Annual Communicable Disease Dashboard
Data Notes and Sources

Overview

This dashboard provides an overview of communicable diseases in San Diego County.

It includes overall trends for communicable diseases reportable to the Epidemiology and Immunization Services Branch (EISB). If sufficient data are available, additional descriptive summaries are provided. Diseases investigated by other PHS branches or programs are not covered by this dashboard. HIV disease reports are managed by the HIV/Hepatitis C Epidemiology & Surveillance Program (HHESP); sexually transmitted disease (chlamydia, gonorrhea, syphilis, chancroid, pelvic inflammatory disease, monkeypox) reports are managed by the HIV, STD, and Hepatitis Branch; and tuberculosis reports are managed by the Tuberculosis Control and Refugee Health Branch. Data related to these diseases can be found on their respective websites. Case counts for all diseases monitored by PHS are available in a Five-Year Table of Reportable Diseases and Conditions on the Epidemiology Program Statistics and Reports website.

EISB, a branch within Public Health Services (PHS), a department of the County of San Diego Health and Human Services Agency (HHSA), is responsible for registering, investigating, and monitoring reports of numerous communicable diseases, with the goals of preventing morbidity and mortality and protecting the health of the community. Important components of meeting these goals are interviewing case-patients and taking direct public health action as a result. Equally important, however, is using the data collected via the reports and interviews to describe the characteristics of cases and review trends over time. This type of analysis may help detect outbreaks and suggest additional, population-based public health prevention and control measures.

Organization and Content

This dashboard begins with a 5-year table of diseases reportable to EISB. Users are directed to the first section, Overall Trends, by clicking on a single disease within the 5-year table. From there, there is a navigation panel showing all sections available within the dashboard: 5-Year Table, Overall Trends, Demographics, Additional Info, Map, Disease Info, Notes, and Resources. Within each section, users can utilize a disease filter to choose to view another disease. Diseases are listed in alphabetical order.

Overall Trends

This section features a bar graph with case count trends over time. The number of years included depends on when the disease became reportable and the number of years of reliable data in the San Diego County disease registry. The earliest year included for any disease is 1993.

Incidence rates per 100,000 population are presented as line graphs. These graphs compare incidence in San Diego County to incidence in California and the United States. National data may be omitted if the

disease is not nationally notifiable. The graph may not be included if five years of data are not available. In some cases, incidence rates are calculated for San Diego County even if case counts are low. However, when case counts are low, rates should be considered unstable and interpreted with caution; they may vary considerably from year to year.

An additional graph of cases by month of onset is presented at the bottom of this section. This graph displays case counts by month for the most recent year of data available as bars, compared to a line showing the average count by month over the previous three years. While all other data in this dashboard are presented by CDC disease year, this graph presents the data by calendar year, grouped by "episode date" (see *Methods* for a definition of "episode date"). Usually, this will be the onset date, but in cases where onset date is unavailable (e.g., no interview with the case-patient was completed) or where the case is asymptomatic, another date is used. Which date is used most frequently may vary by disease.

Demographics

Counts and rates by age group are presented using a bar and line graph. Case counts for six age groups (0-4 years, 5-14 years, 15-24 years, 45-64 years, and 65+ years) are displayed as bars, compared to a line showing the rates per 100,000 population by age group.

A second graph presents counts and rates by race and ethnicity. Counts are presented as bars for nine racial and ethnic categories (American Indian/Alaska Native, Asian, Black/African American, Hispanic/Latino, Native Hawaiian/Other Pacific Islander, White, Other, Two or More Races, and Unknown/Missing). Rates are calculated per 100,000 population for all groups except Other, Two or More Races, and Unknown/Missing, and are displayed as a line.

The last graph in this section presents counts and rates by gender. Counts are displayed as bars for four categories (Female, Male, Transgender/Other, and Unknown/Missing). Rates are presented as a line for female and male genders.

When case counts are very low, these graphs are not included. If counts are less than five across all categories for a graph, rates are not calculated and only counts are presented. When some of the counts are five or above, but others are below five, rates are presented for all groups. However, the rates for categories with low counts should be considered unstable and interpreted with caution.

