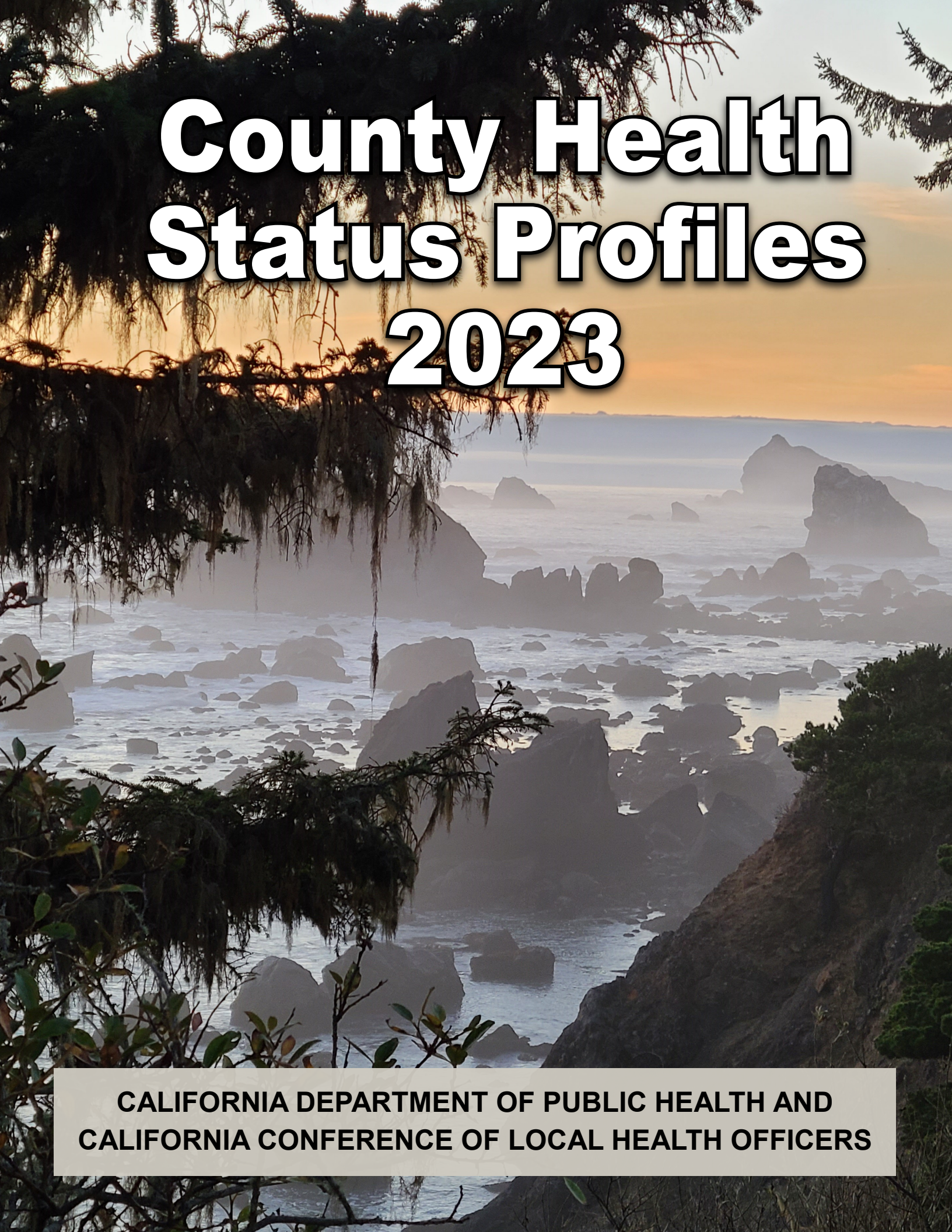

County Health Status Profiles 2023

CALIFORNIA DEPARTMENT OF PUBLIC HEALTH AND
CALIFORNIA CONFERENCE OF LOCAL HEALTH OFFICERS

COUNTY HEALTH STATUS PROFILES 2023

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Cover photography: Photograph by Danielle Reichlin: “Pebble Beach Drive through Crescent City,” Del Norte County, California.

State of California—Health and Human Services Agency
California Department of Public Health

TOMÁS J. ARAGÓN, MD, DrPH
Director and State Public Health Officer

GAVIN NEWSOM
Governor

Dear Colleagues:

We are pleased to present California's *County Health Status Profiles* (*Profiles*) report for 2023. *Profiles* has been published annually for the State of California by the California Department of Public Health (CDPH) and the California Conference of Local Health Officers since 1993, and is updated each year in accordance with priorities developed by CDPH.

Profiles 2023 includes the years 2015-2021 and represents the 31st annual publication in its series. This publication reports on selected health status indicators recommended by the U.S. Department of Health and Human Services for monitoring state and local progress toward achieving the goals set forth in Healthy People 2030 National Objectives (HP 2030).

The HP 2030 challenge public health professionals to increase the span of high quality healthy lives, achieve health equity, and enable healthy behaviors for all. This report is an important tool to measure progress toward those goals and to evaluate the health of Californians.

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Local Health Officers

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The data tables and Appendix A are published in separate Microsoft Excel workbooks for *Profiles 2023*. The public can access Tables 1–29, Table 30, and Appendix A on the *Profiles* webpage. For computational purposes, data (Tables 1–29) from this report can also be found on the California Health and Human Services Agency Open Data Portal in the *Profiles* dataset.

Health Indicator Category	Tables	File
Mortality	1–19	Tables 1–29
Morbidity	20–23M	Tables 1–29
Infant Mortality	24A–24E	Tables 1–29
Natality	25–27B	Tables 1–29
Breastfeeding	28	Tables 1–29
Poverty	29	Tables 1–29
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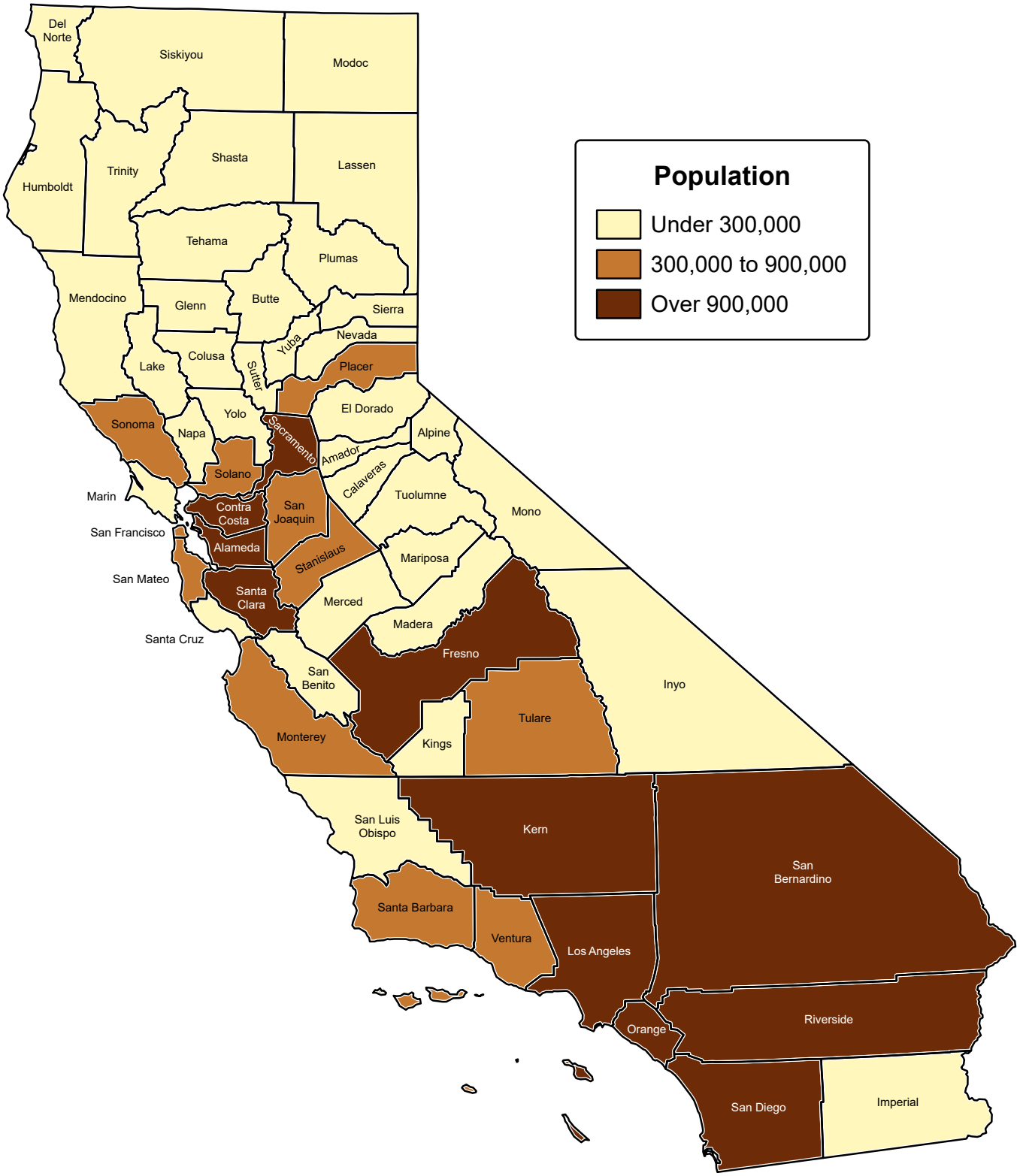
CALIFORNIA COUNTIES

2020 STATEWIDE POPULATION: 39,782,419



California Department of Finance, Demographic Research Unit, *Report P-3: Population Projections*, July 2021.

INTRODUCTION

County Health Status Profiles (*Profiles*) is an annually published report for the state of California by the California Department of Public Health (CDPH) in collaboration with the California Conference of Local Health Officers. The current *Profiles* report includes data from years 2015 through 2021 and represents the 31st annual publication of its kind since 1993. This report presents public health data that can be directly compared to national standards and populations of similar composition. This report is the first to include the new Healthy People 2030 (HP 2030) National Objectives, replacing the Healthy People 2020 Objectives. Appendix A provides a summary table of California's rates for selected health status indicators, target rates established for HP 2030 and the previous period rates. For additional information on the HP 2030 recommendations, visit the Office of Disease Prevention and Health Promotion. Appendix B presents statewide mortality trends through annual death rates stratified by sex, race/ethnic group, and mortality health indicator.

In keeping with the practice of using national standards, causes of death were coded using the International Classification of Diseases, Tenth Revision (ICD-10). Age-adjusted rates were calculated using the year 2000 U.S. standard population weights to facilitate meaningful comparison of vital statistics data rates over time and between groups. The methodology for classifying the mortality indicators presented in *Profiles* may differ from other reports of California death data. Refer to the Technical Notes for more information.

Profiles contains vital statistics that display the total population estimates, event counts, crude case rates, and age-adjusted death rates/percentages by county of residence (except where noted). In these tables, counties are ranked by rates or percentages based on the methodology described in the Technical Notes. Data limitations and qualifications are also provided in the Technical Notes section to assist the reader with the interpretation and comparison of the data. For additional information on low event calculations, small area analysis, and age-adjusted death rates, the reader is referred to the Bibliography section located at the conclusion of this report.

The tables also identify the upper and lower 95 percent confidence limits, which are used to assess the degree of precision for the estimated rates and percentages. Confidence intervals based on 100 or more events are calculated using a normal distribution. In instances with greater than zero and less than 100 events, a gamma distribution is applied to estimate the confidence intervals. For additional information on the use of gamma distributions, please refer to the Technical Notes. Confidence intervals are not calculated for zero events.

Vital statistics rates and percentages are subject to random variation, which are inversely related to the number of events/occurrences (e.g., deaths) used to calculate the rates and percentages. Dashes (-) indicate those percentages and confidence levels that are not calculated due to zero events. Asterisks (*) indicate rates and percentages that have a relative standard error greater than or equal to 23 or approximately less than 20 events and are considered unreliable. To provide sufficient information to the public in the determination of unreliable rates and percentages, the tables published in the Microsoft Excel workbook on the *Profiles* webpage include a column for total events. CDPH uses data masking and suppression in order to prevent inadvertent or intentional reidentification of individuals. As a result, some rates, counts, and percentages were masked and suppressed per California Health and Human Services Agency Data De-Identification Guidelines (DDG). For further explanation, see the Technical Notes.

Thematic maps of California showing the 58 counties were created for each health indicator, providing the additional visual comparison of rates or percentages from the health indicator. These maps are presented alongside a brief description of the highlights and changes over time for that specific health indicator.

Profiles 2023 is divided into four parts with tables published in separate Microsoft Excel workbooks. The public can access Tables 1–29, Table 30, and Appendix A on the Profiles webpage.

Most tables use the California Department of Finance (DOF), Demographic Research Unit population projections stratified by county, age, and sex released July 2021. For Tables 24A–24E, 25, and 27A–27B, average live births to residents are used as denominators. Rates developed for a current period of 2019–2021 and previous period of 2016–2018 use 2020 and 2017 DOF population estimates, respectively. The rates for HIV/AIDS (Table 20), however, are calculated for a current period of 2018–2020 and previous period of 2015–2017 and use 2019 and 2016 DOF population estimates. Birth cohort infant mortality rates (Tables 24A–24E) are calculated for a current period of 2018–2020 and previous period of 2015–2017 using live births in the cohort as denominator.

The following CDPH programs provided data for this annual report:

- Center for Health Statistics and Informatics;
- Office of AIDS, Surveillance Section;
- Division of Communicable Disease Control, STD Control Branch;
- Division of Communicable Disease Control, Tuberculosis Control Branch; and,
- Center for Family Health, Maternal, Child and Adolescent Health Division.

Estimates of persons under 18 years old in poverty were obtained from the U.S. Census Bureau Small Area Income and Poverty Estimates (SAIPE) Program.

To access electronic copies of this report, visit the Profiles webpage.

For computational purposes, data from this report can also be found on the California Health and Human Services Agency Open Data Portal in the Profiles dataset.

If you would like additional copies, have questions about this report, or desire additional state or county health status data and statistics, please contact:

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EXECUTIVE SUMMARY

The California Department of Public Health (CDPH) has produced *County Health Status Profiles* (*Profiles)* in collaboration with the California Conference of Local Health Officers (CCLHO) since 1993. The health indicators presented in *Profiles* are selected jointly by the CDPH and CCLHO. This series of reports represent a broad historical perspective on the health status of California's counties over a span of 31 years.

Profiles provides unique insights that raise awareness of some county health issues. The report presents selected public health indicators and provides California state and county rates or percentages for natality, mortality, infant mortality, and morbidity conditions, assisting the counties in identifying health disparities, inequities, and areas of progress. State and county data are ranked and compared with the target rates established for Healthy People 2030 (HP 2030) National Objectives, where available and applicable. The rates and percentages presented are based on a three-year average case count divided by the mid-year population or the average population for the measurement years: 2019–2021 for mortality, morbidity, and natality; and 2018–2020 for HIV/AIDS and infant mortality. *Profiles 2023* also presents rates and percentages for the previous three-year period, which refers to the measurement years: 2016–2018 for mortality and morbidity; and 2015–2017 for HIV/AIDS and infant mortality. The measurement years are in calendar years. It is worth noting that of the 27 measures presented in this report for which there were available and applicable Healthy People 2020 (HP 2020) National Objectives, California met or exceeded 15 of these HP 2020 goals.

Counties are ranked in order by increasing rates or percentages then by decreasing population size. The ranking of counties for prenatal care begun during the first trimester of pregnancy (Table 27A), adequate/adequate plus prenatal care (Table 27B), and breastfeeding initiation during early postpartum (Table 28), however, are done in order by decreasing percentages then by decreasing population size.

NOTABLE POINTS IN *PROFILES 2023*

Profiles 2023 displays statewide notable improvements for the following health indicators compared to the previous three-year period (Table 30):

- the mortality rate for influenza and pneumonia has decreased by about 21.8 percent (Table 11);
- lung cancer has a reduction in mortality rate by about 16.6 percent and chronic lower respiratory disease has a reduction in mortality rate by about 17.1 percent (Tables 4 and 12); and,
- a decrease in the number of births to adolescent mothers between the ages of 15 to 19 years old by about 28.0 percent (Table 26).

Profiles 2023 also reveals notable statewide increases in age-adjusted death rates for the following health indicators compared to the previous three-year period:

- the rate for deaths due to accidents or unintentional injuries has increased by about 30.7 percent (Table 14); and,
- the rate of drug overdose deaths has increased by about 76.9 percent (Table 19).

Profiles 2023 reveals an increase in the rates of most measured sexually transmitted infections compared to the previous three-year period:

- the prevalence of individuals living with HIV/AIDS among ages 13 years and older has increased by about 2.0 percent (Table 20);

- new cases of gonorrhea among females 15 to 44 years old have increased by about 21.0 percent (Table 22F);
- new cases of gonorrhea among males 15 to 44 years old have increased by about 11.1 percent (Table 22M);
- new cases of congenital syphilis have increased by about 92.3 percent (Table 23C);
- new cases of primary and secondary syphilis among females 15 to 44 years old have increased by about 73.4 percent (Table 23F); and,
- new cases of primary and secondary syphilis among the male population have increased by about 12.0 percent (Table 23M).

NOTABLE OUTLIERS

- The coronavirus disease 2019 (COVID-19) pandemic has affected the mortality rates for 2020 and 2021 by substantially increasing the number of deaths compared to previous years. Since the mortality data presented in *Profiles* are based on three-year averages, statewide annual mortality trends included in the new Appendix B provide context for some changes in three-year averages reported in *Profiles 2023*. The mortality health indicators in *Profiles* are based solely on the underlying cause of death. Deaths where COVID-19 was coded as the underlying cause of death are only included for all causes of death and are not included in any of the specific mortality health indicators. However, deaths where COVID-19 was listed as a significant condition contributing to death but not the underlying cause of death may be included for these health indicators.
- HIV/AIDS in Amador County: The prevalence of people living with HIV/AIDS among ages 13 years and older has remained high but has decreased by about 5.0 percent in Amador County, from 609.7 per 100,000, as reported in *Profiles 2022* (measurement years: 2017–2019) to 579.1 per 100,000 population for *Profiles 2023* (measurement years: 2018–2020). These values reflect the average prevalence for the corresponding three-year measurement period. The increased number in the transfer of inmates to Amador County in 2016 and 2017 has contributed largely to the observed increased rate.
- Alzheimer's disease in Santa Clara County: Mortality due to Alzheimer's disease has remained an area of high concern for California. As previously observed, Santa Clara continues to appear to have a substantial increase in deaths due to Alzheimer's compared to the age-adjusted death rate in the previous period, from 11.5 to 22.2 deaths per 100,000 population. This is a pre-existing outlier, and this increase is due to a change in reporting beginning in 2016 that is more in line with the rest of the counties or statewide standard of Alzheimer's diagnosis.

VALUES UNIQUE TO CALIFORNIA

California-specific data are used to create *Profiles*. While most of these data types are also sent to the federal government, standardization issues and other factors mean their availability in a national dataset is often delayed. As a result, *Profiles* typically provides more current data than similar national reports. Due to technical variations in collection and/or estimation, there may be slight differences between numbers for California-specific data versus the national level (an example would be population estimates from California Department of Finance versus those of the U.S. Census Bureau).

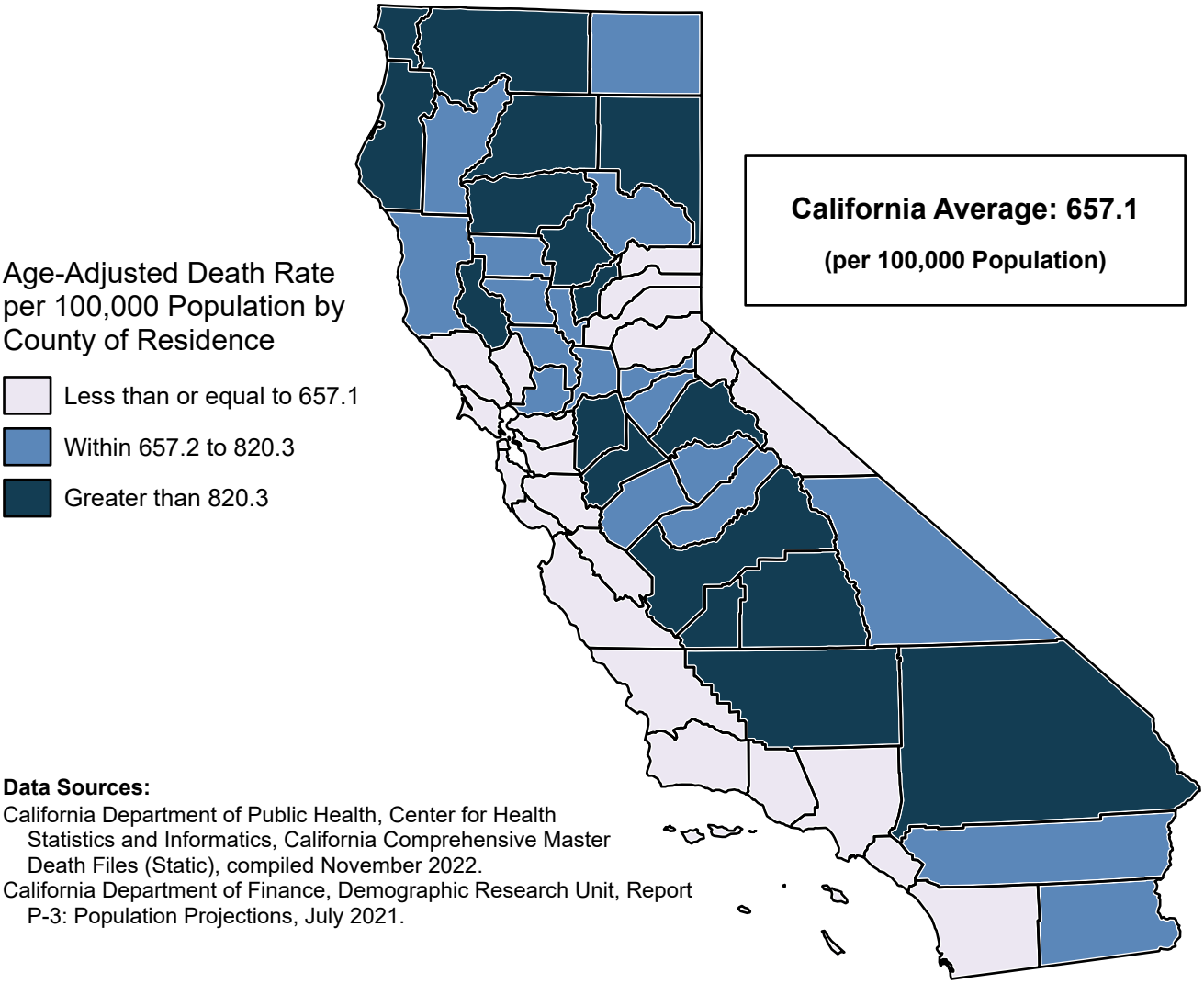
MORTALITY

This section presents maps and highlights for nineteen mortality health indicators that are included in Tables 1–19. Rates are reported per 100,000 corresponding mid-year population.

Mortality Health Indicator	Table
Deaths Due to All Causes	1
Deaths Due to All Cancers	2
Deaths Due to Colorectal Cancer	3
Deaths Due to Lung Cancer	4
Deaths Due to Female Breast Cancer	5
Deaths Due to Prostate Cancer	6
Deaths Due to Diabetes	7
Deaths Due to Alzheimer's Disease	8
Deaths Due to Coronary Heart Disease	9
Deaths Due to Cerebrovascular Disease (Stroke)	10
Deaths Due to Influenza and Pneumonia	11
Deaths Due to Chronic Lower Respiratory Disease	12
Deaths Due to Chronic Liver Disease and Cirrhosis	13
Deaths Due to Accidents (Unintentional Injuries)	14
Deaths Due to Motor Vehicle Traffic Crashes	15
Deaths Due to Suicide	16
Deaths Due to Homicide	17
Firearm Related Deaths	18
Drug Overdose Deaths	19

Tables 1–29 are available as a separate file on the *Profiles* webpage and Open Data Portal dataset.

DEATHS DUE TO ALL CAUSES, 2019–2021



Data Sources:
California Department of Public Health, Center for Health Statistics and Informatics, California Comprehensive Master Death Files (Static), compiled November 2022.
California Department of Finance, Demographic Research Unit, Report P-3: Population Projections, July 2021.

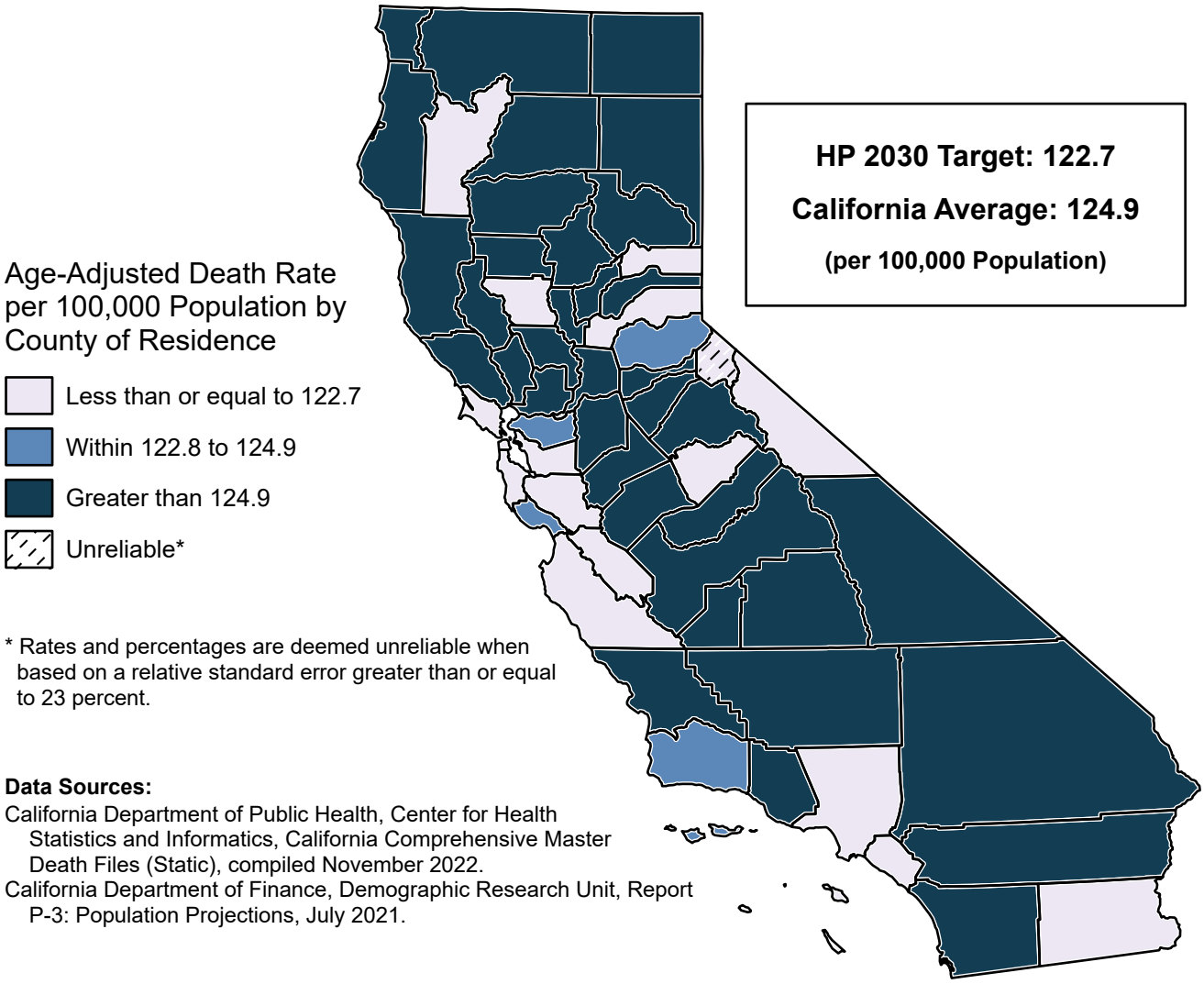
The crude death rate from all causes for California averaged 774.0 deaths per 100,000 population. The crude death rate resulted from averaging the number of deaths for 2019 to 2021 and dividing by the 2020 population count. The average number of deaths for the three years was 307,931.0 with a population count of 39,782,419 as of July 1, 2020. Among counties with reliable rates, the crude death rate ranged from a high of 1,504.1 in Siskiyou County to a low of 426.4 in Mono County, a factor of 3.5 to 1 (see Table 1).

The age-adjusted death rate from all causes for California during the 2019 through 2021 three-year period averaged 657.1 deaths per 100,000 population. The reliable age-adjusted death rate ranged from a high of 985.4 in Shasta County to a low of 459.7 in San Mateo County.

A Healthy People 2030 National Objective for deaths due to all causes has not been established.

The California age-adjusted death rate from all causes for the 2016 to 2018 period averaged 611.7 per 100,000 population.

DEATHS DUE TO ALL CANCERS, 2019–2021



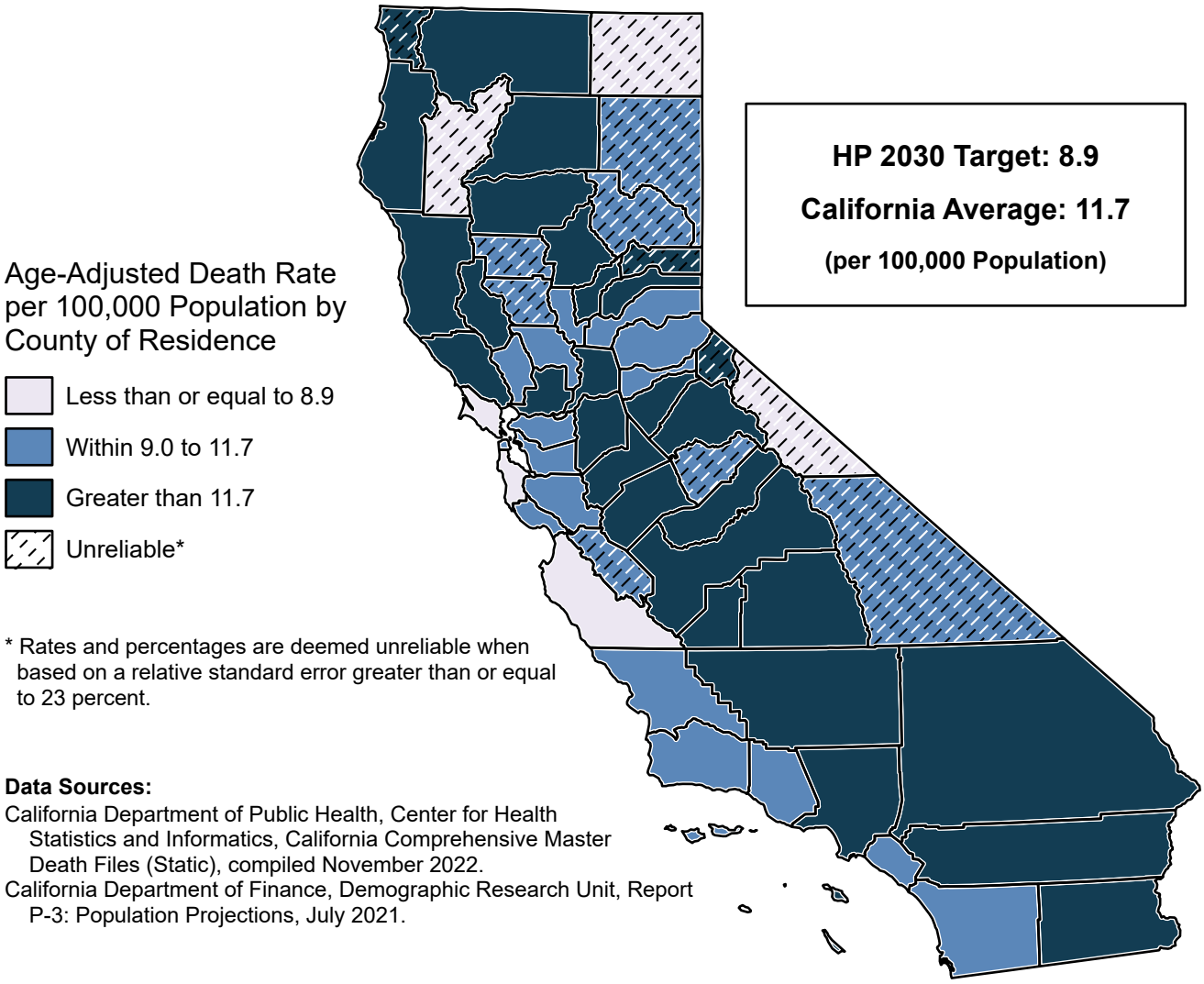
The crude death rate from all cancers for California averaged 149.9 deaths per 100,000 population. The crude death rate resulted from averaging the number of deaths for 2019 to 2021 and dividing by the 2020 population count. The average number of deaths for the three years was 59,641.0 with a population count of 39,782,419 as of July 1, 2020. Among counties with reliable rates, the crude death rate ranged from a high of 314.4 in Siskiyou County to a low of 81.8 in Mono County, a factor of 3.8 to 1 (see Table 2).

