EXPLORING HEALTH DISPARITIES IN SAN DIEGO COUNTY BY GEOGRAPHY

A Report to Identify Opportunities to Achieve Health Equity

COUNTY OF SAN DIEGO
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Exploring Health Disparities in San Diego County by Geography

**County of San Diego
Health and Human Services Agency
Public Health Services**

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Exploring Health Disparities in San Diego County by Geography

FOREWORD

Health equity is an important and timely topic. The COVID-19 pandemic has brought to light some of the health disparities that exist in San Diego County. Differences in health status and health outcomes exist between groups. These differences or disparities often result from social determinants of health, including social circumstances, environmental exposures, and behavioral factors, as well as access to adequate health care. Together, these factors impact the health and well-being of San Diegans differently. To achieve health equity, these disparities must be identified, and the root causes determined. It is only through understanding the unique challenges each group faces, that solutions can be identified and implemented. When all San Diegans have the opportunity and resources to achieve good health, then we will have health equity.

For over twenty years, the Public Health Services department, in the County of San Diego Health and Human Services Agency, has been tracking population health data by age, gender, geography, race/ethnicity, and, more recently, by socioeconomic status. This health disparities report series is an update to reports published in 2016 and has been expanded to include indicators of well-being, in addition to disease burden. Please go to www.SDHealthStatistics.com, to find the most recent health and well-being data available.

This *Exploring Health Disparities in San Diego County* report looks at health disparities through the lens of *geography*. San Diego County is the 5th largest county in the United States with 3.4 million residents and covering 4,200 square miles. San Diego County has densely populated cities and remote rural areas. The urbanicity is measured in five levels of rural, suburban periphery, metro cities, urban periphery, and principal urban centers. The built environment and population density contribute to health disparities between urbanicity levels.

The rural areas have higher burdens of injury including self-inflicted injury and suicide. Rural residents also have a higher burden of flu and pneumonia, mood disorders, substance use disorders, and coronary heart disease. The suburban periphery has a higher burden of female breast cancer, prostate cancer, personality disorders, and fetal mortality. The metro cities have higher burdens of posttraumatic stress disorder, depression, and impulse disorders, as well as a higher burden of congenital anomalies and infant mortality. The urban periphery had a higher burden of overall hypertensive disorders, asthma, diabetes, and lupus, as well as schizophrenia, assault, and tuberculosis. The principal urban centers had better health outcomes, except for higher burdens of sexually transmitted disease and alcohol-related disorders.

It is only through working together that these disparities can be understood and addressed. I welcome you to join us on this essential journey so that all San Diegans can Live Well.

Wilma J. Wooten, M.D., M.P.H.
Public Health Officer
Public Health Services

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Introduction

Health equity is achieved when "every person has the opportunity to 'attain his or her full health potential' and no one is disadvantaged from achieving this potential because of social position or other socially determined circumstances." [1]

What is Health Equity?

Health equity is achieved when "every person has the opportunity to 'attain his or her full health potential' and no one is disadvantaged from achieving this potential because of social position or other socially determined circumstances."[1]

There are many factors that affect the ability to achieve health equity, including the circumstances in which people are born, grow, live, work, and age, as well as the systems in place to deal with illness, which are known as social determinants of health.[2] Social determinants of health can include income, education, employment status, transportation, housing, access to health care services, and exposure to pollution.[3] These, in turn, influence safety and adequacy of housing, air and water quality, crime rates, behavioral health, and access to preventive health care.[4]

Although most San Diego County residents strive to be healthy, differences in health status and health outcomes exist between groups. These differences often result in poorer health outcomes for some groups in the population. These differences are termed health disparities. The Centers for Disease Control and Prevention (CDC) define health disparities as "differences in the incidence and prevalence of health conditions and health status between groups."[5] Many health disparities affect groups based on age, gender, place of residence, race and ethnicity, and socioeconomic status.

In addition to these factors, groups negatively affected by health disparities tend to have less access to healthy food, education, safe neighborhoods, freedom from discrimination, and adequate housing that would further support positive health outcomes.[5] Health inequities are health disparities that may result from systematic or unequal distribution of positive resources.[5]

Figure 1 **Measuring Health Disparities**
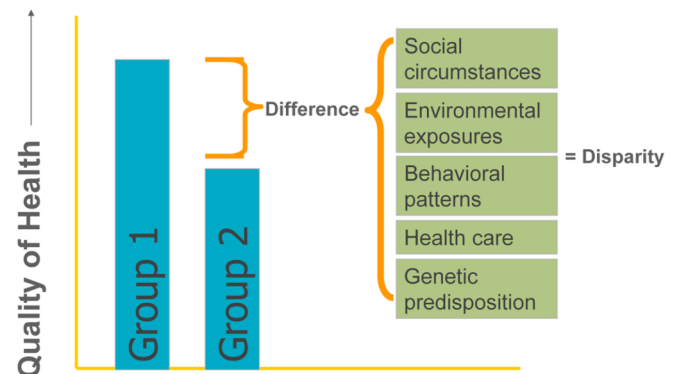
Adapted from Gomes and McGuire, 2001

The health of a community is not simply the presence or absence of disease; rather, it is an interaction of several factors. In order to describe health disparities in San Diego County, a variety of measures are used, considered together as lifestyle behaviors, socioeconomic status, healthcare access and utilization, and morbidity and mortality.

Lifestyle Behaviors

Lifestyle behaviors are actions taken by individuals to attain or maintain good health and to prevent illness and injury. The risk of non-communicable (chronic) disease can be reduced by engaging in behaviors such as eating a healthy diet, getting regular physical activity, and avoiding tobacco use and alcohol or substance abuse. In a motor vehicle crash, injury can be avoided or lessened by wearing seatbelts while in a motor vehicle and wearing helmets while on a bicycle. Early prenatal care is an example of an action that can be taken to reduce or avoid poor maternal and child health outcomes. The risk of communicable disease can be greatly reduced by getting all recommended vaccinations throughout the lifetime. Lifestyle behaviors are often the result of socioeconomic status, as well as healthcare access and

utilization, and in turn, have an impact on morbidity and mortality.[8]

Much of the lifestyle behavior information compiled about San Diego County residents comes from local, state, and national health surveys. In this report, lifestyle behavior information was obtained from the 2011-2017 California Health Interview Survey (CHIS) and the 2014-2018 Behavioral Risk Factor Surveillance System (BRFSS).

Socioeconomic Status

Socioeconomic status, including the circumstances in which one lives and works, greatly affects health. Low socioeconomic status is related to poor health outcomes and can be measured by median family or household income, percent of households living below the Federal Poverty Level, unemployment rates, availability of transportation, educational attainment, and linguistic barriers.[6] The association between these factors is cumulative and influences the health status of an individual over a lifetime.[6] For example, low educational attainment is associated with unemployment and low income, which are associated with poor housing and lack of transportation. Together, the indicators used to define socioeconomic status comprise many of the social determinants of health and directly affect healthcare access and utilization, morbidity and mortality rates, as well as personal lifestyle behaviors.

Healthcare Access and Utilization

Healthcare service access and utilization are closely aligned with socioeconomic status and are major factors in individual and community health. The unemployment decrease in San Diego from 11.3% in 2010 to 5.9% in 2017 meant a subsequent decrease in the number of uninsured county

residents.[14] In reverse, this situation negatively impacts both the immediate and future health of these residents. Research indicates that chronically ill patients without insurance are less likely to visit health professionals for treatment and medical advice. Uninsured patients are more likely to delay medical care and use emergency departments as usual sources of care.[7] Lack of health insurance is also associated with reduced access to preventive care services, increasing poor health outcomes, particularly among young adults and racial/ethnic minorities.[7]

Morbidity and Mortality Indicators

Rates of death and medical encounter can be measured and used to describe the impact of non-communicable (chronic) disease, communicable disease, maternal and child health, injury, and behavioral health conditions on the community. For example, while asthma death rates are relatively low compared to other non-communicable (chronic) diseases, asthma-related emergency department (ED) discharges and hospitalizations are high, especially in certain groups of the population. High rates of asthma ED discharge and hospitalization might indicate higher rates of uncontrolled asthma and, thus, lower access to and utilization of appropriate preventive and treatment services. They might also relate to poor air quality and greater exposure to environmental hazards. By using morbidity and mortality indicators to identify health disparities, efforts can be made to address the underlying factors contributing to these differences in health outcomes.

The Social Determinants of Health

According to the Centers for Disease Control and Prevention (CDC), Social Determinants of Health (SDOH) are "conditions in the places where people live, learn, work, and play that affect a wide range of health risks and outcomes."[1] Often times these circumstances are influenced by things such as socioeconomic status, policies and systems, social norms, power, or resources which can affect, positively or negatively, one's health status. Research suggests that SDOH account for between 30-55% of health outcomes.[2] Thus, health inequities can be mitigated, eliminated or avoided by ameliorating these circumstances that lead to poor health. Examples of such SDOH include:

[1]https://www.cdc.gov/socialdeterminants/about.html
[2]https://www.who.int/health-topics/social-determinants-of-health#tab=tab_1

Geographic Areas Assessed in this Report
SANDAG Subregional Areas (SRAs)

San Diego Association of Governments (SANDAG) develops annual demographic estimates and long range forecasts in addition to maintaining census data files. Data is available by county, Subregional Area (SRA), zip code, and census tract.

San Diego County has 41 SRAs, which are aggregations of census tracts. While the boundaries of many geographical areas, such as cities, change over time, SRA boundaries have remained essentially the same since their formation which allows for meaningful comparisons of time series information because identical areas are being compared. While SRAs are composed of census tracts, they are defined by SANDAG, not the Census Bureau.[10]

Figure 2

San Diego County by Subregional Area (SRA)

Map Prepared by County of San Diego, Health & Human Services Agency, Public Health Services, Community Health Statistics, 11/23/20.
Contact Maria Peña, Maria.Pena@sdcounty.ca.gov
LiveWellSD.org
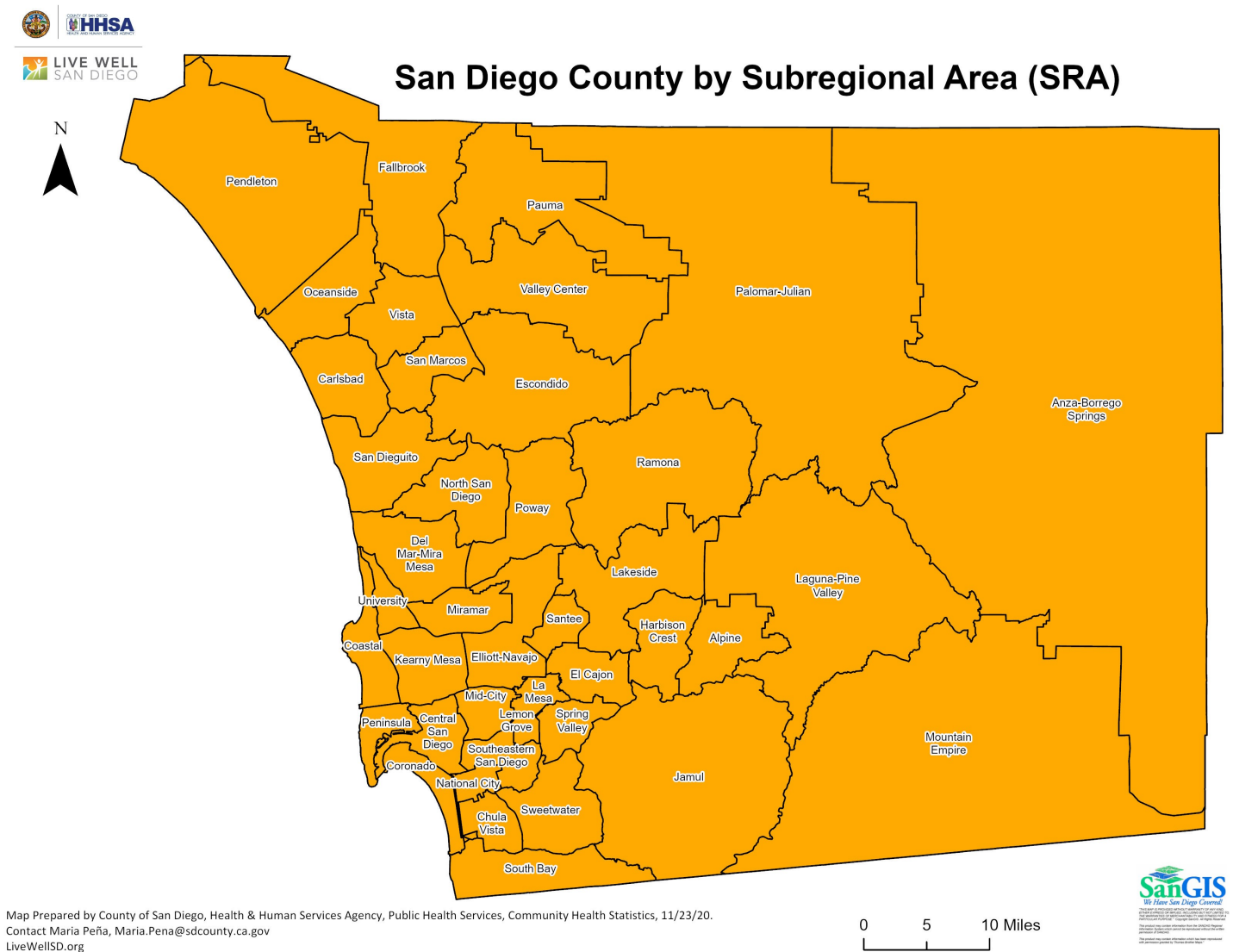
Live Well San Diego and Health Equity

Figure 3

2017 Life Expectancy in San Diego County, by Subregional Area (SRA)

Life Expectancy, 2017
- 76.6-78.9
- 79-81.1
- 81.2-83.0
- 83.1-84.5
- 84.6-87.6
- Data not shown

Data not shown=Not Available, censored due to variance in population size.
Source: California Department of Public Health, Center for Health Statistics, Office of Health Information and Research, Vital Records Business Intelligence System (VRBIS). SANDAG January 1 population estimates.
Prepared by County of San Diego, Health & Human Services Agency, Public Health Services, Community Health Statistics Unit, 2019.
Map Prepared by County of San Diego, Health & Human Services Agency, Public Health Services, Community Health Statistics, 11/23/20.
Contact Maria Peña, Maria.Pena@sdcounty.ca.gov
LiveWellSD.org

What is *Live Well San Diego*?