Additional Info

Whenever possible, clinical and risk data are presented. Generally, this requires sufficient case counts to make a summary of clinical or risk data possible and meaningful. Data must also be available, which may not be the case for diseases where an interview of case-patients is not conducted. In some cases, laboratory data are also included (e.g., etiology of meningitis cases). The specific variables summarized, as well as how the data are presented, depend on the characteristics of the disease and what information is available. Clinical, risk, and laboratory data are variously presented using tables and graphs.

Map

Choropleth maps display the rate per 100,000 population by zip code of residence at the time of report. The zip code of residence may not be the location where a person was exposed. In the case of chronic

conditions, it also may not be the residence at time of diagnosis. Rates are calculated for each zip code with at least five cases and a population of at least 10,000. Maps are only included when enough zip codes have case counts of at least five. A limited number of maps are presented. Whenever possible, maps include only the most recent year of data, but in some instances, multiple years of data are aggregated in order to allow for a geographic display. Maps are displayed by quartiles, which divide the data into four equal parts.

Disease Info

This section describes disease-specific information including the infectious agent, incubation period, mode of transmission, and symptoms.

Notes

This section displays any applicable notes with additional details about case criteria, when the disease became reportable, caveats, and any other information necessary to understand the data presented.

Resources

This section includes links to websites (usually CDC, CDPH, and, when available, San Diego County) where readers can find more in-depth information about the disease, as well as the CDC/CSTE case criteria. These websites are also the primary sources for the disease information presented. The SDC websites for some diseases may include additional disease-specific data.

A Note on COVID-19 and Respiratory Illnesses

Information on COVID-19 is excluded from this dashboard but can be found on the Respiratory Viruses Data and Reports web page. Information on COVID-19, influenza, and respiratory syncytial virus cases and outbreaks can be found in the [San Diego County Respiratory Virus Surveillance Report](#).

Methods

The analyses presented in this report are descriptive and include counts, proportions, and rates. These measures are presented for San Diego County overall, by time period (year, month), by demographic groups, and by zip code of residence.

Most rates presented are incidence rates. Incidence is a measure of the number of new cases of disease in a population within a given time period (in this report, a year). For a few chronic conditions (e.g., chronic hepatitis B, chronic hepatitis C, coccidioidomycosis), where it may not be known when the infection was acquired, the rates could more realistically be described as report rates. All rates are calculated per 100,000 population for ease of comparison. None of the rates are age-adjusted. Rates are generally not calculated for counts below five, and rates should be interpreted with caution when counts are below 20. When counts are small, even small changes in the count can cause large changes in the rate, producing unstable rates. The San Diego County rates tend to vary more from year to year than the California and United States rates, which are based on larger overall numbers.

Most of the data included in this dashboard are presented by [CDC disease year](#), rather than calendar year. CDC uses disease years, with numbered weeks, for ease of comparing data from year to year. These weeks run from Sunday to Saturday. The disease year may differ by a few days from the calendar year. For example, disease year 2022 began on 1/2/2022 and ended on 12/31/2022.

San Diego County groups cases on the basis of the "episode date," which is the earliest available of onset, laboratory specimen collection, diagnosis, death, and report received dates. California also uses "episode date" to group cases. When reporting to CDC, states can choose which of several dates to use for grouping cases into weeks. This may vary from state to state and condition to condition. The only national data presented in this dashboard are annual data, so these differences are less likely to be noticeable. Unless otherwise noted, the San Diego County data in this dashboard are presented by disease year based on episode date.

Analysis was done using SAS software Version 9.4. © 2002-2012 SAS Institute Inc. The dashboard and maps within the dashboard were created using Tableau 2022.4.