The age-adjusted death rate from all cancers for California during the 2019 through 2021 three-year period averaged 124.9 deaths per 100,000 population. The reliable age-adjusted death rate ranged from a high of 181.9 in Del Norte County to a low of 55.7 in Mono County.

Sixteen counties with reliable rates met the Healthy People 2030 National Objective C-01 of no more than 122.7 age-adjusted deaths due to all cancers per 100,000 population. An additional county with an unreliable rate met the objective. California as a whole did not meet the national objective for deaths due to all cancers.

The California age-adjusted death rate from all cancers for the 2016 to 2018 period averaged 135.1 per 100,000 population.

DEATHS DUE TO COLORECTAL CANCER, 2019–2021



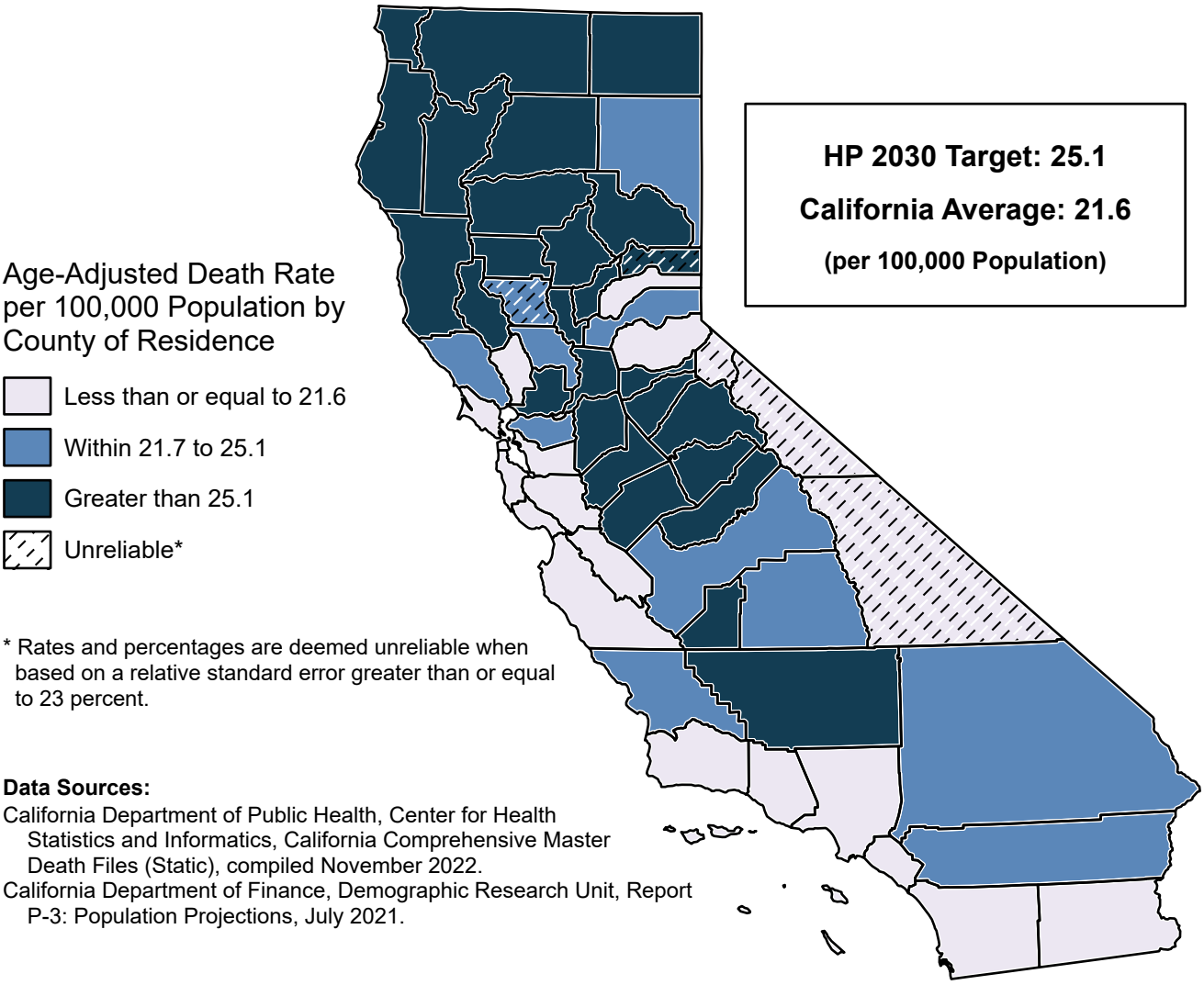
The crude death rate from colorectal cancer for California averaged 14.0 deaths per 100,000 population. The crude death rate resulted from averaging the number of deaths for 2019 to 2021 and dividing by the 2020 population count. The average number of deaths for the three years was 5,556.7 with a population count of 39,782,419 as of July 1, 2020. Among counties with reliable rates, the crude death rate ranged from a high of 28.9 in Siskiyou County to a low of 9.7 in Monterey County, a factor of 3.0 to 1 (see Table 3).

The age-adjusted death rate from colorectal cancer for California during the 2019 through 2021 three-year period averaged 11.7 deaths per 100,000 population. The reliable age-adjusted death rate ranged from a high of 19.5 in Tehama County to a low of 7.8 in San Mateo County.

Three counties with reliable rates met the Healthy People 2030 National Objective C-06 of no more than 8.9 age-adjusted deaths due to colorectal cancer per 100,000 population. An additional three counties with unreliable rates met the objective. California as a whole did not meet the national objective for deaths due to colorectal cancer.

The California age-adjusted death rate from colorectal cancer for the 2016 to 2018 period averaged 12.3 per 100,000 population.

DEATHS DUE TO LUNG CANCER, 2019–2021



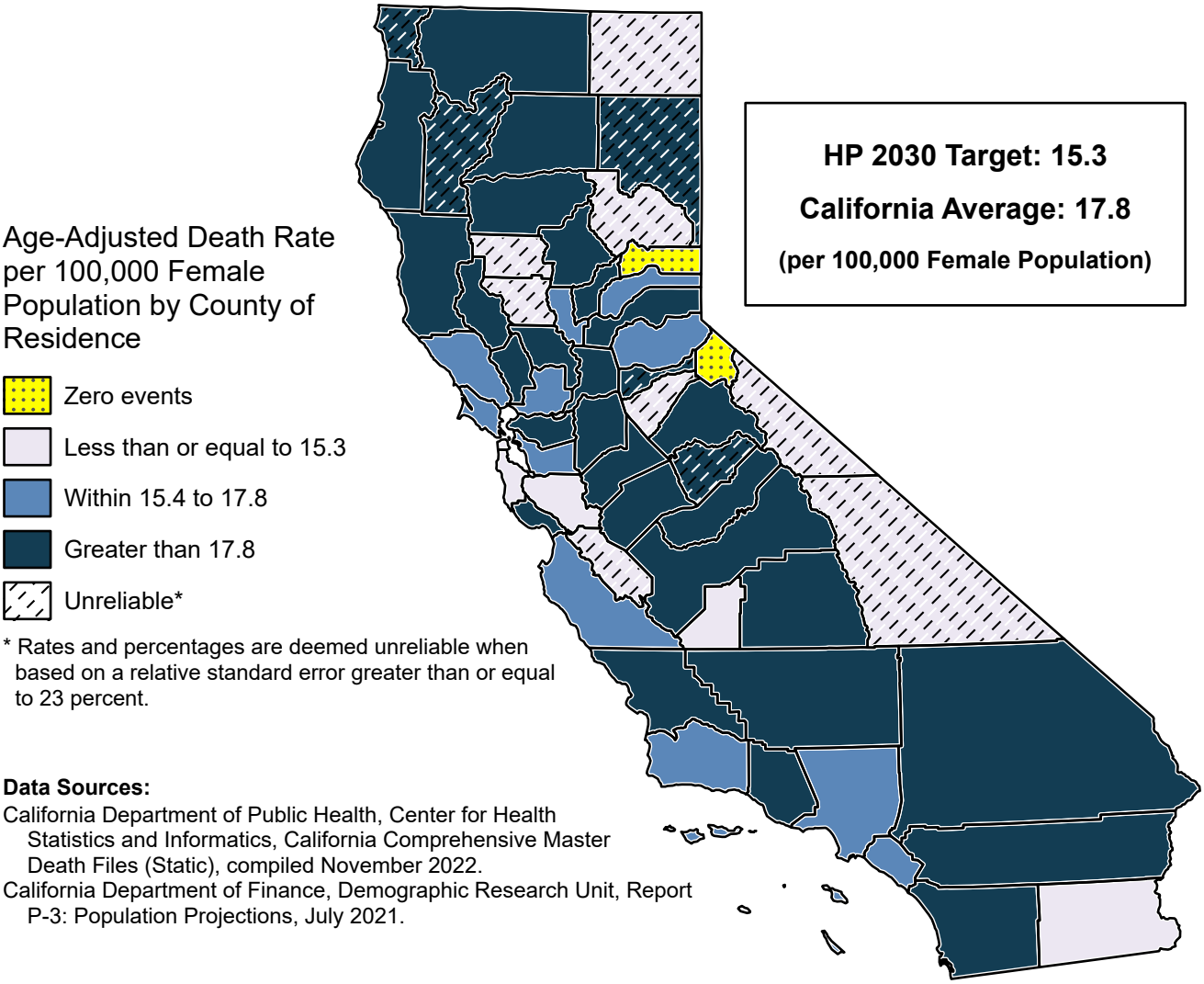
The crude death rate from lung cancer for California averaged 26.3 deaths per 100,000 population. The crude death rate resulted from averaging the number of deaths for 2019 to 2021 and dividing by the 2020 population count. The average number of deaths for the three years was 10,446.3 with a population count of 39,782,419 as of July 1, 2020. Among counties with reliable rates, the crude death rate ranged from a high of 85.0 in Modoc County to a low of 17.0 in Imperial County, a factor of 5.0 to 1 (see Table 4).

The age-adjusted death rate from lung cancer for California during the 2019 through 2021 three-year period averaged 21.6 deaths per 100,000 population. The reliable age-adjusted death rate ranged from a high of 48.2 in Del Norte County to a low of 15.6 in Marin County.

Twenty-seven counties with reliable rates and California as a whole met the Healthy People 2030 National Objective C-02 of no more than 25.1 age-adjusted deaths due to lung cancer per 100,000 population. An additional four counties with unreliable rates met the objective.

The California age-adjusted death rate from lung cancer for the 2016 to 2018 period averaged 25.9 per 100,000 population.

DEATHS DUE TO FEMALE BREAST CANCER, 2019–2021



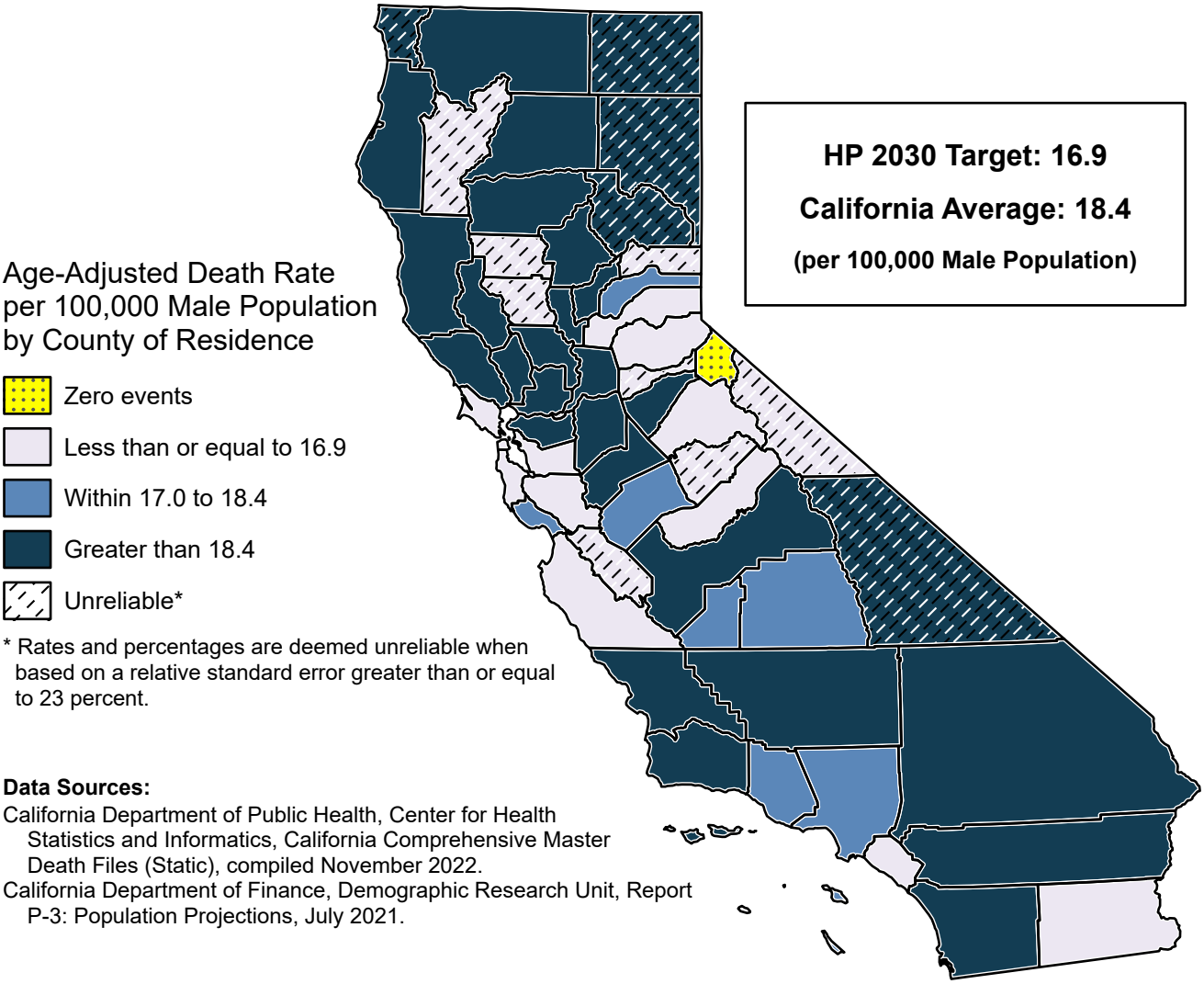
The crude death rate from female breast cancer for California averaged 22.6 deaths per 100,000 female population. The crude death rate resulted from averaging the number of deaths for 2019 to 2021 and dividing by the 2020 female population count. The average number of deaths for the three years was 4,510.7 with a female population count of 19,930,863 as of July 1, 2020. Among counties with reliable rates, the crude death rate ranged from a high of 43.8 in Siskiyou County to a low of 11.0 in Kings County, a factor of 4.0 to 1 (see Table 5).

The age-adjusted death rate from female breast cancer for California during the 2019 through 2021 three-year period averaged 17.8 deaths per 100,000 female population. The reliable age-adjusted death rate ranged from a high of 25.9 in Humboldt County to a low of 12.9 in San Francisco County and Kings County.

Five counties with reliable rates met the Healthy People 2030 National Objective C-04 of no more than 15.3 age-adjusted deaths due to female breast cancer per 100,000 female population. An additional eight counties with unreliable rates and two counties with zero deaths due to female breast cancer met the objective. California as a whole did not meet the national objective for deaths due to female breast cancer.

The California age-adjusted death rate from female breast cancer for the 2016 to 2018 period averaged 18.8 per 100,000 female population.

DEATHS DUE TO PROSTATE CANCER, 2019–2021



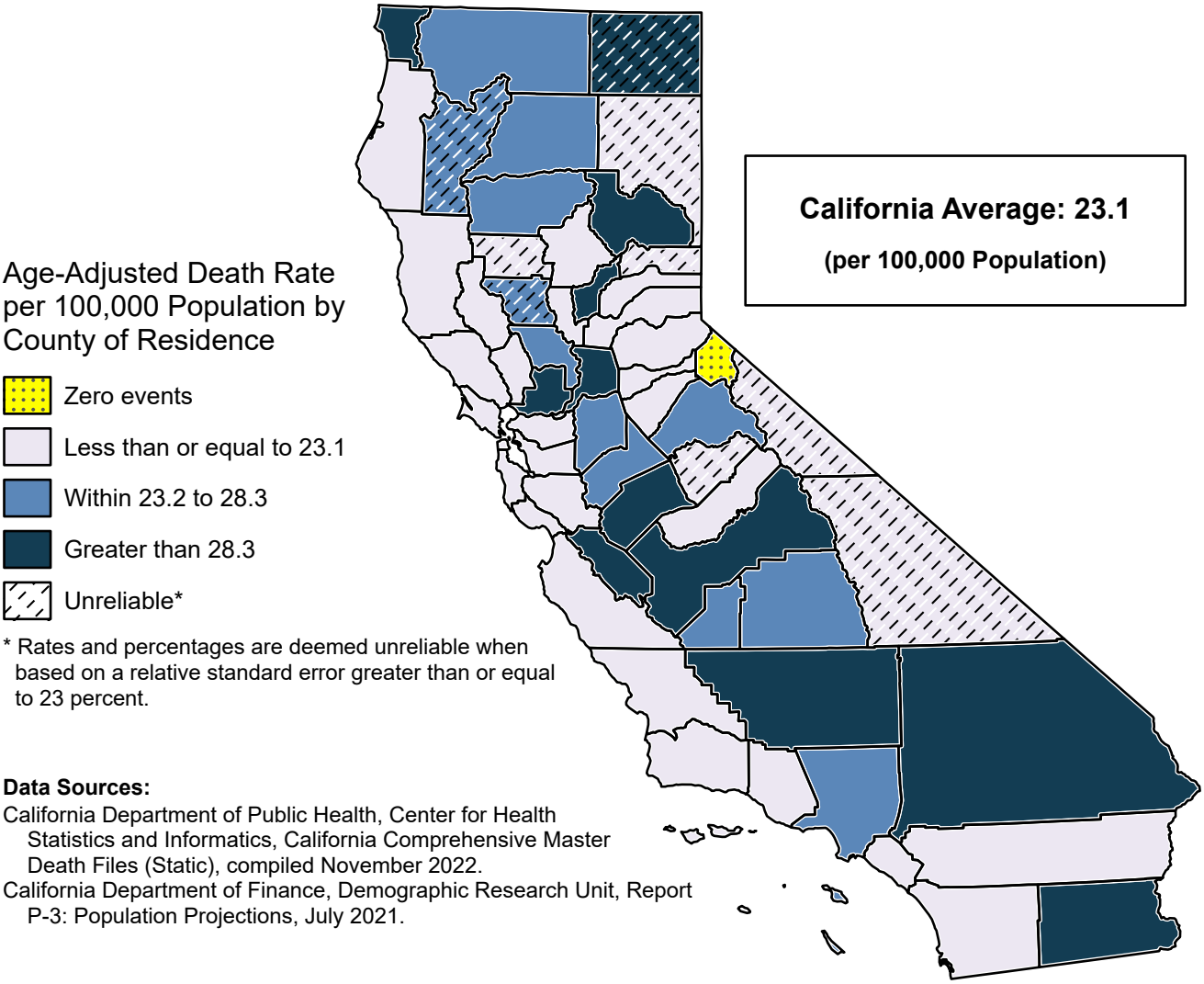
The crude death rate from prostate cancer for California averaged 18.8 deaths per 100,000 male population. The crude death rate resulted from averaging the number of deaths for 2019 to 2021 and dividing by the 2020 male population count. The average number of deaths for the three years was 3,740.7 with a male population count of 19,851,556 as of July 1, 2020. Among counties with reliable rates, the crude death rate ranged from a high of 42.3 in Calaveras County to a low of 11.4 in Kings County, a factor of 3.7 to 1 (see Table 6).

The age-adjusted death rate from prostate cancer for California during the 2019 through 2021 three-year period averaged 18.4 deaths per 100,000 male population. The reliable age-adjusted death rate ranged from a high of 29.1 in Humboldt County to a low of 12.8 in Madera County.

Twelve counties with reliable rates met the Healthy People 2030 National Objective C-08 of no more than 16.9 age-adjusted deaths due to prostate cancer per 100,000 male population. An additional eight counties with unreliable rates and one county with zero deaths due to prostate cancer met the objective. California as a whole did not meet the national objective for deaths due to prostate cancer.

The California age-adjusted death rate from prostate cancer for the 2016 to 2018 period averaged 19.7 per 100,000 male population.

DEATHS DUE TO DIABETES, 2019–2021



Data Sources:
California Department of Public Health, Center for Health Statistics and Informatics, California Comprehensive Master Death Files (Static), compiled November 2022.
California Department of Finance, Demographic Research Unit, Report P-3: Population Projections, July 2021.

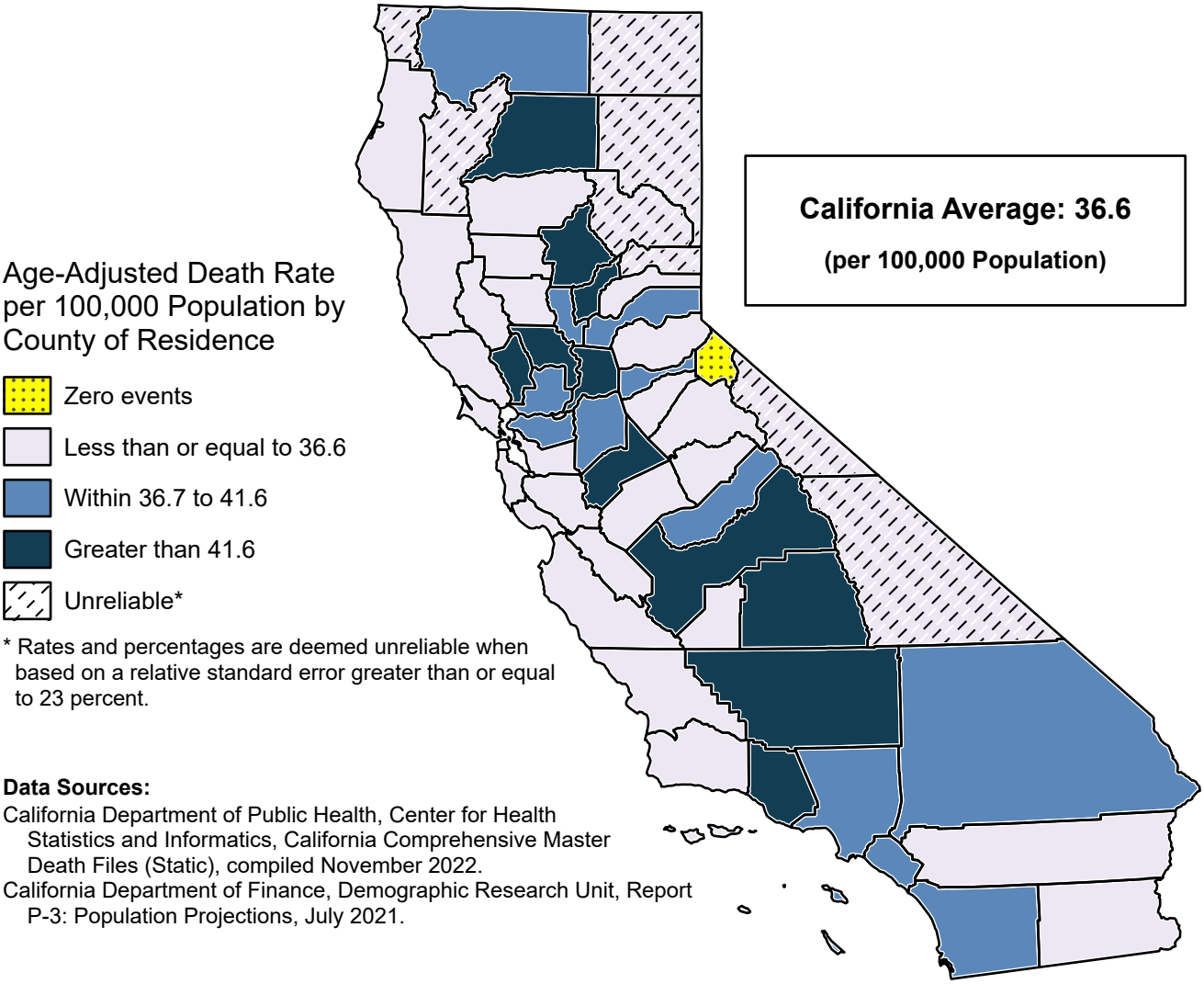
The crude death rate from diabetes for California averaged 27.6 deaths per 100,000 population. The crude death rate resulted from averaging the number of deaths for 2019 to 2021 and dividing by the 2020 population count. The average number of deaths for the three years was 10,993.7 with a population count of 39,782,419 as of July 1, 2020. Among counties with reliable rates, the crude death rate ranged from a high of 60.3 in Plumas County to a low of 11.3 in Marin County, a factor of 5.3 to 1 (see Table 7).

The age-adjusted death rate from diabetes for California during the 2019 through 2021 three-year period averaged 23.1 deaths per 100,000 population. The reliable age-adjusted death rate ranged from a high of 46.9 in Kern County to a low of 6.5 in Marin County.

A Healthy People 2030 National Objective for deaths due to diabetes has not been established.

The California age-adjusted death rate from diabetes for the 2016 to 2018 period averaged 21.4 per 100,000 population.

DEATHS DUE TO ALZHEIMER'S DISEASE, 2019–2021



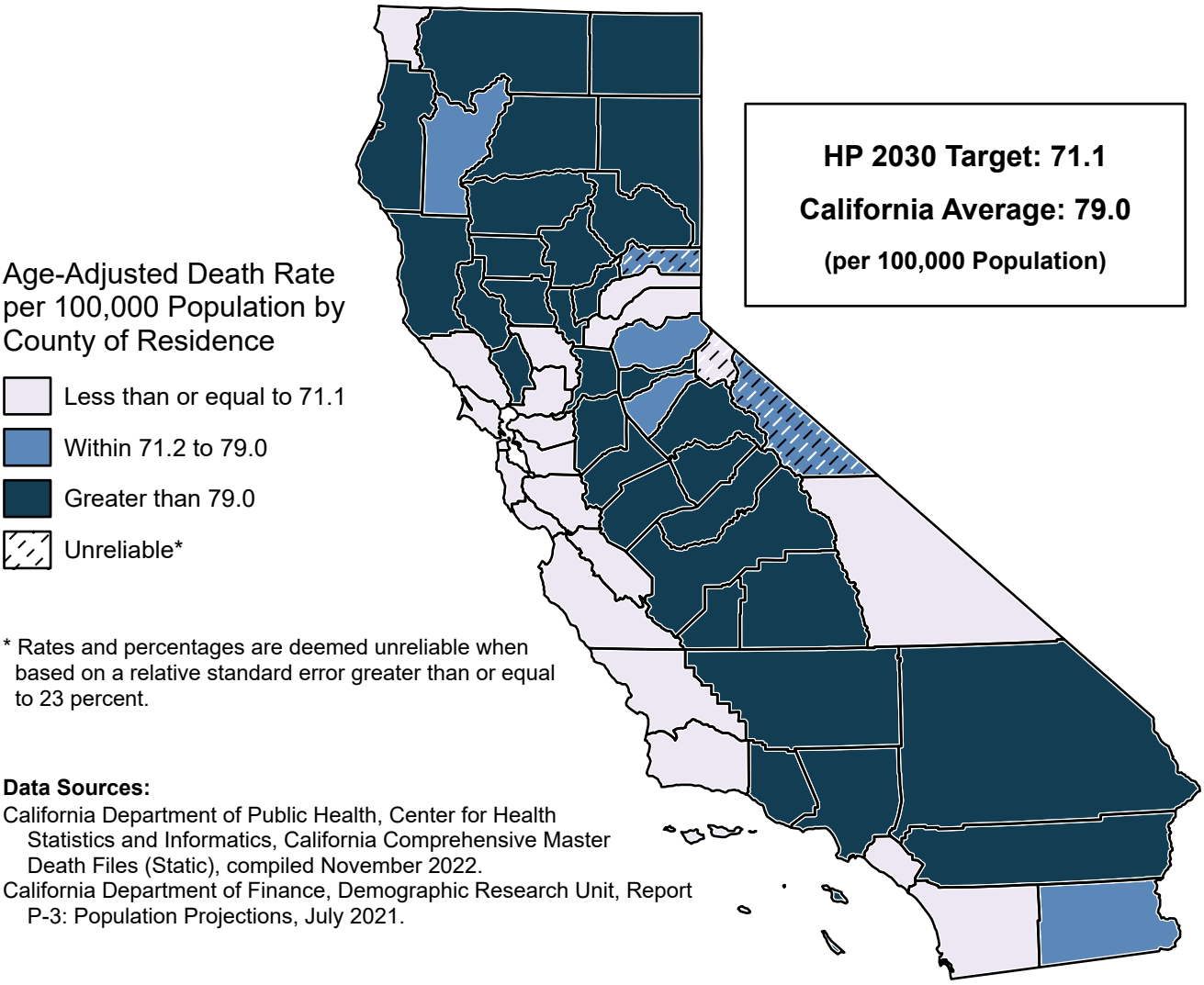
The crude death rate from Alzheimer's disease for California averaged 44.1 deaths per 100,000 population. The crude death rate resulted from averaging the number of deaths for 2019 to 2021 and dividing by the 2020 population count. The average number of deaths for the three years was 17,530.0 with a population count of 39,782,419 as of July 1, 2020. Among counties with reliable rates, the crude death rate ranged from a high of 89.1 in Shasta County to a low of 18.6 in Humboldt County, a factor of 4.8 to 1 (see Table 8).

The age-adjusted death rate from Alzheimer's disease for California during the 2019 through 2021 three-year period averaged 36.6 deaths per 100,000 population. The reliable age-adjusted death rate ranged from a high of 59.1 in Shasta County to a low of 13.2 in Mendocino County.

A Healthy People 2030 National Objective for deaths due to Alzheimer's disease has not been established.

The California age-adjusted death rate from Alzheimer's disease for the 2016 to 2018 period averaged 37.1 per 100,000 population.

DEATHS DUE TO CORONARY HEART DISEASE, 2019–2021



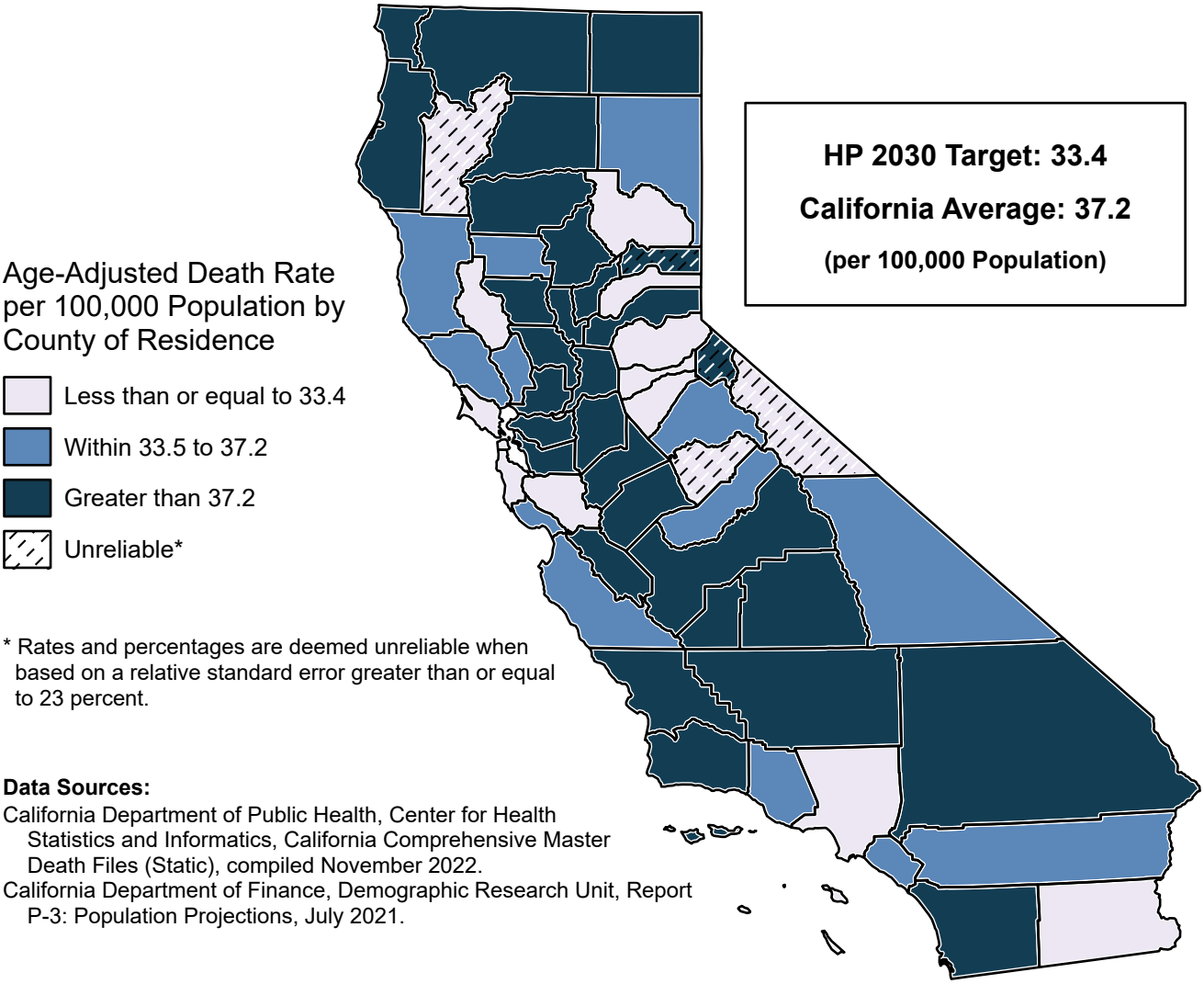
The crude death rate from coronary heart disease for California averaged 95.8 deaths per 100,000 population. The crude death rate resulted from averaging the number of deaths for 2019 to 2021 and dividing by the 2020 population count. The average number of deaths for the three years was 38,102.3 with a population count of 39,782,419 as of July 1, 2020. Among counties with reliable rates, the crude death rate ranged from a high of 222.7 in Amador County to a low of 47.2 in San Benito County, a factor of 4.7 to 1 (see Table 9).

