

## **About the Data – Maternal Health Conditions at Delivery Hospitalization**

### **Indicator Description**

Health conditions, such as asthma, diabetes, and hypertension, experienced before, during and after pregnancy, are associated with poor maternal and infant health outcomes. For data shown on these dashboards, the presence of each condition was assessed during the delivery hospitalization.

### **Data Source**

California Department of Health Care Access and Information, Patient Discharge Data, 2008–2022: 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.

### **Data Analysis**

The maternal health condition rates shown in these dashboards are the percent of delivery hospitalizations with a maternal health condition diagnosis code, stratified by selected maternal characteristics. Health conditions shown include asthma, any diabetes (mutually exclusive categories of prepregnancy [including type 1 or type 2 diabetes and other specified diabetes] and gestational diabetes) and any hypertensive disorders of pregnancy (mutually exclusive categories of prepregnancy [chronic] hypertension, pregnancy-associated hypertension, and unspecified maternal hypertension).

Maternal health conditions were identified based on the ICD-9-CM or ICD-10-CM diagnosis code for the primary diagnosis and up to 24 other diagnosis codes associated with each delivery hospitalization. Asthma was identified using ICD-9-CM diagnosis code 493 and ICD-10-CM

diagnosis code J45<sup>1</sup>. Diabetes was identified using diagnosis codes for prepregnancy diabetes (ICD-9-CM: 250, 648.0; ICD-10-CM: E10, E11, E13, O24.0, O24.1, O24.3, O24.8, O24.9) and gestational diabetes (ICD-9-CM: 648.8; ICD-10-CM: O24.4)<sup>1</sup>. Hypertensive disorders in pregnancy were identified using diagnosis codes for chronic hypertension (ICD-9-CM: 642.0, 642.1, 642.2, 401, 402, 403, 404, 405; ICD-10-CM: O10, I10, I11, I12, I13, I15), pregnancy-associated hypertension (chronic hypertension with superimposed preeclampsia [ICD-9-CM: 642.7; ICD-10-CM: O11], preeclampsia [ICD-9-CM: 642.4, 642.5; ICD-10-CM: O14], eclampsia [ICD-9-CM: 642.6; ICD-10-CM: O15], gestational hypertension [ICD-9-CM: 642.3; ICD-10-CM: O13]), and unspecified maternal hypertension (ICD-9-CM: 642.9; ICD-10-CM: O16)<sup>2</sup>.

In 2011, the American Diabetes Association revised recommendations for diagnosing gestational diabetes which results in a greater percentage of pregnant individuals being categorized as having gestational diabetes.

In 2017, the American College of Cardiology and the American Heart Association issued an updated definition of hypertension which also results in a greater percentage of people being categorized as having hypertension.

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.

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).

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

## **Data Suppression**

The numerator, rate and confidence interval are not shown when the numerator 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.

**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.

**Type:** When applicable, the subtypes or subcategories of a health condition. Diabetes includes prepregnancy and gestational diabetes. Hypertensive disorders of pregnancy include prepregnancy (chronic) hypertension, pregnancy-associated hypertension, and unspecified maternal hypertension.

**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 1 million residents. Small/medium metro is defined as metropolitan areas of less than 1 million residents. Non-metro is defined as micropolitan areas of less than 50,000 residents and remaining areas not already classified, also called noncore.

## References

1. Ko JY, DeSisto CL, Simeone RM et al. Adverse pregnancy outcomes, maternal complications, and severe illness among US delivery hospitalizations with and without a Coronavirus Disease 2019 (COVID-19) diagnosis. *Clin Infect Dis*. 2021;73(Suppl 1):S24-S31.
2. Ford ND, Cox S, Ko JY et al. Hypertensive disorders in pregnancy and mortality at delivery hospitalization - United States, 2017-2019. *MMWR Morb Mortal Wkly Rep*. 2022;71(17):585-591. Published 2022 Apr 29.

## Suggested Citation

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