Live Well San Diego is a regional vision adopted by the San Diego County Board of Supervisors in 2010 that aligns the efforts of County government, community partners and individuals to help create healthy, safe, and thriving San Diego County communities. The vision includes three components: Building Better Health, adopted on July 13, 2010, focuses on improving the health of residents and supporting healthy choices; Living Safely, adopted on October 9, 2012, focuses on protecting residents from crime and abuse, making neighborhoods safe, and supporting resilient communities; and, Thriving, adopted on October 21, 2014, focuses on cultivating opportunities for all people to grow, connect and enjoy the highest quality of life.

Live Well San Diego and Health Equity

Live Well San Diego identifies 10 indicators to measure the collective impact of these efforts and the work of partners over the long term to create a San Diego County where all residents are healthy, safe, and thriving. Life expectancy, or the average number of years a person can expect to live at birth, is a key measure of health equity and is one of the 10 indicators identified in the *Live Well San Diego* vision. In San Diego County, life expectancy varies by gender, race/ethnicity, and geography.

Overall, the life expectancy in San Diego County was 82.5 years in 2017.[9] On average, females lived about four and a half years longer than males. Compared to other racial and ethnic groups, Asian residents had the highest life expectancy at 86.5 years, while black residents had the lowest (77.2 years).[9] Geographically, residents in the Coastal SRA in the North Central Region had the highest life expectancy (87.6 years), while residents in the Lemon Grove SRA in the East Region had the lowest life expectancy of 76.6 years.[9] Activities, programs, and policies in the *Live Well San Diego* regional vision work to positively influence life expectancy and increase health equity among San Diego County residents.

Health Equity in San Diego County: Geography

Exploring Health Disparities in San Diego County by Geography is a document prepared by the Division of Public Health Services in the County of San Diego Health & Human Services Agency. The report identifies health disparities among San Diego County residents. The information in this report is meant to be used to identify disparities and serve as a starting point in developing solutions that will help close the gap in existing disparities.

This report supports the *Live Well San Diego* regional vision by identifying health disparities and inequities that are critical in developing prevention and intervention measures, ultimately leading to a healthier San Diego. This document is designed for local agencies, organizations, groups, services, and individuals who have an interest in improving the health of county residents.

Health outcome data were compiled from the County Community Health Statistics Unit's *San Diego County Community Profiles* document. Specifically, death, hospitalization, in-patient treatment, skilled nursing facility (SNF)/ intermediate care discharge, physical rehabilitation, and emergency department (ED) discharge rates for various health outcomes were analyzed to identify health disparities within San Diego County's populations.

In addition to identifying health disparities, demographic information and lifestyle/behavioral data on each group was provided to highlight some of the potential contributing factors to these health outcomes.

Lastly, prevention strategies, as well as links to related websites, are provided for further information on non-communicable (chronic) disease, communicable disease, injury, behavioral health, and maternal and child health.

For further resources, including local health and demographic information, please go to www.sdhealthstatistics.com.
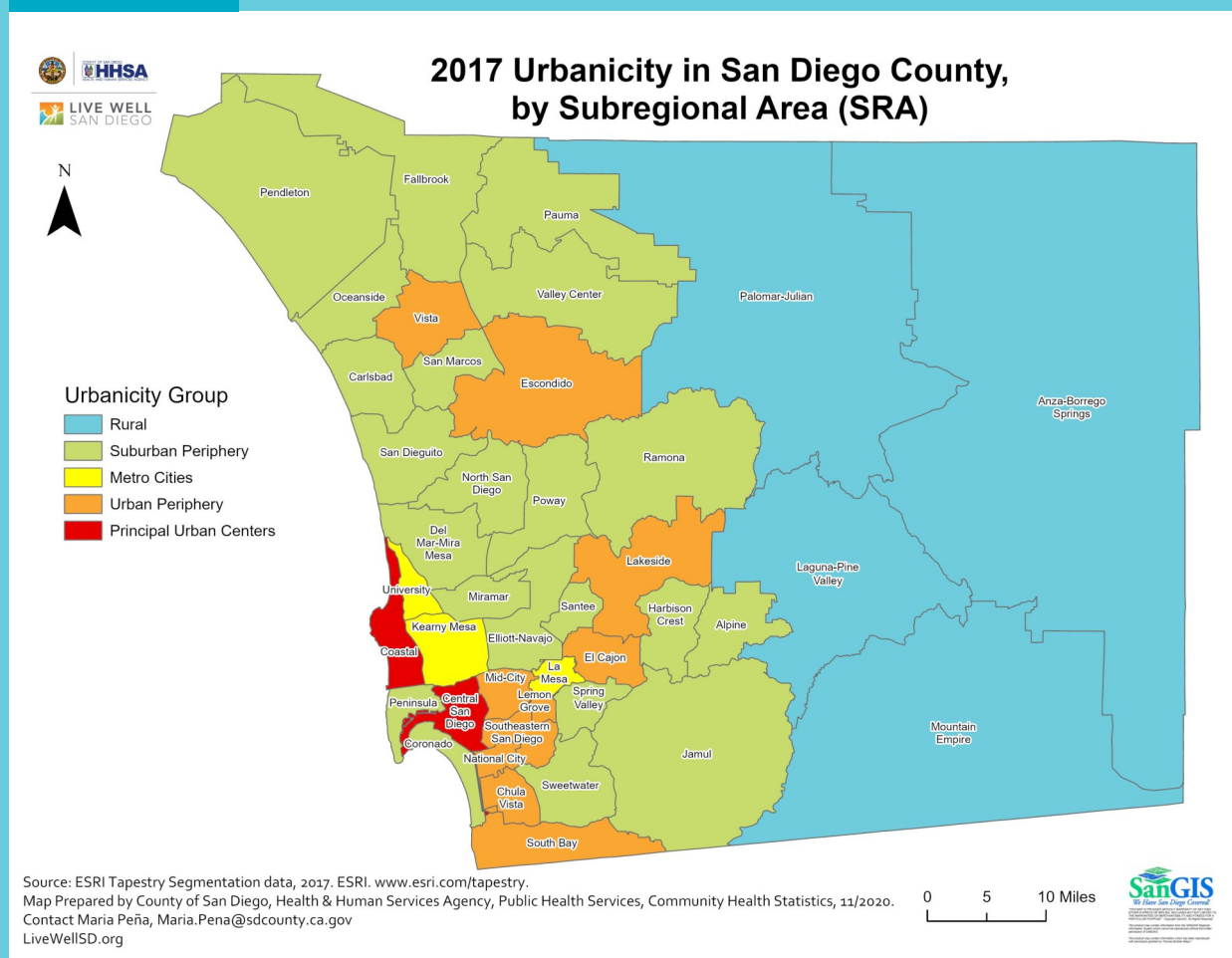
HEALTH EQUITY IN SAN DIEGO COUNTY:
Geography Health Disparities

Introduction to Geographic Disparities

Where you live, work, and play have an effect on health and health outcomes.[1] Understanding how health outcomes vary by population density and location to metropolitan centers may help identify and address barriers to health equity and tailor prevention strategies.[1]

In this chapter, geography is measured using urbanicity type based on ESRI's Urbanicity Tapestry data. ESRI defines urbanicity as the "degree of population density, size of city, and location relative to a metropolitan area."[11] Each of the 41 subregional areas (SRAs) of San Diego County were assigned into one of six major community types based on ESRI's tapestry data: rural, semirural, suburban periphery, metro cities, urban periphery, and principal urban centers. Figure 4, shown below, illustrates only five urbanization categories because none of the SRAs in San Diego County were categorized as semirural based on ESRI data. The following sections contain more information on the urbanicity characteristics.

Figure 4

2017 Urbanicity in San Diego County, by Subregional Area (SRA)

Source: ESRI Tapestry Segmentation data, 2017. ESRI. www.esri.com/tapestry.
Map Prepared by County of San Diego, Health & Human Services Agency, Public Health Services, Community Health Statistics, 11/2020.
Contact Maria Peña, Maria.Pena@sdcounty.ca.gov
LiveWellSD.org

Demographics

Rural

Rural communities in San Diego County included the subregional areas (SRAs) in the far east side of the county: Anza-Borrego Springs, Laguna-Pine Valley, Mountain Empire, and Palomar-Julian. Rural communities have a very low population density compared to other urbanicity levels and are characterized by country living featuring single-family homes with acreage, farms and rural resort areas. Additionally, rural residents generally had longer trips to stores and to work.[11]

In 2017, the population of rural communities was nearly 27,000, making up just under 1% of San Diego County's population.[12] Rural communities had the highest percent of senior residents in San Diego County. In 2017, 1 in every 5 residents in rural communities were seniors aged 65 years and older. Rural communities were the least racially and ethnically diverse. The majority of residents in rural communities were White (64.6%) and an additional 26.4% of the population were Hispanic. Notably, rural communities had the highest percentage of residents who identified as American Indian/Alaska Native at almost 2% and the lowest percent of Black residents at 1.9%, compared to other urbanicity levels.

> In 2017, 1 in every 5 residents in rural communities were seniors aged 65 years and older.[13]

Among rural residents 25 years and older, 38% had an educational attainment of high school or less, 37% had some college education or associate's degree, and 25% had a bachelor's degree or higher.[13]

Many residents were self-employed, retired, or received income from Social Security.[11] Although

60.9% of households had earned income, compared to all other urbanicity levels, rural residents had the highest percent of households with Social Security (46.2%) and retirement income (28.3%).*[13]

Of residents 16 years and older in the labor force, nearly 1 out of every 10 residents were unemployed (9.7%), which was higher than all other urbanicity levels. Rural communities had the lowest median household income in 2017 at $54,781 and 13.2% of households had incomes under $15,000. In 2017, 34% of the rural population lived below the 200% federal poverty level (FPL).

Rural communities had the second highest percentage of households with food stamps/SNAP benefits in the past year (8.4%). Nearly 6% of rural households received Supplemental Security Income. Lastly, 2.3% of rural households received cash publish assistance income.*

Overall, 89.2% of residents in rural communities had health insurance. Therefore, approximately 1 out of 9 residents did not have health insurance.[13]

*Note: Public assistance benefits are not mutually exclusive. Households may be receiving more than one type of income and/or public assistance benefit.

Demographics

Suburban Periphery

The subregional areas (SRAs) of Alpine, Carlsbad, Coronado, Del Mar-Mira Mesa, Elliott-Navajo, Fallbrook, Harbison Crest, Jamul, Miramar, North San Diego, Oceanside, Pauma, Pendleton, Peninsula, Poway, Ramona, San Dieguito, San Marcos, Santee, Spring Valley, Sweetwater, and Valley Center made up the suburban periphery urbanicity level in 2017. Commuters value low density living, but demand proximity to jobs, entertainment and the amenities of an urban center. Suburban periphery was the most populous and fast-growing among urbanization groups.[11]

In 2017, over 1.5 million residents lived within suburban periphery communities, comprising nearly half (47.3%) of all San Diego County residents.[12] In 2017, 1 in every 5 residents (20%) in the suburban periphery were children and teens under the age of 15 and an additional 14.6% were seniors 65 years and older. Just over half of suburban periphery residents were White (52.9%) and 26.7% were Hispanic. Notably, 12.9% of residents were Asian/Pacific Islanders. Less than 1% were American Indian/Alaska Native and 3.5% were Black.

Among suburban periphery residents 25 years and older, 24% had an educational attainment of high school or less, 31% had some college education or an associate's degree, and 45% had a bachelor's degree or higher.[13]

Suburban periphery residents were the most affluent, with a median household income of $85,750. Moreover, 43.7% of households earned $100,000 or more. However, nearly 22% of residents lived below the 200% federal poverty level (FPL).

> Nearly half (47.3%) of all San Diego County residents lived in suburban periphery communities.[13]

Suburban periphery communities had a lower percent of unemployed residents 16 years and over at 5.6% compared to most other urbanicity levels and the county overall. Second to rural residents, a high percent of suburban periphery households received Social Security and retirement income (26.6% and 19.8%, respectively). Compared to all other urbanicity levels, suburban periphery had the lowest percent of households with food stamp/ SNAP benefits in the past year.*

In 2017, suburban periphery communities had the lowest percent of uninsured residents. Overall, 92.7% of suburban periphery residents had health insurance.

*Note: Public assistance benefits are not mutually exclusive. Households may be receiving more than one type of income and/or public assistance benefit.

Demographics

Kearny Mesa, La Mesa, and University subregional areas (SRAs) comprised the metro cities urbanicity level in 2017. Communities in this urbanicity level are characterized by affordable city life including smaller metropolitan cities or satellite cities that feature a mix of single-family and multiunit housing.[11]

In 2017, there were nearly 302,000 residents in metro cities, making up about 1 in every 11, or 9.1%, of the population of San Diego County.[12] Residents include college students, affluent Generation X couples, and retirement communities.[11] In 2017, over half (53.5%) of residents were between the ages of 25 and 64 and an additional 15% were seniors aged 65 years and older.[13] Just over half of metro cities residents were White (52.7%) and 23.5% were Hispanic. Notably, the highest proportion of Asian/Pacific Islanders (15.3%) lived in this urbanicity level compared to all others. Less than 1% were American Indian/Alaska Native and 4.4% were Black.

Residents in this urbanicity level were well educated. Among residents 25 years and older in metro cities, 23% had an educational attainment of high school or less, 30% had some college education or an associate's degree, and 46% had a bachelor's degree or higher.

The median household income in metro cities was $69,653 in 2017. Nonetheless, 23.3% of households in metro cities received Social Security, 16.4% received retirement income, 4.1% received Supplemental Security Income, and 1.7% received cash public assistance. Metro cities had

> Nearly half (46.4%)of residents had a bachelor's degree or higher.[13]

one of the lowest percent of households receiving food stamp/SNAP benefits in the past year at 4.5% compared to all other urbanicity levels.*

Nearly 30% of metro cities residents lived below the 200% federal poverty level. Additionally, 6.8% of residents 16 years and over were unemployed in 2017 which was comparable to the unemployment rate of the county overall.

On average, 90.8% residents in metro cities had health insurance.[13]

*Note: Public assistance benefits are not mutually exclusive. Households may be receiving more than one type of income and/or public assistance benefit.

Demographics

Urban periphery communities included the subregional areas (SRAs) of Chula Vista, El Cajon, Escondido, Lakeside, Lemon Grove, Mid-City, National City, South Bay, Southeastern San Diego, and Vista.