The age-adjusted death rate from coronary heart disease for California during the 2019 through 2021 three-year period averaged 79.0 deaths per 100,000 population. The reliable age-adjusted death rate ranged from a high of 118.4 in Amador County to a low of 44.7 in Marin County.

Twenty counties with reliable rates met the Healthy People 2030 National Objective HDS-02 of no more than 71.1 age-adjusted deaths due to coronary heart disease per 100,000 population. An additional county with an unreliable rate met the objective. California as a whole did not meet the national objective for deaths due to coronary heart disease.

The California age-adjusted death rate from coronary heart disease for the 2016 to 2018 period averaged 85.6 per 100,000 population.

DEATHS DUE TO CEREBROVASCULAR DISEASE (STROKE), 2019–2021



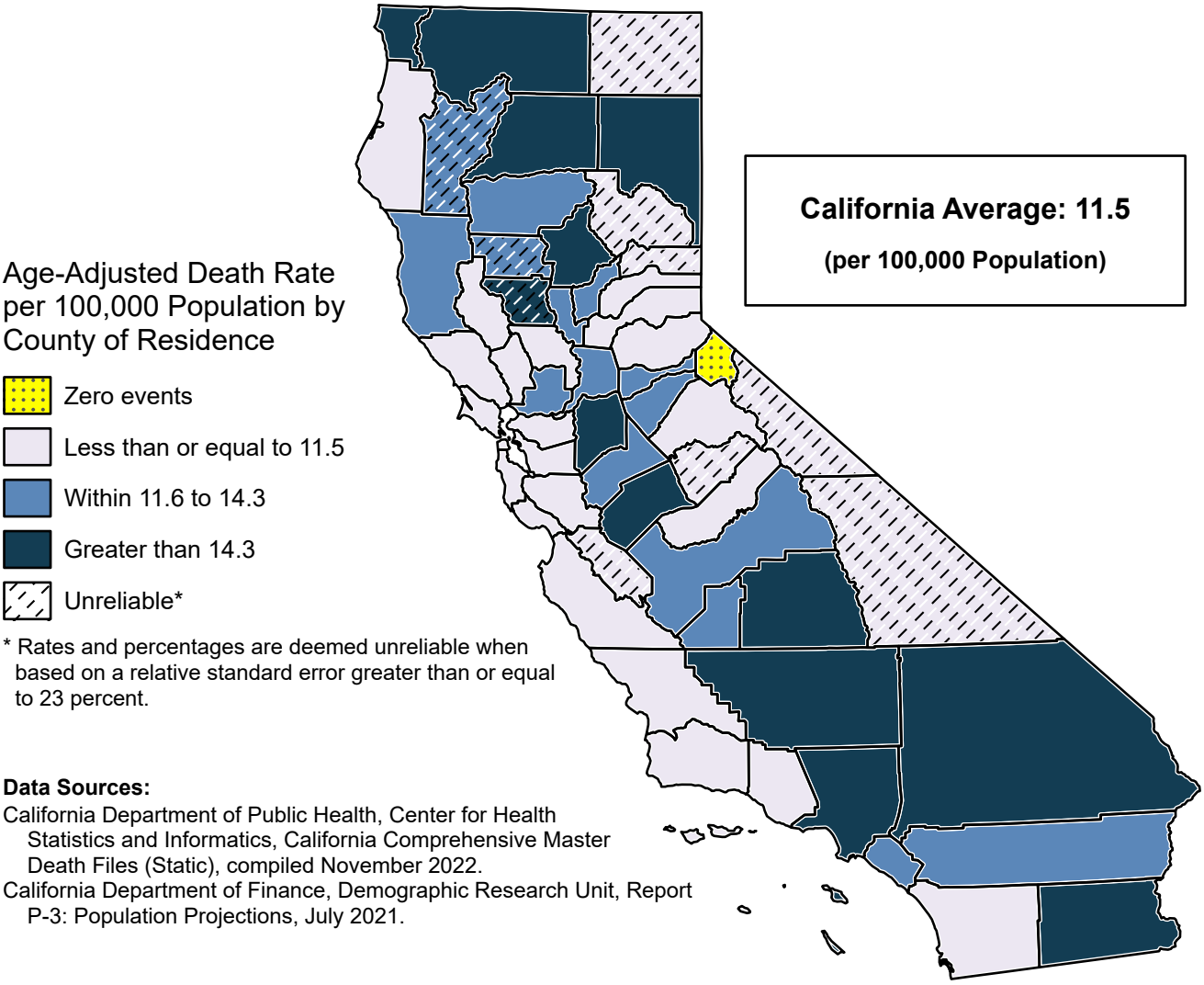
The crude death rate from cerebrovascular disease for California averaged 44.6 deaths per 100,000 population. The crude death rate resulted from averaging the number of deaths for 2019 to 2021 and dividing by the 2020 population count. The average number of deaths for the three years was 17,729.0 with a population count of 39,782,419 as of July 1, 2020. Among counties with reliable rates, the crude death rate ranged from a high of 126.3 in Humboldt County to a low of 29.8 in Imperial County, a factor of 4.2 to 1 (see Table 10).

The age-adjusted death rate from cerebrovascular disease for California during the 2019 through 2021 three-year period averaged 37.2 deaths per 100,000 population. The reliable age-adjusted death rate ranged from a high of 97.6 in Humboldt County to a low of 25.5 in Calaveras County.

Twelve counties with reliable rates met the Healthy People 2030 National Objective HDS-03 of no more than 33.4 age-adjusted deaths due to cerebrovascular disease per 100,000 population. An additional three counties with unreliable rates met the objective. California as a whole did not meet the national objective for deaths due to cerebrovascular disease.

The California age-adjusted death rate from cerebrovascular disease for the 2016 to 2018 period averaged 37.1 per 100,000 population.

DEATHS DUE TO INFLUENZA AND PNEUMONIA, 2019–2021



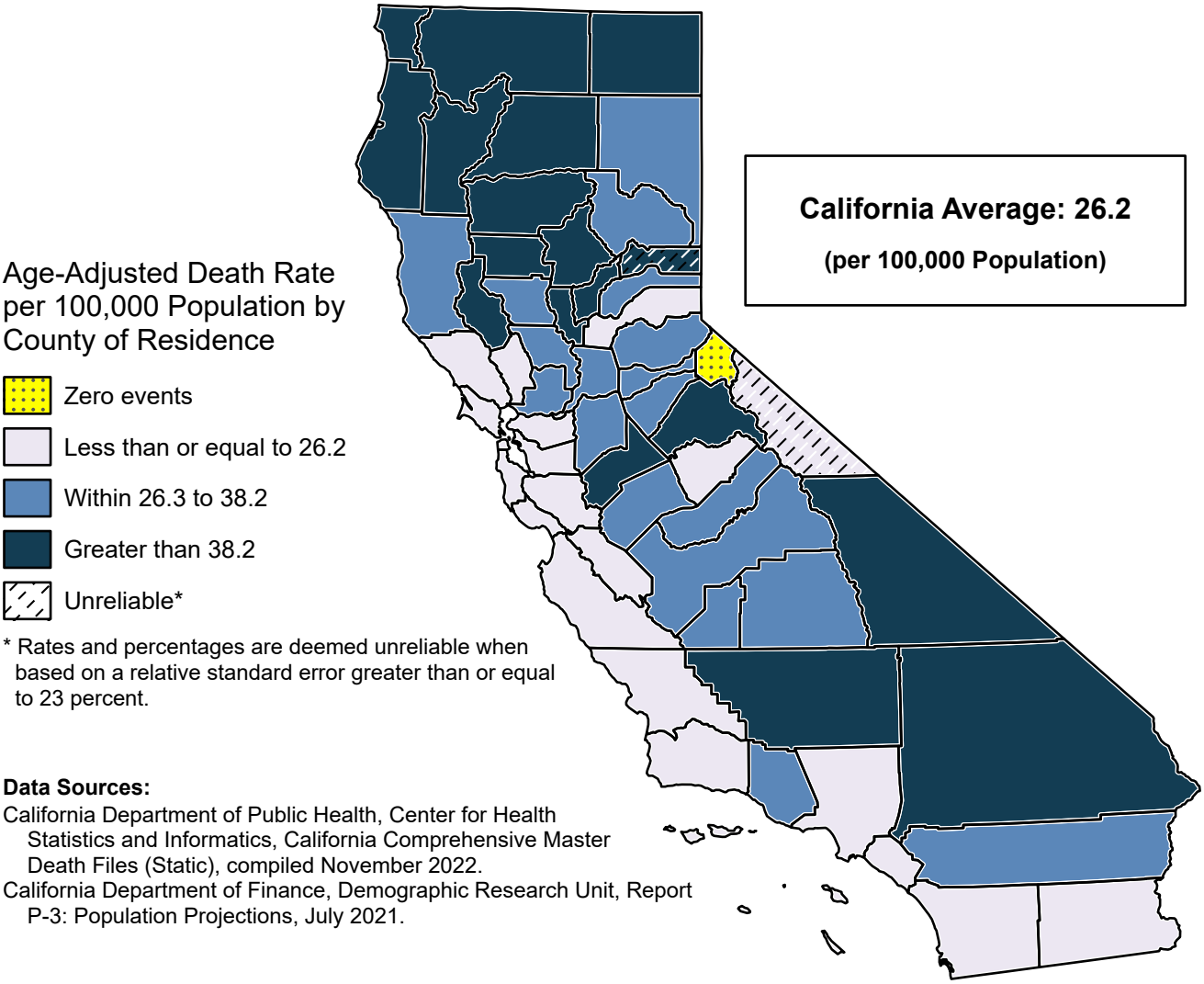
The crude death rate from influenza and pneumonia for California averaged 13.7 deaths per 100,000 population. The crude death rate resulted from averaging the number of deaths for 2019 to 2021 and dividing by the 2020 population count. The average number of deaths for the three years was 5,464.0 with a population count of 39,782,419 as of July 1, 2020. Among counties with reliable rates, the crude death rate ranged from a high of 30.6 in Del Norte County to a low of 7.5 in San Diego County, a factor of 4.1 to 1 (see Table 11).

The age-adjusted death rate from influenza and pneumonia for California during the 2019 through 2021 three-year period averaged 11.5 deaths per 100,000 population. The reliable age-adjusted death rate ranged from a high of 23.1 in Lassen County to a low of 5.8 in San Mateo County.

A Healthy People 2030 National Objective for deaths due to influenza and pneumonia has not been established.

The California age-adjusted death rate from influenza and pneumonia for the 2016 to 2018 period averaged 14.7 per 100,000 population.

DEATHS DUE TO CHRONIC LOWER RESPIRATORY DISEASE, 2019–2021



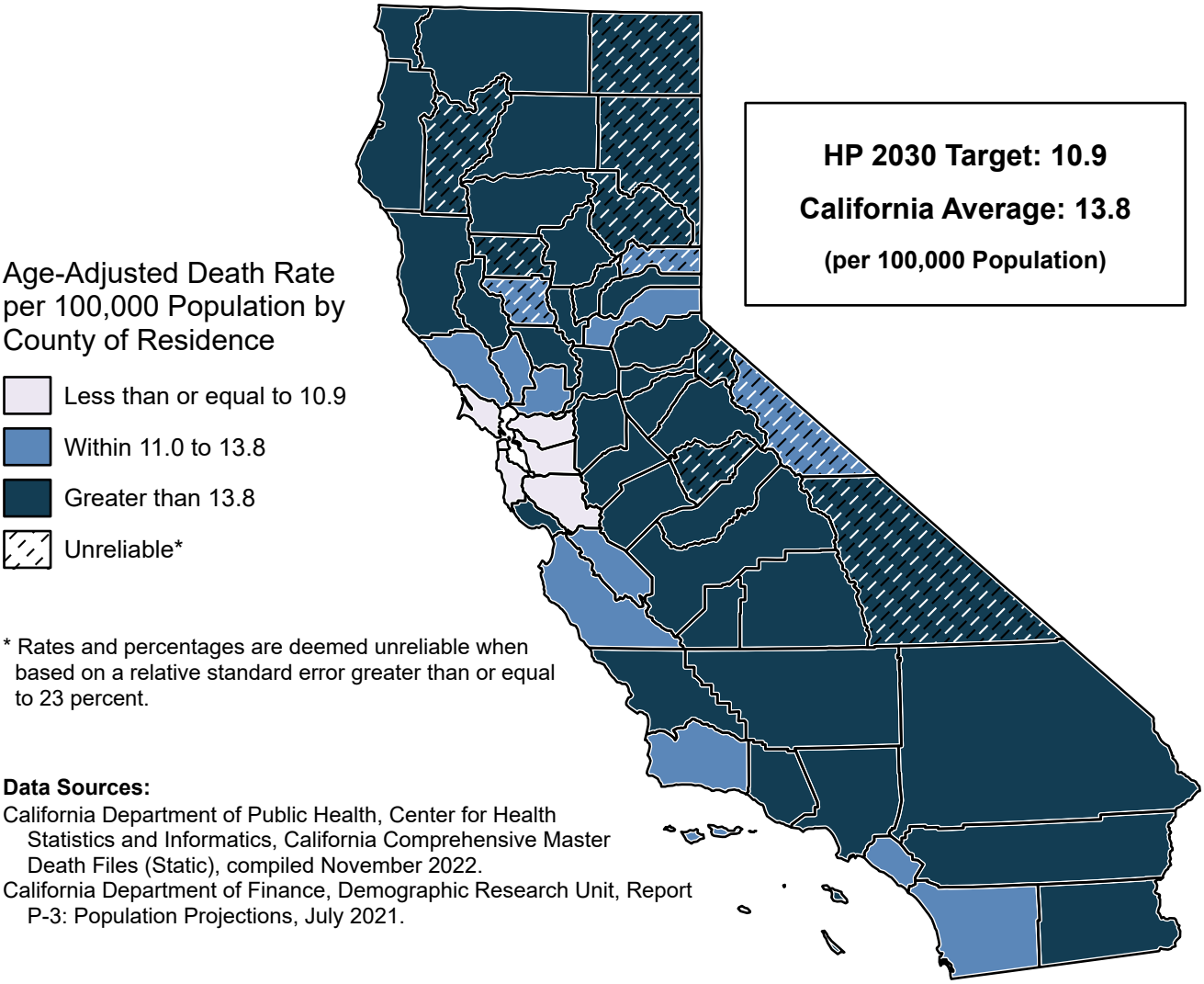
The crude death rate from chronic lower respiratory disease for California averaged 31.5 deaths per 100,000 population. The crude death rate resulted from averaging the number of deaths for 2019 to 2021 and dividing by the 2020 population count. The average number of deaths for the three years was 12,536.0 with a population count of 39,782,419 as of July 1, 2020. Among counties with reliable rates, the crude death rate ranged from a high of 107.3 in Siskiyou County to a low of 15.1 in Santa Clara County, a factor of 7.1 to 1 (see Table 12).

The age-adjusted death rate from chronic lower respiratory disease for California during the 2019 through 2021 three-year period averaged 26.2 deaths per 100,000 population. The reliable age-adjusted death rate ranged from a high of 60.4 in Shasta County to a low of 12.3 in Santa Clara County.

A Healthy People 2030 National Objective for deaths due to chronic lower respiratory disease has not been established.

The California age-adjusted death rate from chronic lower respiratory disease for the 2016 to 2018 period averaged 31.6 per 100,000 population.

DEATHS DUE TO CHRONIC LIVER DISEASE AND CIRRHOSIS, 2019–2021



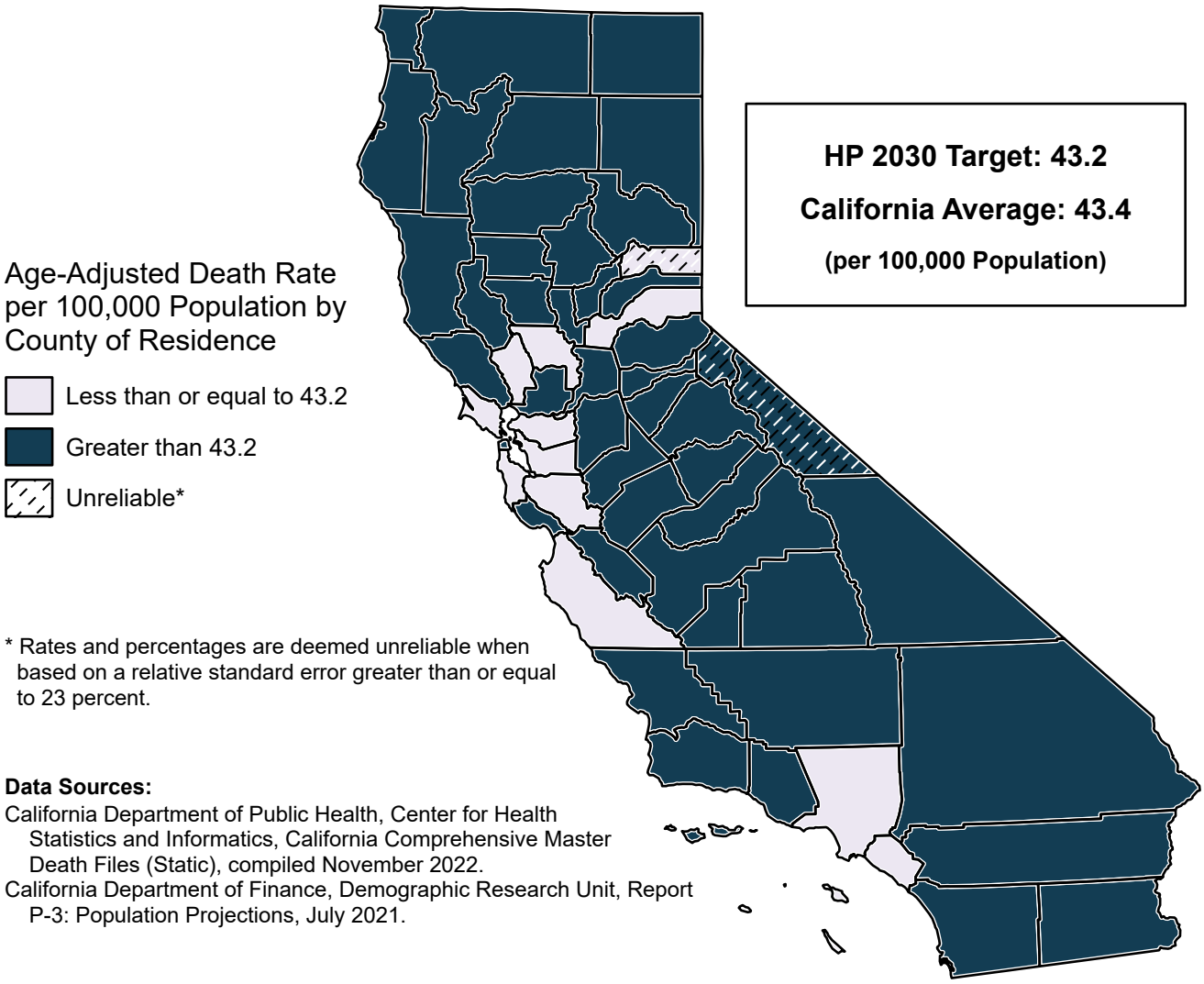
The crude death rate from chronic liver disease and cirrhosis for California averaged 15.8 deaths per 100,000 population. The crude death rate resulted from averaging the number of deaths for 2019 to 2021 and dividing by the 2020 population count. The average number of deaths for the three years was 6,289.3 with a population count of 39,782,419 as of July 1, 2020. Among counties with reliable rates, the crude death rate ranged from a high of 65.3 in Lake County to a low of 8.6 in Santa Clara County, a factor of 7.6 to 1 (see Table 13).

The age-adjusted death rate from chronic liver disease and cirrhosis for California during the 2019 through 2021 three-year period averaged 13.8 deaths per 100,000 population. The reliable age-adjusted death rate ranged from a high of 54.0 in Lake County to a low of 7.4 in Santa Clara County.

Six counties with reliable rates met the Healthy People 2030 National Objective SU-02 of no more than 10.9 age-adjusted deaths due to chronic liver disease and cirrhosis per 100,000 population. California as a whole did not meet the national objective for deaths due to chronic liver disease and cirrhosis.

The California age-adjusted death rate from chronic liver disease and cirrhosis for the 2016 to 2018 period averaged 12.0 per 100,000 population.

DEATHS DUE TO ACCIDENTS (UNINTENTIONAL INJURIES), 2019–2021



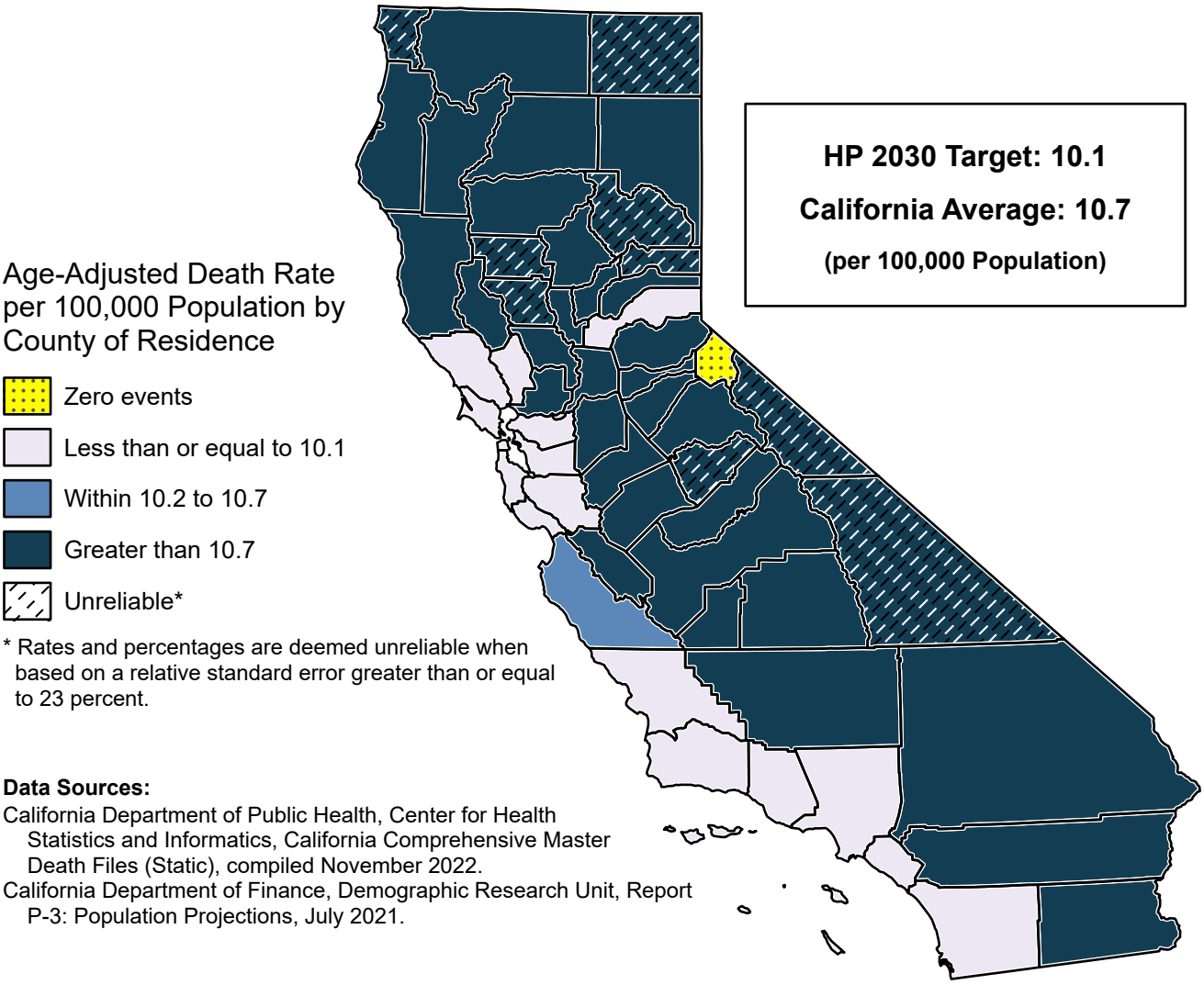
The crude death rate from accidents for California averaged 45.6 deaths per 100,000 population. The crude death rate resulted from averaging the number of deaths for 2019 to 2021 and dividing by the 2020 population count. The average number of deaths for the three years was 18,138.3 with a population count of 39,782,419 as of July 1, 2020. Among counties with reliable rates, the crude death rate ranged from a high of 151.1 in Lake County to a low of 32.7 in San Mateo County, a factor of 4.6 to 1 (see Table 14).

The age-adjusted death rate from accidents for California during the 2019 through 2021 three-year period averaged 43.4 deaths per 100,000 population. The reliable age-adjusted death rate ranged from a high of 150.2 in Trinity County to a low of 28.9 in San Mateo County.

Eleven counties with reliable rates met the Healthy People 2030 National Objective IVP-03 of no more than 43.2 age-adjusted deaths due to accidents per 100,000 population. An additional county with an unreliable rate met the objective. California as a whole did not meet the national objective for deaths due to accidents.

The California age-adjusted death rate from accidents for the 2016 to 2018 period averaged 33.2 per 100,000 population.

DEATHS DUE TO MOTOR VEHICLE TRAFFIC CRASHES, 2019–2021



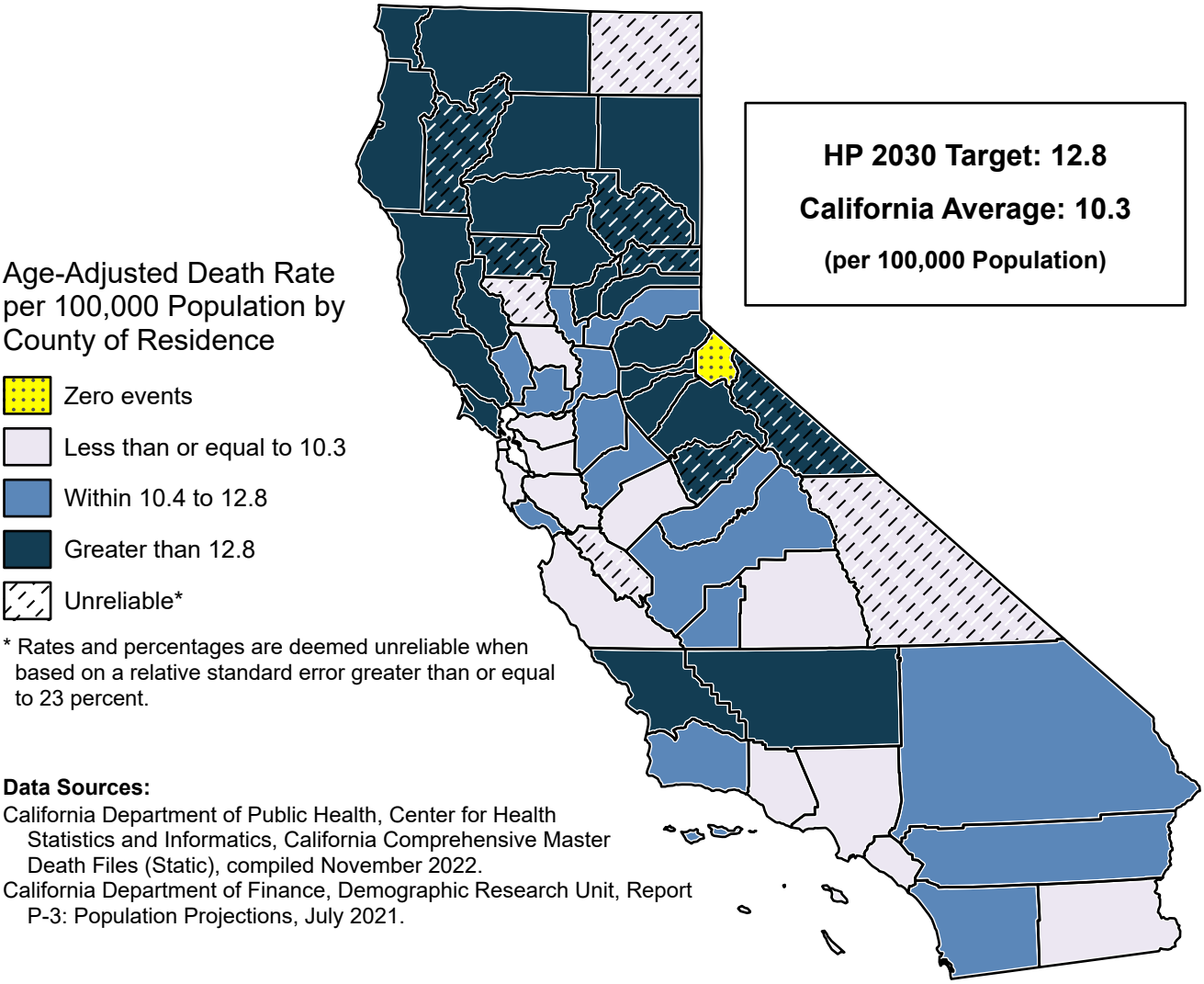
The crude death rate from motor vehicle traffic crashes for California averaged 11.0 deaths per 100,000 population. The crude death rate resulted from averaging the number of deaths for 2019 to 2021 and dividing by the 2020 population count. The average number of deaths for the three years was 4,362.7 with a population count of 39,782,419 as of July 1, 2020. Among counties with reliable rates, the crude death rate ranged from a high of 60.2 in Trinity County to a low of 4.3 in San Francisco County, a factor of 14.0 to 1 (see Table 15).

The age-adjusted death rate from motor vehicle traffic crashes for California during the 2019 through 2021 three-year period averaged 10.7 deaths per 100,000 population. The reliable age-adjusted death rate ranged from a high of 72.3 in Trinity County to a low of 3.8 in San Francisco County.

Sixteen counties with reliable rates met the Healthy People 2030 National Objective IVP-06 of no more than 10.1 age-adjusted deaths due to motor vehicle traffic crashes per 100,000 population. An additional county with zero deaths due to motor vehicle traffic crashes met the objective. California as a whole did not meet the national objective for deaths due to motor vehicle traffic crashes.

The California age-adjusted death rate from motor vehicle traffic crashes for the 2016 to 2018 period averaged 9.9 per 100,000 population.

