# About the Data – Severe Maternal Morbidity

## Indicator Description

Severe maternal morbidity (SMM) includes unexpected and potentially life-threatening complications from labor and delivery that result in significant short- or long-term health consequences. SMM includes 20 indicators that represent either serious complications of pregnancy or delivery, such as sepsis or acute renal failure, or procedures used to manage serious conditions, such as ventilation or hysterectomy. Blood transfusion codes are not included in this SMM definition.

## Data Source

California Department of Health Care Access and Information, Patient Discharge Data, 2008–2023: Data sets of inpatient data collected from California-licensed hospitals in California. Each data set consists of individual inpatient records, one record for each inpatient discharged from a California-licensed hospital. Licensed hospitals include general acute care, acute psychiatric, chemical dependency recovery, and psychiatric health facilities. Each patient discharge record contains the patient's demographic information, International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) or International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) diagnosis and procedure codes, and other information related to the patient's stay in the hospital.

Data for 2015 represent only three quarters of the year (January through September) due to the coding transition from ICD-9-CM to ICD-10-CM in the last quarter of 2015; thus, the 2015 rate should be interpreted with caution as it does not represent a full year of change, relative to 2014. Data for 2016 and onward are based on ICD-10-CM and may not be comparable to previous estimates based on ICD-9-CM.

## National Comparison

Maternal and Child Health Bureau. Federally Available Data (FAD) Resource Document. May 19, 2025; Rockville, MD: Health Resources and Services Administration. Retrieved June 24, 2025.

Caution: U.S. estimates are calculated using data from Healthcare Cost and Utilization Project (HCUP) State Inpatient Databases and may not be comparable to California data. In addition, U.S. estimates use the available State data from HCUP State Inpatient Databases and are not nationally weighted; therefore, U.S. estimates may not be comparable across years due to the different states included in any given year.

**Data Analysis**

The SMM rate shown in these dashboards is the number of SMM events per 10,000 delivery hospitalizations, stratified by selected maternal characteristics. The distribution, or percent, of SMM indicators is the number of SMM indicators among all SMM events. SMM events were identified using the definition originally developed by the Centers for Disease Control and Prevention and then updated for the transition from ICD-9-CM to ICD-10-CM coding by the Health Resources and Services Administration (Maternal and Child Health Bureau. Federally Available Data [FAD] Resource Document. April 1, 2022; Rockville, MD: Health Resources and Services Administration).

Denominators include all delivery hospitalizations to California resident females, aged 12 to 55 years (Maternal and Child Health Bureau. Federally Available Data [FAD] Resource Document. April 1, 2022; Rockville, MD: Health Resources and Services Administration).

The 95% confidence interval presented in the tooltips indicates there is a 95% chance that the range contains the true prevalence or rate in the population. Rates or percentages with wide confidence intervals should be interpreted with caution.

The state dashboard uses single year data; the county dashboard uses three-year aggregated data.

Overlapping time periods show the general direction or slope of the trendline across the entire timeframe. Rates should not be compared for overlapping time periods; for example, rates for 2020–2022 and 2021–2023 should not be compared. Only non-overlapping periods can be compared; for example, rates for 2018–2020 and 2021–2023 can be compared.

See Category and Subcategory Definitions below for additional inclusion/exclusion criteria.

**Data Suppression**

For SMM, the numerator, rate and confidence interval are not shown when the numerator is less than 11.

For the distribution of SMM indicators, the numerator, denominator, percent, and confidence interval are not shown when the numerator or denominator is less than 11.

**Category and Subcategory Definitions**

**Age:** Age of the patient at admission.

**Geography:** State or county of patient's residence at time of delivery. Excludes records with unknown county.

**Health insurance:** The type of entity or organization expected to pay the greatest share of the patient's bill. Other Public includes Medicare, workers' compensation, other county indigent programs or other government programs. Uninsured includes other indigent programs, self-pay or other payer. Excludes records with unknown payment source.

**Hospital region:** The region where the patient's hospital is located, excludes unknown geography information. Regions are defined as follows:

- LA-Santa Barbara-Ventura Region: Los Angeles, Santa Barbara and Ventura counties
- Mid-Coastal Region: Monterey, San Benito, San Luis Obispo, San Mateo, Santa Clara and Santa Cruz counties
- North Coast-East Bay Region: Alameda, Contra Costa, Del Norte, Humboldt, Lake, Marin, Mendocino, Napa, San Francisco and Sonoma counties
- Northeastern Region: Alpine, Amador, Butte, Calaveras, Colusa, El Dorado, Glenn, Lassen, Modoc, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Sierra, Siskiyou, Solano, Sutter, Tehama, Trinity, Yolo and Yuba counties
- Orange Region: Orange County
- San Diego-Imperial Region: Imperial and San Diego counties
- Central San Joaquin Valley-Sierra Nevada Region (Southern Central Valley): Fresno, Kern, Kings, Madera, Mariposa, Merced, Stanislaus, Tulare and Tuolumne counties
- Southern Inland Region: Inyo, Mono, Riverside and San Bernardino counties

**Race/ethnicity:** Hispanic includes all patients of Hispanic origin of any race, including Other and Unknown race. The remaining groups are of non-Hispanic origin: American Indian or Alaska Native (AIAN), Asian/Pacific Islander, Black, White, Other and Unknown. Beginning in 2019, Asian and Native Hawaiian or Other Pacific Islander (Pacific Islander) became separated categories and a Multi-Race category became available. Other and Unknown race are not shown on the dashboards but are available in the downloadable data table.

**Urban-rural residence:** Based on 2006 and 2013 National Center for Health Statistics (NCHS) Urban-Rural Classification Scheme for Counties. Large metro is defined as metropolitan areas with at least one million residents. Small/medium metro is defined as metropolitan areas of less than one million residents. Non-metro is defined as micropolitan areas of less than 50,000 residents and remaining areas not already classified, also called noncore.

**Distribution of severe maternal morbidity indicators:** The number of SMM indicators (out of a total of 20) at the delivery hospitalization.

**Common indicators of severe maternal morbidity:** Of the 20 SMM indicators, rates (per 10,000 delivery hospitalizations) are shown for the 10 most common or leading conditions:

- Acute renal failure (Renal failure): A condition in which the kidneys suddenly stop performing their normal functions.
- Acute respiratory distress syndrome (Respiratory distress): A condition that prevents enough oxygen from getting to the lungs and into the blood.
- Disseminated intravascular coagulation (Diss. intravascular coagulation): A condition in which small blood clots develop throughout the bloodstream, blocking small blood vessels.
- Eclampsia: High blood pressure during pregnancy that affects brain function, causing seizures or coma.
- Hysterectomy: A surgical procedure that removes the uterus or womb.
- Puerperal cerebrovascular disorders (Cerebrovascular disorders): A range of conditions that affect the flow of blood through the brain during pregnancy, during childbirth or after delivery.
- Pulmonary edema or acute heart failure (Pulmonary edema/heart failure): Pulmonary edema is a condition caused by excess fluid in the lungs, most often caused by a heart problem.
- Sepsis: A condition that occurs when the body's response to an infection damages its own tissues.
- Shock: A condition brought on by the sudden drop in blood flow through the body.
- Ventilation: A procedure to help the patient breathe during the delivery hospitalization.

## Suggested Citation