> Residents in urban periphery communities were less likely to have health insurance compared to all other urbanity levels.[13]

In 2017, there were an estimated 1.1 million urban periphery residents, comprising just over one-third of San Diego County's population.[12] Urban periphery residents were generally younger than other urbanity levels, with the highest percent of children under the age of 15 and young adults ages 15 to 24. Only 12.7%, or 1 out of 8 residents, were 65 years and older, which was the lowest percent across urbanity levels. Urban periphery communities were very racially and ethnically diverse. In fact, just under half of residents were Hispanic (48.7%), a third were White (32.7%), 9.5% were Asian/Pacific Islander, and 5.9% were Black. The highest proportion of Black and Hispanic residents lived in urban periphery communities compared to all other urbanity levels and the county overall.

Among urban periphery residents 25 years and older, 48% had an educational attainment of high school or less, 32% had some college education or associate's degree, and 20% had a bachelor's degree or higher.[13]

In 2017, 8.8% of urban periphery residents aged 16 years and older were unemployed.

The median household income of $58,945 in these communities was generally lower than other urbanity levels. Compared to other urbanity levels, urban periphery had the highest percent of residents (43%) living below the 200% federal poverty level. Moreover, 11.1%, or 1 out of 9 households earned less than $15,000 a year in 2017, which was higher than all other urbanity levels. It also had the lowest percent of households with incomes of $100,000 or more at 22.1%.

Compared to the other urbanity levels, urban periphery had the highest percent of households receiving Supplemental Security Income and cash public assistance income (7.3% and 4.5%, respectively).*

Residents in urban periphery communities were less likely to have health insurance compared to all other urbanity levels. In fact, 85.4% of residents of all ages had health insurance while 1 out of every 7 residents did not.[13]

*Note: Public assistance benefits are not mutually exclusive. Households may be receiving more than one type of income and/or public assistance benefit.

Demographics

Principal Urban Centers

Principal urban centers were the most densely populated neighborhoods in San Diego County.[11] The subregional areas (SRAs) in this group were Central San Diego and Coastal which included the neighborhoods of Torrey Pines, La Jolla, Pacific Beach, and Mission Beach, University Heights, Hillcrest, Barrio Logan, and Mission Hills.

> Residents in this urbanicity level were the most educated compared to all other urbanicity levels. Over half (54.7%) of residents had a bachelor's degree or higher.[13]

In 2017, an estimated 287,400 principal urban centers residents, comprising nearly 9% of San Diego County's population.[12] Residents in principal urban centers were generally younger, mobile, and diverse.[11] Nearly two-thirds (62.5%) of residents were under the age of 45 and only 14.1% were 65 years and older.[12] While 54.5% of residents were White, residents were racially and ethnically diverse. Nearly one-third of residents were Hispanic (30.3%), 6.8% were Asian/Pacific Islander, and 5% were Black. Less than 1% were American Indian/Alaska Native.

Traits shared by residents included crowding, high cost of living, and full access to urban amenities, including jobs. Generally, households were renter occupied by singles or roommates.[11]

With the exception of suburban periphery, principal urban centers had a higher median household income of $81,583 compared to other urbanicity levels.[13] Only 5% of residents 16 years and older were unemployed, the lowest unemployment rate compared to all other urbanicity levels. However, 31% of residents lived below the 200% federal poverty level in 2017.

Residents in this urbanicity level were the most educated compared to all other urbanicity levels. Among residents 25 years and older in principal urban centers, 21% had an educational attainment of high school or less, 24% had some college education or associate's degree, and 55% had a bachelor's degree or higher.

Only 11.7% of households received retirement income, which was the lowest compared to households in other urbanicity levels. Only 19.9% of households received Social Security, the lowest compared to other urbanicity levels, as well.*

Residents in urban periphery communities were less likely to have health insurance compared to most other urbanicity levels. In fact, 88.6% of residents of all ages had health insurance while 1 out of every 9 residents did not.

*Note: Public assistance benefits are not mutually exclusive. Households may be receiving more than one type of income and/or public assistance benefit.
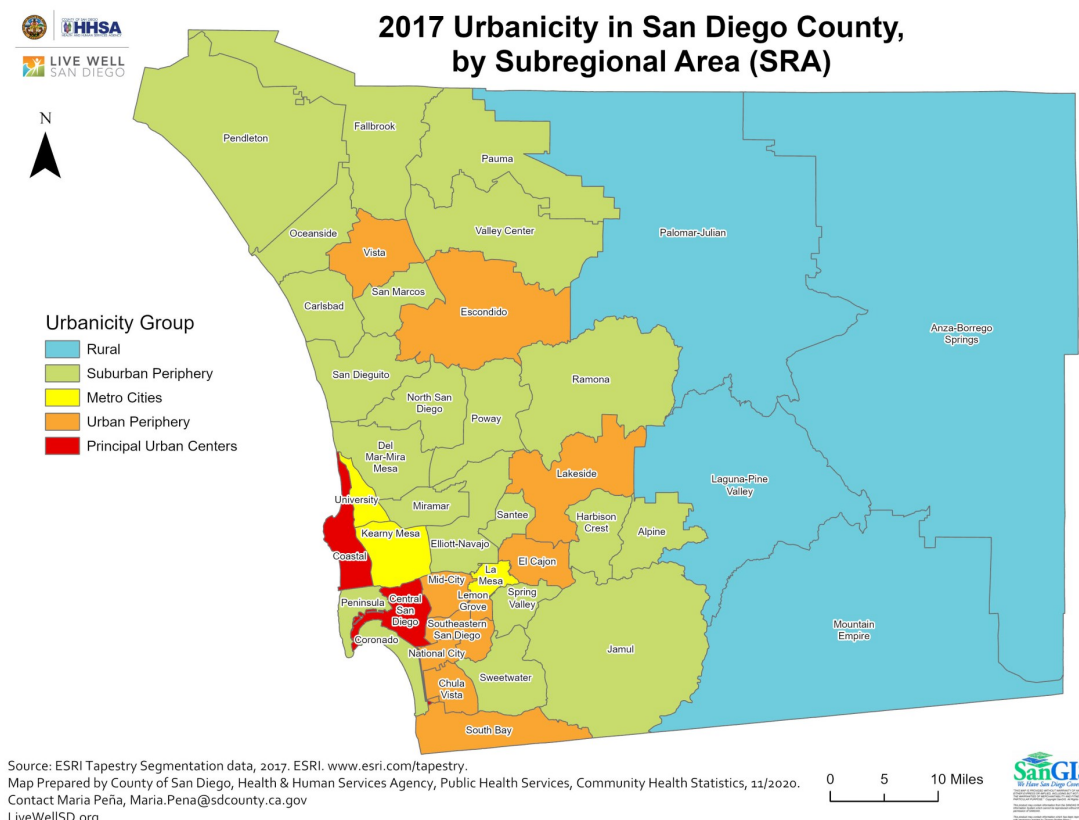
Non-Communicable (Chronic) Disease

Non-communicable (chronic) diseases are conditions that affect an individual's health for one year or more, require ongoing medical attention or intervention, and may limit activities of daily living. Examples of chronic disease include cancer, heart disease, and diabetes. Many chronic diseases are the result of risk behaviors, such as tobacco use, poor diet, low physical activity, or excessive alcohol use.[19]

Conditions at the neighborhood level affect an individual's risk of developing chronic disease. Perceived safety in a neighborhood and access to parks may affect an individual's decision to engage in physical activity. Access to fresh fruits and vegetables impacts the ability to consume a healthy diet.[20] It is important to analyze medical encounter rates by geography to identify areas where disparities exist, and address neighborhood and built environment factors that may be contributing to increased rates.

Non-Communicable (Chronic) Disease by Geography in San Diego County

2017 Urbanicity in San Diego County, by Subregional Area (SRA)

Urbanicity Group
- Rural
- Suburban Periphery
- Metro Cities
- Urban Periphery
- Principal Urban Centers

Source: ESRI Tapestry Segmentation data, 2017. ESRI. www.esri.com/tapestry.
Map Prepared by County of San Diego, Health & Human Services Agency, Public Health Services, Community Health Statistics, 11/2020.
Contact Maria Peña, Maria.Pena@sdcounty.ca.gov
LiveWellSD.org

0   5   10 Miles

Non-Communicable (Chronic) Disease Health Disparities in San Diego County by Geography

Compared to the county overall, rural and urban periphery residents generally had a higher burden of chronic disease. In 2017:

Rural
- Overall, the burden of coronary heart disease (CHD), COPD/chronic lower respiratory diseases, and stroke were highest among rural communities compared to all other urbanicity levels.

Urban Periphery
- Compared to all other urbanicity levels, urban periphery communities had the highest burden of asthma and diabetes in 2017.

Prevent Geographic Health Disparities

What You Can Do to Reduce Your Risk of Non-Communicable (Chronic) Disease and Live Well:

- Exercise at least 150 min/week
- Avoid smoking
- Limit alcohol consumption
- Eat more fruits & vegetables
- Visit your doctor for preventive check-ups

What Your Community Can Do to Reduce the Risk of Non-Communicable (Chronic) Disease and Live Well:

- Invest in safe parks and recreational facilities
- Increase the availability and affordability of fresh produce
- Encourage healthy behaviors
- Adopt walkable communities

LIVE WELL SAN DIEGO

Building Better Health | Living Safely | Thriving

Live Well San Diego focuses on creating an environment that encourages all San Diego County residents to live healthy, safe, and thriving lives.

Non-Communicable (Chronic) Disease

Rural communities in San Diego County included the subregional areas (SRAs) in the far east side of the county: Anza-Borrego Springs, Laguna-Pine Valley, Mountain Empire, and Palomar-Julian. Residents in rural communities had the highest burden of non-communicable (chronic) diseases. Notably, the burden of coronary heart disease, chronic obstructive pulmonary disease/chronic lower respiratory diseases, heart failure, osteoarthritis, overall cancer, overall hypertensive diseases, and stroke were higher among rural residents than other urbanicity levels.

Osteoarthritis

Overall, the burden of osteoarthritis was highest among rural communities compared to all other urbanicity levels. Among the rural communities in 2017, Mountain Empire SRA had the highest rate of ED discharge due to osteoarthritis, while Laguna-Pine Valley SRA had the highest rate of hospitalization. Both the ED discharge and hospitalization rates were 2 times higher than the county overall.

Heart Failure

Among rural communities in San Diego County, Laguna-Pine Valley SRA had the highest rates of ED discharge and hospitalization due to heart failure in 2017, each measuring 2 times higher than the county overall.

Coronary Heart Disease (CHD)

Coronary heart disease (CHD) rates were highest among rural communities compared to other urbanicity levels in 2017. Among rural communities, the rate of death due to CHD was 2 times higher among Laguna-Pine Valley SRA and Palomar-Julian SRA residents compared to the county overall in 2017.

Overall Cancer

Among rural communities, those living in Anza-Borrego Springs had the highest rate of death due to cancer in the county. The rate of death due to overall cancer in Anza-Borrego Springs was 2 times higher than county residents overall in 2017.

Chronic Obstructive Pulmonary Disease (COPD)/ Chronic Lower Respiratory Diseases (CLRD)

The rate of hospitalization due to Chronic Obstructive Pulmonary Disease (COPD)/Chronic Lower Respiratory Diseases (CLRD) was highest among rural communities compared to all other urbanicity levels in 2017. Mountain Empire SRA had the highest hospitalization rate for COPD/CLRD in the county, which was 2.5 times higher than the county overall.

Overall Hypertensive Diseases

In 2017, the ED discharge and hospitalization rates in Laguna-Pine Valley SRA due to overall hypertensive diseases were notably high among the rural communities. Specifically, the rate of hospitalization was 2 times higher in Laguna-Pine Valley SRA than the county overall. Similarly, the rate of ED discharge was 1.4 times in Laguna-Pine Valley SRA than the county overall.

Non-Communicable (Chronic) Disease

Stroke

The rates of stroke were highest among rural communities compared to all other urbanicity levels in 2017. Laguna-Pine Valley SRA had the highest rate of death due to stroke which was 125% higher than the county overall.

Risk Factors and Prevention Strategies

Tobacco use and exposure to secondhand smoke, lack of physical activity, poor diet, and excessive alcohol use are leading risk factors for the development of non-communicable (chronic) disease.[14]

Changes in modifiable risk factors such as tobacco use, lack of physical activity, poor diet, and abuse of alcohol, as well as increased access to and utilization of medical services, are key ways to reduce the burden of non-communicable (chronic) disease among San Diego County rural residents.

Non-Communicable (Chronic) Disease

Suburban Periphery

The subregional areas (SRAs) of Alpine, Carlsbad, Coronado, Del Mar-Mira Mesa, Elliott-Navajo, Fallbrook, Harbison Crest, Jamul, Miramar, North San Diego, Oceanside, Pauma, Pendleton, Peninsula, Poway, Ramona, San Dieguito, San Marcos, Santee, Spring Valley, Sweetwater, and Valley Center made up the suburban periphery urbanicity level in 2017. Residents in suburban periphery communities had higher rates of death, hospitalization, and ED discharge due to specific cancers compared to all other urbanicity levels in 2017.

Female Breast Cancer

The rates of death and hospitalization due to female breast cancer were highest among suburban periphery communities in 2017. Among suburban periphery communities, Valley Center SRA had the highest rate of death due to female breast cancer and Carlsbad SRA had the highest rate of hospitalization.

Prostate Cancer

Among suburban periphery communities, males in Jamul SRA had the highest rate of death due to prostate cancer, with a rate 3 times higher than the county overall in 2017. Additionally, Poway SRA had the highest rate of hospitalizations due to prostate cancer in 2017 which was 1.8 times higher than the county overall.

Brain Cancer

Although the medical encounter rates due to brain cancer were particularly low throughout the county, suburban periphery communities had a higher burden compared to all other urbanicity levels in 2017. Among these communities, the rates of death due to brain cancer were highest in San Marcos SRA and Elliot-Navajo SRA, with rates of death which were 1.4 and 1.3 times higher, respectively, than the county overall. Hospitalization rates due to brain cancer in Poway SRA and Del Mar-Mira Mesa SRA were 1.7 and 1.5 times higher, respectively, than the county overall in 2017.