DEATHS DUE TO SUICIDE, 2019–2021



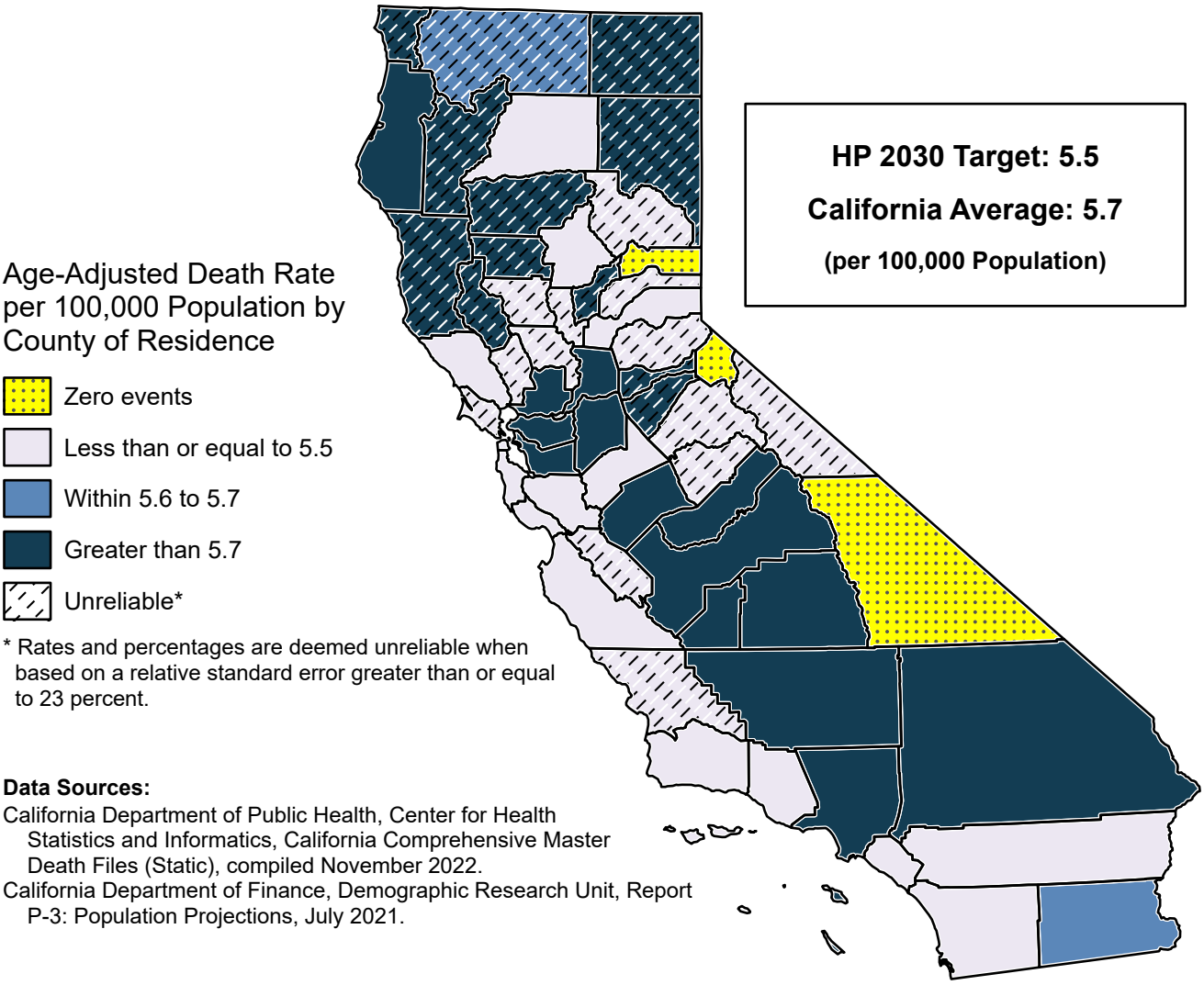
The crude death rate from suicide for California averaged 10.7 deaths per 100,000 population. The crude death rate resulted from averaging the number of deaths for 2019 to 2021 and dividing by the 2020 population count. The average number of deaths for the three years was 4,247.3 with a population count of 39,782,419 as of July 1, 2020. Among counties with reliable rates, the crude death rate ranged from a high of 35.5 in Amador County to a low of 6.0 in Imperial County, a factor of 5.9 to 1 (see Table 16).

The age-adjusted death rate from suicide for California during the 2019 through 2021 three-year period averaged 10.3 deaths per 100,000 population. The reliable age-adjusted death rate ranged from a high of 33.8 in Amador County to a low of 6.2 in Imperial County.

Twenty-eight counties with reliable rates and California as a whole met the Healthy People 2030 National Objective MHMD-01 of no more than 12.8 age-adjusted deaths due to suicide per 100,000 population. An additional four counties with unreliable rates and one county with zero deaths due to suicide met the objective.

The California age-adjusted death rate from suicide for the 2016 to 2018 period averaged 10.7 per 100,000 population.

DEATHS DUE TO HOMICIDE, 2019–2021



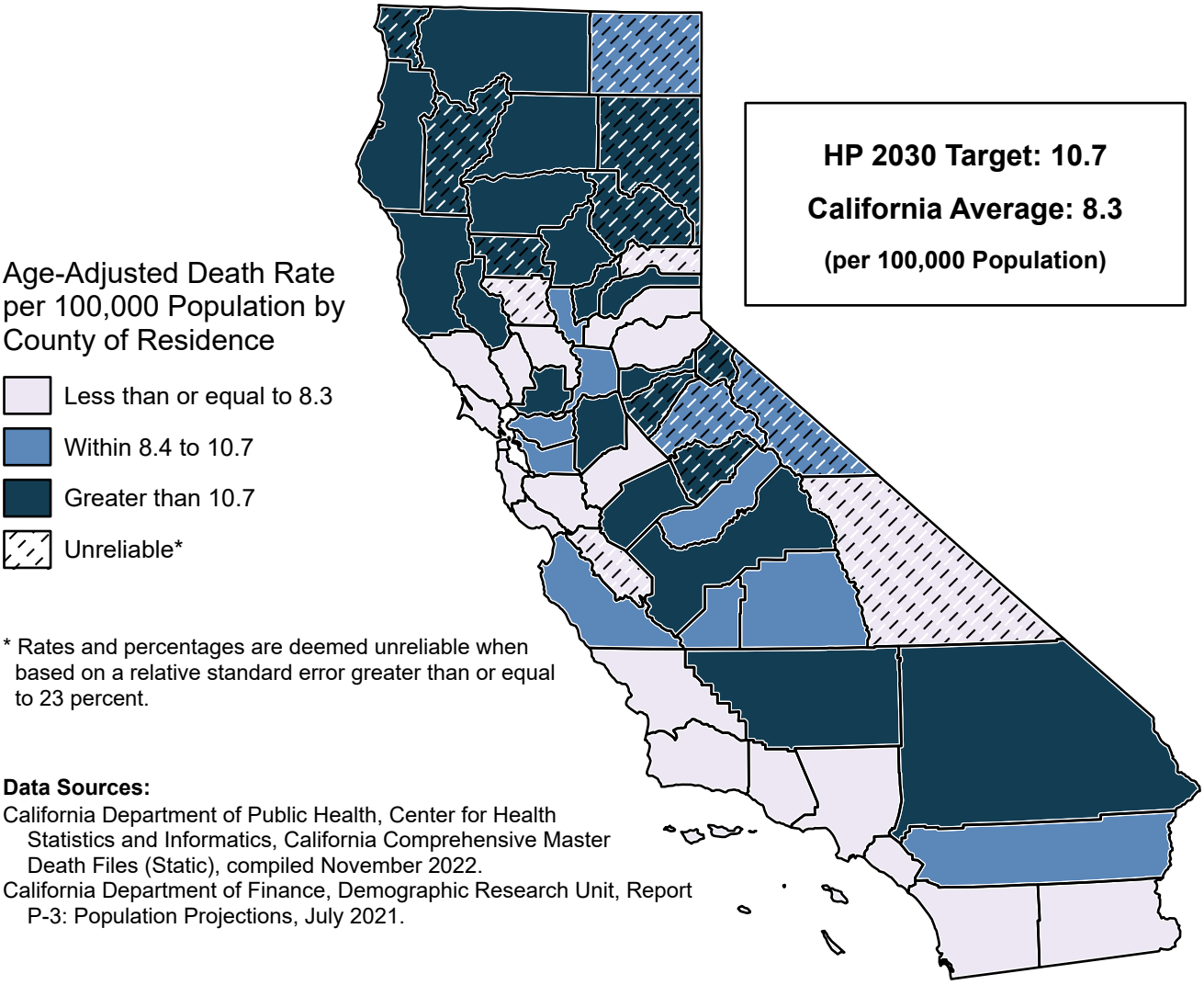
The crude death rate from homicide for California averaged 5.6 deaths per 100,000 population. The crude death rate resulted from averaging the number of deaths for 2019 to 2021 and dividing by the 2020 population count. The average number of deaths for the three years was 2,221.7 with a population count of 39,782,419 as of July 1, 2020. Among counties with reliable rates, the crude death rate ranged from a high of 12.8 in Kern County to a low of 1.9 in Placer County, a factor of 6.7 to 1 (see Table 17).

The age-adjusted death rate from homicide for California during the 2019 through 2021 three-year period averaged 5.7 deaths per 100,000 population. The reliable age-adjusted death rate ranged from a high of 13.1 in Kern County to a low of 2.0 in Placer County.

Fifteen counties with reliable rates met the Healthy People 2030 National Objective IVP-09 of no more than 5.5 age-adjusted deaths due to homicide per 100,000 population. An additional thirteen counties with unreliable rates and three counties with zero deaths due to homicide met the objective. California as a whole did not meet the national objective for deaths due to homicide.

The California age-adjusted death rate from homicide for the 2016 to 2018 period averaged 5.1 per 100,000 population.

FIREARM RELATED DEATHS, 2019–2021



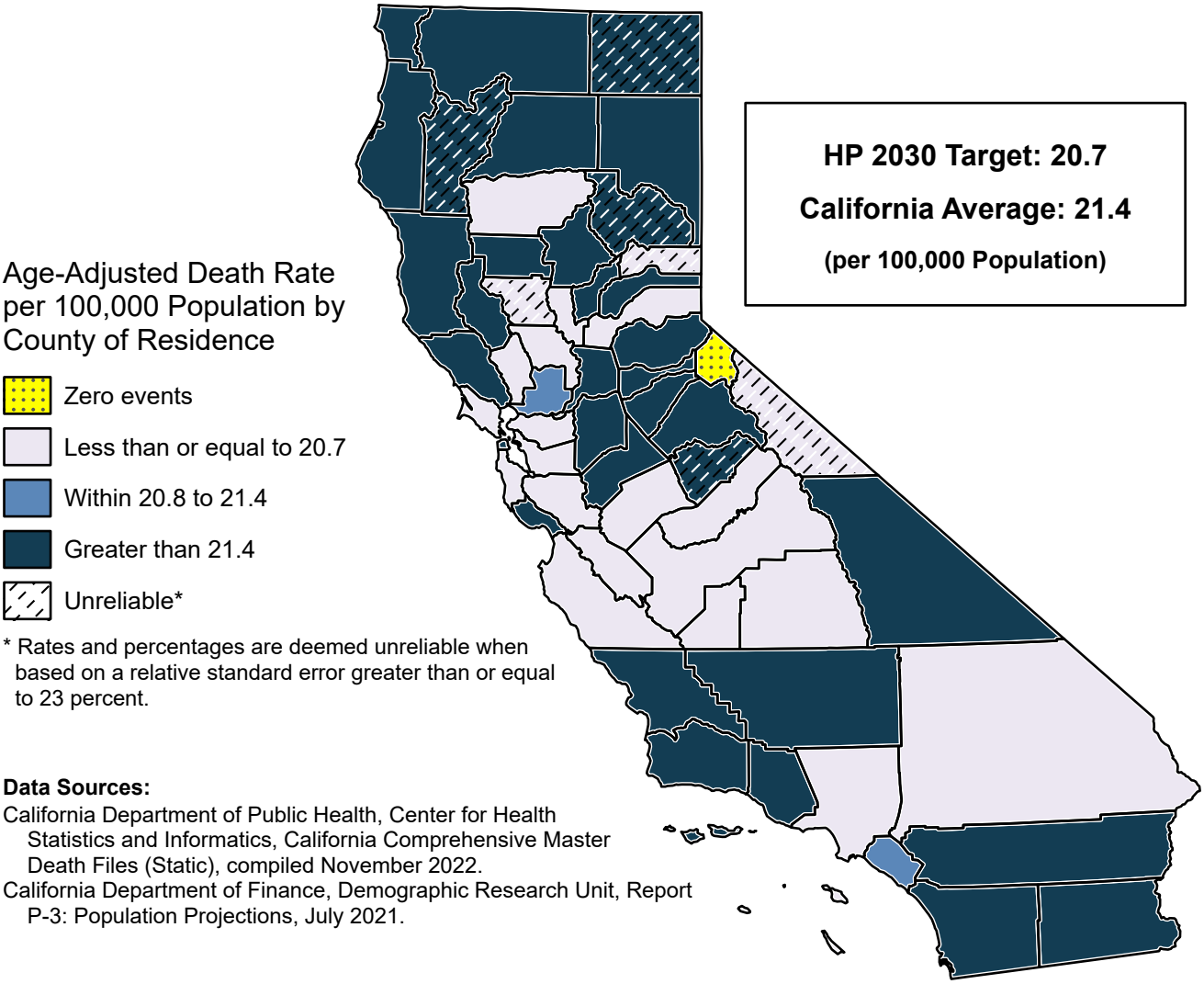
The crude death rate from firearm related deaths for California averaged 8.4 deaths per 100,000 population. The crude death rate resulted from averaging the number of deaths for 2019 to 2021 and dividing by the 2020 population count. The average number of deaths for the three years was 3,329.7 with a population count of 39,782,419 as of July 1, 2020. Among counties with reliable rates, the crude death rate ranged from a high of 24.8 in Amador County to a low of 3.8 in San Mateo County, a factor of 6.5 to 1 (see Table 18).

The age-adjusted death rate from firearm related deaths for California during the 2019 through 2021 three-year period averaged 8.3 deaths per 100,000 population. The reliable age-adjusted death rate ranged from a high of 23.2 in Siskiyou County to a low of 3.9 in San Mateo County.

Twenty-seven counties with reliable rates and California as a whole met the Healthy People 2030 National Objective IVP-13 of no more than 10.7 age-adjusted firearm related deaths per 100,000 population. An additional seven counties with unreliable rates met the objective.

The California age-adjusted death rate from firearm related deaths for the 2016 to 2018 period averaged 7.8 per 100,000 population.

DRUG OVERDOSE DEATHS, 2019–2021



The crude death rate from drug overdose deaths for California averaged 21.8 deaths per 100,000 population. The crude death rate resulted from averaging the number of deaths for 2019 to 2021 and dividing by the 2020 population count. The average number of deaths for the three years was 8,680.0 with a population count of 39,782,419 as of July 1, 2020. Among counties with reliable rates, the crude death rate ranged from a high of 83.1 in Lake County to a low of 13.7 in Napa County, a factor of 6.1 to 1 (see Table 19).

The age-adjusted death rate from drug overdose deaths for California during the 2019 through 2021 three-year period averaged 21.4 deaths per 100,000 population. The reliable age-adjusted death rate ranged from a high of 77.6 in Lake County to a low of 13.2 in Napa County.

Nineteen counties with reliable rates met the Healthy People 2030 National Objective SU-03 of no more than 20.7 age-adjusted drug overdose deaths per 100,000 population. An additional three counties with unreliable rates and one county with zero drug overdose deaths met the objective. California as a whole did not meet the national objective for drug overdose deaths.

The California age-adjusted death rate from drug overdose deaths for the 2016 to 2018 period averaged 12.1 per 100,000 population.

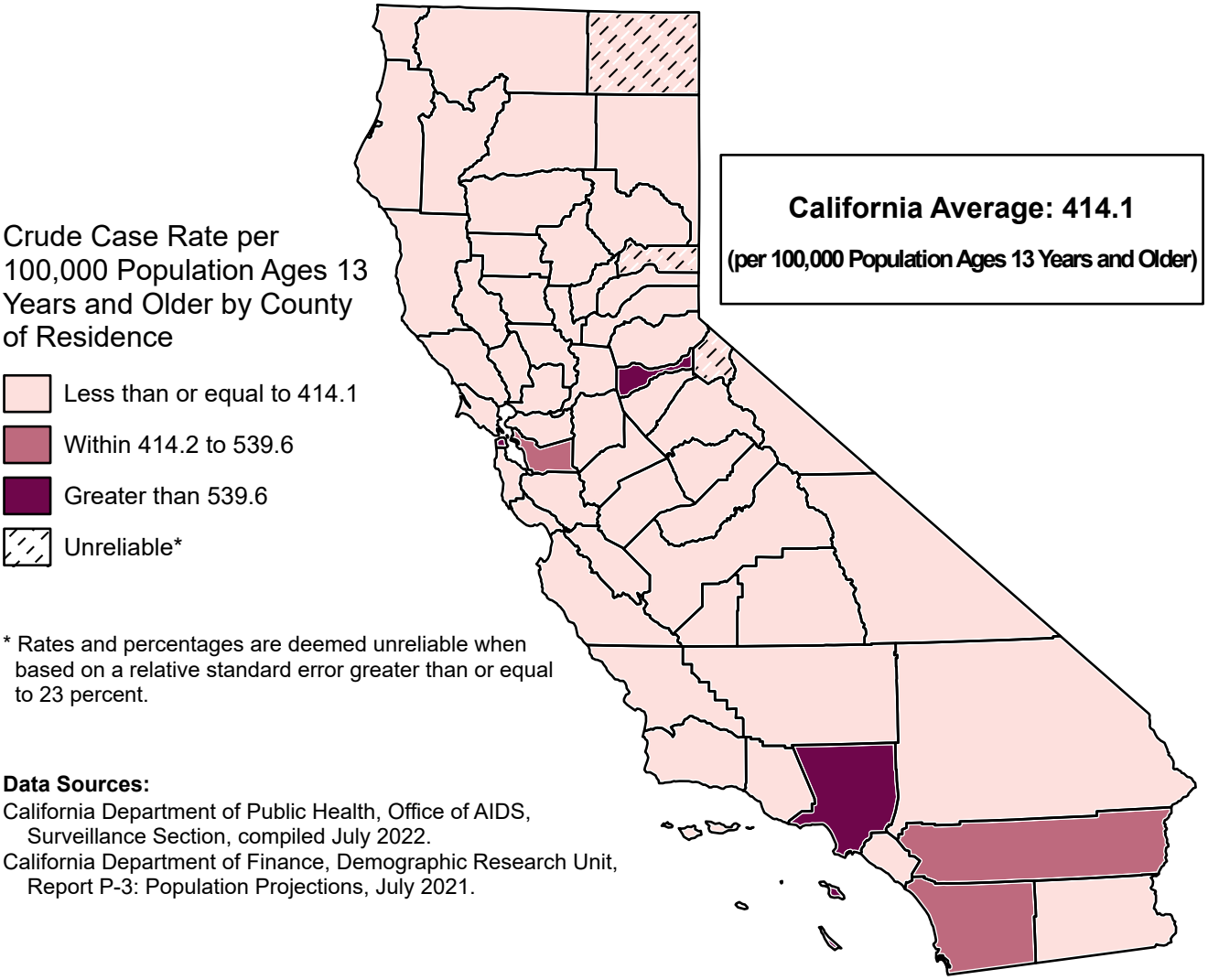
MORBIDITY

This section presents maps and highlights for eight morbidity health indicators that are included in Tables 20–23M.

Morbidity Health Indicator	Table
Reported Prevalence of Persons Living with HIV/AIDS among Ages 13 Years and Older	20
Reported Incidence of Chlamydia	21
Reported Incidence of Gonorrhea among Females 15 to 44 Years Old	22F
Reported Incidence of Gonorrhea among Males 15 to 44 Years Old	22M
Reported Incidence of Tuberculosis	23
Reported Incidence of Congenital Syphilis	23C
Reported Incidence of Primary and Secondary Syphilis among Females 15 to 44 Years Old	23F
Reported Incidence of Primary and Secondary Syphilis among Males All Ages	23M

Tables 1–29 are available as a separate file on the *Profiles* webpage and Open Data Portal dataset.

REPORTED PREVALENCE OF PERSONS LIVING WITH HIV/AIDS AMONG AGES 13 YEARS AND OLDER, 2018–2020



* Rates and percentages are deemed unreliable when based on a relative standard error greater than or equal to 23 percent.

Data Sources:
California Department of Public Health, Office of AIDS, Surveillance Section, compiled July 2022.
California Department of Finance, Demographic Research Unit, Report P-3: Population Projections, July 2021.

The crude case rate of reported prevalence of persons living with HIV/AIDS among ages 13 years and older for California averaged 414.1 cases per 100,000 population in the corresponding age group. The crude case rate resulted from averaging the number of cases of persons ages 13 years and older living with HIV/AIDS for 2018 to 2020 and dividing by the 2019 population count. The average number of cases for the three years was 137,864.0 with a corresponding population count of 33,293,515 as of July 1, 2019.

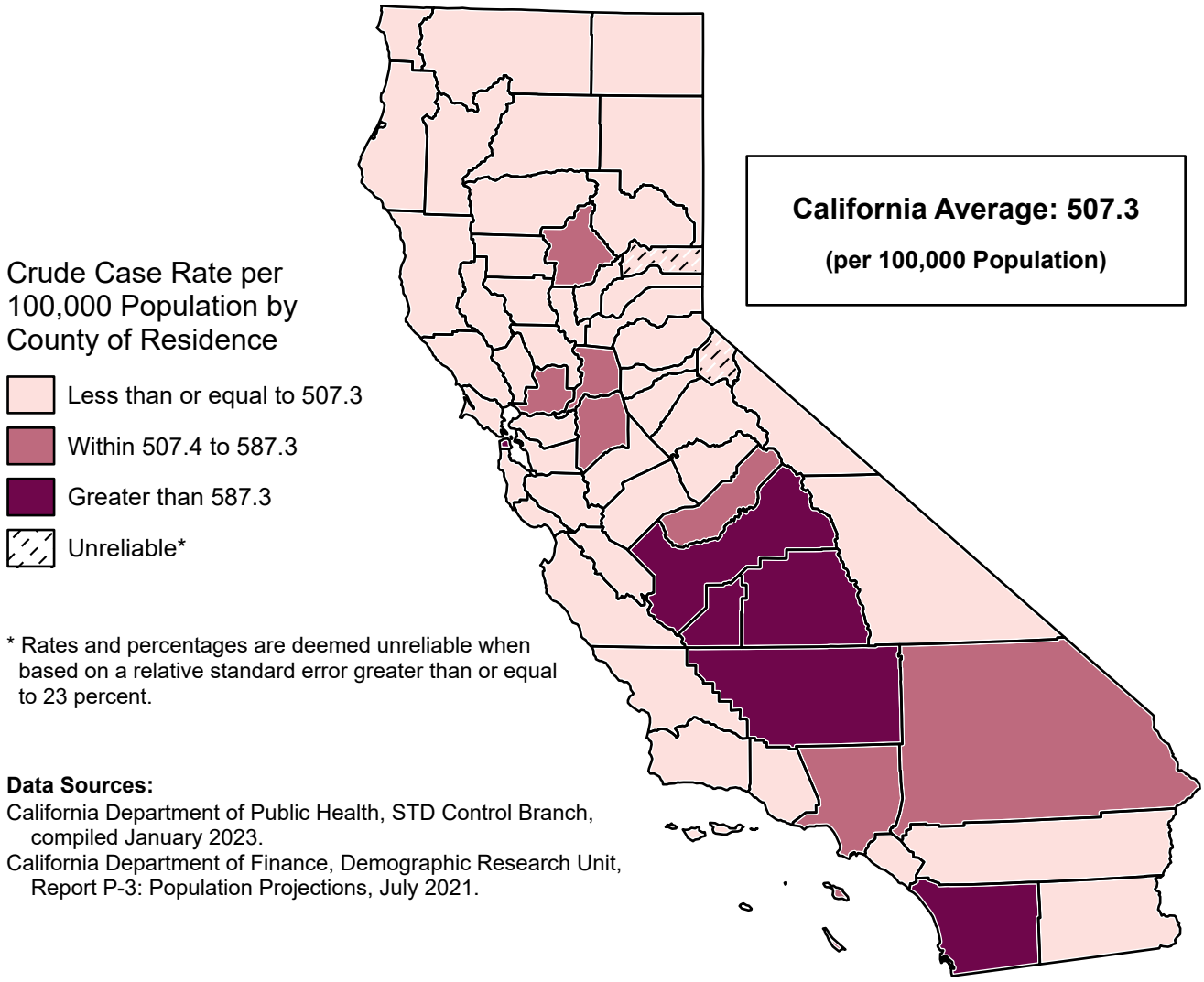
Among counties with reliable rates, the crude case rate ranged from a high of 1,573.2 in San Francisco County to a low of 74.1 in Mono County, a factor of 21.2 to 1 (see Table 20).

A Healthy People 2030 National Objective for reported prevalence of persons living with HIV/AIDS among ages 13 years and older has not been established.

One county contains suppressed data for the counts, rate, and confidence limits per the Data De-Identification Guidelines (DDG). See Technical Notes for more information regarding DDG.

The California crude case rate of reported prevalence of persons living with HIV/AIDS among ages 13 years and older for the 2015 to 2017 period averaged 406.1 per 100,000 population in the corresponding age group.

REPORTED INCIDENCE OF CHLAMYDIA, 2019–2021



The crude case rate of reported incidence of chlamydia for California averaged 507.3 cases per 100,000 population. The crude case rate resulted from averaging the number of cases for 2019 to 2021 and dividing by the 2020 population count. The average number of cases for the three years was 201,827.0 with a population count of 39,782,419 as of July 1, 2020.

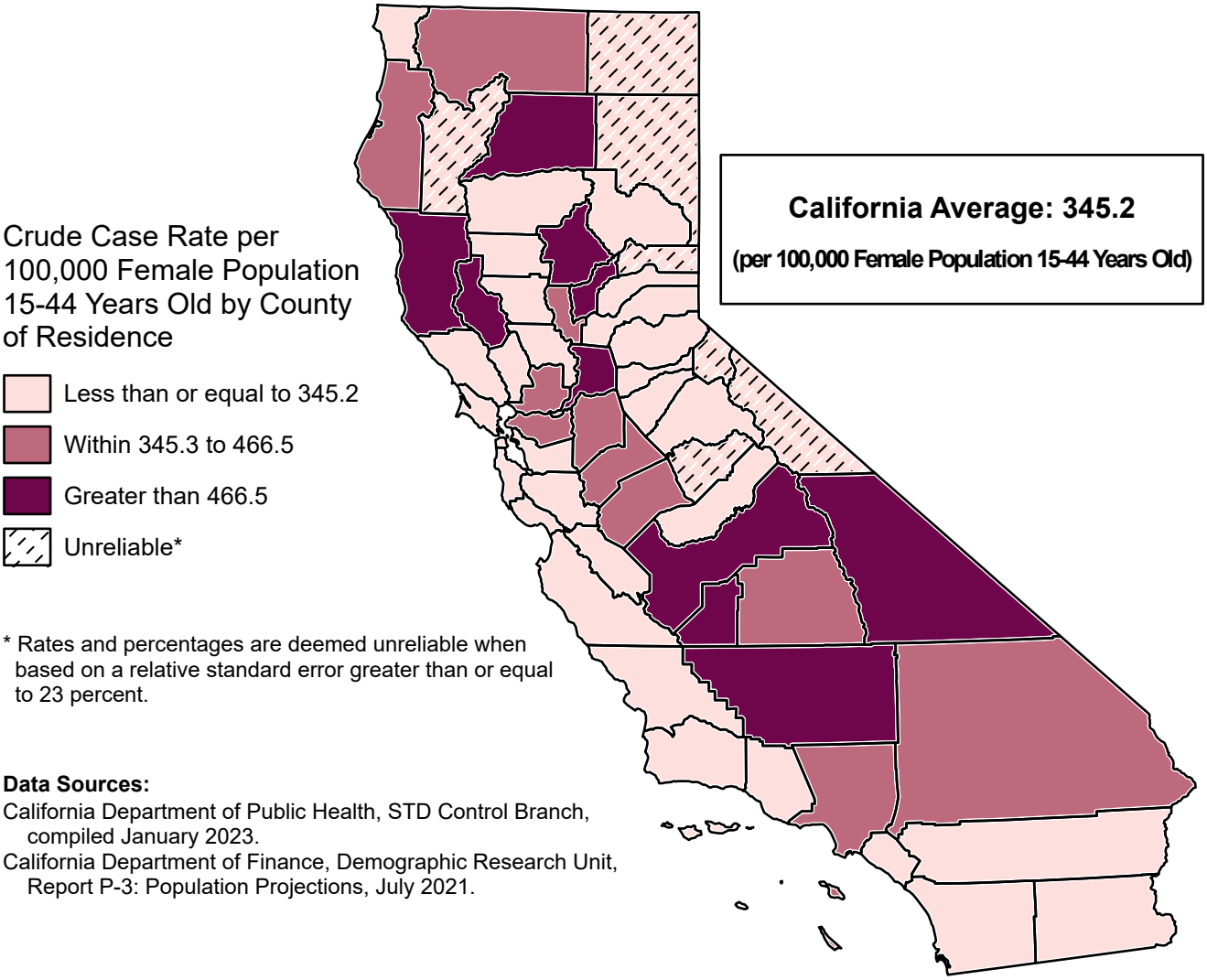
Among counties with reliable rates, the crude case rate ranged from a high of 793.2 in San Francisco County to a low of 89.6 in Calaveras County, a factor of 8.9 to 1 (see Table 21).

A Healthy People 2030 National Objective for reported incidence of chlamydia has not been established.

Two counties contain suppressed data for the counts, rate, and confidence limits per the Data De-Identification Guidelines (DDG). See Technical Notes for more information regarding DDG.

The California crude case rate of reported incidence of chlamydia for the 2016 to 2018 period averaged 548.4 per 100,000 population.

REPORTED INCIDENCE OF GONORRHEA AMONG FEMALES 15 TO 44 YEARS OLD, 2019–2021



The crude case rate of reported incidence of gonorrhea among females 15 to 44 years old (FG-Cases) for California averaged 345.2 cases per 100,000 population. The crude case rate resulted from averaging the number of cases for 2019 to 2021 and dividing by the 2020 female population count in the corresponding age group. The average number of cases for the three years was 26,946.0 with a corresponding female population count of 7,806,104 as of July 1, 2020.

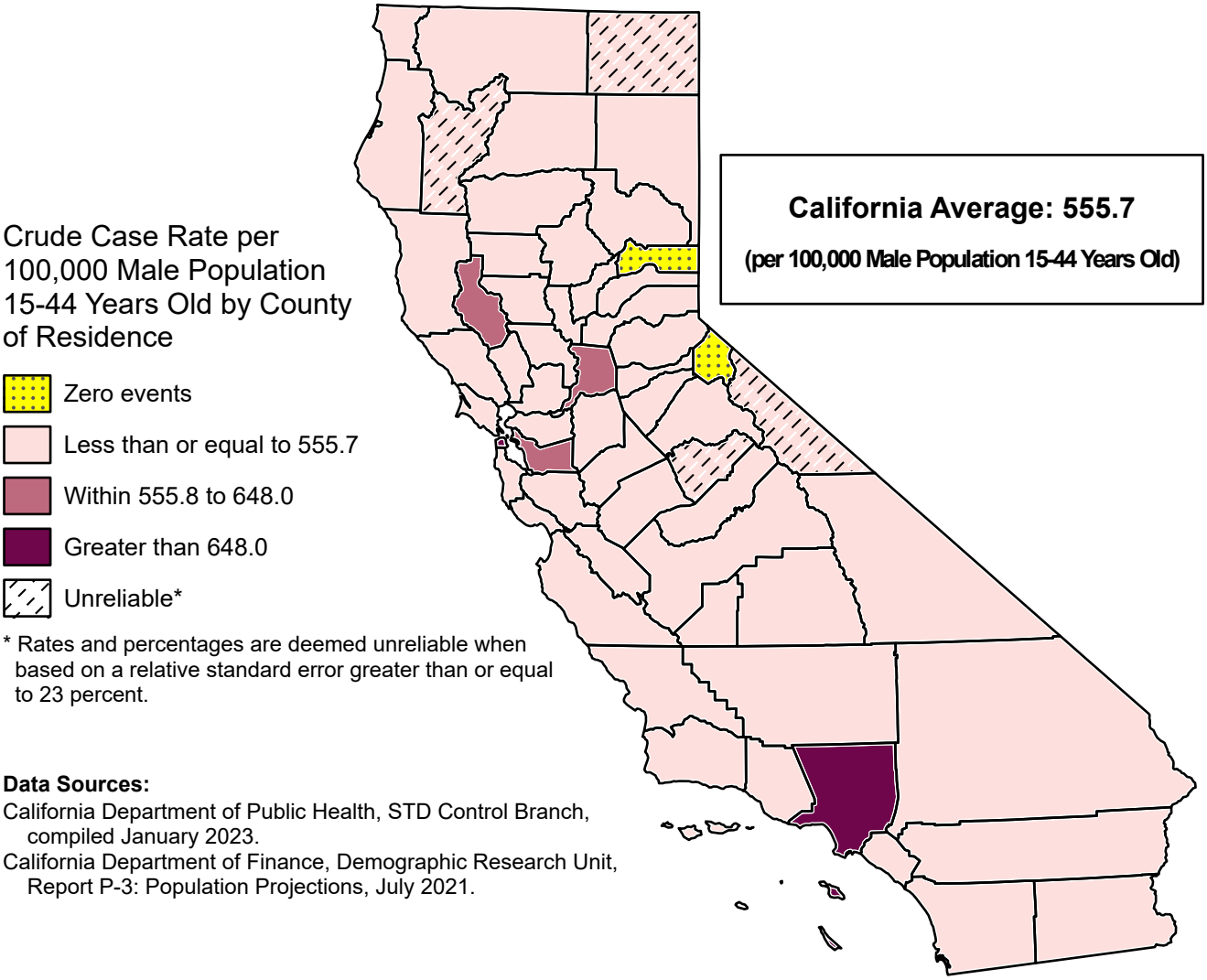
Among counties with reliable rates, the crude case rate ranged from a high of 867.1 in Inyo County to a low of 136.2 in Marin County, a factor of 6.4 to 1 (see Table 22F).

