurred. Exhibit 1 lists examples of how data quality issues can interfere with program integrity investigations or masquerade as program integrity problems.

Exhibit 1. Data quality issues that could lead to program integrity investigations



Proactively identifying these issues and determining whether they are true program integrity issues or data quality issues that should be corrected can give fraud, waste, and abuse units more confidence in their analysis of any data set.

Tips for using TAF for Medicaid program integrity

Using TAF, especially for the first time, can be challenging because of the data set’s complexity, scale, and design for federal oversight purposes. Mathematica has played a long-standing role in the creation and maintenance of T-MSIS and TAF, and in leading a wide range of operating and program activities to support state and federal efforts using these data. We offer a few tips from this experience:



Program and policy expertise is critical for interpreting the data



Medicaid programs have meaningful differences in how they are administered across states, and the data reflect these nuances. For example, differences in fee-for-service and managed care payment models impact cross-state comparisons. Any state considering cross-state comparisons will therefore want to pair data analyses with an understanding of state Medicaid policies or programs to determine whether the differences in outcomes have a policy rationale.



Benchmarks can support assessment of individual state performance



States looking to benchmark their performance against national trends can work with a partner that has access to TAF, like Mathematica, to uncover risks and opportunities for targeted improvement in program integrity efforts.



Consider data timeliness



TAF allows for retrospective trend analysis because the data are released after the claims runout period. This is different from evaluating claims coming to the state with little lag time after service delivery and before the claim is fully adjudicated, where the likelihood of changes is high, but it’s possible to intervene before payment. TAF is an additive resource in that it provides a holistic retrospective view that is not possible with less mature claims.

Have ideas about how to use T-MSIS in program integrity?

Mathematica can partner with states interested in exploring the use of T-MSIS and TAF to detect fraud, waste, and abuse. If you have ideas or examples you’d like to share, or would like to learn more about the uses of T-MSIS and TAF data, contact us at info@mathematica-mpr.com.