Lung Cancer

Suburban periphery communities had the highest burden of lung cancer, specifically the highest rates of death and ED discharge due to lung cancer in 2017 compared to all other communities, as well as the county overall. Among these communities, Santee SRA had the highest rates of death and ED discharges due to lung cancer in 2017.

Risk Factors and Prevention Strategies

Tobacco use and exposure to secondhand smoke, lack of physical activity, poor diet, and excessive alcohol use are leading risk factors for the development of non-communicable (chronic) disease.[14]

Changes in modifiable risk factors such as tobacco use, lack of physical activity, poor diet, and abuse of alcohol, as well as increased access to and utilization of medical services, are key ways to reduce the burden of non-communicable (chronic) disease among San Diego County suburban periphery residents.

Non-Communicable (Chronic) Disease

Metro Cities

Kearny Mesa, La Mesa, and University subregional areas (SRAs) comprised the metro cities urbanicity level in 2017. Rates of death due to liver and colorectal cancers were particularly high in metro cities SRAs.

Liver Cancer

Although the burden of liver cancer was fairly low in San Diego County, residents living in metro cities communities had the highest rate of death compared to all other urbanicity levels in 2017. Among metro cities communities, the rate of death due to liver cancer in Kearny Mesa SRA was 1.5 times higher than the county overall. Residents of Kearny Mesa were also 1.3 times more likely to be hospitalized due to liver cancer compared to the county overall.

Colorectal Cancer

Likewise, rates of colorectal cancer were fairly high among metro cities communities. Among these communities, La Mesa SRA had the highest rate of death due to colorectal cancer in 2017 where the rate was 1.5 times higher than that of the county.

Risk Factors and Prevention Strategies

Tobacco use and exposure to secondhand smoke, lack of physical activity, poor diet, and excessive alcohol use are leading risk factors for the development of non-communicable (chronic) disease.[14]

Changes in modifiable risk factors such as tobacco use, lack of physical activity, poor diet, and abuse of alcohol, as well as increased access to and utilization of medical services, are key ways to reduce the burden of non-communicable (chronic) disease among San Diego County residents in metro cities.

Non-Communicable (Chronic) Disease

Urban Periphery

Urban periphery communities included the subregional areas (SRAs) of Chula Vista, El Cajon, Escondido, Lakeside, Lemon Grove, Mid-City, National City, South Bay, Southeastern San Diego, and Vista.

These communities were characterized by higher rates of ED discharge due to respiratory conditions. Diabetes, lupus and connective tissue disorders, and overall hypertensive diseases rates were other notable conditions among urban periphery residents.

Diabetes

Compared to all other urbanicity levels, urban periphery communities had the highest rates of death, ED discharge, hospitalization, and skilled nursing facility (SNF)/intermediate care discharge due to diabetes in 2017. Lemon Grove SRA had the highest rates of death and hospitalization due to diabetes in 2017, which were 2.5 and 2.1 times higher, respectively, than the county's rate. National City SRA had the highest ED discharge rate due to diabetes in 2017, which was 2.5 times higher than the county overall. Notably, the rates of discharge from SNF/intermediate care due to diabetes were higher in South Bay and Chula Vista SRAs, where there were 7 and 6.5 times higher rates, respectively, than the county overall.

Asthma

Urban periphery communities had higher rates of ED discharge and hospitalization due to asthma compared to all other urbanicity levels in 2017. Specifically, Lemon Grove, National City, and Southeastern San Diego SRAs had the highest rates of ED discharges in the entire county. The rate of ED discharge due to asthma in Southeastern San Diego SRA was 2.3 times higher than the county overall. Moreover, Lemon Grove had the highest rate of hospitalization due to asthma in the county with 104.7 discharges per 100,000 residents in 2017.

Chronic Obstructive Pulmonary Disease (COPD)/ Chronic Lower Respiratory Diseases (CLRD)

Southeastern San Diego, Lemon Grove, and National City SRAs also had the highest ED discharge rates due to COPD/CLRD in the county in 2017 and rates were twice as high as the county overall. While rates of discharge due to COPD/CLRD from SNF/intermediate care were quite low, South Bay SRA had the highest discharge rate from SNF/intermediate care due to COPD/CLRD in 2017 with 5.8 discharges per 100,000 residents.

Lupus and Connective Tissue Disorders

Rates of hospitalization and ED discharge due to lupus and connective tissue disorders were highest among urban periphery communities compared to all other urbanicity levels and the county overall in 2017. Moreover, Lemon Grove SRA had the highest rates of hospitalization and ED discharge, which were 5 and 3.7 times higher, respectively, than the county overall.

Non-Communicable (Chronic) Disease

Overall Hypertensive Diseases

Compared to all other urbanicity levels, urban periphery communities had higher rates of death, ED discharge, hospitalization, and SNF/intermediate care discharge due to overall hypertensive diseases in 2017. Among urban periphery communities, Southeastern San Diego, Lemon Grove, and National City had the highest rates of ED discharges in the county. Southeastern San Diego had the highest rate of ED discharge due to overall hypertensive diseases, which was nearly 2 times higher than the county rate in 2017. Additionally, National City had the highest rate of hospitalization due to overall hypertensive diseases, which was 2.3 times higher than the county overall.

Risk Factors and Prevention Strategies

Tobacco use and exposure to secondhand smoke, lack of physical activity, poor diet, and excessive alcohol use are leading risk factors for the development of non-communicable (chronic) disease.[14]

Changes in modifiable risk factors such as tobacco use, lack of physical activity, poor diet, and abuse of alcohol, as well as increased access to and utilization of medical services, are key ways to reduce the burden of non-communicable (chronic) disease among San Diego County urban periphery residents.

Non-Communicable (Chronic) Disease

Principal Urban Centers

Principal urban centers were the most densely populated communities.[11] In San Diego County, Central San Diego and Coastal subregional areas (SRAs) were considered principal urban centers in 2017. Principal urban centers communities generally had better outcomes compared to all other urbanicity levels from the assessed non-communicable (chronic) disease conditions in 2017.

Overall Cancer
The residents in principal urban centers had the lowest burden of overall cancer in 2017.

Female Breast Cancer
Female residents in Central San Diego were 2 times more likely be discharged from the ED due to female breast cancer compared to those in the county overall.

Chronic Obstructive Pulmonary Disease (COPD)/ Chronic Lower Respiratory Diseases (CLRD)
While principal urban center communities generally had lower rates of death and hospitalization due to COPD/CLRD, the rate of ED discharge was 1.6 times higher in Central San Diego SRA than the county rate.

Risk Factors and Prevention Strategies
Tobacco use and exposure to secondhand smoke, lack of physical activity, poor diet, and excessive alcohol use are leading risk factors for the development of non-communicable (chronic) disease.[14]

Changes in modifiable risk factors such as tobacco use, lack of physical activity, poor diet, and abuse of alcohol, as well as increased access to and utilization of medical services, are key ways to reduce the burden of non-communicable (chronic) disease among San Diego County residents in principal urban centers.
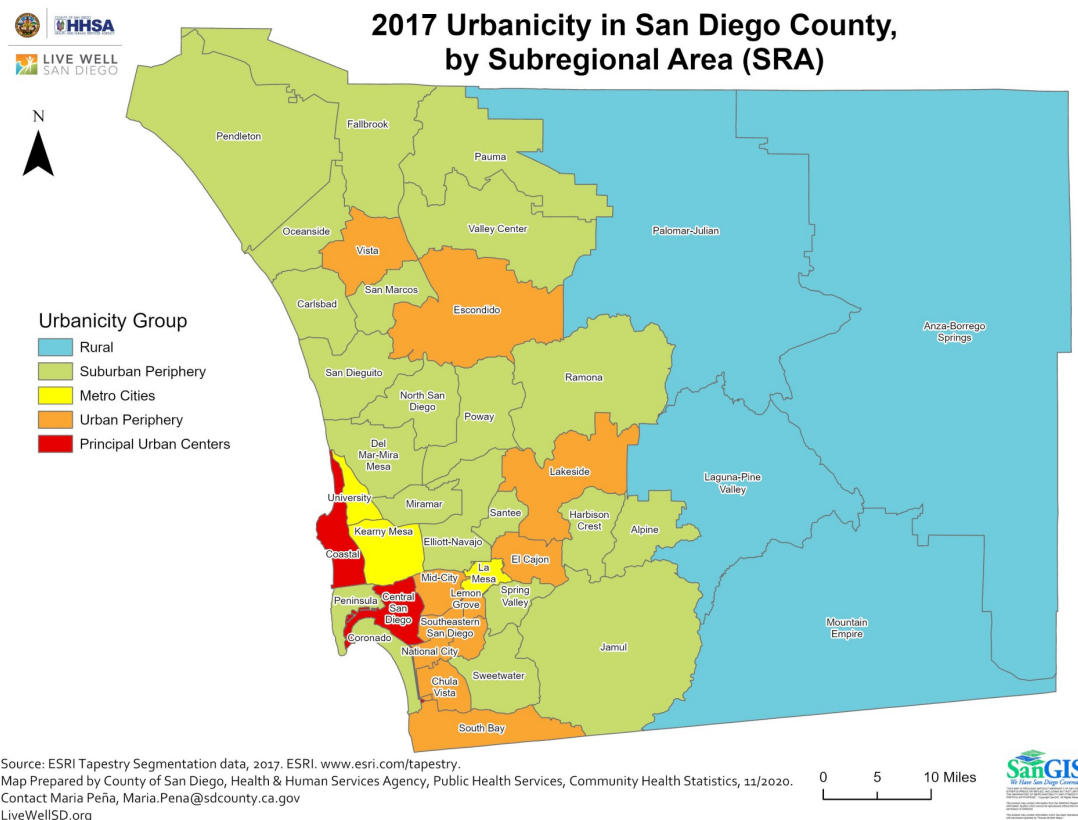
Introduction to Communicable Disease

Communicable diseases are those that spread from one person to another, or from an animal to a person. Communicable diseases may be spread through the air, bodily fluids, or by touching a contaminated surface. Several communicable diseases are vaccine preventable. Good hygiene, such as proper handwashing, is also effective in slowing the spread of communicable diseases.[21]

Population density impacts an individual's risk of contracting a communicable disease. Access to health care in a rural area may determine whether an individual receives timely medical care in response to an infection.[22] It is important to analyze medical encounter rates by geography to identify areas where disparities exist, and address neighborhood and built environment factors that may be contributing to increased rates.

Communicable Disease by Geography in San Diego County

2017 Urbanicity in San Diego County, by Subregional Area (SRA)

Source: ESRI Tapestry Segmentation data, 2017. ESRI. www.esri.com/tapestry.
Map Prepared by County of San Diego, Health & Human Services Agency, Public Health Services, Community Health Statistics, 11/2020.
Contact Maria Peña, Maria.Pena@sdcounty.ca.gov
LiveWellSD.org

Communicable Disease Health Disparities in San Diego County by Geography

Compared to the county overall, rural and principal urban centers generally had a higher burden of communicable disease. In 2017:

Rural
- The burden of influenza (flu)/pneumonia was highest among the rural communities compared to all other urbanicity levels.

Principal Urban Centers
- On average, principal urban centers had the highest incidence rates of chlamydia, gonorrhea, and syphilis compared to other urbanicity levels in 2017.

Prevent Geographic Health Disparities

What You Can Do to Reduce Your Risk of Communicable Disease and Live Well:

- Get all recommended age appropriate vaccinations
- Visit your doctor regularly
- Get early treatment for infections, and complete entire treatment regimens

What Your Community Can Do to Reduce the Risk of Communicable Disease and Live Well:

- Encourage education about protective measures
- Promote vaccination opportunities
- Support public health campaigns aimed at reducing disease

LIVE WELL SAN DIEGO

Building Better Health — Living Safely — Thriving

Live Well San Diego focuses on creating an environment that encourages all San Diego County residents to live healthy, safe, and thriving lives.

Communicable Disease

Rural

Rural communities in San Diego County included the subregional areas (SRAs) in the far east side of the county: Anza-Borrego Springs, Laguna-Pine Valley, Mountain Empire, and Palomar-Julian. The rural urbanicity level had the highest burden of influenza (flu)/pneumonia, but the lowest rates of syphilis, gonorrhea, chlamydia, and tuberculosis in San Diego County.

Influenza (Flu)/Pneumonia

The burden of flu/pneumonia was highest among the rural communities compared to all other urbanicity levels. Among the rural communities, Mountain Empire SRA had the highest rate of ED discharge due to flu/pneumonia in 2017 which was 1.3 times higher than the county overall.

Influenza (Flu)

Among the rural communities in San Diego County, Mountain Empire had the highest rate of ED discharges due to flu in 2017, which was 1.4 times higher than the county overall.

Pneumonia

Additionally, Mountain Empire SRA had the highest rates of ED discharge due to pneumonia among the rural communities in 2017.

Chlamydia, Gonorrhea, Syphilis, and Tuberculosis

Rural communities had the lowest incidence rates of syphilis, gonorrhea, chlamydia, and tuberculosis compared to all other urbanicity levels and the county overall in 2017.

Risk Factors and Prevention Strategies

Prevention measures against communicable diseases, such as increased condom usage, frequent testing, seeking early treatment, completing treatment regimens, and staying current with recommended vaccinations are key ways to reduce the burden of communicable disease among San Diego County rural residents.[15]

Communicable Disease

Suburban Periphery

The subregional areas (SRAs) of Alpine, Carlsbad, Coronado, Del Mar-Mira Mesa, Elliott-Navajo, Fallbrook, Harbison Crest, Jamul, Miramar, North San Diego, Oceanside, Pauma, Pendleton, Peninsula, Poway, Ramona, San Dieguito, San Marcos, Santee, Spring Valley, Sweetwater, and Valley Center made up the suburban periphery urbanicity level in 2017.