A Healthy People 2030 National Objective for reported incidence of FG-Cases has not been established.

Four counties contain suppressed data for the counts, rate, and confidence limits per the Data De-Identification Guidelines (DDG). See Technical Notes for more information regarding DDG.

The California crude case rate of reported incidence of FG-Cases for the 2016 to 2018 period averaged 285.4 per 100,000 female population in the corresponding age group.

REPORTED INCIDENCE OF GONORRHEA AMONG MALES 15 TO 44 YEARS OLD, 2019–2021



The crude case rate of reported incidence of gonorrhea among males 15 to 44 years old (MG-Cases) for California averaged 555.7 cases per 100,000 population. The crude case rate resulted from averaging the number of cases for 2019 to 2021 and dividing by the 2020 male population count in the corresponding age group. The average number of cases for the three years was 46,191.7 with a corresponding male population count of 8,312,167 as of July 1, 2020.

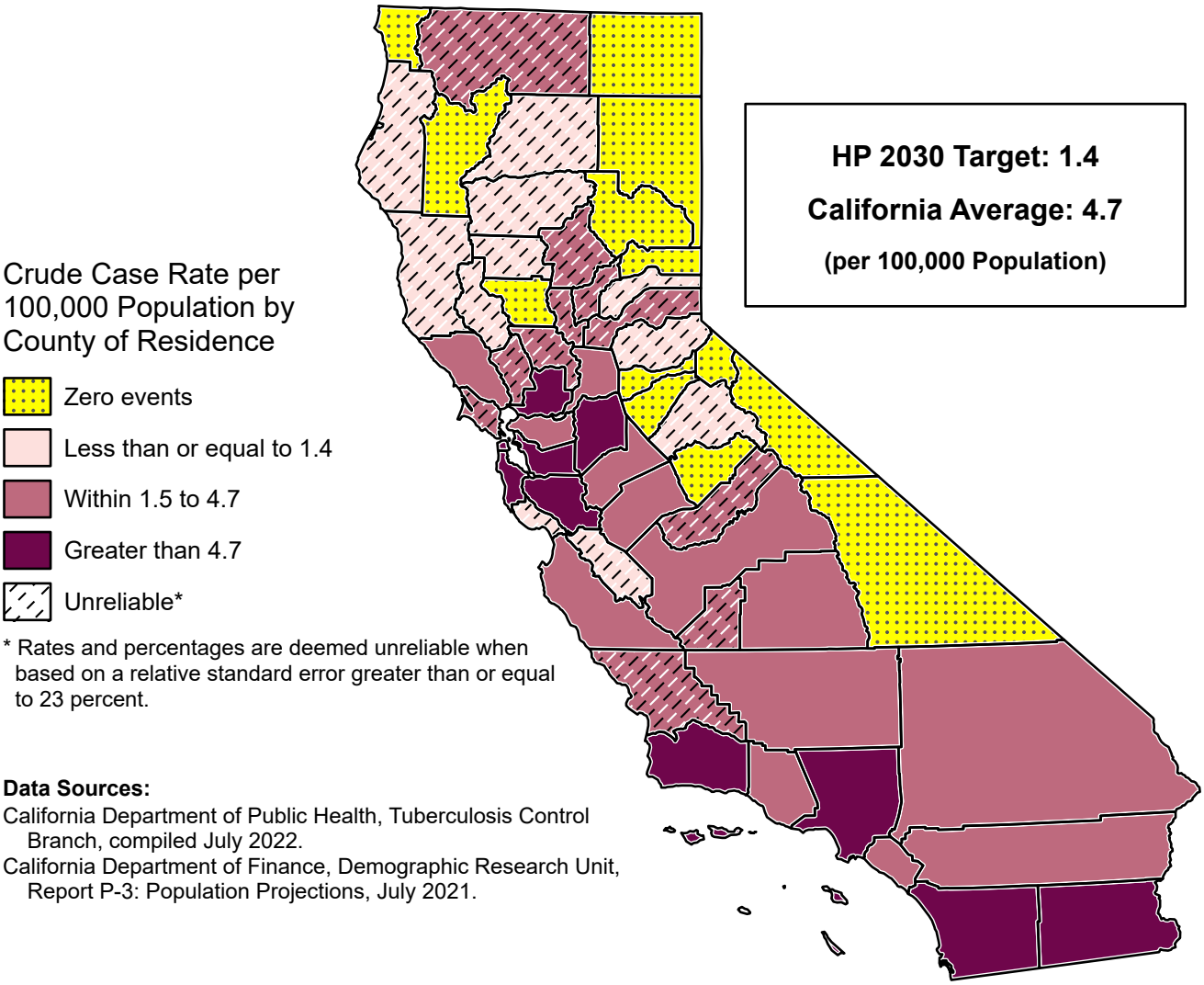
Among counties with reliable rates, the crude case rate ranged from a high of 1,748.2 in San Francisco County to a low of 84.1 in Lassen County, a factor of 20.8 to 1 (see Table 22M).

A Healthy People 2030 National Objective for reported incidence of MG-Cases has not been established.

Two counties contain suppressed data for the counts, rate, and confidence limits per the Data De-Identification Guidelines (DDG). See Technical Notes for more information regarding DDG.

The California crude case rate of reported incidence of MG-Cases for the 2016 to 2018 period averaged 500.2 per 100,000 male population in the corresponding age group.

REPORTED INCIDENCE OF TUBERCULOSIS, 2019–2021



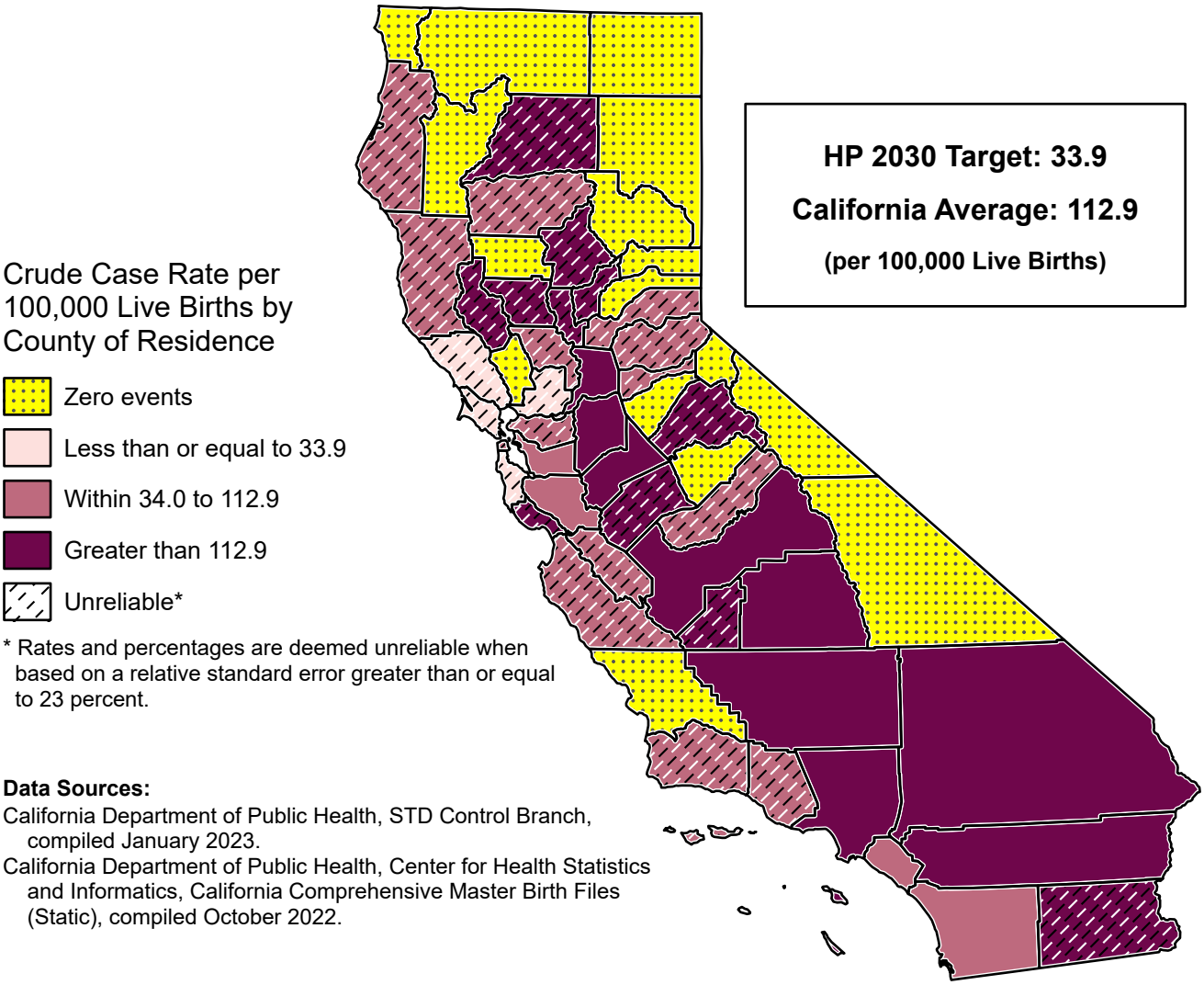
The crude case rate of reported incidence of tuberculosis for California averaged 4.7 cases per 100,000 population. The crude case rate resulted from averaging the number of cases for 2019 to 2021 and dividing by the 2020 population count. The average number of cases for the three years was 1,855.7 with a population count of 39,782,419 as of July 1, 2020.

Among counties with reliable rates, the crude case rate ranged from a high of 22.7 in Imperial County to a low of 2.0 in Sonoma County, a factor of 11.4 to 1 (see Table 23).

Zero counties with reliable rates met the Healthy People 2030 National Objective IID-17 of no more than 1.4 new cases of tuberculosis per 100,000 population. Eleven counties with unreliable rates and thirteen counties with zero new cases of tuberculosis met the objective. California as a whole did not meet the national objective for reported incidence of tuberculosis.

The California crude case rate of reported incidence of tuberculosis for the 2016 to 2018 period averaged 5.2 per 100,000 population.

REPORTED INCIDENCE OF CONGENITAL SYPHILIS, 2019–2021



The crude case rate of reported incidence of congenital syphilis for California averaged 112.9 cases per 100,000 live births. The crude case rate resulted from averaging the number of cases for 2019 to 2021 and dividing by the average number of live births from 2019 to 2021. The average number of cases for the three years was 484.7 with an average of 429,290.7 live births.

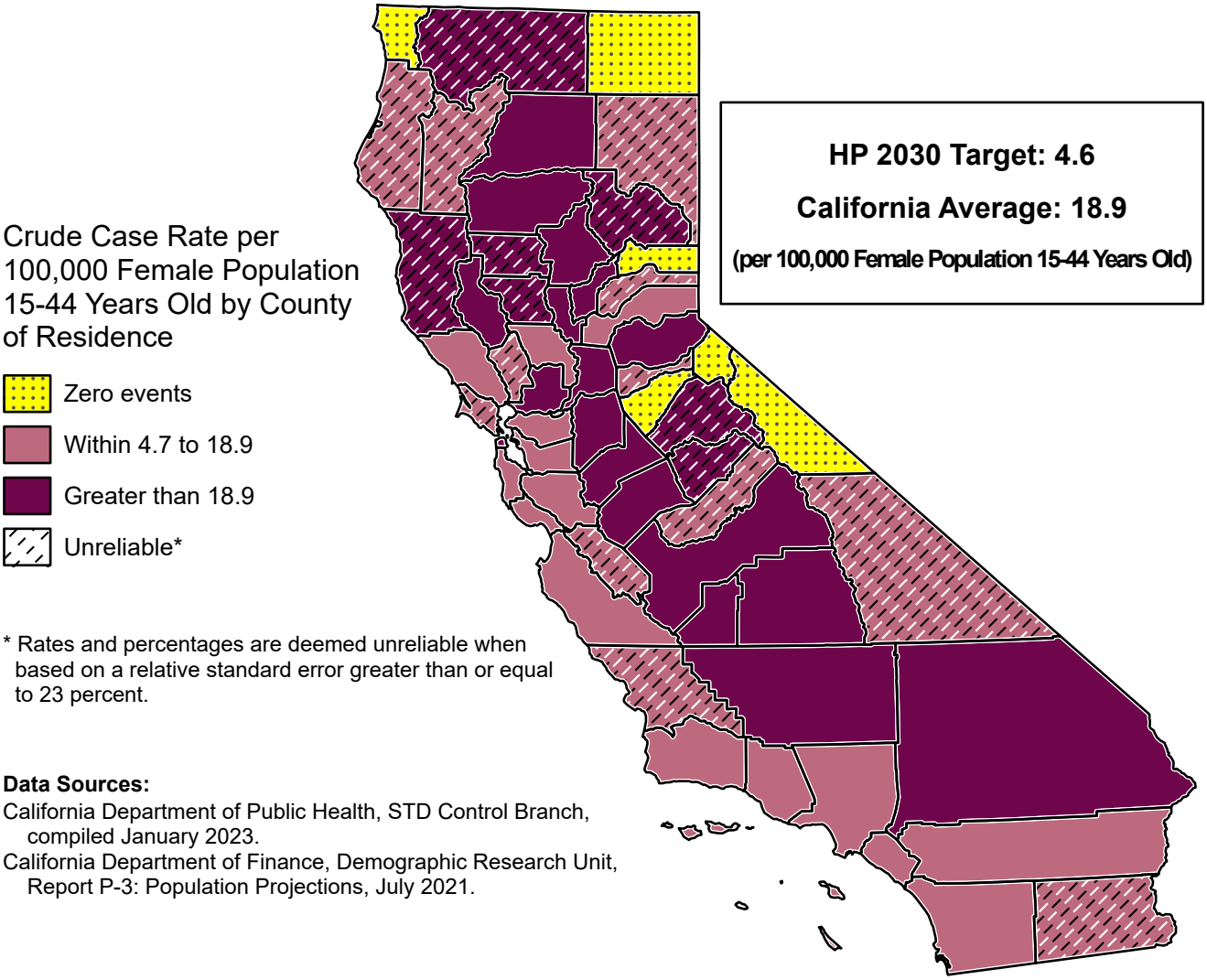
Among counties with reliable rates, the crude case rate ranged from a high of 290.8 in San Joaquin County to a low of 42.0 in Alameda County, a factor of 6.9 to 1 (see Table 23C).

Zero counties with reliable rates met the Healthy People 2030 National Objective STI-04 of no more than 33.9 new cases of congenital syphilis per 100,000 live births. Four counties with unreliable rates and sixteen counties with zero new cases of congenital syphilis met the objective. California as a whole did not meet the national objective for reported incidence of congenital syphilis.

Twenty-two counties contain suppressed data for the counts, rate, and confidence limits per the Data De-Identification Guidelines (DDG). See Technical Notes for more information regarding DDG.

The California crude case rate of reported incidence of congenital syphilis for the 2016 to 2018 period averaged 58.7 per 100,000 live births.

REPORTED INCIDENCE OF PRIMARY AND SECONDARY SYPHILIS AMONG FEMALES 15 TO 44 YEARS OLD, 2019–2021



The crude case rate of reported incidence of primary and secondary syphilis among females 15 to 44 years old (FS-Cases) for California averaged 18.9 cases per 100,000 population. The crude case rate resulted from averaging the number of cases for 2019 to 2021 and dividing by the 2020 female population count in the corresponding age group. The average number of cases for the three years was 1,478.0 with a corresponding female population count of 7,806,104 as of July 1, 2020.

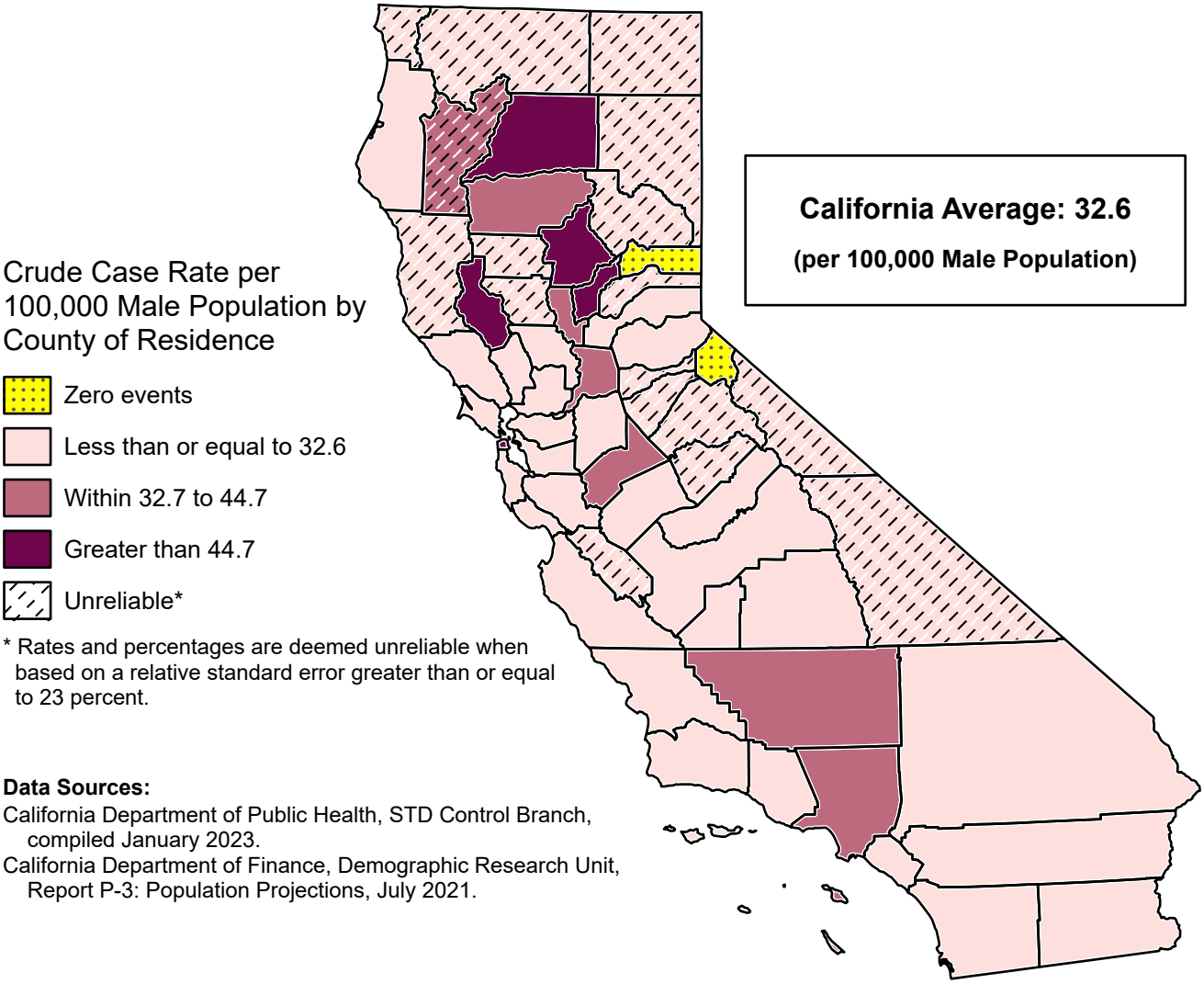
Among counties with reliable rates, the crude case rate ranged from a high of 121.2 in Shasta County to a low of 6.1 in San Mateo County, a factor of 19.9 to 1 (see Table 23F).

Zero counties with reliable rates met the Healthy People 2030 National Objective STI-03 of no more than 4.6 new FS-Cases per 100,000 female population. Six counties with zero new FS-Cases met the objective. California as a whole did not meet the national objective for reported incidence of FS-Cases.

Sixteen counties contain suppressed data for the counts, rate, and confidence limits per the Data De-Identification Guidelines (DDG). See Technical Notes for more information regarding DDG.

The California crude case rate of reported incidence of FS-Cases for the 2016 to 2018 period averaged 10.9 per 100,000 female population in the corresponding age group.

REPORTED INCIDENCE OF PRIMARY AND SECONDARY SYPHILIS AMONG MALES ALL AGES, 2019–2021



The crude case rate of reported incidence of primary and secondary syphilis among males all ages (MS-Cases) for California averaged 32.6 cases per 100,000 male population. The crude case rate resulted from averaging the number of cases for 2019 to 2021 and dividing by the 2020 male population count. The average number of cases for the three years was 6,468.7 with a male population count of 19,851,556 as of July 1, 2020.

Among counties with reliable rates, the crude case rate ranged from a high of 97.9 in San Francisco County to a low of 9.1 in Imperial County, a factor of 10.8 to 1 (see Table 23M).

A Healthy People 2030 National Objective for reported incidence of MS-Cases has not been established.

Thirteen counties contain suppressed data for the counts, rate, and confidence limits per the Data De-Identification Guidelines (DDG). See Technical Notes for more information regarding DDG.

The California crude case rate of reported incidence of MS-Cases for the 2016 to 2018 period averaged 29.1 per 100,000 male population.

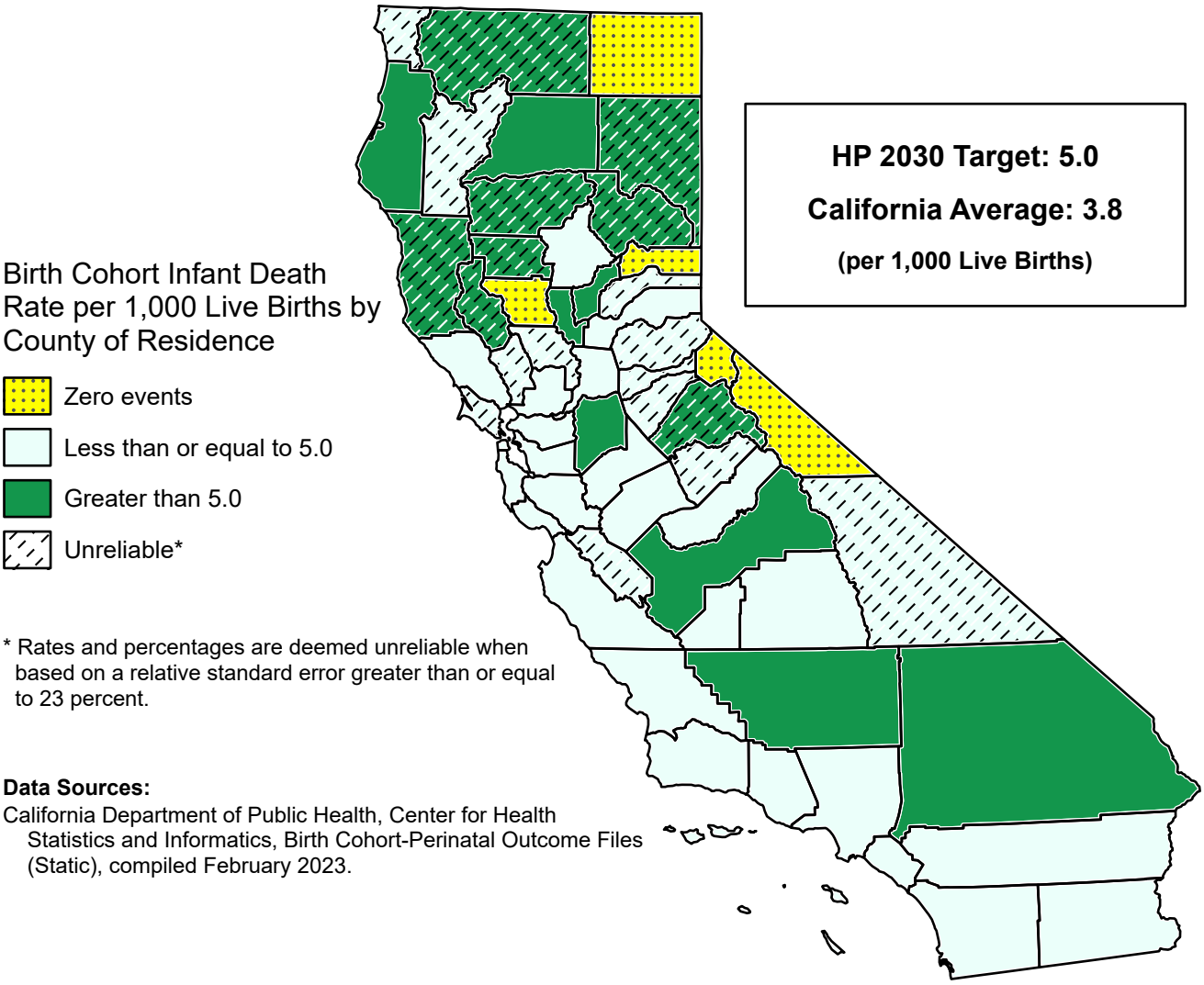
INFANT MORTALITY

This section presents maps and highlights for infant mortality overall and for four race/ethnic groups. Rates are reported per 1,000 live births. These correspond to Tables 24A–24E.

Infant Mortality Health Indicator	Table
Infant Mortality, All Race/Ethnic Groups	24A
Asian/Pacific Islander Infant Mortality	24B
Black Infant Mortality	24C
Hispanic Infant Mortality	24D
White Infant Mortality	24E

Tables 1–29 are available as a separate file on the *Profiles* webpage and Open Data Portal dataset.

INFANT MORTALITY, ALL RACE/ETHNIC GROUPS, 2018–2020



The California birth cohort infant mortality death rate (IMR) for all race/ethnic groups averaged 3.8 infant deaths per 1,000 live births. The birth cohort IMR for all race/ethnic groups is derived from averaging the number of infant deaths, 1,619.3, and dividing by the average number of live births, 430,162.7, for 2018 through 2020.

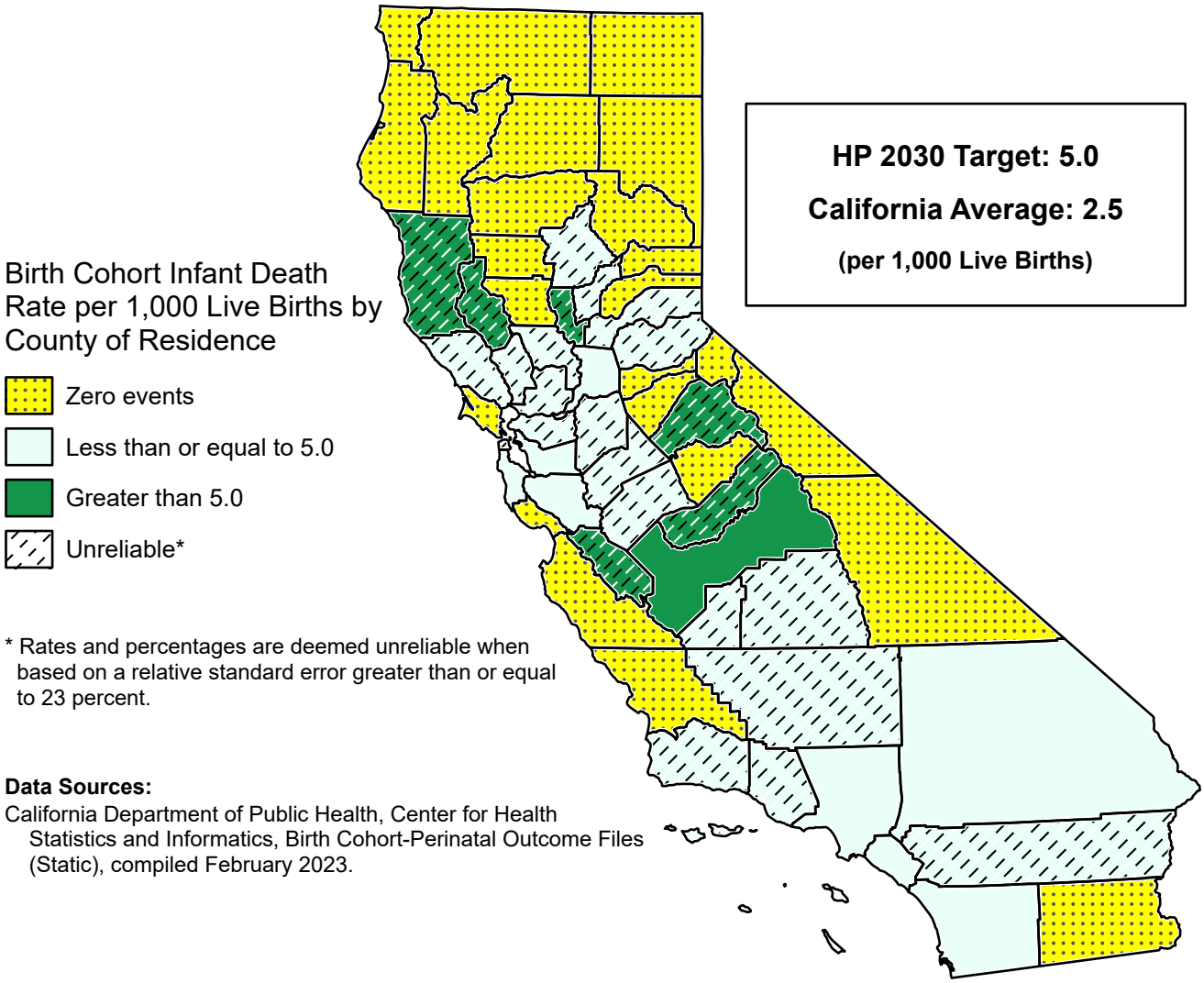
Among counties with reliable rates, the birth cohort IMR for all race/ethnic groups ranged from a high of 6.6 in Yuba County to a low of 2.4 in San Francisco County, a factor of 2.8 to 1 (see Table 24A).

Twenty-five counties with reliable rates and California as a whole met the Healthy People 2030 National Objective MICH-02 of no more than 5.0 infant deaths per 1,000 live births. An additional twelve counties with unreliable rates and five counties with zero infant deaths met the objective.

Thirteen counties contain suppressed data for the counts, rate, and confidence limits per the Data De-Identification Guidelines (DDG). See Technical Notes for more information regarding DDG.

The California birth cohort IMR for all race/ethnic groups for the 2015 to 2017 period averaged 4.0 infant deaths per 1,000 live births.

ASIAN/PACIFIC ISLANDER INFANT MORTALITY, 2018–2020



The California birth cohort infant mortality death rate (IMR) for Asian/Pacific Islanders averaged 2.5 infant deaths per 1,000 live births. The birth cohort IMR for Asian/Pacific Islanders is derived from averaging the number of infant deaths, 164.7, and dividing by the average number of live births, 64,929.3, for 2018 through 2020.

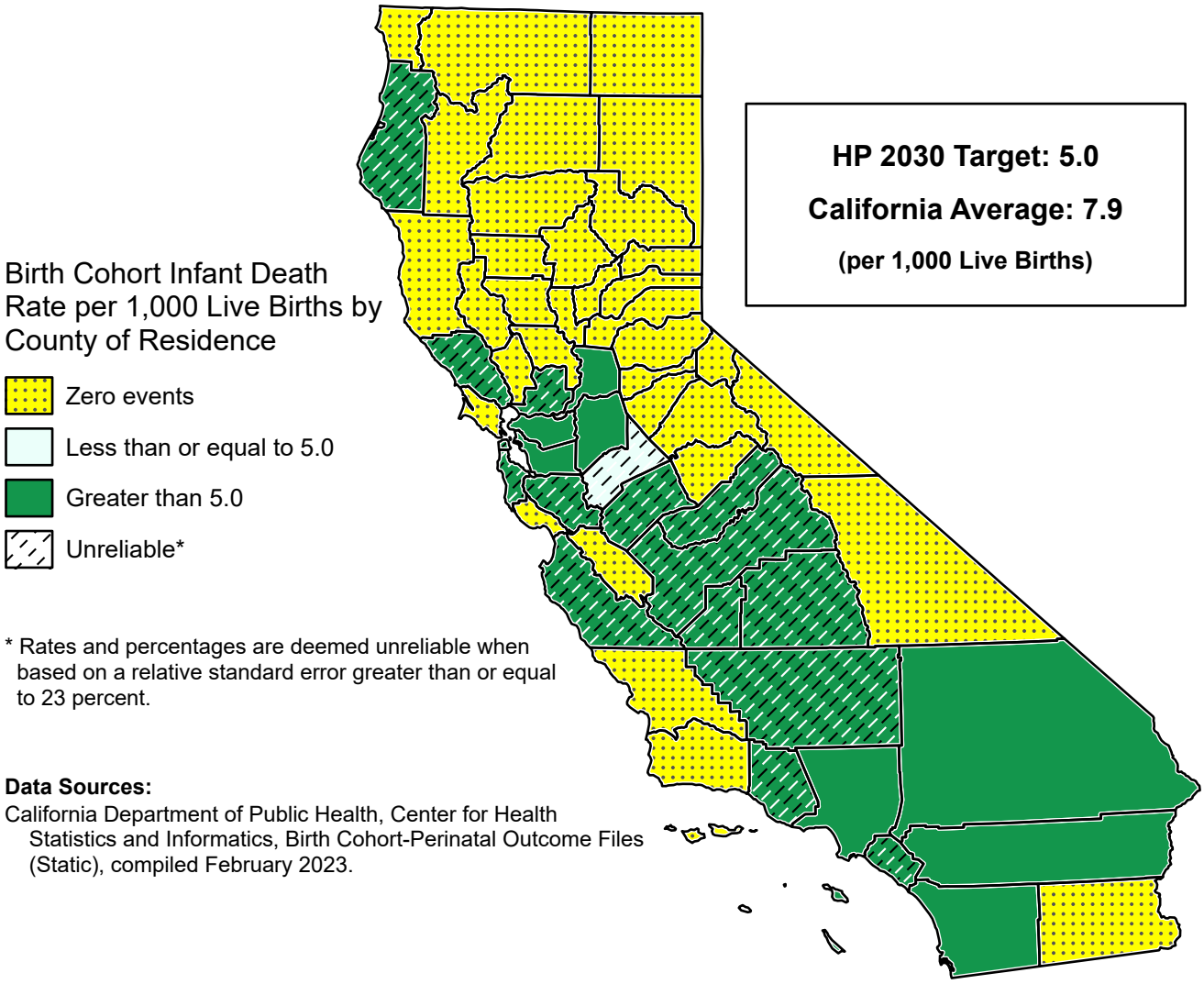
Among counties with reliable rates, the birth cohort IMR for Asian/Pacific Islanders ranged from a high of 6.9 in Fresno County to a low of 1.6 in Santa Clara County, a factor of 4.3 to 1 (see Table 24B).

