

**RISK STRATIFICATION,
SEGMENTATION, AND TIERING
TRANSPARENCY DOCUMENT**

AT-A-GLANCE

OCTOBER 2026

SUMMARY AT A GLANCE

This summary offers a brief overview of the [RSST Transparency Document](#) (updated August 2026) published by the California Department of Health Care Services (DHCS). The revised RSST Transparency Document and this accompanying at-a-glance summary include the addition of the RSST birthing population models (RSST V1.1).

Overview

Risk Stratification, Segmentation, and Tiering (RSST) is a predictive analytics solution developed by the California Department of Health Care Services (DHCS) as part of its Population Health Management (PHM) initiative. It is a central component of Medi-Cal Connect. RSST provides a monthly, data-driven method for identifying Medi-Cal members who may be at increased risk of poor outcomes or underutilization of essential services, and who may benefit from additional outreach, engagement, or care coordination.

The RSST approach was created to make risk stratification in the Medi-Cal program more equitable, consistent, and actionable. The primary goal of RSST is to enable managed care plans (MCPs) to proactively identify and support members who are at risk before health problems escalate. The algorithms were developed through a rigorous and collaborative process, with ongoing refinement planned as part of its lifecycle.

Design Principles

Standardization: RSST ensures uniform risk tiering across all Medi-Cal managed care plans (MCPs), reducing variability.

Transparency: DHCS provides comprehensive, publicly accessible documentation on model logic, training methods, training data, risk-tier thresholds, and validation and testing methods.

Equity: Equity influenced every stage of RSST development—from the fine-tuning of outcomes and predictor variables to the way subgroup performance was evaluated, to the final tiering decisions.

Flexibility: RSST is structured around three models (adult, pediatric, and birthing), each containing one or more domains (adverse events, underutilization, social). This modular design allows DHCS to adjust risk domains without changing the models' underlying algorithm.

Model Structure

Populations Included: Adults (18 and older), pediatrics (4 months to 17 years); and birthing (members ages 15–49 years who are currently pregnant or up to 12 months post-pregnancy/postpartum and infants up to 3 months old).

Number of Models: The RSST approach consists of thirteen predictive models—five for adults, five for pediatrics, and three for birthing populations. DHCS developed separate models for each population to ensure that the outcomes being predicted and the predictor variables used reflect the clinical context, service patterns, and risk factors relevant to each group.

Domains and Subdomains (Adult and Pediatric): RSST organizes adult and pediatric risk separately into the three domains with five total subdomains, creating ten predictive models. The three domains are: adverse events, underutilization, and social risk. Adverse events and underutilization each have two subdomains: physical health and behavioral health. Social risk has one subdomain: adverse social events.

Domains and Subdomains (Birthing): RSST includes three prediction models for the birthing population, focused exclusively on the adverse events risk domain. These models are based on three subdomains: pregnancy, post-pregnancy physical, and post-pregnancy behavioral. Underutilization and social risk models were not developed for the birthing population due to gaps in data on prenatal care utilization and anticipated key drivers of social risk.

Risk Tiering: Each month, adult and pediatric members are assigned one of three risk tiers for each of the five subdomains—low, medium-rising, or high. If a member is high-risk in any single subdomain, they are categorized as high-risk overall. In addition, members who are pregnant or post-pregnancy are assigned one of two tiers—medium or high—reflecting existing DHCS policy to engage all pregnant members (i.e., no pregnant members in Medi-Cal are considered "low risk"). This ensures that significant needs are not overlooked, even if they are concentrated in a single area.

Predictor Variables: These are data inputs the model uses to predict risks. RSST predictor variables include diagnoses and procedure codes, patterns of health care utilization (e.g., emergency department visits, missed appointments), medication adherence, and social or environmental risk factors (e.g., housing instability).

Outcomes: Future events or results the model is trying to predict, such as inpatient admission or a failure to receive a needed health service in the next 12 months. This is a

key distinction between DHCS' RSST model and others, where we are predicting specific outcomes in the subsequent year.

Data Sources: Eight years of Medi-Cal administrative claims and SUME eligibility data (from 2016 through 2024), partitioned for model training, validation, and testing. For birthing models, data sources also include historic vital birth certificate records to create a parent-child linkage that ties adverse infant outcomes back to the birthing parent's claims history.

Model Performance

A variety of metrics were used to evaluate the performance of the model. For more information on model performance, please go to the full [RSST Transparency Summary Document](#) (updated October 2026, page 10).

Area Under the Curve (AUC): AUC indicates how well the models predict people who will experience an outcome versus people who will not. An AUC of 1.0 means a model predicts outcomes perfectly; 0.5 means the model is no better than flipping a coin.

- » AUC scores for the adult and pediatric models range from 0.75 to 0.94, indicating strong predictive performance which compares favorably to similar models in the industry.
- » For birthing models, AUC values range from 0.71 to 0.85, reflecting moderate to strong episode-level discrimination.

Recall and Number Needed to Treat (NNT): Performance of the models was evaluated using Recall (i.e., how accurately the model identifies members who need support) and NNT, which measures how many people must be screened to find one person who truly needs assistance. A lower NNT means the model is more efficient (i.e., it finds the right members with fewer screenings).

- » NNT scores for the RSST models reflect efficiency at the chosen high-risk threshold: For every 1.75 adults flagged as high risk, one experienced the predicted outcome. For every 1.97 pediatric member flagged as high-risk, one experienced the predicted outcome. On average, about half of flagged adult and pediatric members experienced an outcome—57% and 51%, respectively.
- » For birthing models, episode-level recall ranged from approximately 44% to 51%, with NNT values between approximately 2.0 and 3.8—meaning for every

two to four pregnancy or postpartum episodes flagged as high risk, one went on to experience the predicted outcome or adverse event.

High-Risk Ceiling: MCPs are required to outreach and engage members identified by RSST as high risk. To support MCP implementation, DHCS established an initial high-risk tier ceiling limiting the share of Medi-Cal members classified as "high risk" statewide. This ceiling is applied to each MCP, although the percentage of high-risk members may vary by plan. DHCS will adjust the ceiling over time based on member needs and MCP capacity. The birthing models are not subject to this ceiling at this time. Instead, the current RSST approach identifies 27% of pregnant and post-pregnant members as high-risk based on how often the outcomes occur within the three birthing person subdomains.

Monitoring and Data Refresh: DHCS is committed to ongoing monitoring, using industry-standard metrics such as AUC, recall, and calibration, and will regularly retrain and validate the models to ensure they remain accurate and equitable as populations and care patterns evolve. RSST outputs are refreshed monthly based on data availability and delivered to MCPs and DHCS via application programming interface (API) or Secure File Transfer Protocol (SFTP) flat files. The RSST dashboard in Medi-Cal Connect supports ongoing monitoring of model outputs by county and MCP.

Limitations: RSST's algorithms have known constraints related to data availability, model design choices, and system infrastructure. These limitations should be considered when interpreting tier outputs and planning future development. For more information, refer to the [RSST Transparency Summary Document](#) (updated October 2026, page 12).

Limitations include:

- » RSST's reliance on claims and eligibility data, which has an inherent lag of at least three months and reflects historical, rather than real time, information. Claims data can also be incomplete, which may affect precision when identifying at-risk members.
- » Members with partial Medi-Cal coverage (e.g., GHPP, PACT, and CCS) or dual Medicare-Medicaid coverage are limited in what risk tiers they receive, creating gaps for members receiving care elsewhere, though this represents a small portion of the overall population.
- » As populations and care patterns evolve, fixed tier thresholds may require periodic adjustment to maintain fairness and accuracy.