Pneumonia

In 2017, the rate of ED discharge due to pneumonia in suburban periphery communities was lower than in rural and urban periphery. Additionally, the rates of death and hospitalization due to pneumonia were lower in suburban periphery communities than in urban periphery areas. However, among suburban periphery communities, Poway SRA had the highest rate of skilled nursing facility (SNF)/intermediate care discharge due to pneumonia, which was nearly 8 times higher than the county overall.
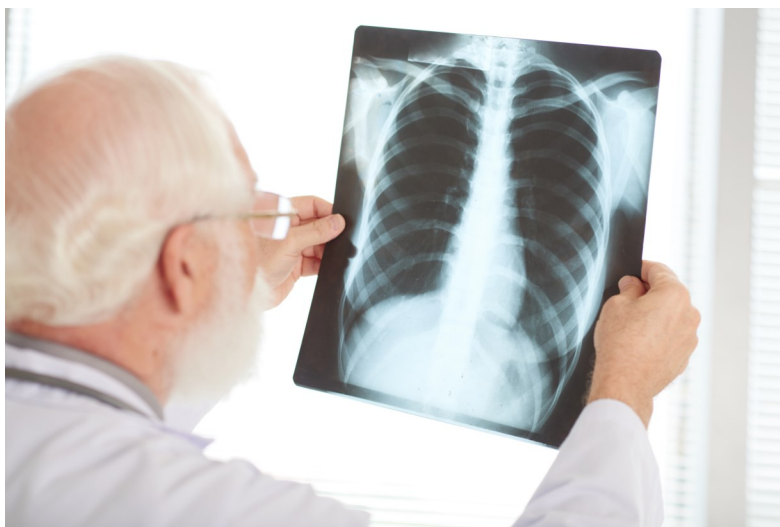
Urinary Tract Infection (UTI)

While the rates of UTI among suburban periphery communities were not the highest compared to other urbanicity levels, among suburban periphery communities, Sweetwater SRA had the highest rate of SNF/intermediate care discharge due UTI which was 4 times higher than the county overall in 2017.

Chlamydia

Overall, suburban periphery communities had a lower incidence rate of chlamydia compared to urban periphery and principal urban center communities in 2017. However, among suburban periphery communities, Miramar SRA had the highest rate of chlamydia incidence in San Diego County. Moreover, the incidence rate of chlamydia in Miramar SRA was 5 times higher than the county overall in 2017.

Risk Factors and Prevention Strategies

Prevention measures against communicable diseases, such as increased condom usage, frequent testing, seeking early treatment, completing treatment regimens, and staying current with recommended vaccinations are key ways to reduce the burden of communicable disease among San Diego County suburban periphery residents.[15]

Communicable Disease

Metro Cities

Kearny Mesa, La Mesa, and University subregional areas (SRAs) comprised the metro cities urbanicity level in 2017. Overall, the burden of communicable diseases was generally lower among residents in metro cities compared to other urbanicity levels and San Diego County.

Influenza (Flu)

While the burden of flu among residents in metro cities was generally lower than other urbanicity levels, the rate of death due to flu was 2 times higher in Kearny Mesa SRA compared to the county overall.

Chlamydia, Gonorrhea, Syphilis, and Tuberculosis

Metro cities generally had lower incidence rates of syphilis, gonorrhea, chlamydia, and tuberculosis compared to other urbanicity levels and the county overall in 2017. Notably, however, Kearny Mesa SRA had the highest incidence rates for these communicable diseases among this urbanicity level. Compared to the county overall in 2017, Kearny Mesa SRA residents had a

- 1.3 times higher incidence rate of tuberculosis.
- 1.1 times higher incidence rate of gonorrhea and syphilis, respectively.
- 25% lower incidence rate of chlamydia.

Risk Factors and Prevention Strategies

Prevention measures against communicable diseases, such as increased condom usage, frequent testing, seeking early treatment, completing treatment regimens, and staying current with recommended vaccinations are key ways to reduce the burden of communicable disease among San Diego County residents in metro cities.[15]

Communicable Disease

Urban Periphery

Urban periphery communities included the subregional areas (SRAs) of Chula Vista, El Cajon, Escondido, Lakeside, Lemon Grove, Mid-City, National City, South Bay, Southeastern San Diego, and Vista. Notably, this urbanicity level had the highest incidence of tuberculosis in San Diego County.

Urinary Tract Infection

Compared to all other urbanicity levels, urban periphery communities had the highest rates of ED and skilled nursing facility (SNF)/intermediate care discharge due to urinary tract infections in 2017. Among these communities, National City SRA had the highest rate of ED discharge, with 1,117 per 100,000 residents, which was 1.7 times higher than that of the county overall. Moreover, among urban periphery communities, Chula Vista SRA had the highest rate of SNF/intermediate care discharges due to urinary tract infection, which was nearly 5 times higher than that of the county overall in 2017.

Tuberculosis

Compared to all other urbanicity levels, the urban periphery communities had the highest incidence of tuberculosis in 2017. Furthermore, South Bay and National City SRAs had the highest incidence rates among urban periphery communities and the county overall. The incidence of tuberculosis in South Bay SRA was nearly 4 times higher than the county overall, followed by National City SRA which was 3.3 times higher than the county overall in 2017.

Risk Factors and Prevention Strategies

Prevention measures against communicable diseases, such as increased condom usage, frequent testing, seeking early treatment, completing treatment regimens, and staying current with recommended vaccinations are key ways to reduce the burden of communicable disease among San Diego County urban periphery residents.[15]

Communicable Disease

Principal Urban Centers

Principal urban centers were the most densely populated communities.[11] In San Diego County, Central San Diego and Coastal subregional areas (SRAs) were principal urban centers in 2017. Central San Diego SRA in particular had high incidence rates of gonorrhea, syphilis, and chlamydia.

Gonorrhea

Among principal urban centers, the incidence rate of gonorrhea was highest in Central San Diego SRA in 2017. Moreover, the incidence rate of gonorrhea in Central San Diego SRA was 3 times higher than in the county overall in 2017.

Syphilis

The incidence rate of syphilis was particularly high among the principal urban centers. Central San Diego SRA had the highest rate of syphilis in 2017, which was 5 times higher than the incidence rate in the county overall.

Chlamydia

Among principal urban centers in San Diego County, the incidence rate of chlamydia was higher compared to other urbanicity levels in 2017. Moreover, the incidence rate of chlamydia in Central San Diego SRA was nearly 40% higher than the county rate in 2017.

Risk Factors and Prevention Strategies

Prevention measures against communicable diseases, such as increased condom usage, frequent testing, seeking early treatment, completing treatment regimens, and staying current with recommended vaccinations are key ways to reduce the burden of communicable disease among San Diego County residents in principal urban centers.[15]
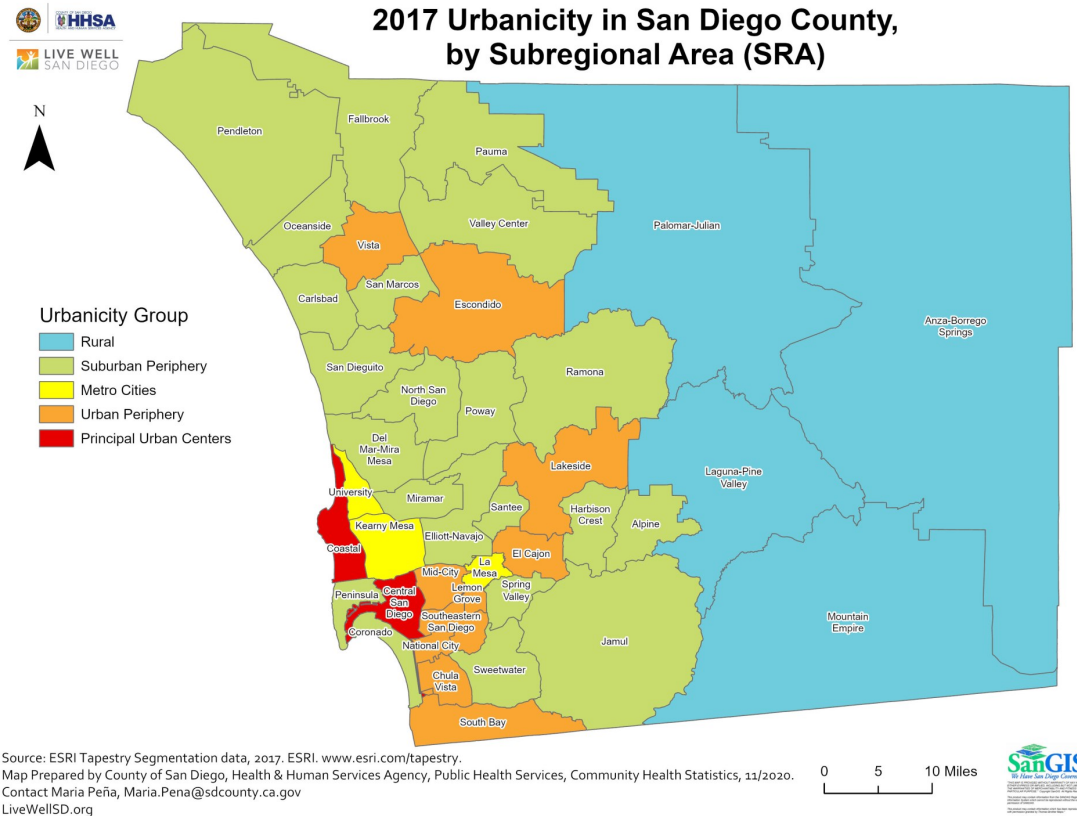
Injury

Injury is bodily harm that occurs as a result of severe exposure to an external force, substance, or submersion. Injuries may be the result of a fall, a motor vehicle collision, violence, or drowning.[23]

Geography may affect an individual's risk of suffering an injury. Built environment, such as the presence of safe, walkable streets, may reduce the risk of injury. Crime rates vary by neighborhood, due to economic environment and a host of other factors.[20] It is important to analyze medical encounter rates by geography to identify areas where disparities exist, and address neighborhood and built environment factors that may be contributing to increased rates.

Injury by Geography in San Diego County

2017 Urbanicity in San Diego County, by Subregional Area (SRA)

Source: ESRI Tapestry Segmentation data, 2017. ESRI. www.esri.com/tapestry.
Map Prepared by County of San Diego, Health & Human Services Agency, Public Health Services, Community Health Statistics, 11/2020.
Contact Maria Peña, Maria.Pena@sdcounty.ca.gov
LiveWellSD.org

Injury Disparities in San Diego County by Geography

In 2017:

Rural
- Rural communities had the highest burden of falls and hip fracture in 2017.
- The burden of motor vehicle injuries was highest among rural communities compared to all other urbanicity levels in 2017.

Prevent Geographic Health Disparities

What You Can Do to Reduce Your Risk of Injury and Live Well:

- Be aware of your surroundings
- Never drink and drive
- Always wear your seatbelt
- Always wear your helmet while on a bike or skateboard

What Your Community Can Do to Reduce the Risk of Injury and Live Well:

- Invest in walkable sidewalks and safe roads
- Invest in drug and alcohol treatment programs
- Make safety a priority through education

Live Well San Diego focuses on creating an environment that encourages all San Diego County residents to live healthy, safe, and thriving lives.

Injury

Rural communities in San Diego County included the subregional areas (SRAs) in the far east side of the county: Anza-Borrego Springs, Laguna-Pine Valley, Mountain Empire, and Palomar-Julian. This urbanicity level had the highest burden of falls, hip fracture, motor vehicle injuries, poisoning, and self-inflicted injuries and suicide in San Diego County.

Falls

Rural communities had the highest burden of falls in 2017. Among rural communities, Mountain Empire SRA had the highest rates of hospitalization and ED discharge due to falls. Moreover, Mountain Empire SRA had the highest hospitalization rate due to falls (599.7 per 100,000) in San Diego County, which was 1.6 times higher than the county overall.

Hip Fracture

Rural communities also had the highest burden of hip fracture in 2017. Laguna-Pine Valley SRA had the highest rate of hospitalization due to hip fracture in San Diego County in 2017. The hospitalization rate due to hip fracture in Laguna Pine-Valley SRA in 2017 was 175.8 discharges per 100,000 residents, which was 2.4 times higher than the county overall.

Motor Vehicle Injuries

The burden of motor vehicle injuries was highest among rural communities compared to all other urbanicity levels in 2017. Within rural communities, Mountain Empire SRA was the most burdened with a death rate nearly 8 times higher than the county, hospitalization rate 4 times higher than the county, and ED discharge 2 times higher than the rate of the county overall.

Poisoning

The burden of poisoning was highest among the rural communities compared to all other urbanicity groups. Among the rural communities, Mountain Empire SRA had the highest rate of ED discharge due to poisoning in 2017, which was 1.4 times higher than the county overall.

Self-Inflicted Injuries and Suicide

Rural communities had the highest burden of self-inflicted injuries and suicide. Among the rural communities in San Diego County, Laguna-Pine Valley SRA had the highest rate of ED discharge due to self-inflicted injuries in 2017, which was 1.6 times higher than the county overall.

Risk Factors and Prevention Strategies

Failure to use protective equipment and active restraints, impaired or distracted driving, mismanagement of medication, and not being aware of safety hazards increase the risk of an injury.[16]

Often, modifiable behaviors such as the use of protective equipment and active restraints, the management of medication, violence prevention, as well as awareness, reduce the likelihood of injury among rural residents in San Diego County.[16]

Injury

The subregional areas (SRAs) of Alpine, Carlsbad, Coronado, Del Mar-Mira Mesa, Elliott-Navajo, Fallbrook, Harbison Crest, Jamul, Miramar, North San Diego, Oceanside, Pauma, Pendleton, Peninsula, Poway, Ramona, San Dieguito, San Marcos, Santee, Spring Valley, Sweetwater, and Valley Center made up the suburban periphery urbanicity level in 2017. In 2017, falls, motor vehicle injuries, and drowning were notably high in select SRAs in suburban periphery communities.

Falls

Suburban periphery communities had the second highest burden of falls in San Diego County in 2017. Among suburban communities, the highest ED discharge rate for falls was in Valley Center SRA with a 1.3 times higher than San Diego County. The discharge rate from skilled nursing facilities (SNF)/intermediate care due to falls in Coronado SRA was 105.9 discharges per 100,000 residents in 2017, which was 37 times higher than that of the county overall.

Motor Vehicle Injuries

The burden of motor vehicle injuries among suburban periphery communities was generally not higher than other urbanicity levels in 2017. However, among suburban periphery communities, Miramar SRA's rate of death due to motor vehicle injuries was 10 times higher than that of the county overall. Additionally, the rates of ED discharge and hospitalization due to motor vehicle injuries among suburban periphery communities were highest in Harbison Crest SRA, with rates 1.8 and 1.5 times higher, respectively, than the county overall.

Drowning

In 2017, the rate of ED discharge due to drowning was fairly low in San Diego County (3.5 per 100,000 residents). However, compared to all other urbanicity levels, suburban periphery communities had the highest burden of drowning. Among suburban periphery communities in San Diego County, Santee SRA had the highest rate of ED discharge due to drowning at 8.5 ED discharges per 100,000 residents, which was 2.4 times higher than the rate of the county.