For the Asian/Pacific Islander population, eight counties with reliable rates and California as a whole met the Healthy People 2030 National Objective MICH-02 of no more than 5.0 infant deaths per 1,000 live births. An additional nineteen counties with unreliable rates and twenty-three counties with zero infant deaths met the objective. One county had zero live births for the Asian/Pacific Islander population.

Twenty-eight counties contain suppressed data for the counts, rate, and confidence limits per the Data De-Identification Guidelines (DDG). See Technical Notes for more information regarding DDG.

The California birth cohort IMR for Asian/Pacific Islanders for the 2015 to 2017 period averaged 2.8 infant deaths per 1,000 live births.

BLACK INFANT MORTALITY, 2018–2020



The California birth cohort infant mortality death rate (IMR) for Blacks averaged 7.9 infant deaths per 1,000 live births. The birth cohort IMR for Blacks is derived from averaging the number of infant deaths, 167.3, and dividing by the average number of live births, 21,197.7, for 2018 through 2020.

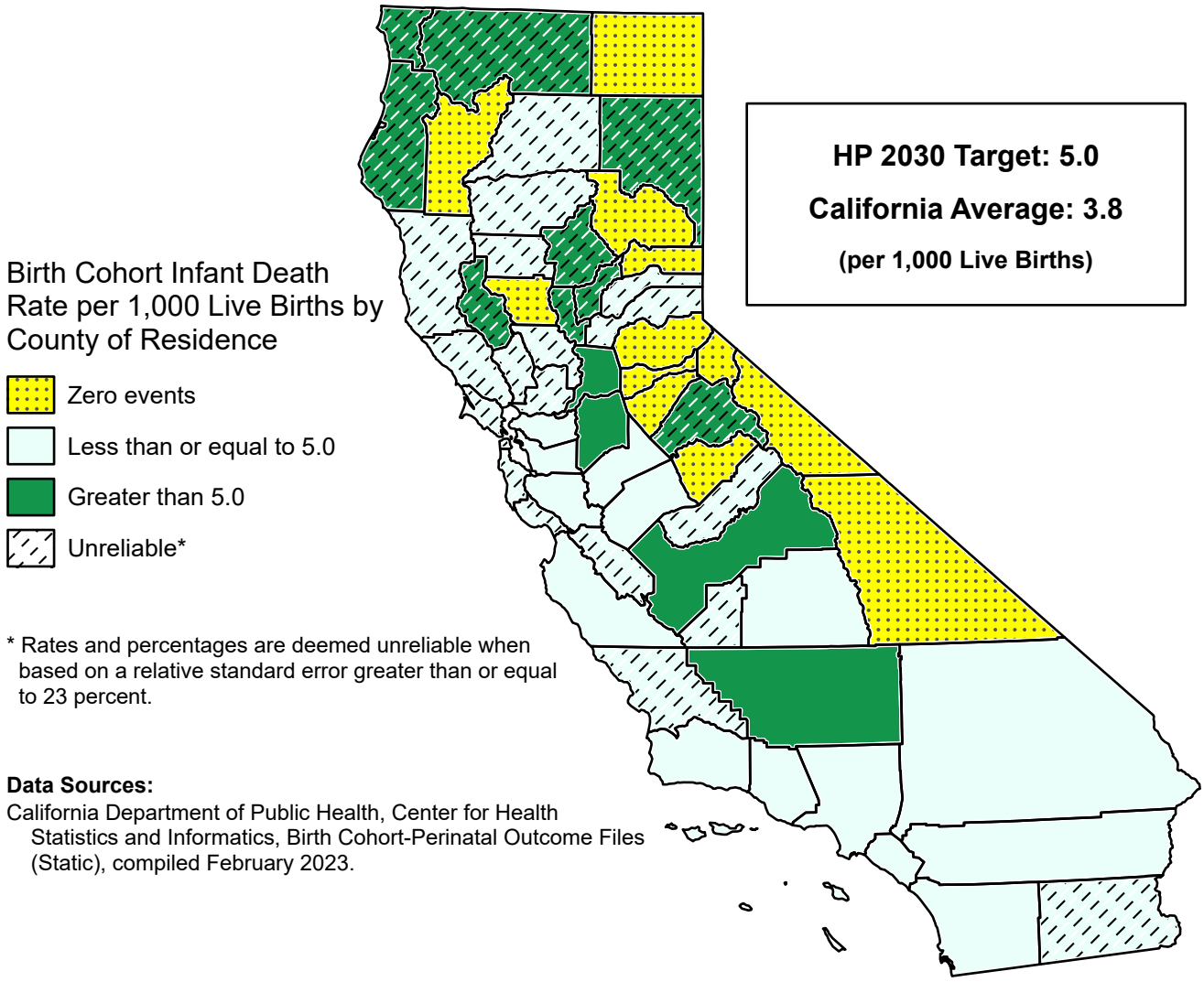
Among counties with reliable rates, the birth cohort IMR for Blacks ranged from a high of 12.4 in San Joaquin County to a low of 6.9 in Sacramento County and Contra Costa County, a factor of 1.8 to 1 (see Table 24C).

For the Black population, zero counties with reliable rates met the Healthy People 2030 National Objective MICH-02 of no more than 5.0 infant deaths per 1,000 live births. One county with an unreliable rate and thirty-two counties with zero infant deaths met the objective. Two counties had zero live births for the Black population. California as a whole did not meet the national objective for birth cohort IMR for Blacks.

Twenty-eight counties contain suppressed data for the counts, rate, and confidence limits per the Data De-Identification Guidelines (DDG). See Technical Notes for more information regarding DDG.

The California birth cohort IMR for Blacks for the 2015 to 2017 period averaged 7.8 infant deaths per 1,000 live births.

HISPANIC INFANT MORTALITY, 2018–2020



The California birth cohort infant mortality death rate (IMR) for Hispanics averaged 3.8 infant deaths per 1,000 live births. The birth cohort IMR for Hispanics is derived from averaging the number of infant deaths, 758.0, and dividing by the average number of live births, 198,312.3, for 2018 through 2020.

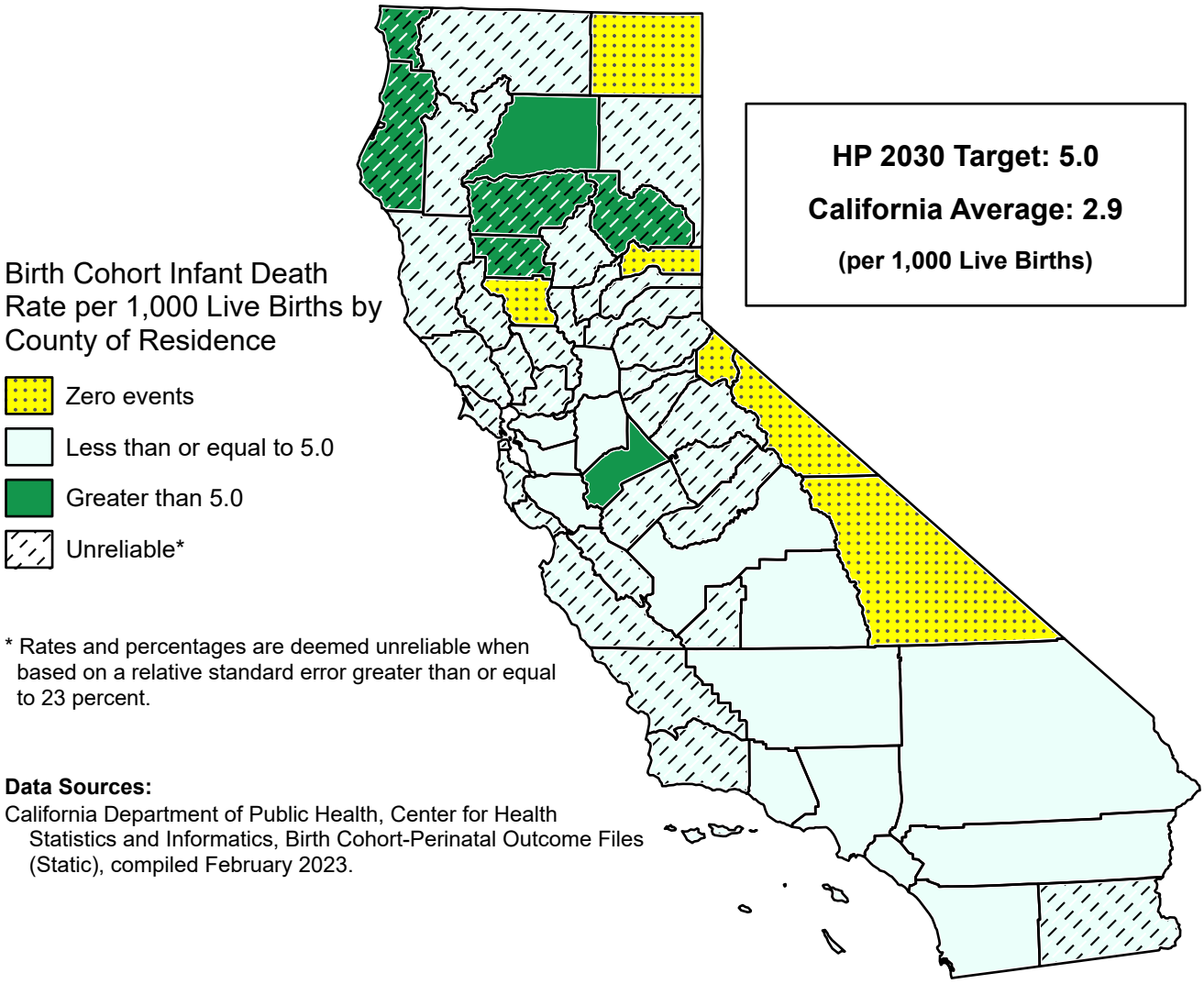
Among counties with reliable rates, the birth cohort IMR for Hispanics ranged from a high of 5.9 in Fresno County to a low of 2.4 in San Diego County, a factor of 2.5 to 1 (see Table 24D).

For the Hispanic population, fourteen counties with reliable rates and California as a whole met the Healthy People 2030 National Objective MICH-02 of no more than 5.0 infant deaths per 1,000 live births. An additional nineteen counties with unreliable rates and twelve counties with zero infant deaths met the objective.

Twenty-two counties contain suppressed data for the counts, rate, and confidence limits per the Data De-Identification Guidelines (DDG). See Technical Notes for more information regarding DDG.

The California birth cohort IMR for Hispanics for the 2015 to 2017 period averaged 4.1 infant deaths per 1,000 live births.

WHITE INFANT MORTALITY, 2018–2020



The California birth cohort infant mortality death rate (IMR) for Whites averaged 2.9 infant deaths per 1,000 live births. The birth cohort IMR for Whites is derived from averaging the number of infant deaths, 342.7, and dividing by the average number of live births, 116,338.7, for 2018 through 2020.

Among counties with reliable rates, the birth cohort IMR for Whites ranged from a high of 6.2 in Shasta County to a low of 2.0 in Orange County, a factor of 3.1 to 1 (see Table 24E).

For the White population, fourteen counties with reliable rates and California as a whole met the Healthy People 2030 National Objective MICH-02 of no more than 5.0 infant deaths per 1,000 live births. An additional thirty-one counties with unreliable rates and six counties with zero infant deaths met the objective.

Twenty-eight counties contain suppressed data for the counts, rate, and confidence limits per the Data De-Identification Guidelines (DDG). See Technical Notes for more information regarding DDG.

The California birth cohort IMR for Whites for the 2015 to 2017 period averaged 3.1 infant deaths per 1,000 live births.

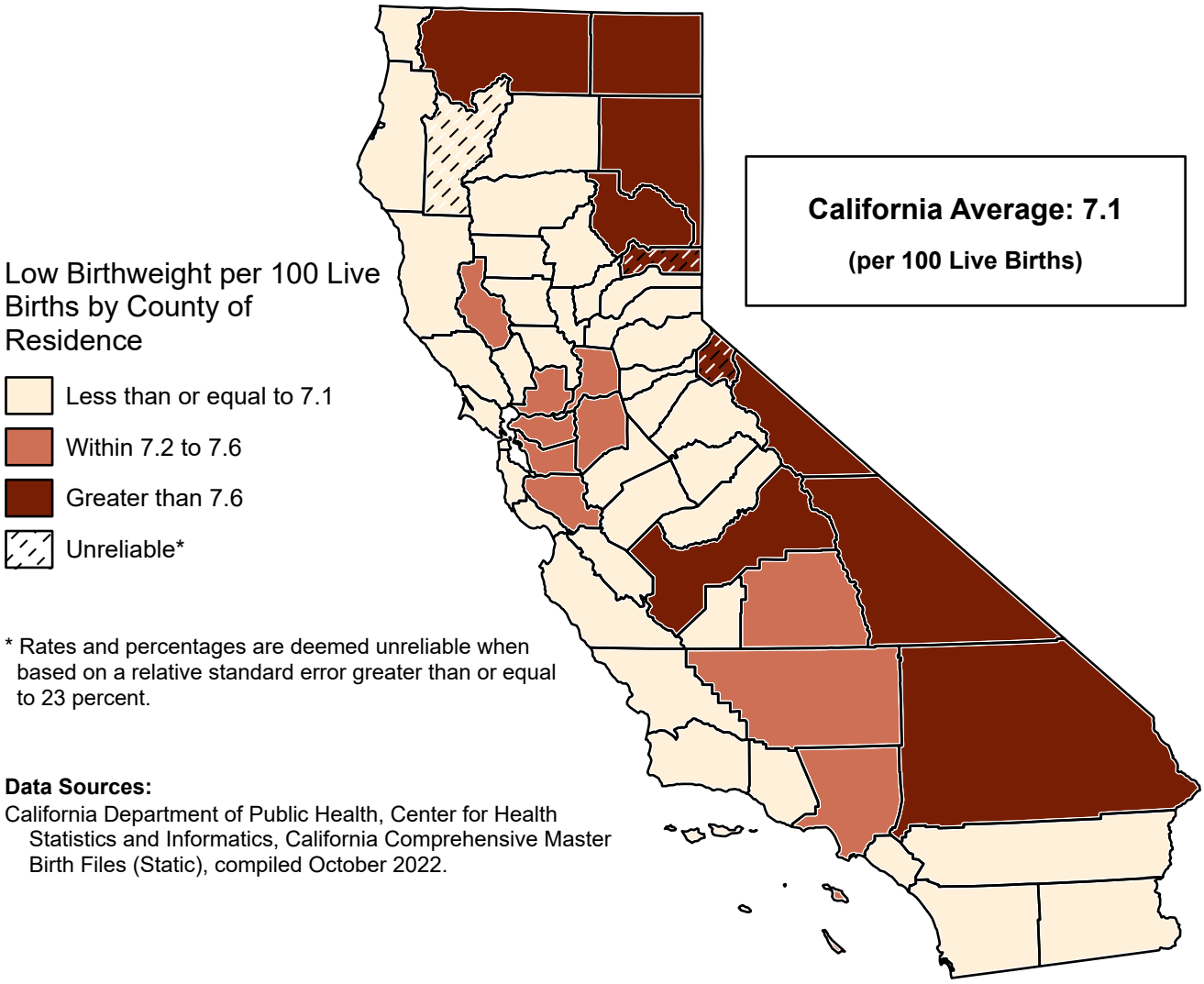
NATALITY

This section presents maps and highlights for four natality health indicators that are included in Tables 25–27B.

Natality Health Indicator	Table
Low Birthweight Infants	25
Births to Adolescent Mothers, 15 to 19 Years Old	26
Prenatal Care Begun during the First Trimester of Pregnancy	27A
Adequate/Adequate Plus Prenatal Care (Adequacy of Prenatal Care Utilization Index)	27B

Tables 1–29 are available as a separate file on the *Profiles* webpage and Open Data Portal dataset.

LOW BIRTHWEIGHT INFANTS, 2019–2021



The relative number of low birthweight infants for California averaged 7.1 per 100 live births, or 7.1 percent. The percentage of low birthweight infants is derived from averaging the number of low birthweight infants, 30,531.3, and dividing by the average number of live births, 429,256.7, for 2019 through 2021.

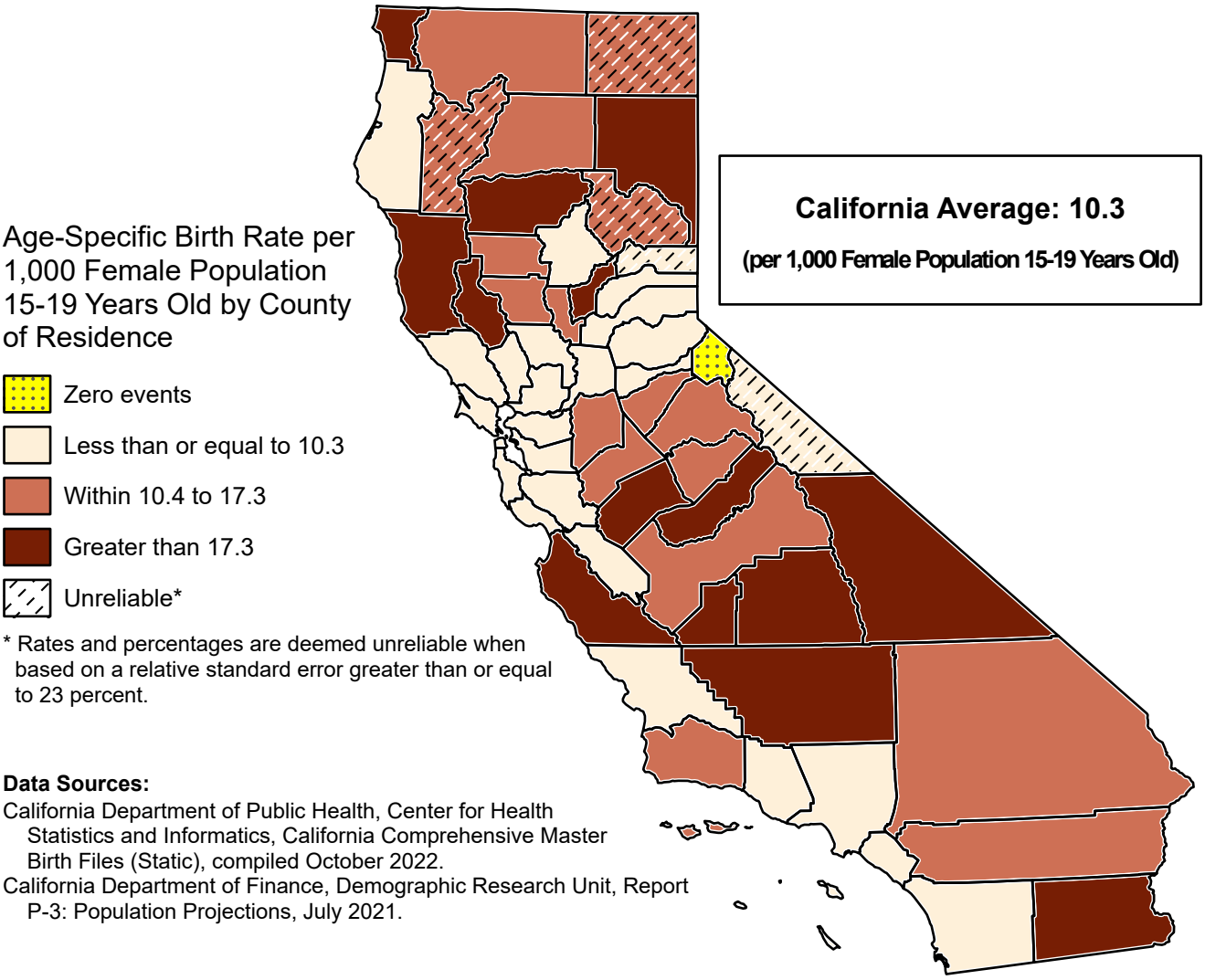
Among counties with reliable percentages, the percentage of low birthweight infants ranged from a high of 9.2 in Mono County and Modoc County to a low of 5.0 in Amador County, a factor of 1.8 to 1 (see Table 25).

A Healthy People 2030 National Objective for low birthweight infants has not been established.

Two counties contain suppressed data for the counts, percentage, and confidence limits per the Data De-Identification Guidelines (DDG). See Technical Notes for more information regarding DDG.

The California percentage of low birthweight infants for the 2016 to 2018 period averaged 6.9 per 100 live births.

BIRTHS TO ADOLESCENT MOTHERS, 15 TO 19 YEARS OLD, 2019–2021



The age-specific birth rate of births to adolescent mothers, 15 to 19 years old for California averaged 10.3 live births per 1,000 female population in the corresponding age group. The age-specific birth rate resulted from averaging the number of live births for 2019 to 2021 and dividing by the 2020 female population count. The average number of live births for the three years was 13,797.3 with a corresponding female population count of 1,338,940 as of July 1, 2020.

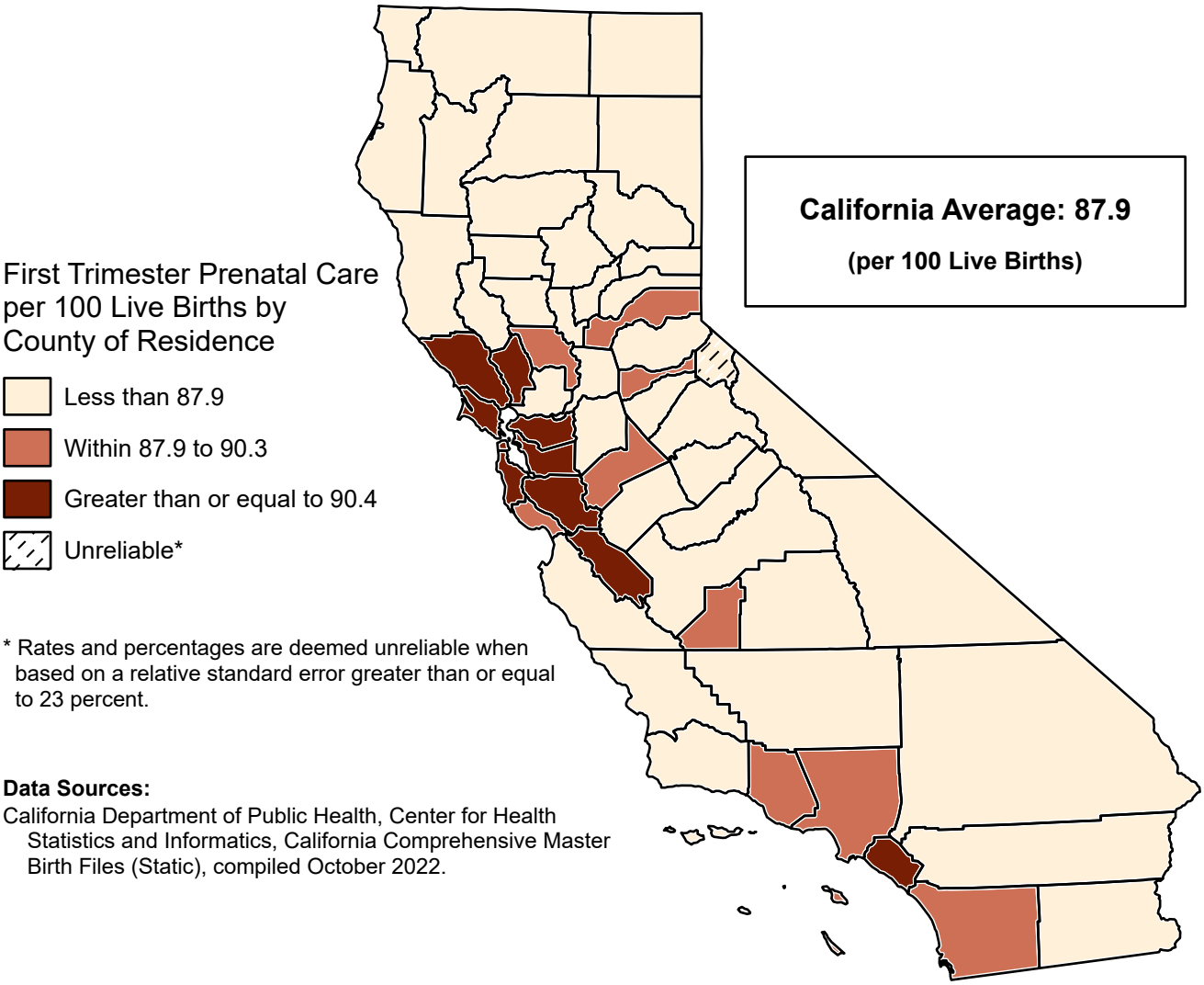
Among counties with reliable rates, the age-specific birth rate ranged from a high of 24.6 in Inyo County to a low of 3.7 in El Dorado County, a factor of 6.6 to 1 (see Table 26).

A Healthy People 2030 National Objective for births to adolescent mothers, 15 to 19 years old has not been established.

Two counties contain suppressed data for the counts, rate, and confidence limits per the Data De-Identification Guidelines (DDG). See Technical Notes for more information regarding DDG.

The California age-specific birth rate of births to adolescent mothers, 15 to 19 years old for the 2016 to 2018 period averaged 14.3 per 1,000 female population in the corresponding age group.

PRENATAL CARE BEGUN DURING THE FIRST TRIMESTER OF PREGNANCY, 2019–2021



* Rates and percentages are deemed unreliable when based on a relative standard error greater than or equal to 23 percent.

Data Sources:
California Department of Public Health, Center for Health Statistics and Informatics, California Comprehensive Master Birth Files (Static), compiled October 2022.

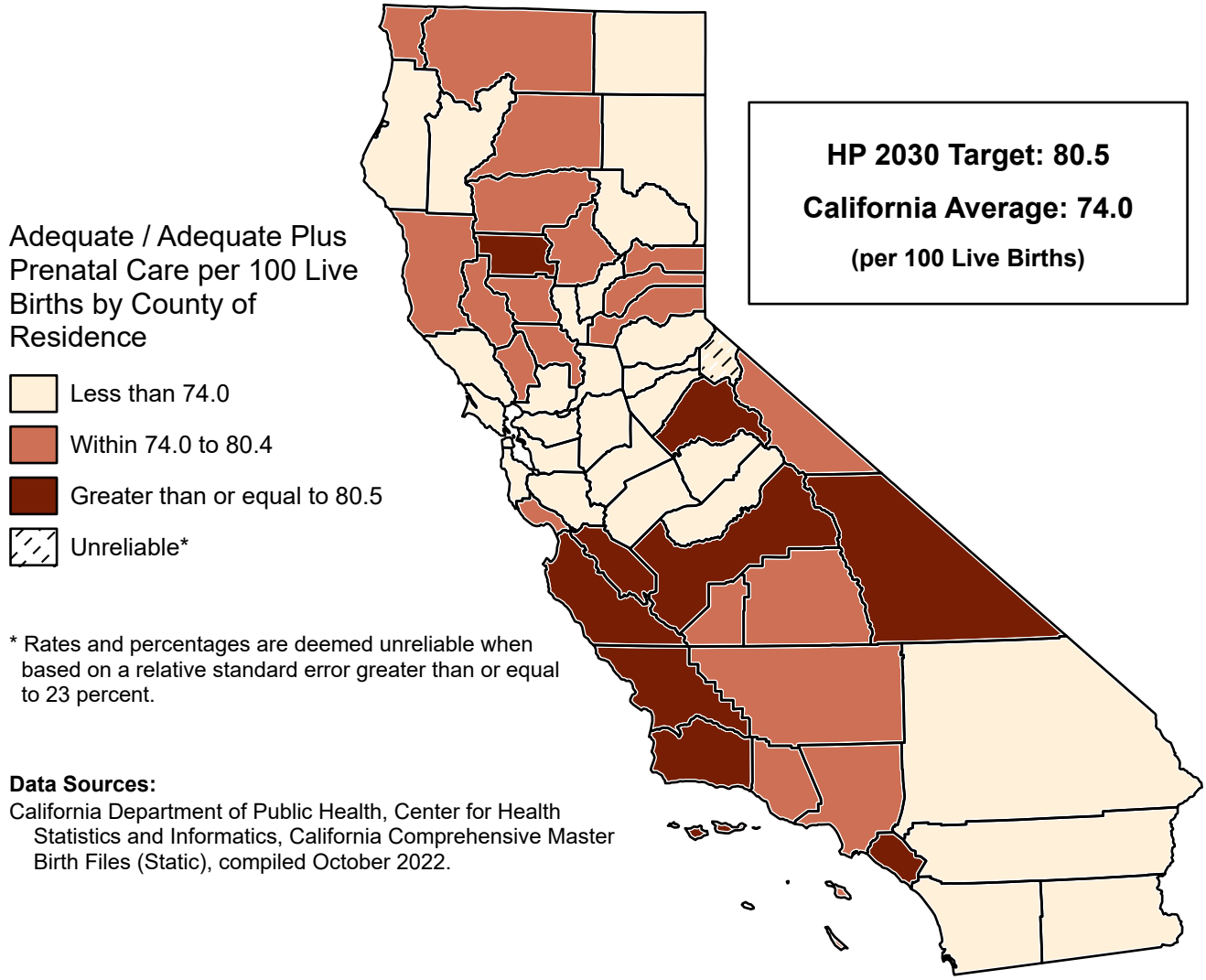
The relative number of births to mothers who began prenatal care during the first trimester of pregnancy for California averaged 87.9 per 100 live births, or 87.9 percent. The percentage of births to mothers who began prenatal care during the first trimester of pregnancy is derived from averaging the number of births to mothers who began prenatal care during the first trimester of pregnancy, 369,641.3, and dividing by the average number of live births where the month prenatal care began is known, 420,600.0, for 2019 through 2021.

Among counties with reliable percentages, the percentage of births to mothers who began prenatal care during the first trimester of pregnancy ranged from a high of 93.0 in San Mateo County to a low of 49.8 in Imperial County, a factor of 1.9 to 1 (see Table 27A).

A Healthy People 2030 National Objective for prenatal care begun during the first trimester of pregnancy has not been established.

The California percentage of births to mothers who began prenatal care during the first trimester of pregnancy for the 2016 to 2018 period averaged 83.9 per 100 live births.

ADEQUATE/ADEQUATE PLUS PRENATAL CARE (ADEQUACY OF PRENATAL CARE UTILIZATION INDEX), 2019–2021



The relative number of births to mothers who received adequate/adequate plus prenatal care for California averaged 74.0 per 100 live births, or 74.0 percent. The percentage of births to mothers who received adequate/adequate plus prenatal care is derived from averaging the number of births to mothers who received adequate/adequate plus prenatal care, 308,595.3, and dividing by the average number of live births, 417,095.0, for 2019 through 2021.

Among counties with reliable percentages, the percentage of births to mothers who received adequate/adequate plus prenatal care ranged from a high of 86.8 in San Luis Obispo County to a low of 51.7 in Imperial County, a factor of 1.7 to 1 (see Table 27B).

Nine counties with reliable percentages met the Healthy People 2030 National Objective MICH-08 of at least 80.5 births to mothers who received adequate/adequate plus prenatal care per 100 live births. California as a whole did not meet the national objective for adequate/adequate plus prenatal care.

The California percentage of births to mothers who received adequate/adequate plus prenatal care for the 2016 to 2018 period averaged 78.0 per 100 live births.