Data Sources

Communicable Disease Data

Title 17, California Code of Regulations (CCR), requires that health care providers (Sections 2500, 2593, 2641.5-2643.20, 2800-2812, and 2593) report over 80 diseases and conditions, as well as the occurrence of any unusual disease, and outbreaks of any disease, to the local health department. Health care providers, as defined by Section 2500, can include physicians, surgeons, veterinarians, podiatrists, nurse practitioners, physician assistants, registered nurses, nurse midwives, school nurses, infection control practitioners, medical examiners, coroners, and dentists. Laboratories are also required to report certain communicable diseases (Section 2505). Local health departments may make additional diseases locally reportable. Not all diseases and conditions reportable at the state or local level are nationally notifiable. For a current list of locally reportable diseases and conditions, refer to pages 2-4 of the Confidential Morbidity Report. The list of reportable diseases and conditions is subject to change.

EISB enters the information from these reports, as well as information gathered during public health follow-up, into a local surveillance system. The San Diego County disease data presented in this dashboard come from this local surveillance system.

Communicable disease data collected by EISB are reported to the California Department of Public Health (CDPH), and CDPH, in turn, reports cases to the Centers for Disease Control and Prevention (CDC). CDPH produces annual disease summaries, aggregating data from the 61 local health departments in the state. National data are made available each week and in annual summaries through the CDC Wonder website. State and national disease data for this report were obtained from these sources. Final California and United States data for select diseases in the most recent year were not available at the time of publication of this dashboard; preliminary data were used when available. See *Resources* at the end of this document.

Communicable disease data are subject to some limitations. The number of cases reported to the local health department is likely an underestimate of the true burden of disease in the community. This can be due to several factors. Diseases that are asymptomatic or have less severe symptoms may be underreported as individuals may not present to a provider for care. Additionally, providers who are unaware of legal requirements may fail to report cases to the health department. This effect may be mitigated by dual-reporting laws in California, which also require reporting by laboratories. Many laboratories have automated reporting systems in place. However, providers may not order diagnostic tests, and for some diseases, diagnosis is based on clinical findings rather than laboratory tests.

Completeness of demographic data, such as race and ethnicity, may also vary by disease. While all diseases in this dashboard are monitored by the health department, some require additional follow-up and investigation. Diseases that are investigated have more complete demographic information because interviews with case-patients provide opportunities to obtain additional information that may not have been provided in the original reports.

The data presented in this dashboard are provisional as changes may occur due to late reporting or updated case information.

Surveillance Case Definitions

Except where otherwise noted in this dashboard, cases are classified based on the CDC/Council of State and Territorial Epidemiologists (CDC/CSTE) surveillance case definitions. Case criteria are national standards that allow for comparisons across jurisdictions. Cases can be defined based on a combination of clinical criteria and laboratory criteria. Case definitions are reviewed regularly and are subject to change, which can affect case counts. Links to case definitions can be accessed by clicking on the "Resources" navigation box within the dashboard.

Population Data

Population estimates of San Diego County residents, used in the calculation of rates of disease incidence, were obtained from annual population estimates provided by the San Diego Association of Governments (SANDAG). SANDAG's methodology is described on their website. The SANDAG estimates were used for calculating rates for demographic and geographic groups (e.g., age, zip code).

When sources for national and statewide data provided case counts but not incidence rates, rates were calculated using United States and California population estimates obtained from the United States Census Bureau American Community Survey website. Information on the Census Bureau population estimate methodology is available on their website.

Disease Information

The Disease Info section of the dashboard includes information on the infectious agent, incubation period, mode of transmission, and symptoms. Most of this information was obtained from the Health Topics A-Z pages of the CDC website and the *Control of Communicable Diseases Manual*. The CDC *Epidemiology and Prevention of Vaccine-Preventable Diseases*, also known as the "Pink Book," was used as an additional source of information. Links to the CDC website corresponding to the disease of interest, as well as links to relevant chapters of the "Pink Book," are included in the Resources section of the dashboard.

RESOURCES

United States Disease Data

Centers for Disease Control and Prevention. National Notifiable Diseases Surveillance System, 2018-2021 Annual Tables of Infectious Disease Data. Atlanta, GA. CDC Division of Health Informatics and Surveillance. Available at: Annual statistics from the National Notifiable Diseases Surveillance System (NNDSS). (cdc.gov).