Risk Factors and Prevention Strategies

Failure to use protective equipment and active restraints, impaired or distracted driving, mismanagement of medication, and not being aware of safety hazards increase the risk of an injury.[16]

Often, modifiable behaviors such as the use of protective equipment and active restraints, the management of medication, violence prevention, as well as awareness, reduce the likelihood of injury among suburban periphery residents in San Diego County.[16]

Injury

Metro Cities

Kearny Mesa, La Mesa, and University subregional areas (SRAs) comprised the metro cities urbanicity level in 2017. Overall, metro cities had a lower burden of injury outcomes compared to other urbanicity levels and San Diego County, except principal urban centers.

Motor Vehicle Injuries

The burden of motor vehicle injuries among metro cities communities were generally lower than other urbanicity groups in 2017. Compared to the county overall, the rate of death due to motor vehicle injuries was 1.2 times higher in La Mesa SRA. In-patient treatment rates were fairly low across the county, however, Kearny Mesa SRA had a rate of 4.3 per 100,000 residents, which was 2.6 times higher than the rate of the county overall.

Motor Vehicle Collision Injuries to Pedacyclist

Among metro cities, University SRA residents were 1.3 times more likely to be discharged from the ED due to pedacycle motor vehicle collision injuries than the county overall.

Assault*

Among metro cities, University SRA had the highest rate of ED discharges for assault, with 272.6 per 100,000 residents, which was comparable to that of the county rate. Additionally, while in-patient treatment rates were fairly low in the county, Kearny Mesa had a discharge rate of 9.7 per 100,000 residents, which was 2 times higher than the county rate.

Risk Factors and Prevention Strategies

Failure to use protective equipment and active restraints, impaired or distracted driving, mismanagement of medication, and not being aware of safety hazards increase the risk of an injury.[16]

Often, modifiable behaviors such as the use of protective equipment and active restraints, the management of medication, violence prevention, as well as awareness, reduce the likelihood of injury among residents in metro cities in San Diego County.[16]

*Assault includes homicide, neglect, abandonment, and maltreatment.

Injury

Urban Periphery

Urban periphery communities included the subregional areas (SRAs) of Chula Vista, El Cajon, Escondido, Lakeside, Lemon Grove, Mid-City, National City, South Bay, Southeastern San Diego, and Vista. SRAs in this urbanicity level had a high burden of assault and motor vehicle injuries.

Assault*

Compared to all other urbanicity groups, urban periphery communities had the highest burden of assault. Among urban periphery communities, Southeastern San Diego, Mid-City, and Lemon Grove SRAs had the highest rates of ED discharges due to assault. The rate of discharges from the ED in Southeastern San Diego SRA was 2 times higher than in the county overall in 2017.

Motor Vehicle Injuries

The urban periphery communities had a higher burden of motor vehicle injuries than communities in other urbanicity levels, except rural communities, in

2017. Among these communities, Southeastern San Diego, Lemon Grove, and El Cajon SRAs had the highest ED discharge rates. In 2017, the rate of ED discharge in Southeastern San Diego SRA was 1.7 times higher than the county overall, followed by Lemon Grove SRA, which was 1.6 times higher than the county overall.

Risk Factors and Prevention Strategies

Failure to use protective equipment and active restraints, impaired or distracted driving, mismanagement of medication, and not being aware of safety hazards increase the risk of an injury.[16]

Often, modifiable behaviors such as the use of protective equipment and active restraints, the management of medication, violence prevention, as well as awareness, reduce the likelihood of injury among urban periphery residents in San Diego County.[16]

*Assault includes homicide, neglect, abandonment, and

Injury

Principal urban centers were the most densely populated communities.[11] In San Diego County, Central San Diego and Coastal subregional areas (SRAs) were principal urban centers in 2017.

Assault*

Principal urban centers had a lower burden of assault compared to rural and urban periphery communities. However, Central San Diego SRA had the highest rate of ED discharge due to assault in the county at 450 per 100,000 residents, which was 2 times higher than the rate of the county overall.

Motor Vehicle-Related Pedestrian Injuries

While the rates of motor vehicle-related pedestrian injuries were low throughout the county, the burden of motor vehicle-related pedestrian injuries was highest among principal urban centers. Among these communities, Central San Diego SRA had the highest rate of ED discharge and hospitalization due to motor vehicle-related pedestrian injuries, where the rates were 1.7 and 2.4 times higher, respectively, than the county overall in 2017.

Poisoning

The burden of poisoning was generally higher in principal urban centers compared to other urbanicity levels. However, the rate of discharge from the ED due to poisoning in Central San Diego SRA was 2 times higher than the county rate in 2017.

Risk Factors and Prevention Strategies

Failure to use protective equipment and active restraints, impaired or distracted driving, mismanagement of medication, and not being aware of safety hazards increase the risk of an injury.[16]

Often, modifiable behaviors such as the use of protective equipment and active restraints, the management of medication, violence prevention, as well as awareness, reduce the likelihood of injury among residents in principal urban centers in San Diego County.[16]

*Assault includes homicide, neglect, abandonment, and maltreatment.
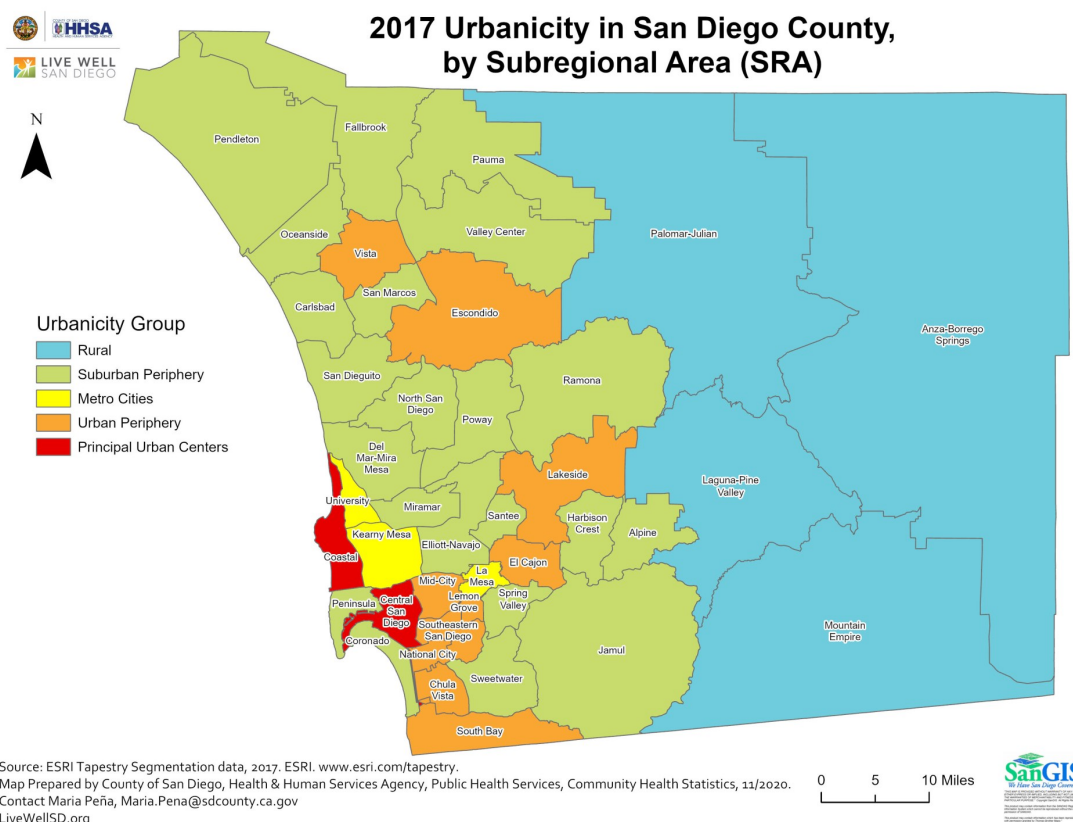
Behavioral Health

Behavioral health conditions may affect a person's thinking, feeling, behavior, or mood. Behavioral health conditions may be affected by an individual's genetics and lifestyle. Environment, stress, and traumatic life events may also make an individual more likely to develop behavioral health conditions.[24]

Social and physical environments differ between urban and rural areas, and these factors may contribute to an individual's risk of developing a behavioral health condition. Environmental stressors differ in rural and urban settings. For example, people living in more urban areas are more likely to experience low social cohesion (lacking support and a close relationship with neighbors) and higher crime rates than those living in more rural areas.[25,26] Alternatively, individuals in rural areas are less likely to receive treatment for mental health care due to reduced access to providers, specifically trained specialty care providers, as well as underutilization of available resources.[27] It is important to analyze medical encounter rates by geography to identify areas where disparities exist, and address neighborhood and built environment factors that may be contributing to increased rates.

Behavioral Health by Geography in San Diego County

2017 Urbanicity in San Diego County, by Subregional Area (SRA)

Urbanicity Group
- Rural
- Suburban Periphery
- Metro Cities
- Urban Periphery
- Principal Urban Centers

Source: ESRI Tapestry Segmentation data, 2017. ESRI. www.esri.com/tapestry.
Map Prepared by County of San Diego, Health & Human Services Agency, Public Health Services, Community Health Statistics, 11/2020.
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Behavioral Health Disparities in San Diego County by Geography

Rural
- Rural communities had the highest burden of substance-related disorders compared to all other urbanicity levels in 2017.

Principal Urban Centers
- Principal urban centers had the highest burden of alcohol-related disorders compared to all other urbanicity levels in 2017.

Prevent Geographic Health Disparities

**What You Can Do to Reduce Your Risk of
Poor Behavioral Health Outcomes and Live Well:**

- Seek help for an emotional, behavioral health, or alcohol/ drug use problem
- Seek out healthy activities to reduce stress, and stay socially connected, such as exercising or volunteering

**What Your Community Can Do to Reduce the Risk of
Poor Behavioral Health Outcomes and Live Well:**

- Educate residents about the warning signs of behavioral health issues
- Foster environments that reduce the stigma associated with behavioral health issues

Live Well San Diego focuses on creating an environment that encourages all San Diego County residents to live healthy, safe, and thriving lives.

Behavioral Health

Rural

Rural communities in San Diego County included the subregional areas (SRAs) in the far east side of the county: Anza-Borrego Springs, Laguna-Pine Valley, Mountain Empire, and Palomar-Julian.

Alzheimer's Disease and Related Dementias (ADRD)

Anza-Borrego Springs SRA had the second highest rate of death due to Alzheimer's disease and related dementias (ADRD) in San Diego County.

Substance-Related Disorders

Rural communities had the highest burden of substance-related disorders compared to all other urbanicity levels in 2017. The rate of in-patient treatment due to substance-related disorders among rural residents was much higher than among residents in any other urbanicity. Notably, residents of Laguna-Pine Valley SRA were nearly 7 times more likely to receive in-patient treatment for substance-related disorders compared to residents in the county overall.

Opioid-Related Disorders

Moreover, Laguna-Pine Valley SRA had the highest burden of opioid-related disorders, which was 10 times higher than the in-patient treatment rate of the county as a whole.

Amphetamines and Other Stimulant-Related Disorders

Notably, the rate of ED discharge due to amphetamines and other stimulant-related disorders in Mountain Empire SRA was 1.9 times higher than that of the county overall in 2017.

Mood Disorders

The burden of mood disorders, including depression and bipolar disorders, was higher among rural residents than other urbanicity levels in 2017. Among these communities, in 2017, the rate of in-patient treatment due to mood disorders in Mountain Empire SRA was 397.3 discharges per 100,000 residents, which was 1.6 times higher than the county overall.

Depression

Compared to the county overall, rural residents had lower rates of hospitalization and ED discharge due to depression. Among rural communities, Mountain Empire SRA had the highest rates of in-patient treatment and ED discharge due to depression in 2017. Additionally, the rate of in-patient treatment discharge due to depression was 1.5 times higher in Mountain Empire SRA than the county overall.

Risk Factors and Prevention Strategies

Risk factors for poor behavioral health outcomes include early adverse life experiences (also called adverse childhood experiences, or ACEs), biological factors or genetics, use of alcohol or recreational drugs, stress, and feelings of loneliness or isolation.[17]

Seeking help for an emotional/behavioral health or alcohol/drug problem, exercising to reduce stress, and avoiding social isolation are major prevention strategies that can help reduce poor behavioral health outcomes among rural residents in San Diego County.[17]

Behavioral Health

Suburban Periphery

The subregional areas (SRAs) of Alpine, Carlsbad, Coronado, Del Mar-Mira Mesa, Elliott-Navajo, Fallbrook, Harbison Crest, Jamul, Miramar, North San Diego, Oceanside, Pauma, Pendleton, Peninsula, Poway, Ramona, San Dieguito, San Marcos, Santee, Spring Valley, Sweetwater, and Valley Center made up the suburban periphery urbanicity level in 2017.

Personality Disorders

While rates of personality disorders were fairly low in San Diego County, the burden of personality disorders was highest among suburban periphery communities. The ED discharge rate due to personality disorders in Poway SRA was nearly double compared to that of the county.

Mood Disorders

Among suburban periphery communities in 2017, the rates of discharges from in-patient treatment and the ED due to mood disorders, including depression and bipolar disorders, were notable. Within this urbanicity level, Santee SRA had the highest rate of in-patient treatment discharges for mood disorders with 402 discharges per 100,000 residents, which was 1.6 times higher than the county overall. Oceanside SRA had the highest rate of ED discharges for mood disorders at 304.7 discharges per 100,000 residents, measuring 1.7 times higher than that of the county.

Depression

Oceanside SRA had the highest rate of ED discharges for depression in the county, while Santee SRA had the highest rate of in-patient treatment discharge in the county due to depression.

Alcohol-Related Disorders

The burden of alcohol-related disorders was lowest in suburban periphery communities in 2017. However, compared to the county overall, the rate of death due to alcohol-related disorders was 2.2 times higher in Valley Center SRA. Additionally, the rate of hospitalization due to alcohol-related disorders in Valley Center SRA was 2 times higher than the county overall. The rate of in-patient treatment discharge was highest among Peninsula SRA residents, which was 2.5 times higher than the county overall.