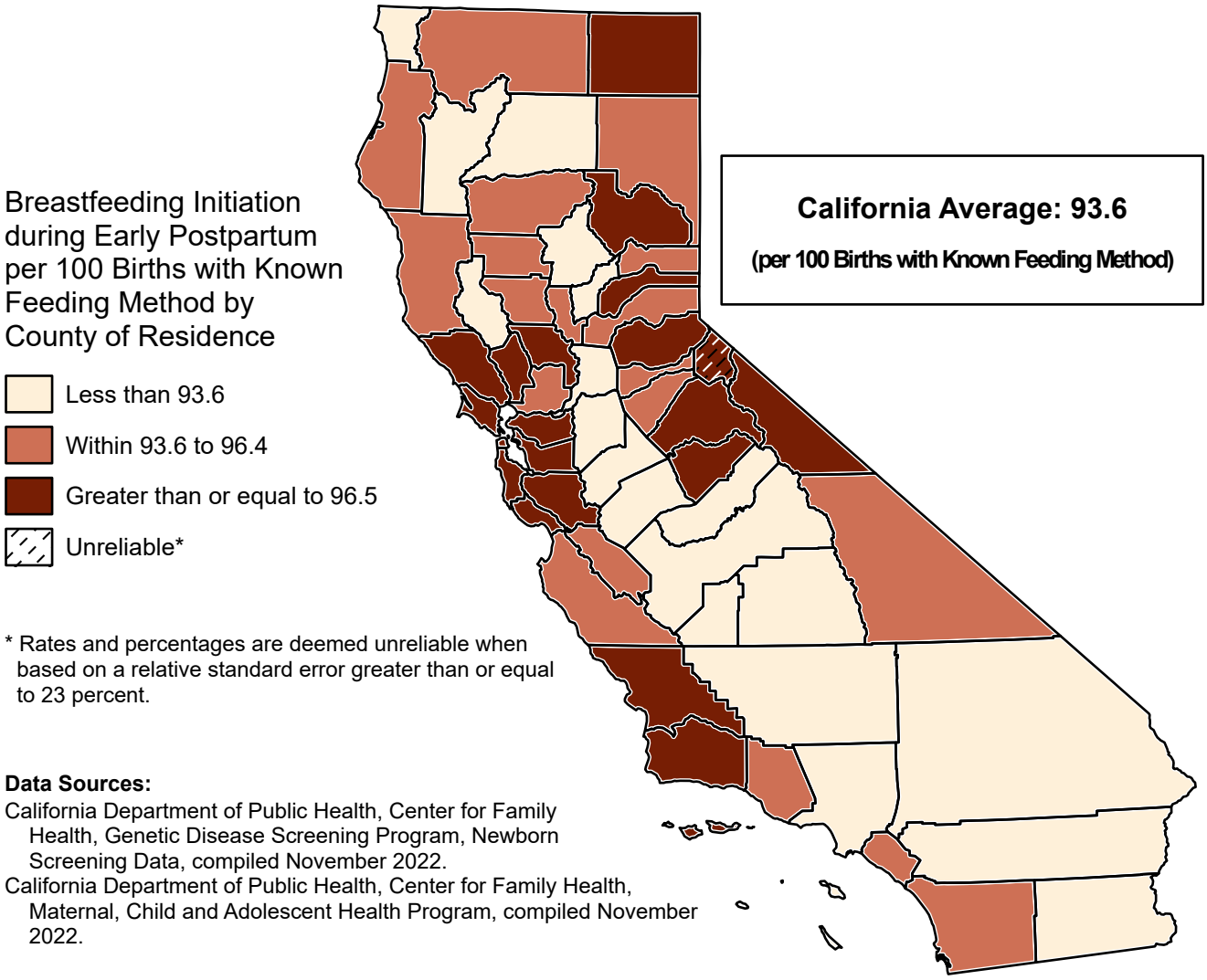
BREASTFEEDING

This section presents a map and highlights for the breastfeeding health indicator that is included in Table 28.

Breastfeeding Health Indicator	Table
Breastfeeding Initiation during Early Postpartum	28

Tables 1–29 are available as a separate file on the *Profiles* webpage and Open Data Portal dataset.

BREASTFEEDING INITIATION DURING EARLY POSTPARTUM, 2019–2021



* Rates and percentages are deemed unreliable when based on a relative standard error greater than or equal to 23 percent.

Data Sources:

California Department of Public Health, Center for Family Health, Genetic Disease Screening Program, Newborn Screening Data, compiled November 2022.

California Department of Public Health, Center for Family Health, Maternal, Child and Adolescent Health Program, compiled November 2022.

The relative number of breastfed infants for California averaged 93.6 per 100 births with known feeding method, or 93.6 percent. The percentage of breastfed infants is derived from averaging the number of breastfed infants, 351,182.7, and dividing by the average number of births with known feeding method, 375,154.3, for 2019 through 2021.

Among counties with reliable percentages, the percentage of breastfed infants ranged from a high of 100.0 in Modoc County to a low of 86.4 in Fresno County, a factor of 1.2 to 1 (see Table 28).

A Healthy People 2030 National Objective for breastfeeding initiation during early postpartum has not been established.

One county contains suppressed data for the counts, percentage, and confidence limits per the Data De-Identification Guidelines (DDG). See Technical Notes for more information regarding DDG.

The California percentage of breastfed infants of breastfeeding initiation during early postpartum for the 2016 to 2018 period averaged 93.9 per 100 births with known feeding method.

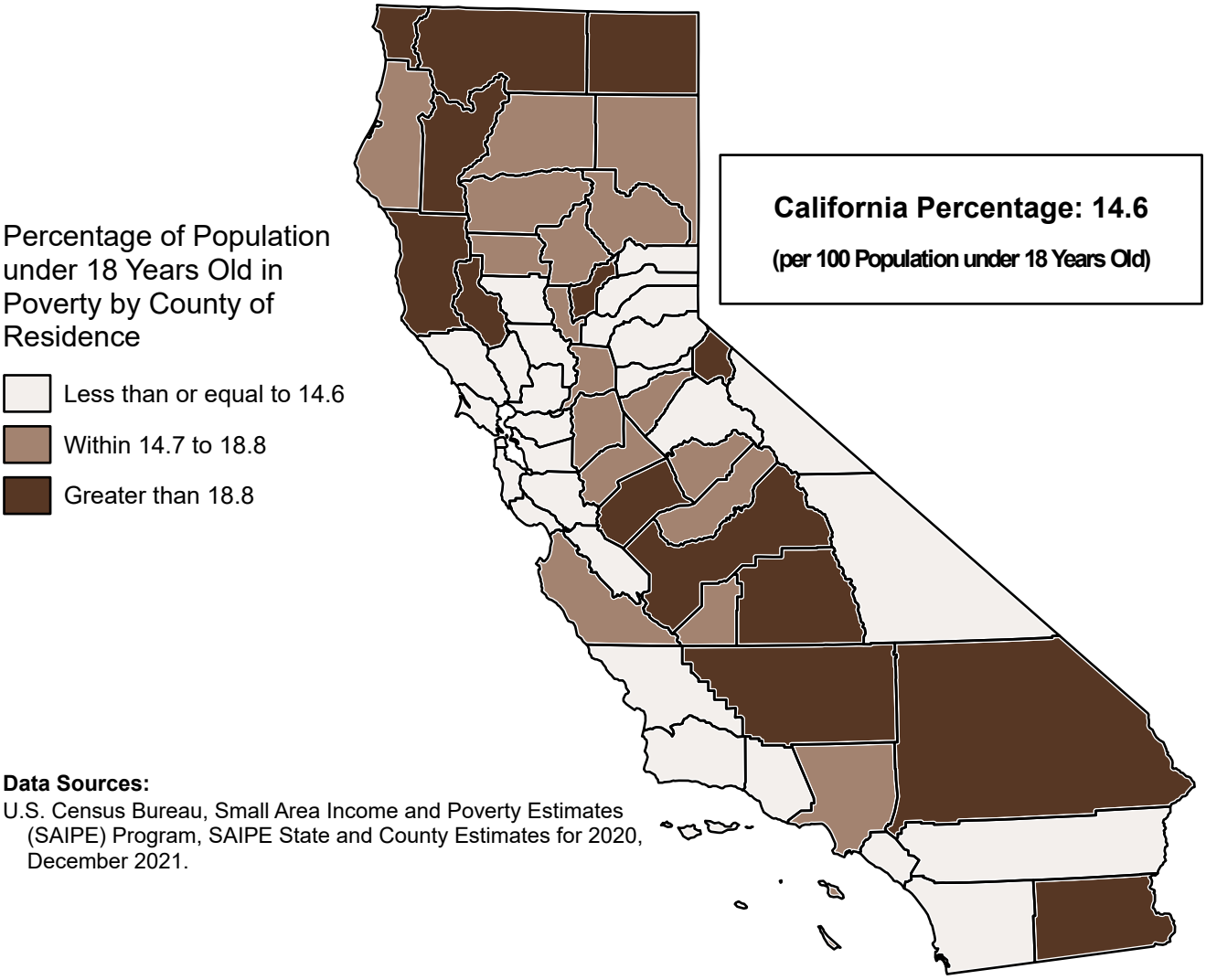
POVERTY

This section presents a map and highlights for the poverty health indicator that is included in Table 29.

Poverty Health Indicator	Table
Persons under 18 Years Old in Poverty	29

Tables 1–29 are available as a separate file on the *Profiles* webpage and Open Data Portal dataset.

PERSONS UNDER 18 YEARS OLD IN POVERTY, 2020



Data Sources:
U.S. Census Bureau, Small Area Income and Poverty Estimates (SAIPE) Program, SAIPE State and County Estimates for 2020, December 2021.

In California, 14.6 percent of persons under 18 years old were living in poverty. The percentages of persons under 18 years old in poverty are from the Small Area Income and Poverty Estimates (SAIPE) for 2020 from the U.S. Census Bureau.

Among counties with reliable percentages, the percentage of persons under 18 years old in poverty ranged from a high of 28.1 in Modoc County to a low of 5.6 in San Mateo County, a factor of 5.0 to 1 (see Table 29).

A Healthy People 2030 National Objective for persons under 18 years old in poverty has not been established.

The percentage of persons under 18 years old in poverty for the previous period is not provided because comparisons between SAIPE model-based estimates from different years need to take into account cross-year correlations.

COMPARISON OF AVERAGE RATES OR PERCENTAGES AMONG SELECTED HEALTH STATUS INDICATORS

The comparison of selected health status indicators (Table 30) is available as a separate file on the *Profiles* webpage.

TECHNICAL NOTES

DATA SOURCES

County Health Status Profiles (Profiles) presents birth and death data using records from the California Department of Public Health (CDPH), Center for Health Statistics and Informatics (CHSI) birth and death registration systems as sources. Birth statistics were tabulated from the Birth Statistical Master Files for 2016–2017 and the California Comprehensive Master Birth Files for 2018–2021. Death statistics were tabulated from the California Comprehensive Master Death Files for 2016–2021.

The linked birth-death records in the Birth Cohort-Perinatal Outcome Files for 2015–2020 are based on the Birth and Death Master Files. For additional information, please refer to the CDPH Vital Records Data and Statistics webpage.

The following CDPH programs provided data: Office of AIDS, Surveillance Section provided incidence data of diagnosed HIV and AIDS cases; the Division of Communicable Disease Control, Sexually Transmitted Diseases Control Branch was the source for reported case incidence of chlamydia, gonorrhea, congenital syphilis, and primary/secondary syphilis; and Tuberculosis Control Branch provided reported case incidence of tuberculosis. The Center for Family Health, Maternal, Child and Adolescent Health Program prepared the breastfeeding initiation data, having utilized information collected by the Center for Family Health Genetic Disease Screening Program, and Newborn Screening Data.

The California Department of Finance, Demographic Research Unit provided the P-3 Population Projections Baseline 2019, Vintage 2020 data file released July 2021. Projections were used in the development of the age-adjusted rates, crude case rates, and age-specific birth rates for the current (2019–2021) and previous (2016–2018) periods with the exceptions of HIV/AIDS, birth cohort infant mortality, and poverty. The current measurement period for HIV/AIDS and infant mortality is 2018–2020, and the previous measurement period for HIV/AIDS and birth cohort infant mortality is 2015–2017.

Estimates of persons under age 18 years old in poverty were obtained from the U.S. Census Bureau's Small Area Income and Poverty Estimates (SAIPE) program. The current measurement period for poverty is 2020. As of *Profiles 2023*, the previous period is no longer provided because comparisons between SAIPE model-based estimates from different years need to take into account cross-year correlations.

Tables in this report may reflect small undercounts where case data were received late or vital event data were registered after the cutoff date for the creation of the data files.

Additional resources and website addresses can be found at the conclusion of the report.

DATA DEFINITIONS

Statistics include only individuals with a known and valid California county of residence.

Data De-Identification

In order to prevent inadvertent or intentional re-identification of individuals from the *Profiles* data, CHSI reviews all tables prior to release, and implements cell suppression procedures in accordance with the California Health and Human Services Agency Data De-Identification Guidelines (DDG).

Mortality (Tables 1–19)

Use of the consensus set of health status indicators has been facilitated by reference to the causes of mortality coded using the International Classification of Diseases, Tenth Revision

(ICD-10). Beginning with 1999 mortality data, changes to ICD-10 follow a worldwide standard set by the World Health Organization. Standards for ICD-10 implementation were set by the National Center for Health Statistics (NCHS).

The following is a list of the mortality tables in this report and the ICD-10 codes used to create these tables. The methodology for classifying the mortality indicators presented here may differ from other reports of California death data. The ICD-10 codes used to classify the mortality data for the tables, per Healthy People 2030 (HP 2030) National Objectives, where applicable, are current as of September 28, 2022. Deaths due to all causes, diabetes based solely on underlying cause, Alzheimer's disease, influenza and pneumonia, and chronic lower respiratory disease are not included in HP 2030.

Table 1: All Causes of Death	A00–Y89
Table 2: All Cancer Deaths	C00–C97
Table 3: Colorectal Cancer	C18–C21, C26.0
Table 4: Lung Cancer	C34
Table 5: Female Breast Cancer	C50
Table 6: Prostate Cancer	C61
Table 7: Diabetes	E10–E14
Table 8: Alzheimer's Disease	G30
Table 9: Coronary Heart Disease	I20–I25
Table 10: Cerebrovascular Disease (Stroke)	I60–I69
Table 11: Influenza and Pneumonia	J09–J18
Table 12: Chronic Lower Respiratory Disease	J40–J47
Table 13: Chronic Liver Disease and Cirrhosis	K70, K73–K74
Table 14: Accidents (Unintentional Injuries)	V01–X59, Y85–Y86
Table 15: Motor Vehicle Traffic Crashes	V02–V04(.1, .9), V09.2, V12–V14(.3–.9), V19(.4–.6), V20–V28(.3–.9), V29–V79(.4–.9), V80(.3–.5), V81.1, V82.1, V83–V86(.0–.3), V87(.0–.8), V89.2
Table 16: Suicide	*U03, X60–X84, Y87.0
Table 17: Homicide	*U01–*U02, X85–Y09, Y87.1
Table 18: Firearm Related Deaths	*U01.4, W32–W34, X72–X74, X93–X95, Y22–Y24, Y35.0
Table 19: Drug Overdose Deaths	X40–X44, X60–X64, X85, Y10–Y14

Morbidity (Tables 20–23M)

In general, the case definition of a disease means positive laboratory test results, or in the absence of a confirmatory test, a constellation of clearly specified signs and symptoms that meet a series of clinical criteria as defined by the Centers for Disease Control and Prevention (CDC).

Due to incomplete reporting of infectious and communicable diseases by many health care providers, caution is advised in interpreting morbidity tables. Many factors contribute to the underreporting of these diseases. These factors include lack of awareness regarding disease

surveillance, lack of follow-up by support staff assigned to report, failure to perform diagnostic lab tests to confirm or to rule out infectious etiology, concern for anonymity of the client, and expedited treatment in lieu of waiting for laboratory results because of time or cost constraints. County designation reflects county of residence. Although table headings indicate the data shown are reported cases, please contact the CDPH Division of Communicable Disease Control and the Office of AIDS for complete morbidity reporting technical definitions and procedures.

HIV/AIDS (Table 20)

Since the 2018 publication, counts and rates are based on a population of 13 years and older living with HIV or AIDS. For prior *Profiles* publications, CDPH had collected only the reported incidences of AIDS among the population of 13 years and older. Accordingly, the inclusion of data that reports, both HIV positive counts as well as clinically diagnosed AIDS incidence, are not made available until March of each year and are therefore presented with a one-year delay for this publication. Consequently, the HIV/AIDS indicator reflects data from 2018–2020.

Tuberculosis (Table 23)

A tuberculosis (TB) case submitted to the TB Control Branch Registry by the annual cutoff date was included as a 2021 case in this report if the case was confirmed as active TB between January 1 and December 31, 2021.

For surveillance purposes, a case of TB is defined by laboratory and clinical evidence of disease caused by *Mycobacterium tuberculosis* (*Mtb*) complex. TB cases with culture or nucleic acid amplification evidence of *Mtb,* or acid-fast bacilli from a clinical specimen (when either a culture could not be obtained, or positive results were negative or contaminated), were classified as laboratory confirmed. In the absence of laboratory confirmation, cases that were reported from a positive tuberculin skin test (TST) or positive interferon gamma release assay (IGRA) for *Mtb*, or abnormal chest imaging (in those with pulmonary disease), and persons who have undergone treatment with two or more anti-TB medications, were classified as clinically confirmed TB. Reported cases not meeting one or more of the clinical criteria for TB were classified as provider-diagnosed cases because the health care provider determined there was sufficient evidence of active TB disease to report the case. All of these cases were considered active cases of disease and were reportable.

Birth Cohort Infant Mortality (Tables 24A–24E)

The infant mortality rate is the number of deaths among infants under one year of age per 1,000 live births. It is a universally accepted and easily understood indicator, which represents the overall health status of a community.

Studies of infant mortality that are based on information from death certificates alone have been found to underestimate infant death rates for all race/ethnic groups. Due to problems such as confusion about event registration requirements, incomplete data, and transfers of newborns from one facility to another for medical care, infant mortality rates in this report are based on linked birth and infant death records in the Birth Cohort-Perinatal Outcome Files, which generate more accurate estimates of the total number of infant deaths as well as race-specific infant mortality rates.

Because birth and death certificate registration data are included in the Birth Cohort-Perinatal Outcome Files after the Birth and Death Master Files have been closed to further processing, and hospital follow-back is conducted to resolve questionable cases, cohort files cannot be as timely as the Master Files. However, the Birth Cohort-Perinatal Outcome Files are more complete and consequently more accurate.

The results for Asian/Pacific Islander Infant Mortality (Table 24B), Black Infant Mortality (Table 24C), Hispanic Infant Mortality (Table 24D), and White Infant Mortality (Table 24E) were mostly suppressed due to DDG. In accordance with California Government Code Section 8310.7 (e), data within this report do not include disaggregated subcategories of Asian and Pacific Islander for infant mortality because such tabulations would result in statistical unreliability and possible re-identification.

Natality (Tables 25–27B)

The natality data were obtained from the Birth Statistical Master Files for years 2016 through 2017 and the California Comprehensive Master Birth Files for years 2018 through 2021. Records with unknown attributes were excluded from the total number of live births in developing certain tables as follows: Table 25 excludes unknown birthweights; Table 27A excludes unknown prenatal care; and Table 27B excludes unknown adequacy of prenatal care.

Low Birthweight Infants (Table 25)

Low birthweight has been associated with negative birth outcomes and may indicate a lack of access to health care or preventive care, and/or the need for prenatal care services. Prevalence of low birthweight is defined as the percentage of live births weighing less than 2,500 grams (approximately 5.5 pounds). Birth rates for adolescents are an indicator of other high-risk pregnancy factors. Adolescent birth rate is defined as the number of births to mothers 15 to 19 years of age per 1,000 female population.

Prenatal Care Begun during the First Trimester of Pregnancy (Table 27A)

The prenatal care indicator, Prenatal Care Begun during the First Trimester of Pregnancy, has been associated with access to care. However, the percentage of births in which the mother's prenatal care began in the first trimester, as a health indicator, does not readily permit an unambiguous interpretation. Accordingly, it may fail to document whether or not prenatal care actually continues throughout the pregnancy.

Adequate/Adequate Plus Prenatal Care (Table 27B)

In addition to Prenatal Care Begun during the First Trimester of Pregnancy, this report includes adequacy of prenatal care based on the Adequacy of Prenatal Care Utilization Index. From 1995 through 1998, the Kessner Index was used to measure the adequacy of prenatal care (Kessner, 1973). The Kessner Index was replaced in the 1999 report by the Adequacy of Prenatal Care Utilization Index, which is the methodology specified in HP 2030.

The Adequacy of Prenatal Care Utilization Index developed by Kotelchuck (1994) attempts to characterize prenatal care utilization in two independent and distinctive dimensions: adequacy of prenatal care initiation and services received (once prenatal care has begun).

The initial dimension, adequacy of prenatal care initiation, characterizes the month prenatal care began and its timeliness. The second dimension, adequacy of received services, characterizes the number of prenatal care visits received from the time the mother began prenatal care until delivery. The adequacy of prenatal visits is based on the recommendations established by the American College of Obstetricians and Gynecologists. These two dimensions are then combined into a single summary prenatal care utilization index, which contains the following five categories for adequacy of prenatal care:

(1) Adequate Plus: Prenatal care begun by the fourth month and 110 percent or more of the recommended visits received.

(2) Adequate: Prenatal care begun by the fourth month and 80 to 109 percent of the recommended visits received.

(3) Intermediate: Prenatal care begun by the fourth month and 50 to 79 percent of the recommended visits received.

(4) Inadequate: Prenatal care begun after the fourth month, or less than 50 percent of the recommended visits received.

(5) Missing Information: Unknown adequacy of prenatal care.

Only adequate and adequate plus prenatal care is used to measure the adequacy of prenatal care utilization. Also, please note the two-factor index does not assess the access to or quality of the prenatal care that was delivered, but simply its utilization.

Breastfeeding Initiation during Early Postpartum (Table 28)

Data for in-hospital breastfeeding practices in California since 2010 should not be compared to data published in prior years (2004–2009) due to revisions to the Newborn Screening Program (NBS) data collection tool (NBS Form), as well as changes in the data analysis methodology.

The primary change, the exclusion of data for infants who were in a Neonatal Intensive Care Unit (NICU) nursery at the time of specimen collection, was done in order to better align with the new perinatal quality measure on exclusive breast milk feeding endorsed by the National Quality Forum, the Joint Commission, and the Leapfrog Group. For additional information on the methods used to compute this indicator, visit the CDPH Breastfeeding Data webpage.

Breastfeeding initiation data are obtained from the Center for Family Health's Genetic Disease Screening Program, and Newborn Screening Data with analyses by the Maternal, Child, and Adolescent Health Program. All non-military hospitals providing maternity services are required to complete the Newborn Screening Test Form prior to an infant's discharge. The analysis is limited to cases reported on the Newborn Screening Test Form [Version NBS-I (D)].

Infant feeding data presented in this report include all feedings from birth to time of specimen collection, usually 24 to 48 hours. To complete the form, staff must select from the following three categories to describe all feeding since birth:

(1) Only Human Milk

(2) Only Formula

(3) Human Milk & Formula

In Table 28, the number for "BREASTFED" includes records marked "Only Human Milk" or "Human Milk & Formula." The "TOTAL NUMBER" excludes data for infants who were in a Neonatal Intensive Care Unit (NICU) nursery or received Total Parenteral Nutrition (TPN) at the time of specimen collection. Also, excluded are cases with an unknown method of feeding.

CDPH compiles data from a variety of sources to monitor progress towards achieving HP 2030 National Objectives for breastfeeding initiation, duration and exclusivity, and hospital and worksite support for breastfeeding mothers and infants. For information on these CDPH programs and initiatives, as well as resources that can help pregnant or breastfeeding women, refer to the CDPH Breastfeeding Data.

Persons Living in Poverty (Table 29)

People under 18 years old and living in households with incomes at or below the poverty level define the category of the population under 18 in poverty. The percent of people under 18 years old in this category is an indicator of global risk factors that have implications for access to health services. For additional information, refer to the SAIPE program. SAIPE uses the Official Poverty Level, which estimates poverty rate by examining an individual's income. It does not account for

other factors such as geographical differences in the cost of housing, and thus may not accurately reflect the actual level of poverty in California.

Race/Ethnic Groups

Race/ethnic group is based on the race and ethnicity as reported for the parent giving birth on the birth certificate for infant mortality and for the decedent on the death certificate for mortality. These categories align with the 1997 U.S. Office of Management and Budget (OMB) revised minimum standards for collecting, maintaining, and presenting data on race and ethnicity as described in the 1997 revision of OMB Directive 15. Irrespective of race, any individual identifying as Hispanic, Latino(a), or Spanish was classified as Hispanic. The race category for non-Hispanic individuals was determined as follows: two or more race groups (includes any combination of multiple OMB race categories); American Indian/Alaska Native (includes Aleut, American Indian, and Eskimo); Asian (includes Asian Indian, Bangladeshi, Cambodian, Chinese, Filipino, Hmong, Indonesian, Japanese, Korean, Laotian, Malaysian, Pakistani, Sri Lankan, Taiwanese, Thai, Vietnamese, and Other Asian); Black (includes Black and African American); Pacific Islander (includes Fijian, Guamanian, Hawaiian, Samoan, Tongan, and Other Pacific Islander); White (includes White and Other); and Not Stated and Unknown (includes data for individuals who declined to state their race or for whom the data were not obtainable for other reasons).

State and County of Residence

State and county of residence for analyses using the California Comprehensive Master Birth Files and California Comprehensive Master Death Files are determined using the census tract derived from geocoding the residence address. When the census tract is unavailable, the state and county is determined using the value as entered on the certificate of birth or death. During original production of the 2019 Birth Cohort File, births for certain counties were overcounted, and an errata file has been produced to correct this. *Profiles 2023* uses the errata file to correct state and county of residence for analyses based on the 2019 Birth Cohort File.

CRUDE RATES AND AGE-ADJUSTED RATES

Crude rates and age-adjusted rates are calculated for mortality data. The numerator data used to compute mortality rates and percentages were three-year averages compiled by county of residence of the decedent, mother's county of residence for birth data (including linked birth-death data for infant mortality), and county of residence for morbidity data. Records with unknown county of residence were excluded from the analysis. Three-year averages tend to reduce the year-to-year fluctuations and increase the reliability of estimates.

The crude rate (or non-standardized) is calculated by dividing the annual number of events (e.g., deaths) by the total population at risk, then multiplying by a base (e.g., 100,000). Subpopulations, such as counties with varying age compositions, can have highly disparate crude death rates, because the risk of dying is primarily a function of age. Therefore, counties with a large component of elderly experience a higher death rate. The effect of different age compositions among counties or other demographic groups can be removed from the death rates by the age-adjustment process. This produces age-adjusted rates that permit comparisons among geographic and demographic groups, which are directly comparable with those that are expressed as age-adjusted rates in HP 2030.

Age-adjusted death rates are hypothetical rates obtained by calculating age-specific rates for each county and multiplying these rates by proportions of the same age categories in a "standard population," then summing the apportioned age-specific rates to a county total. The "standard population" used in the age-adjusted rates in this report is drawn from the 2000 U.S. Standard Population distribution that applies the same age groupings and proportions as those established by NCHS for the United States Department of Health and Human Services. Crude death rates,

which include the effect of age, are the rates that should be applied when measuring the actual risk of dying in a specific population. For further information on age-adjusted rates, see Klein and Schoenborn (2001) and Curtin and Klein (1995).

Only crude case rates were calculated for morbidity indicators. Although age and aging do affect morbidity, the effect is not as prominent as their impact on mortality. Birth cohort infant death rates are not age-adjusted. Since the deaths are linked to the births on a record-to-record basis within the birth cohort, these rates are based on a numerator (deaths) and a denominator (live births) from the same birth cohort. Birth cohort comparisons among counties reflect the actual risk of dying within one year of birth, are unaffected by confounding age compositions because the cohorts represent the same age group (under one year).

RELIABILITY OF RATES

Age-adjusted rates were calculated using the year 2000 U.S. standard population weights to facilitate meaningful comparison of vital statistics data rates over time and between groups. For additional information on the HP 2030 recommendations, visit the Healthy People 2030 webpage All vital statistics rates and morbidity rates are subject to random variation. This variation is inversely related to the number of events (e.g., deaths) used in calculating the rate. Small frequencies in the occurrence of events produce a greater likelihood that random fluctuations will be found within a specified time period. Rare events are relatively less stable in their occurrence from observation to observation. Consequently, counties with a small number of deaths, or few cases of morbidity, can yield highly unstable rates from year to year. The observation of zero events is especially hazardous, regardless of the population size. All observations and comparisons are limited to what was reported to CDPH. This report reduces to an extent the year-to-year fluctuation in the occurrence of infrequent events by basing rates on three-year average numbers of events (e.g., 2019–2021), divided by the population in the middle year (e.g., 2020).

The relative standard error (RSE) provided the rational basis for determining which rates may be considered “unreliable.” Conforming to NCHS standards, any rates that are calculated with an RSE of 23 percent or more, approximately 20 data elements, are considered unreliable. Using an RSE of 23 percent or more as the basis deviates from previous publications that relied strictly on less than 20 events, which provided a more conservative outcome. Unreliable rates are notated with an asterisk (*) in data tables and, where applicable, are presumed to have “Met” or “Not Met” the HP 2030 National Objective, as reported. Unreliable rates should always be interpreted with caution. When rates, percentages, and confidence limits are not calculated due to zero events, they are shown as dashes (-). For publications since *Profiles 2021*, the total events column has been incorporated into the tables. The public can access Tables 1 through 29 via the California Health and Human Services Agency Open Data Portal *Profiles* dataset.

The 95 percent confidence limits define the range within which the rate would probably occur in 95 out of 100 sets of data. In five of those 100 data sets, the rate or percent would fall outside the limits. Confidence intervals based on 100 or more data elements are calculated utilizing a normal distribution. In cases where there are fewer than 100 data elements, the gamma distribution is used. For appropriate statistical methodologies in comparing independent rates or percentages, please see Xu et al. (2021). The 95 percent confidence intervals for SAIPE estimates were calculated from the reported 90 percent confidence intervals based on a normal distribution.

RANKING OF COUNTIES

Data for each health indicator are displayed with the counties in rank order by increasing rates or percentages (rounded to the nearest tenth) with the exceptions of prenatal care begun during the first trimester of pregnancy (Table 27A), prenatal care adequacy (Table 27B), and breastfeeding initiation (Table 28). The county with the lowest rate or percentage (and the highest population) is

in the first rank moving down the column to the highest rate or percentage. To rank counties regarding their Birth Cohort Infant Mortality, counties were ordered by increasing birth cohort death rate and then by the decreasing total number of live births. Data for prenatal care begun during the first trimester of pregnancy, adequacy of prenatal care, and breastfeeding initiation are displayed with the counties in rank order by decreasing percentages. Where all 58 counties are ranked, the county possessing the highest percentage is in the first rank and the county with the lowest percentage is in the 58th rank. For all health indicators, counties with identical rates or percentages are ranked first by the largest population or number of births.

Suppression is in accordance with the DDG and counties have been arranged alphabetically above or below each applicable table's HP 2030 line. For counties where the rate/percentage met or exceeded the established HP 2030, the suppressed rates/percentages and counts have been replaced with "Met." Additionally, these counties have been listed alphabetically above the HP 2030 line. Conversely, counties with rates/percentages that did not meet the established HP 2030 were listed alphabetically below that table's HP 2030 line. Some of the counties with data that must be suppressed have rates/percentages and counts replaced with "Not Met." Caution should be used for all rates and percentages with an RSE greater than or equal to 23 percent, as these counties had unreliable rates and percentages as reported. Data events reported with unknown or missing resident geography are excluded from the total counts.

COMPARISON OF RATES AND PERCENTAGES (TABLE 30)

Rates and percentages have been calculated for one prior period, which facilitates comparison between that earlier period and the current reported statistics for selected health indicators.

Readers are cautioned against measuring progress toward target attainment for an HP 2030 using only one data point. The HP 2030 provide basic formulas to measure progress toward achieving a target for the selected health outcome. When rates and counts have been suppressed in accordance with the DDG, the suppressed values are represented in this table as "LNE" (Low Number Evaluated).

THEMATIC MAPS

Esri® ArcGIS Pro™ version 3.0.0 software was used to create the thematic maps. Mapped data were derived from the rates or percentages used for ranking the counties. Counties with rates or percentages determined to be unreliable as described under Reliability of Rates are indicated with an overlay pattern of diagonal dashes, whether or not they are presumed to have met the selected health objective. Counties with zero events are shown in a bright yellow color with black spots.

The mapping methodology strives to illustrate rates/percentages for each indicator in a way that highlights a county's status in meeting the HP 2030, if a target exists, and provides a comparison with the California statewide rate. For example, a typical map for an indicator with an HP 2030 objective displays counties that achieved the target in the lightest shade; counties with a rate between the California rate and the target in the medium shade; and counties with a rate above the California rate are shown in the darkest shade.