Centers for Disease Control and Prevention. National Notifiable Diseases Surveillance System, Weekly Tables of Infectious Disease Data. Atlanta, GA. CDC Division of Health Informatics and Surveillance. Available at: Weekly statistics from the National Notifiable Diseases Surveillance System (NNDSS). (cdc.gov).

California Disease Data

Yearly Summaries of Selected General Communicable Diseases in California, 2014-2022. Surveillance and Statistics Section, Infectious Diseases Branch, Division of Communicable Disease Control, Center for Infectious Diseases, California Department of Public Health. February 2024.
https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/YearlySummSelectedGeneralCommDisinCA.aspx

Vaccine Preventable Diseases Annual Report, 2021. Vaccine-Preventable Diseases Epidemiology Section, Immunization Branch, Division of Communicable Disease Control, Center for Infectious Diseases, California Department of Public Health.
https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Immunization/2021-VPD-Annual-Report.aspx

Immunization Branch, California Department of Public Health. 2022. IZB-Cases-by-Disease—LHJ-Year.
Vaccine Preventable Disease Cases by County and Year - Dataset - California Health and Human Services Open Data Portal

Population Data

Table B01001, Sex by Age. 2018-2022 ACS 5-Year Estimates Detailed Tables.
Source: U.S. Census Bureau, Population Division.
United States Census Bureau, American Community Survey
https://www.census.gov/programs-surveys/acs

SANDAG vintage 2022 yearly population and housing estimates. Prepared by: Michael Ma, August 2023.
San Diego Association of Governments
http://www.sandag.org/

Disease Information

Centers for Disease Control and Prevention. Diseases and Conditions website.
https://www.cdc.gov/health-topics.html

Heymann DL, editor. Control of Communicable Diseases Manual. 20th ed. Washington, DC: American Public Health Association;2015.

Centers for Disease Control and Prevention. Epidemiology and Prevention of Vaccine-Preventable Diseases. Hamborsky J, Kroger A, Wolfe S, eds. 14th ed. Washington DC: Public Health Foundation;2021. [The Pink Book]
https://www.cdc.gov/pinkbook/hcp/table-of-contents/index.html

Centers for Disease Control and Prevention. CDC Yellow Book 2020: Health Information for International Travel. New York: Oxford University Press;2019. [The Yellow Book]
https://wwwnc.cdc.gov/travel/page/yellowbook-home

Centers for Disease Control and Prevention and Council of State and Territorial Epidemiologists. National Notifiable Diseases Surveillance System (NNDSS) Surveillance Case Definitions. https://ndc.services.cdc.gov

Acknowledgements

Communicable disease surveillance in San Diego County is a collaborative effort among Public Health Services, a department of the County of San Diego Health and Human Services Agency, hospitals, medical providers, laboratories, schools, and the San Diego Health Connect Health Information Exchange. We would like to thank all involved for their contributions to disease reporting.

This report was prepared by Marjorie A. Richardson, MPH, Kimberly A. Morgan, MPH, Jacquelyn Ho, MPH, Maci Guzman, MPH, and Lauren Kearney, MPH.

We would also like to thank the subject matter experts and all other Epidemiology and Immunization Program staff who made contributions to this report.

Kayla Atadero
Ernie Q. Awa
Raquel Blackshere, BSN, RN, PHN
Sierra Bregman, MPH
Cheryl Brewer, MPH, RN, PHN
Maria Djuric, BSN, RN, PHN
Jackie Hopkins, MPH
Fadumo Ismail, BSN, RN, PHN
Jeffrey Johnson, MPH
Rachel Jonas, BSN, RN, PHN
Annie Kao, PhD, MPH, MS
Mraf Kidane-Mariam, BSN, RN, PHN
Jaime Lee De Venecia, MPH
Azarnoush Maroufi, MPH
Jennifer A. Nelson, MPH
Madeline Poranski, MPH
Mariela Ron
Seema Shah, MD, MPH
Claudia Souza, MPH
Olivia Springfield, MAS
Sarah Stous, MPH
S. Samantha Tweeten, PhD, MPH
Meghan Villalobos, MPH
Tommy Vongkhamphanh, BSN, RN, PHN