Behavioral Health

Opioid-Related Disorders

While the burden of opioid-related disorders in suburban periphery was lower than all other urbanicity levels in 2017, the discharge rate from in-patient treatment was 2.5 times higher in the Santee SRA than the county overall. Among suburban periphery communities, Ramona SRA had the highest rate of hospitalization due to opioid-related disorders, which was 1.7 times higher than the county overall. The rate of discharge from the ED for opioid-related disorders in Harbison Crest SRA was 1.5 times higher than the county overall.

Risk Factors and Prevention Strategies

Risk factors for poor behavioral health outcomes include early adverse life experiences (also called adverse childhood experiences, or ACEs), biological factors or genetics, use of alcohol or recreational drugs, stress, and feelings of loneliness or isolation.[17]

Seeking help for an emotional/behavioral health or alcohol/drug problem, exercising to reduce stress, and avoiding social isolation are major prevention strategies that can help reduce poor behavioral health outcomes among suburban periphery residents in San Diego County.[17]

Behavioral Health

Metro Cities

Kearny Mesa, La Mesa, and University subregional areas (SRAs) comprised the metro cities urbanicity level in 2017.

Post-Traumatic Stress Disorder (PTSD)

While the burden of PTSD was fairly low across all urbanicity levels, residents in metro cities were slightly more burdened compared to all other urbanicity levels. Among metro cities, Kearny Mesa SRA had an in-patient treatment rate for PTSD of 4.9 per 100,000 residents, which was twice as high as the rate of the county overall.

Depression

The burden of depression was slightly higher among residents in metro cities compared to all other urbanicity levels. The rate of in-patient treatment due to depression in La Mesa SRA was 303.5 discharges per 100,000, which was 1.4 times higher than the rate of county overall.

Impulse Disorders

The rates of ED discharge and in-patient treatment due to impulse disorders were particularly high among metro cities residents compared to residents in all other urbanicity levels in 2017. La Mesa SRA had the highest rates of ED and in-patient treatment discharges due to impulse disorders than any other SRA in the county. The ED discharge rate in La Mesa SRA was 3.3 times higher than the county overall, whereas the in-patient treatment discharge rate was 4 times higher than in the county overall.

Risk Factors and Prevention Strategies

Risk factors for poor behavioral health outcomes include early adverse life experiences (also called adverse childhood experiences, or ACEs), biological factors or genetics, use of alcohol or recreational drugs, stress, and feelings of loneliness or isolation.[17]

Seeking help for an emotional/behavioral health or alcohol/drug problem, exercising to reduce stress, and avoiding social isolation are major prevention strategies that can help reduce poor behavioral health outcomes among residents in metro cities in San Diego County.[17]

Behavioral Health

Urban Periphery

Urban periphery communities included the subregional areas (SRAs) of Chula Vista, El Cajon, Escondido, Lakeside, Lemon Grove, Mid-City, National City, South Bay, Southeastern San Diego, and Vista.

Schizophrenia and Other Psychotic Disorders

The burden of schizophrenia and other psychotic disorders was highest among urban periphery residents compared to all other urbanicity levels in 2017. In San Diego County, those in the urban periphery urbanicity had the highest rates of discharge from in-patient treatment facilities and the ED due to schizophrenia and other psychotic disorders. Among urban periphery communities, Southeastern San Diego and National City SRAs had the highest rates of discharge from in-patient treatment for schizophrenia and other psychotic disorders. Southeastern San Diego SRA also had the highest rate of ED discharges due to schizophrenia and other psychotic disorders. Specifically, the rate of in-patient treatment for schizophrenia and other psychotic disorders in Southeastern San Diego SRA was 2.7 times higher and the rate of ED discharges 2 times higher compared to the county overall.

Cannabis-Related Disorders

While rates of medical encounters due to cannabis-related disorders were low across all urbanicity levels, urban periphery residents had the highest burden of cannabis-related disorders compared to all other urbanicity levels in 2017. Among communities in this urbanicity level, Southeastern San Diego SRA had the highest rates of ED discharge and hospitalization. Particularly,

the rate of hospitalizations due to cannabis-related disorders in Southeastern San Diego SRA was 3.8 times higher than the county overall in 2017.

Benzodiazepines and Other Sedative-Related Disorders

While the burden of benzodiazepine and other sedative-related disorders was low across all urbanicity levels in 2017, residents of Lemon Grove SRA were 2.3 times more likely to be hospitalized for benzodiazepine and other sedative-related disorders compared to the county overall.

Adjustment Disorders

In 2017, the rate of ED discharge due to adjustment disorders was 2.4 times higher in Southeastern San Diego SRA than the county overall.

Attention Deficit Disorder (ADD) and Other Conduct Disorders

Residents of Lemon Grove SRA were 2 times more likely to be discharged from the ED due to ADD and other conduct disorders compared to the county overall in 2017.

Behavioral Health

Risk Factors and Prevention Strategies

Risk factors for poor behavioral health outcomes include early adverse life experiences (also called adverse childhood experiences, or ACEs), biological factors or genetics, use of alcohol or recreational drugs, stress, and feelings of loneliness or isolation.[17]

Seeking help for an emotional/behavioral health or alcohol/drug problem, exercising to reduce stress, and avoiding social isolation are major prevention strategies that can help reduce poor behavioral health outcomes among urban periphery residents in San Diego County.[17]

Behavioral Health

Principal Urban Centers

Principal urban centers were the most densely populated communities.[11] In San Diego County, Central San Diego and Coastal subregional areas (SRAs) were principal urban centers in 2017. Compared to other urbanicity levels, residents in principal urban centers generally had lower rates for most of the selected behavioral health indicators in 2017.

Alcohol-Related Disorders

However, principal urban centers had the highest burden of alcohol-related disorders compared to all other urbanicity levels in 2017. Central San Diego SRA had the highest ED discharge rate for alcohol-related disorders among principal urban centers and all other SRAs in the county, which was 2.6 times higher than San Diego County. Compared to the county overall, the rate of death due to alcohol-related disorders in Central San Diego SRA was also 1.6 times higher than the county overall in 2017.

Mood Disorders

The burden of mood disorders, including depression and bipolar disorders, in principal urban centers was comparable to the burden in metro cities and urban periphery communities, however the rate of ED and in-patient treatment discharge due to mood disorders were notable among residents in this urbanicity. Specifically, Central San Diego SRA had the highest ED discharge rate due to mood disorders in San Diego County, with a rate 1.8 times higher than the county overall. Additionally, among principal urban centers, the rate of in-patient treatment in Central San Diego SRA was 1.4 times higher than the county overall.

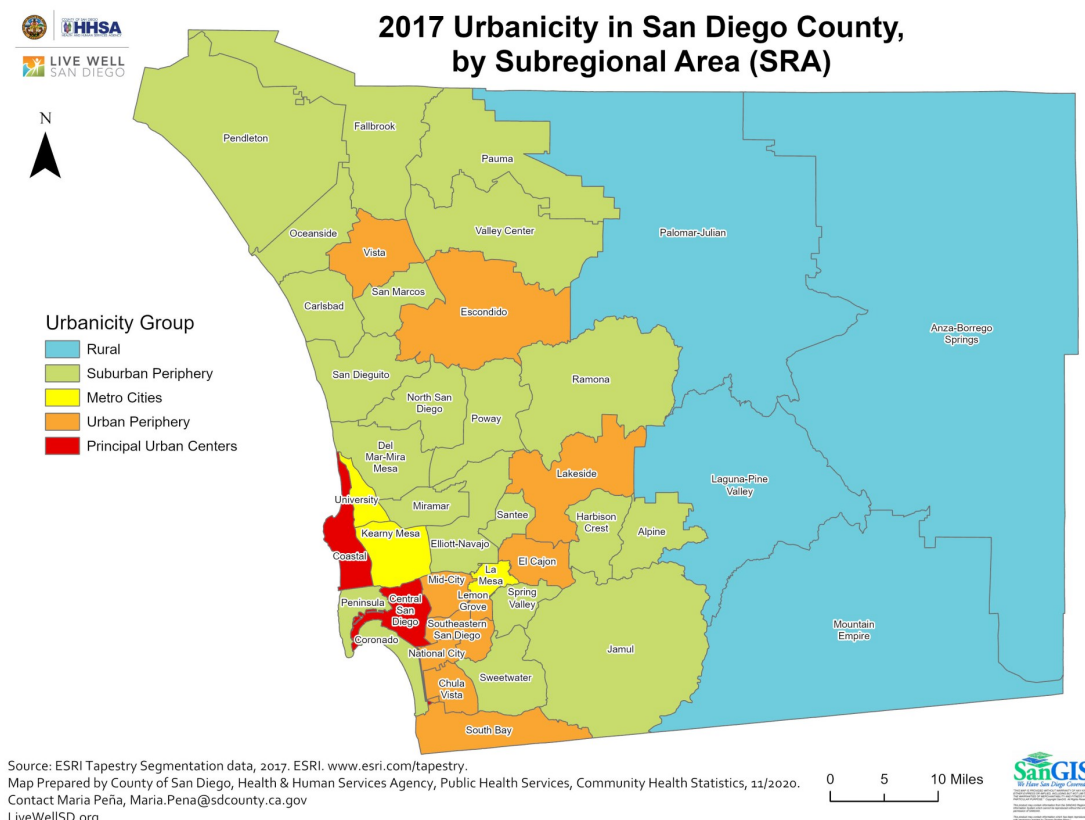### Risk Factors and Prevention Strategies

Risk factors for poor behavioral health outcomes include early adverse life experiences (also called adverse childhood experiences, or ACEs), biological factors or genetics, use of alcohol or recreational drugs, stress, and feelings of loneliness or isolation.[17]

Seeking help for an emotional/behavioral health or alcohol/drug problem, exercising to reduce stress, and avoiding social isolation are major prevention strategies that can help reduce poor behavioral health outcomes among residents in principal urban centers in San Diego County.[17]

Maternal and Child Health by Geography in San Diego County

2017 Urbanicity in San Diego County, by Subregional Area (SRA)

Source: ESRI Tapestry Segmentation data, 2017. ESRI. www.esri.com/tapestry.
Map Prepared by County of San Diego, Health & Human Services Agency, Public Health Services, Community Health Statistics, 11/2020.
Contact Maria Peña, Maria.Pena@sdcounty.ca.gov
LiveWellSD.org

Maternal and Child Health Disparities in San Diego County by Geography

In 2017, there were a total of 40,889 live births in San Diego County.

Suburban Periphery
Compared to other urbanicity levels, suburban periphery had the highest rate of fetal mortality in 2017.

Metro cities
Compared to other urbanicity levels, metro cities had the highest rate of infant mortality in 2017.

Urban Periphery
Urban periphery had the highest percent of preterm births in 2017 compared to all other urbanicity levels and the county overall.

Maternal and Child Health

Maternal and child health focus on health issues of women, infants, and children.[28] Conditions falling into this category include low birth weight among newborns and infant mortality. Also discussed are utilization of prenatal care, preterm births, and births to teenaged mothers.

Infant and child health are affected by a myriad of factors, including access to quality education and socioeconomic status. The physical and mental health of the caregiver may also play a role. Access to health care and poverty levels differ in most rural and urban areas, leading to disparities in maternal and child health outcomes.[28] It is important to analyze medical encounter rates by geography to identify areas where disparities exist, and address neighborhood and built environment factors that may be contributing to increased rates.

Prevent Geographic Health Disparities

What You Can Do to Reduce Your Risk of
Poor Maternal and Child Health Outcomes and Live Well:

- Seek early prenatal care
- Eat a balanced diet
- Avoid smoking, alcohol consumption, or using drugs while pregnant
- Engage in physical activity

What Your Community Can Do to Reduce the Risk of
Poor Maternal and Child Health Outcomes and Live Well:

- Encourage early prenatal care
- Develop lactation policies
- Provide affordable daycare options
- Encourage enrollment in nutrition assistance programs for eligible mothers and children

LIVE WELL SAN DIEGO

Building Better Health | Living Safely | Thriving

Live Well San Diego focuses on creating an environment that encourages all San Diego County residents to live healthy, safe, and thriving lives.

Maternal & Child Health

Rural

Rural communities in San Diego County included the subregional areas (SRAs) in the far east side of the county: Anza-Borrego Springs, Laguna-Pine Valley, Mountain Empire, and Palomar-Julian. There were a total of 269 live births in rural areas in 2017, which represented less than 1% of live births in San Diego County.

Early Prenatal Care[†]

Rural areas had the lowest percent of births with early prenatal care compared to all other urbanicity levels and the county overall. In 2017, on average, 72.1% of all rural births received prenatal care. Therefore, just over 1 out of every 4 births did not receive early prenatal care. Among rural communities, Mountain Empire SRA had the lowest percentage of births that received early prenatal care. Only 61.9% of births received early prenatal care.

Low Birth Weight

Low birth weight refers to birth weight less than 2,500g (approximately 5 lbs., 8 oz.). The rural area saw a higher percentage of low birth weight deliveries compared to all other urbanicity levels and the county overall. Of the total number of live births in rural communities, 8.9% were low birth weight. Notably, 13.3% of births in Laguna-Pine Valley SRA were low births, which was twice as high as the county rate.

Risk Factors and Prevention Strategies

Maternal and child health outcomes are influenced by several factors including age, race/ethnicity, socioeconomic status, and a mother's health. Specifically, lack of prenatal care, poor nutrition, alcohol and tobacco use, and lack of physical activity are major lifestyle risk factors for adverse maternal and child health outcomes.[16]

The health of mothers, infants, and children are key indicators of the health of a community overall. Their health outcomes often reflect the health of future generations, as well as emerging public health concerns. Engaging in healthy behaviors associated with favorable maternal and child health outcomes has the potential to positively impact the health of the county overall.[16]

† Early prenatal care is defined here as care beginning during 1st trimester of pregnancy. This does not account for frequency of care.

Maternal & Child Health

Suburban Periphery

The subregional areas (SRAs) of Alpine, Carlsbad, Coronado, Del Mar-Mira Mesa, Elliott-Navajo, Fallbrook, Harbison Crest, Jamul, Miramar, North San Diego, Oceanside, Pauma, Pendleton, Peninsula, Poway, Ramona, San Dieguito, San Marcos, Santee, Spring Valley, Sweetwater, and Valley Center made up the suburban periphery urbanicity level in 2017. There were a total of 17,809 live births in suburban periphery areas in 2017, which represented 43.6% of live births in San Diego County.