Rates or percentages for health indicators without an established HP 2030 objective, or with HP 2030 data collection criteria that California did not meet, are mapped according to counties with rates/percentages at or below the California three-year average rate or percentage. The remaining counties above California's rate/percentage were divided into two groups in accordance with the 50th percentile of the rates or percentages amongst those counties.

ALZHEIMER'S DISEASE REPORTING – SANTA CLARA COUNTY

Santa Clara County reported an abrupt decline in the number of Alzheimer's deaths for each year from 2013 to 2015 due to a change in the cause of death reporting practice among some certifiers of death in that county. Consequently, previously published data for Santa Clara County, beginning with *Profiles 2019*, may not reflect a true decline in the number of Alzheimer's deaths. Additionally, Santa Clara County has observed a reversal of this trend since 2016. There has been a year-by-year increase in deaths from Alzheimer's disease and a corresponding decrease in deaths from neurodegenerative disease from 2016 to 2021. As a result of this downward trend followed by a reversal, the reporting of deaths due to Alzheimer's disease in *Profiles 2023* for the current reporting period (2019 to 2021) displays a 93 percent increase compared to the previous period. If this trend reversal in Santa Clara County continues, the statewide average for the number of deaths due to Alzheimer's disease will steadily change in following years.

FORMULAS USED IN THIS REPORT

Rates and Error

$CR = (n / Npop) \times B$

$ADR = \sum W_a (nD_a / Npop_a) \times B$

$ASDR = (nD_a / Npop_a) \times B$

$IMR = (D_I / B_L) \times B$

$SE_x = (CR / \sqrt{n})$

$SE_y = \sqrt{\sum ((W_a \times ASDR)^2 / nD_a)}$

$SE_{IMR} = IMR \times (RSE_{IMR} / 100)$

$RSE_x = (SE_x / CR) \times 100$

$RSE_y = (SE_y / ADR) \times 100$

$RSE_{IMR} = 100 \times \sqrt{(1/D_I + 1/B_L)}$

$D_{adj} = 1 / (RSE / 100)^2$

Where:

CR = Crude Rate
ADR = Age-Adjusted Death Rate
$ASDR$ = Age-Specific Death Rate
IMR = Infant Mortality Rate
n = Number of Cases or Deaths
D_I = Total Number of Infant Deaths
B_L = Total Number of Live Births
$Npop$ = Population Size
nD_a = Number of Deaths in an Age Group
$Npop_a$ = Population Size in Same Age Group
B = Base
W_a = Age-Specific Weight (Standard Population Proportion)
SE_x = Standard Error of a Crude Rate
RSE_x = Relative Standard Error of a Crude Rate
SE_y = Standard Error of an Age-Adjusted Death Rate
RSE_y = Relative Standard Error of an Age-Adjusted Death Rate
SE_{IMR} = Standard Error of an Infant Mortality Rate
RSE_{IMR} = Relative Standard Error of an Infant Mortality Rate
D_{adj} = Adjusted Number of Deaths (rounded to the nearest integer)

Confidence Intervals

Normal Distribution

Crude Rates

Lower 95% CL = Rate - ($1.96 \times SE_x$)

Upper 95% CL = Rate + ($1.96 \times SE_x$)

Age-Adjusted Deaths Rates

Lower 95% CL = ADR - ($1.96 \times SE_y$)

Upper 95% CL = ADR + ($1.96 \times SE_y$)

Infant Mortality Rates

Lower 95% CL = IMR - ($1.96 \times SE_{IMR}$)

Upper 95% CL = IMR + ($1.96 \times SE_{IMR}$)

Gamma Distribution

Crude Rates

Lower 95% CL = Rate x GamInv (0.025, Numerator of Rate) / Numerator of Rate

Upper 95% CL = Rate x GamInv (0.975, Numerator of Rate + 1) / Numerator of Rate

Age-Adjusted Death Rates

Lower 95% CL = ADR x GamInv (0.025, D_{adj}) / D_{adj}

Upper 95% CL = ADR x GamInv (0.975, D_{adj} + 1) / D_{adj}

Infant Mortality Rates

Lower 95% CL = IMR * (GamInv (0.025, D_{adj}) / D_{adj})

Upper 95% CL = IMR * (GamInv (0.975, D_{adj} + 1) / D_{adj})

Where:

Rate is crude rate or age-specific rate depending on the table
GamInv is the gamma inverse function as used in SAS
CL = Confidence Limit

PROCEDURE FOR CALCULATING AGE-ADJUSTED RATES BY THE DIRECT METHOD

Age-adjusted rates calculated in this report follow the procedure that was used to set the HP 2030 based on the 2000 U.S. standard population. The data in the following example were extracted from Table 1: Deaths Due to All Causes, 2018–2020 for Alameda County.

Age Groups (Years)	2018–2020 Deaths (Average) (A)	2019 Population (B)	Age-Specific Rate/100,000 (C)	2000 U.S Standard Population Proportions (D)	Weighted Rate Factors (E)
Total	10,442.7	1,668,965	*not applicable*	*not applicable*	*not applicable*
Unknown	1.3	*not applicable*	*not applicable*	*not applicable*	*not applicable*
Under 1	60.0	17,866	335.8	0.013818	4.6
1–4	10.7	75,947	14.0	0.055317	0.8
5–14	15.7	192,359	8.1	0.145565	1.2
15–24	119.0	228,682	52.0	0.138646	7.2
25–34	218.7	233,202	93.8	0.135573	12.7
35–44	299.0	237,635	125.8	0.162613	20.5
45–54	582.7	223,395	260.8	0.134834	35.2
55–64	1,282.3	209,358	612.5	0.087247	53.4
65–74	1,892.0	150,880	1,254.0	0.066037	82.8
75–84	2,353.3	70,457	3,340.1	0.044842	149.8
85 and over	3,608.0	29,184	12,362.9	0.015508	191.7
AGE-ADJUSTED RATE.....					**625.4**

STEP 1: Arrange the data for the three-year average number of deaths and population for 11 age groups in columns A and B.

STEP 2: Calculate age-specific rates by dividing the number of deaths in column A (numerator) by the population in column B (denominator). Multiply the result (quotient) by the base of 100,000 to obtain the rates in column C.

STEP 3: Multiply each age-specific rate in column C by the corresponding 2000 U.S. Standard Population proportion in column D and enter the result in column E.

STEP 4: The values for each age group in column E are summed to obtain the Age-Adjusted Death Rate for Alameda County of 625.4 per 100,000 population.

STEP 5: Repeat Steps 1 through 4 for each county and the statewide total. Note that the 2000 U.S. Standard Population proportions remain the same for each county and the State. Direct comparisons can now be made among the counties, with the removal of the effect that varying county age compositions may have on death rate.

APPENDIX A
CALIFORNIA'S HEALTH STATUS PROFILE FOR 2023

The health status profile for California as a whole is now provided as a separate document. See the Tables reference or visit the *Profiles* webpage for more information.

APPENDIX B
STATEWIDE MORTALITY TRENDS

The coronavirus disease 2019 (COVID-19) pandemic has affected the mortality rates since 2020 by substantially increasing the number of deaths compared to previous years. Since the mortality data presented in *County Health Status Profiles* (*Profiles*) are based on three-year averages, this section reports statewide annual mortality trends to provide context for some changes in three-year averages reported in this publication of *Profiles*. All death rates are per 100,000 respective population of California residents.

HIGHLIGHTS OF ALL CAUSE MORTALITY

- Statewide deaths for California residents increased by 4.2 percent from 320,128 in 2020 to 333,573 in 2021 (Table B1).
- The statewide crude death rate increased by 3.8 percent from 804.7 deaths per 100,000 population in 2020 to 834.9 in 2021 (Figure B1, Table B1).
- The overall statewide age-adjusted death rate increased by 1.8 percent from 682.6 per 100,000 standard population in 2020 to 694.6 in 2021 (Figure B1, Table B1).
- For the female population, the age-adjusted death rate remained about the same with a 0.4 percent increase from 554.6 in 2020 to 556.9 in 2021 (Figure B2, Table B2).
- For the male population, the age-adjusted death rate increased by 2.5 percent from 829.5 in 2020 to 850.3 in 2021 (Figure B2, Table B2).
- The American Indian and Alaska Native population had the greatest relative increase in age-adjusted death rate, 14.3 percent, from 810.6 in 2020 to 926.2 in 2021 (Figure B3, Table B3).
- The Black population had the highest age-adjusted death rate in both 2020 and 2021. The age-adjusted death rate remained about the same with a slight relative decrease, 0.6 percent, from 1030.2 in 2020 to 1023.6 in 2021 (Figure B3, Table B3).

Figure B1. Annual all cause crude and age-adjusted death rates for California, 2016–2021

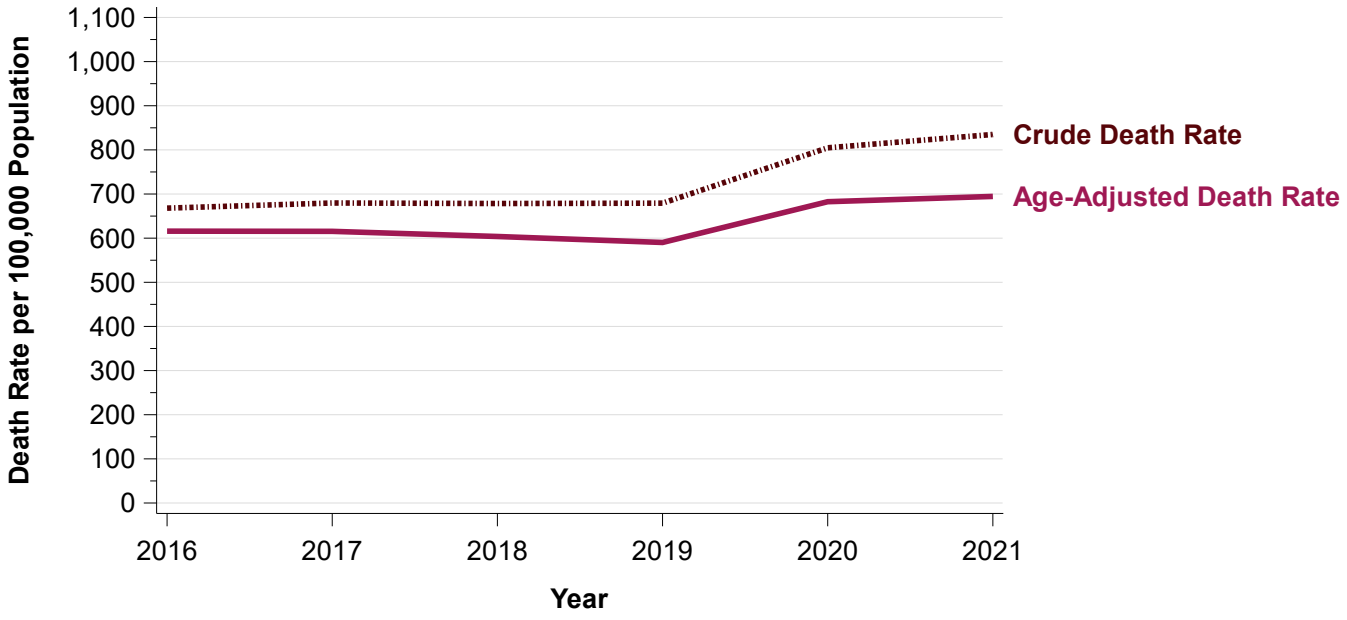


Table B1. Annual all cause deaths and death rates for California, 2016–2021

Measurement	2016	2017	2018	2019	2020	2021
Total Deaths	262,223	268,385	269,154	270,092	320,128	333,573
Crude Death Rate	668.0	679.7	678.5	679.3	804.7	834.9
Age-Adjusted Death Rate	615.9	615.4	603.8	590.2	682.6	694.6

Figure B2. Annual all cause age-adjusted death rates by sex for California, 2016–2021

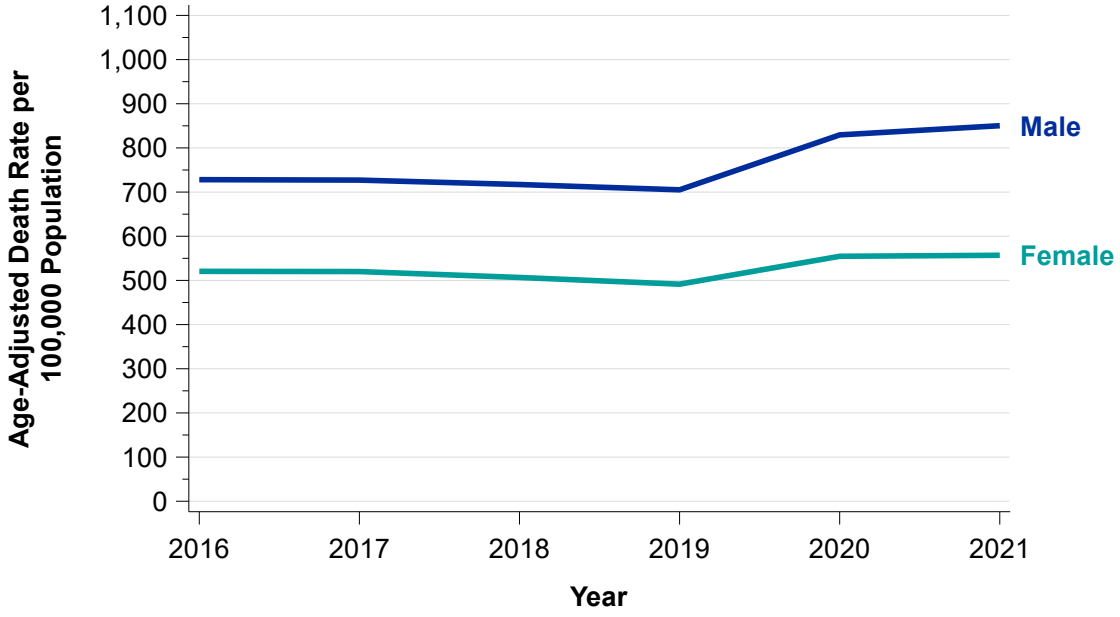


Table B2. Annual all cause age-adjusted death rates by sex for California, 2016–2021

Sex	2016	2017	2018	2019	2020	2021
Female	520.5	520.0	506.7	491.5	554.6	556.9
Male	728.1	727.1	717.1	705.1	829.5	850.3

Figure B3. Annual all cause age-adjusted death rates by race/ethnic group for California, 2016–2021

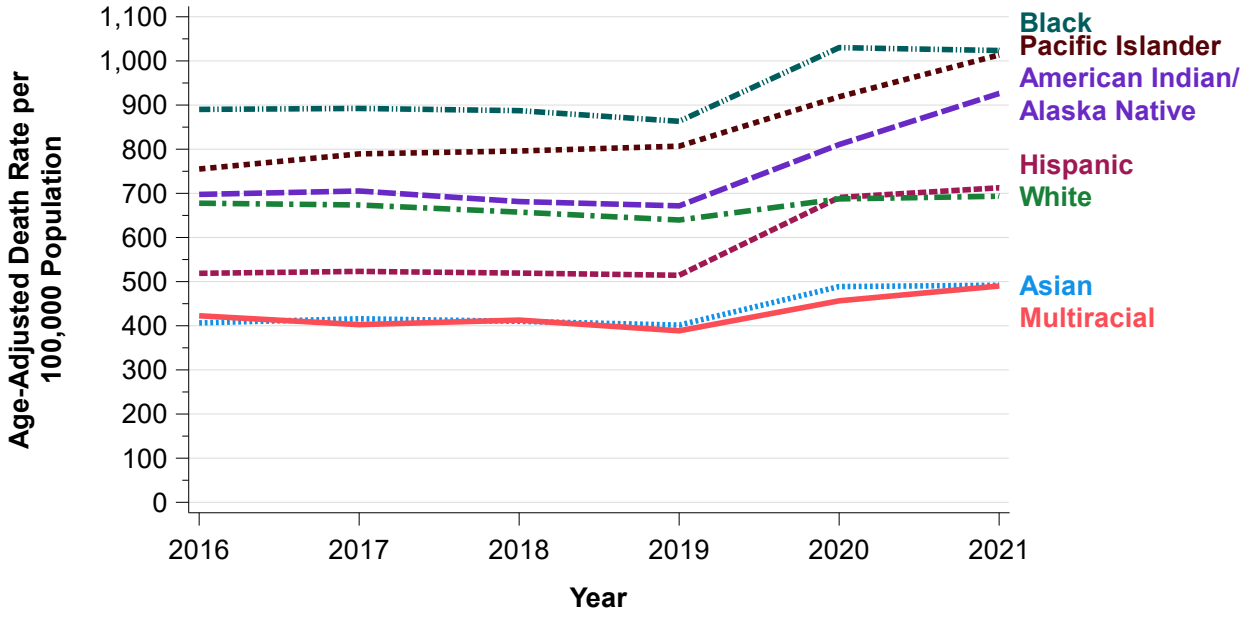


Table B3. Annual all cause age-adjusted death rates by race/ethnic group for California, 2016–2021

Race/Ethnic Group	2016	2017	2018	2019	2020	2021
American Indian/Alaska Native	697.6	705.3	681.3	671.6	810.6	926.2
Asian	406.5	415.8	410.0	401.5	488.8	491.7
Black	890.2	892.3	887.3	863.2	1030.2	1023.6
Hispanic	518.8	523.1	519.3	514.4	690.7	712.6
Multiracial	422.6	402.5	412.9	388.5	456.5	490.0
Pacific Islander	755.1	789.4	795.9	806.9	918.8	1013.6
White	677.6	673.6	657.4	639.6	687.4	693.4

HIGHLIGHTS OF MORTALITY HEALTH INDICATORS

The cause of death for the mortality health indicators in *Profiles* are based solely on the underlying cause of death. Deaths where COVID-19 was coded as the underlying cause of death are only included for all causes of death and are not included in any of the specific mortality health indicators. However, deaths where COVID-19 was listed as a significant condition contributing to death but not the underlying cause of death may be included for these health indicators.

Note that there is overlap between the mortality health indicators included in *Profiles*. For example, the accidents indicator includes all motor vehicle crashes and some, but not all, deaths due to drug overdose and firearm related injuries.

- The cancer mortality health indicators included in *Profiles* continued to decrease by between 2.6 and 4.8 percent from 2020 to 2021 (Figure B4, Table B4).
- The age-adjusted death rate due to chronic liver disease and cirrhosis increased by 14.8 percent from 2020 to 2021 (Figure B5, Table B4).
- Age-adjusted death rates for influenza and pneumonia, chronic lower respiratory disease, Alzheimer's disease, coronary heart disease, diabetes, and cerebrovascular disease decreased by between 1.1 and 26.6 percent from 2020 to 2021 (Figure B5, Table B4).
- Age-adjusted death rates from drug overdose, accidents, motor vehicle crashes, homicide, and firearm related injuries increased by between 3.5 and 22.3 percent from 2020 to 2021 (Figure B6, Table B4).
- The age-adjusted death rate from suicide remained unchanged between 2020 and 2021 (Figure B6, Table B4).

Figure B4. Annual age-adjusted death rates for deaths due to cancers, 2016–2021

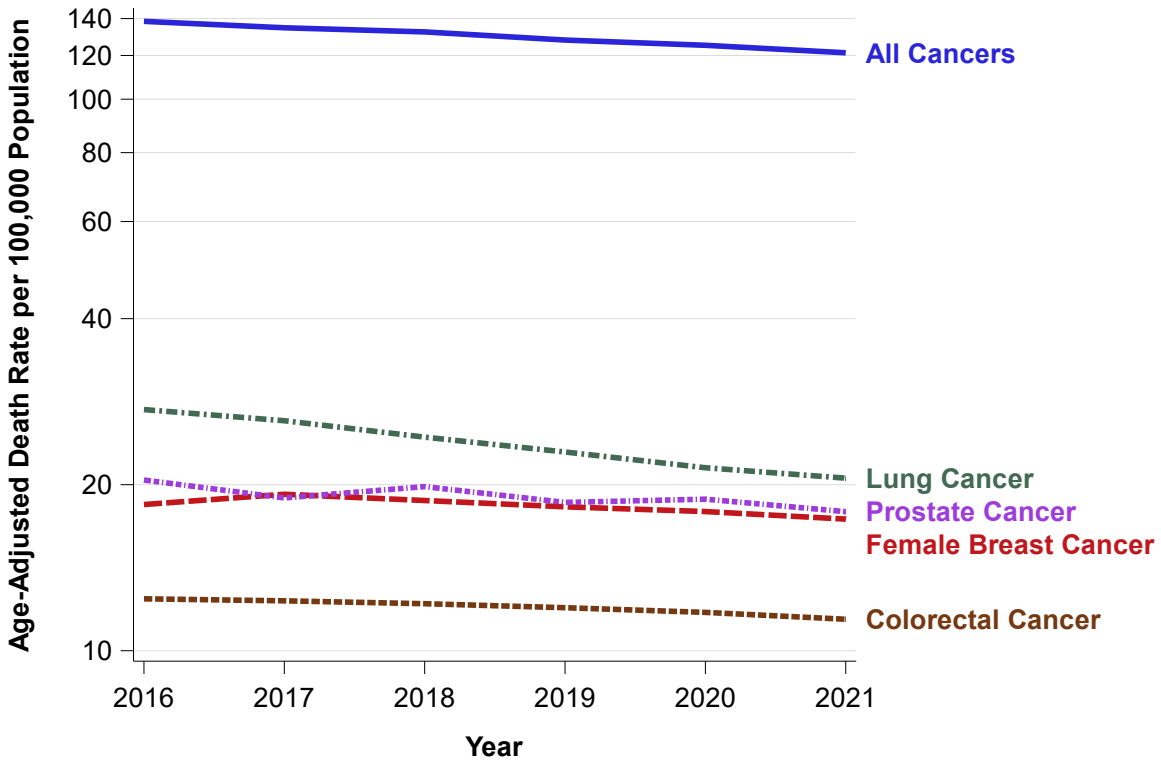


Figure B5. Annual age-adjusted death rates for deaths due to non-cancer diseases and conditions, 2016–2021

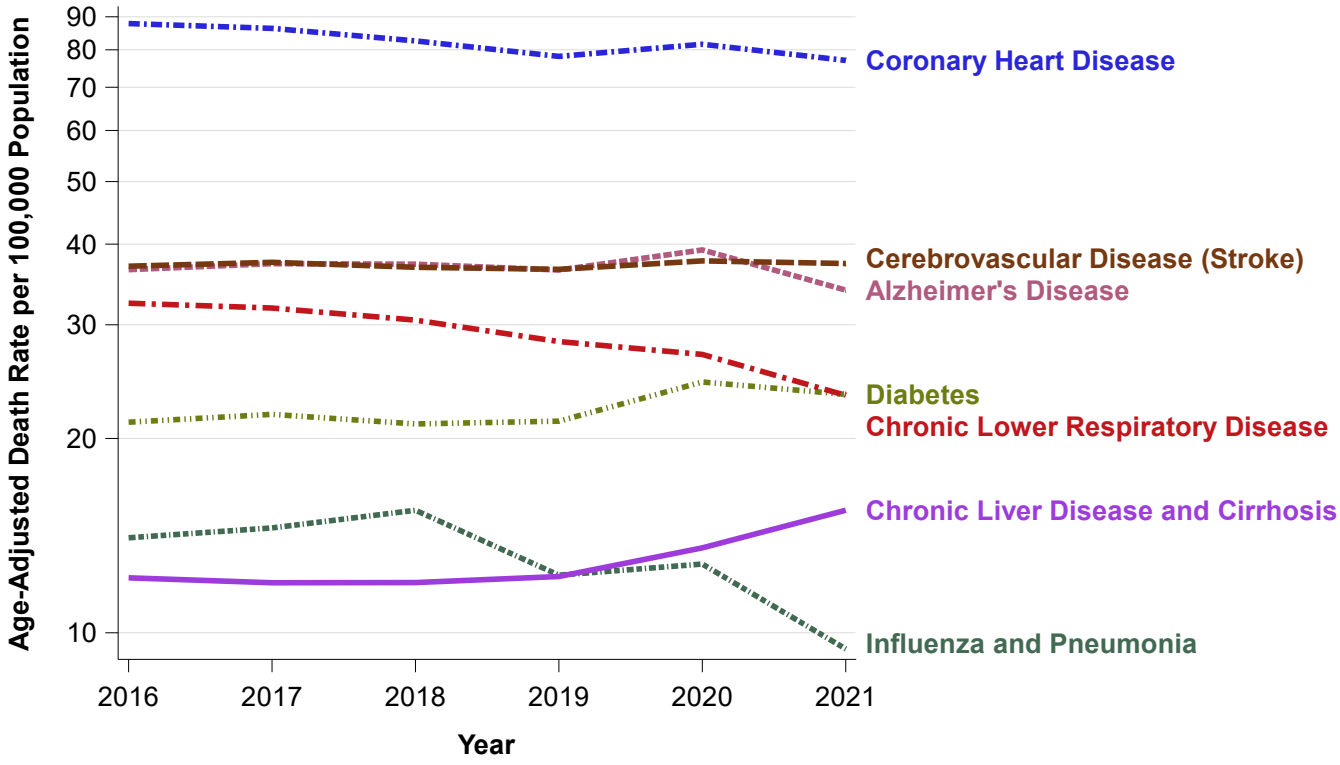


Figure B6. Annual age-adjusted death rates for deaths due to external and environmental forces, 2016–2021

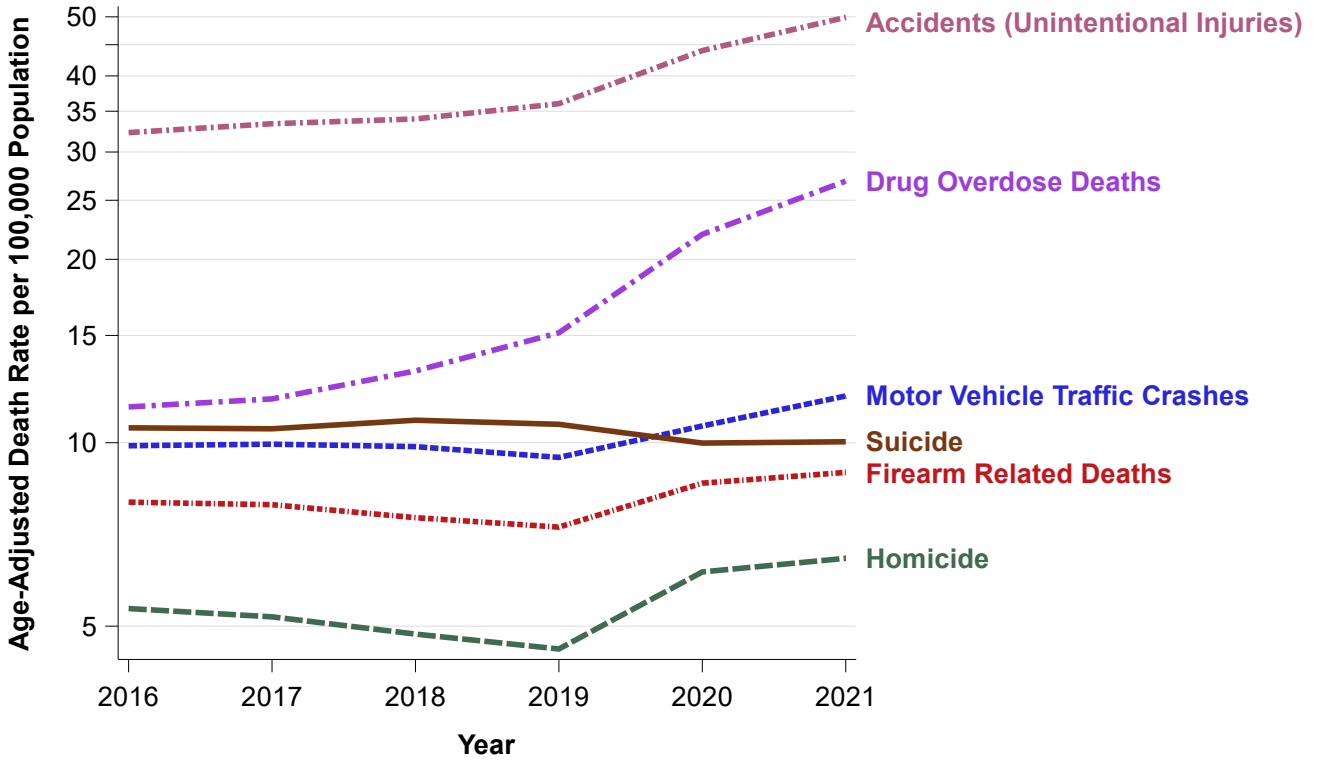


Table B4. Annual age-adjusted death rates by cause of death, 2016–2021

Cause of Death	2016	2017	2018	2019	2020	2021
All Causes	615.9	615.4	603.8	590.2	682.6	694.6
All Cancers	138.4	134.7	132.4	128.0	125.2	121.4
Colorectal Cancer	12.4	12.3	12.2	12.0	11.7	11.4
Lung Cancer	27.4	26.1	24.4	22.9	21.5	20.6
Female Breast Cancer	18.4	19.2	18.7	18.2	17.9	17.3
Prostate Cancer	20.4	18.9	19.8	18.6	18.8	17.9
Diabetes	21.2	21.8	21.1	21.3	24.5	23.4
Alzheimer's Disease	36.5	37.3	37.2	36.5	39.2	33.9
Coronary Heart Disease	87.8	86.4	82.6	78.1	81.6	77.0
Cerebrovascular Disease (Stroke)	37.0	37.5	36.8	36.6	37.7	37.3
Influenza and Pneumonia	14.0	14.5	15.5	12.3	12.8	9.4
Chronic Lower Respiratory Disease	32.4	31.8	30.5	28.3	27.0	23.3
Chronic Liver Disease and Cirrhosis	12.2	12.0	12.0	12.2	13.5	15.5
Accidents (Unintentional Injuries)	32.3	33.4	34.0	36.0	44.0	49.9
Motor Vehicle Traffic Crashes	9.9	9.9	9.9	9.5	10.7	11.9
Suicide	10.6	10.5	10.9	10.7	10.0	10.0
Homicide	5.3	5.2	4.9	4.6	6.1	6.5
Firearm Related Deaths	8.0	7.9	7.5	7.3	8.6	8.9
Drug Overdose Deaths	11.4	11.8	13.1	15.2	22.0	26.9

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California Department of Public Health, Tuberculosis Control Branch. "Tuberculosis Cases by County of Residence, 2016–2021." Compiled July 2022.

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ADDITIONAL RESOURCES AND WEBSITES

CALIFORNIA DEPARTMENT OF PUBLIC HEALTH

- County Health Status Profiles. https://www.cdph.ca.gov/Programs/CHSI/Pages/County-Health-Status-Profiles.aspx.
- County Health Status Profiles on the Open Data Portal. https://data.chhs.ca.gov/dataset/county-health-status-profiles.
- California Vital Data Query Tool (Cal-ViDa). https://www.cdph.ca.gov/Programs/CHSI/Pages/California-Vital-Data.aspx.
- Center for Health Statistics and Informatics. https://www.cdph.ca.gov/Programs/CHSI/.
- Vital Statistics Branch. https://www.cdph.ca.gov/Programs/CHSI/Pages/VSB.aspx.
- Center for Family Health, Maternal, Child and Adolescent Health Program. https://www.cdph.ca.gov/Programs/CFH/DMCAH/.
- Office of AIDS, Surveillance Section. https://www.cdph.ca.gov/Programs/CID/DOA/Pages/OAsre.aspx.
- Division of Communicable Disease Control. https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/DCDC.aspx.
- Sexually Transmitted Diseases Control Branch. https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/STD.aspx.
- Tuberculosis Control Branch. https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/TBCB.aspx.
- Breastfeeding Data. https://www.cdph.ca.gov/Programs/CFH/DMCAH/Breastfeeding/Pages/Data.aspx.
- Vital Records Data and Statistics. https://www.cdph.ca.gov/Programs/CHSI/Pages/Data-and-Statistics-.aspx.

OTHER STATE OF CALIFORNIA

- California Department of Finance, Demographic Research Unit. https://www.dof.ca.gov/Forecasting/Demographics/.
- California Health and Human Services Agency Open Data Portal. https://data.chhs.ca.gov/.

U.S. FEDERAL GOVERNMENT

- Healthy People 2030. https://health.gov/healthypeople
- Small Area Income and Poverty Estimates (SAIPE) Program. https://www.census.gov/programs-surveys/saipe.html.
- Centers for Disease Control and Prevention (CDC). https://www.cdc.gov/.
- National Center for Health Statistics (NCHS). https://www.cdc.gov/nchs/.
- National Vital Statistics System (NVSS). https://www.cdc.gov/nchs/nvss/.
- NVSS Instruction Manuals. https://www.cdc.gov/nchs/nvss/instruction-manuals.htm.
- CDC WONDER. https://wonder.cdc.gov/.

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- World Health Organization (WHO). https://www.who.int/