Early Prenatal Care†

In 2017, on average, 86.9% of all births received prenatal care in the suburban periphery. Therefore, about 1 out of every 8 births did not receive early prenatal care. Among suburban periphery communities, the SRAs of Pauma and Fallbrook had the lowest percent of births that received early prenatal care at nearly 78%, respectively.

Infant Mortality*

Suburban periphery had the lowest rate of infant mortality in 2017 compared to all other urbanicity levels and the county overall. Among its communities, the SRAs of Elliot-Navajo, Del Mar-Mira Mesa, and Sweetwater all had higher rates of infant mortality compared to the county overall.

Fetal Mortality

Compared to other urbanicity levels, suburban periphery had the highest rate of fetal mortality in 2017. Notably, the fetal mortality rate in Spring Valley SRA was twice as high as the county overall.

Childhood Disorders

Overall, suburban periphery areas had the highest burden of childhood disorders in 2017 compared to other urbanicity levels. Moreover, suburban periphery communities had the highest burden of ED discharges for childhood disorders. Among these communities, Elliot-Navajo SRA had the highest rate of ED discharges at 7.6 per 100,000 residents and nearly two times higher than the county overall.

† Early prenatal care is defined here as care beginning during 1st trimester of pregnancy. This does not account for frequency of care.
* Infant Mortality Rate: infant deaths (under one year of age) per 1,000 live births, by geography.

Maternal & Child Health

Risk Factors and Prevention Strategies

Maternal and child health outcomes are influenced by several factors including age, race/ethnicity, socioeconomic status, and a mother's health. Specifically, lack of prenatal care, poor nutrition, alcohol and tobacco use, and lack of physical activity are major lifestyle risk factors for adverse maternal and child health outcomes.[16]

The health of mothers, infants, and children are key indicators of the health of a community overall. Their health outcomes often reflect the health of future generations, as well as emerging public health concerns. Engaging in healthy behaviors associated with favorable maternal and child health outcomes has the potential to positively impact the health of the county overall.[16]

† Early prenatal care is defined here as care beginning during 1st trimester of pregnancy. This does not account for frequency of care.

* Infant Mortality Rate: infant deaths (under one year of age) per 1,000 live births, by geography.

Maternal & Child Health

Metro Cities

In 2017, Kearny Mesa, La Mesa, and University subregional areas (SRAs) comprised the metro cities urbanity level. There were a total of 3,662 live births in metro cities areas in 2017, which represented 9% of live births in San Diego County.

Early Prenatal Care[†]
Metro cities had the highest percent of live births with early prenatal care. In 2017, 87.8% of all births in metro cities received prenatal care. Therefore, 1 out of every 8 births did not receive early prenatal care. Among metro cities communities, La Mesa SRA had the lowest percent of births that received early prenatal care. Only 86.6% of births in La Mesa SRA received early prenatal care.

Infant Mortality*
Compared to other urbanity levels, metro cities had the highest rate of infant mortality in 2017. Among these communities, Kearny Mesa had the highest rate of infant mortality at 5.4 infant deaths per 1,000 live births, which was 1.5 times higher than that of the county overall.

Congenital Anomalies
Compared to other urbanity levels, metro cities had the highest rate of congenital disorders in 2017. Among these communities, Kearny Mesa and La Mesa SRAs had slightly higher rates compared to the county overall.

Very Low Birth Weight~
Just under 1% of live births were very low birth weight, which was lower than other urbanity levels and the county overall.

Teen Births[§]
Metro cities had the lowest proportion of teens, ages 15-17, who gave birth in 2017.

Risk Factors and Prevention Strategies
Maternal and child health outcomes are influenced by several factors including age, race/ethnicity, socioeconomic status, and a mother's health. Specifically, lack of prenatal care, poor nutrition, alcohol and tobacco use, and lack of physical activity are major lifestyle risk factors for adverse maternal and child health outcomes.[16]

The health of mothers, infants, and children are key indicators of the health of a community overall. Their health outcomes often reflect the health of future generations, as well as emerging public health concerns. Engaging in healthy behaviors associated with favorable maternal and child health outcomes has the potential to positively impact the health of the county overall.[16]

† Early prenatal care is defined here as care beginning during 1st trimester of pregnancy. This does not account for frequency of care.
* Infant Mortality Rate: infant deaths (under one year of age) per 1,000 live births, by geography.
~ Very Low birth weight refers to birth weight less than 1,500 g (approximately 3 lbs., 5 oz.).
§ Teen Birth Percentage: proportion of teen (15-17yrs) births out of all ages live births in a geography.

Maternal & Child Health

Urban Periphery

Urban periphery communities included the subregional areas (SRAs) of Chula Vista, El Cajon, Escondido, Lakeside, Lemon Grove, Mid-City, National City, South Bay, Southeastern San Diego, and Vista. There were a total of 16,481 live births in urban periphery areas in 2017, which represented 40.3% of live births in San Diego County.

Early Prenatal Care[†]

While 82.8% of all births received prenatal care in the urban periphery, nearly 1 out of every 5 births did not receive early prenatal care in 2017. Compared to other urbanicity levels, urban periphery had a lower percentage of births with early prenatal care than most urbanicity levels, except rural. Among urban periphery communities, the SRAs of Mid-City and El Cajon had the lowest percentages of births with early prenatal care at 80.4% and 80.5%, respectively.

Infant Mortality*

Compared to all other urbanicity levels, urban periphery had the second highest rate of infant mortality, which was also higher than the county overall. Notably, there were 6.8 infant deaths per 1,000 live births in Chula Vista SRA in 2017, which was 88% higher than the rate of the county overall.

Preterm Births[‡]

Urban periphery had the highest percentage of preterm births in 2017 compared to all other urbanicity levels and the county overall. Among urban periphery communities, Lemon Grove SRA had the highest percentage of preterm births at 10.4%. In other words, 1 in 10 births were preterm in Lemon Grove SRA in 2017. Following Lemon Grove SRA, the

percentages of all births that were preterm births were highest in Chula Vista SRA and El Cajon SRA, where there were 9.6% and 9.4%, respectively.

Teen Births[§]

Compared to all other urbanicity levels and the county overall, urban periphery had the highest percentages of teen births. Notably, 1.5% of live births in Southeastern San Diego SRA were born to mothers between 15-17 years of age and 1.3% of live births in National City SRA were born to mothers between 15-17 years of age (county overall at 0.7%).

Fetal Mortality

In 2017, urban periphery had a higher fetal mortality rate compared to the county overall. Notably, there were 6.2 fetal deaths per 1,000 live births in Mid-City SRA in 2017, which was 62% higher than the rate of the county overall.

† Early prenatal care is defined here as care beginning during 1st trimester of pregnancy. This does not account for frequency of care.
* Infant Mortality Rate: infant deaths (under one year of age) per 1,000 live births, by geography.
‡ Preterm birth refers to birth prior to 37 completed weeks of gestation.
§ Teen Birth Percentage: proportion of teen (15-17yrs) births out of all ages live births in a geography.

Maternal & Child Health

Risk Factors and Prevention Strategies

Maternal and child health outcomes are influenced by several factors including age, race/ethnicity, socioeconomic status, and a mother's health. Specifically, lack of prenatal care, poor nutrition, alcohol and tobacco use, and lack of physical activity are major lifestyle risk factors for adverse maternal and child health outcomes.[16]

The health of mothers, infants, and children are key indicators of the health of a community overall. Their health outcomes often reflect the health of future generations, as well as emerging public health concerns. Engaging in healthy behaviors associated with favorable maternal and child health outcomes has the potential to positively impact the health of the county overall.[16]

Maternal & Child Health

Principal Urban Centers

Principal urban centers were the most densely populated communities.[11] In San Diego County, Central San Diego and Coastal subregional areas (SRAs) were principal urban centers in 2017. There were a total of 2,665 live births in rural areas in 2017, which represented 6.5% of live births in San Diego County.

Early Prenatal Care[†]

In 2017, 85.7% of all births in principal urban centers received prenatal care. Therefore, just under 1 out of every 7 births did not receive early prenatal care. Among communities in principal urban centers, Central San Diego SRA had the lowest percentage of births that received early prenatal care at 82.8%.

Preterm Births[‡]

Compared to other urbanicity levels, principal urban centers had the lowest percentage of preterm births.

Fetal and Infant Mortality[*]

Additionally, principal urban centers had the lowest rates of fetal and infant mortality compared to all other urbanicity levels in 2017.

Very Low Birth Weight

Very low birth weight refers to birth weight less than 1,500 g (approximately 3 lbs., 5 oz.). While the percentage of births that were very low birth weight in the county overall was 1%, principal urban centers had the highest percentage of live births that were very low birth weight. Among principal urban centers, 1.5% of live births in Central San Diego SRA were very low birth weight. The percentage of live births that were very low birth weight in Central San Diego SRA was 1.5 times higher than that of the county overall.

Teen Births[§]

Overall, principal urban centers had a slightly higher percentage of teen births compared to the county overall. While 0.9% of all live births in Central San Diego SRA were from mothers between the ages of 15-17, the percentage was higher than the county overall at 0.7%.

Risk Factors and Prevention Strategies

Maternal and child health outcomes are influenced by several factors including age, race/ethnicity, socioeconomic status, and a mother's health. Specifically, lack of prenatal care, poor nutrition, alcohol and tobacco use, and lack of physical activity are major lifestyle risk factors for adverse maternal and child health outcomes.[16]

The health of mothers, infants, and children are key indicators of the health of a community overall. Their health outcomes often reflect the health of future generations, as well as emerging public health concerns. Engaging in healthy behaviors associated with favorable maternal and child health outcomes has the potential to positively impact the health of the county overall.[16]

† Early prenatal care is defined here as care beginning during 1st trimester of pregnancy. This does not account for frequency of care.
‡ Preterm birth refers to birth prior to 37 completed weeks of gestation.
* Infant Mortality Rate: infant deaths (under one year of age) per 1,000 live births, by geography.
§ Teen Birth Percentage: proportion of teen (15-17yrs) births out of all ages live births in a geography.

Geographic Disparities: Summary

San Diego County has an area of over 4,200 square miles. Together, there are 18 incorporated cities and towns, as well as several unincorporated communities.[19] Moreover, San Diego County has 41 subregional areas (SRAs). While the boundaries of many geographical areas, such as cities, change over time, SRA boundaries have remained essentially the same since their formation which allows for meaningful comparisons of time series information because identical areas are being compared. Each SRA was assigned into one of five major community types based on ESRI's tapestry data: rural, suburban periphery, metro cities, urban periphery, and principal urban centers. Substantial differences in health indicators and health-related behaviors exist in the different areas of the county.

In 2017:

Rural
Compared to other urbanicity levels, rural residents had higher a higher burden of injury, particularly of falls, hip fracture, motor vehicle injuries, and self-inflicted injuries and suicide. Additionally, rural residents had a higher burden of flu/pneumonia, osteoarthritis, mood disorders (including depression and bipolar disorders), substance-related disorders, and chronic diseases such as coronary heart disease (CHD), COPD/CLRD, and stroke.

Suburban Periphery
Compared to other urbanicity levels, suburban periphery residents had higher burden of female breast cancer, prostate cancer, personality disorders, childhood disorders and fetal mortality.

Metro Cities
Compared to other urbanicity levels, residents in metro cities had higher burden of PTSD, depression, and impulse disorders. Among maternal and child outcomes, metro cities had higher rates of congenital anomalies and infant mortality.

Urban Periphery
Compared to other urbanicity levels, urban periphery residents had higher burden of some chronic diseases such as overall hypertensive disorders, asthma, diabetes, and lupus and other connective disorders. Urban periphery also had higher rates of schizophrenia and other psychotic disorders, assault, incidence of tuberculosis, and a higher percentage of preterm births and teen births.

Principal Urban Centers
Compared to other urbanicity levels, residents in principal urban centers had better health outcomes. However, residents in principal urban centers had higher burden of chlamydia, gonorrhea, syphilis, and alcohol-related disorders.

Actions to support *Live Well San Diego*

Creating an environment that encourage residents to live healthy, safe, and thriving lives is a priority in San Diego County. *Live Well San Diego* plans to advance the health and overall well-being of all San Diegans through a collective effort that involves residents, community and faith-based organizations, businesses, schools, law enforcement, local city and tribal jurisdictions, and the County of San Diego.

Live Well San Diego is a framework to help achieve health equity among all residents. To learn more, visit https://www.livewellsd.org/.

Non-Communicable (Chronic) Disease

Eliminating tobacco use, adopting active lifestyles, eating healthier diets, and decreasing excessive use of alcohol are key transformations that can reduce the burden of non-communicable (chronic) disease among San Diego County residents.

For more local data and statistics on noncommunicable (chronic) disease, visit the Non-Communicable (Chronic) Disease Workbook or the Non-Communicable (Chronic) Disease Dashboard.

For information on non-communicable (chronic) disease, visit the County of San Diego's Community Health Statistics website at, and view the data dashboards.

Communicable Disease

Taking protective measures including vaccination and avoiding close contact with sick individuals, seeking testing and early treatment, and visiting a doctor regularly are key strategies that can reduce the burden of communicable disease among San Diegans.

For more local data and statistics on communicable disease, please go to the Communicable Disease Workbook or the Communicable Disease Dashboard.

For more information on communicable disease, visit the County of San Diego's Epidemiology and Immunization Services Branch.

Maternal and Child Health

The health of mothers, infants, and children are key indicators of the health of the community overall. Health outcomes often reflect the health of future generations as well as emerging public health concerns.[7] Prevention measures such as increased nutrition, early prenatal care, as well as cessation of smoking, alcohol consumption, and illicit drug use are all key ways to improve maternal and child health.[17]

For more local data and statistics on maternal and child health, visit the Maternal Child Health Data Workbook or Maternal Child Health Dashboard.

For more information on maternal and child health outcomes, visit the County of San Diego's Maternal, Child and Family Health Services Branch.

Injury

Of the major causes of disability and death, injuries are among the most preventable. Increased safety education, awareness of fall prevention strategies, and investing in safer communities are key ways to reduce the burden of injury among county residents.[16]

For more local data and statistics on injury, visit the Injury Data Workbook or Injury Dashboard.

For more information on injury, visit the County of San Diego's Emergency Medical Services Branch.

Behavioral Health

Seeking help for an emotional, behavioral health, or alcohol/drug problem, engaging in activities to reduce stress, avoiding social isolation, and fostering environments that reduce the stigma of behavioral health issues are major prevention strategies that can help reduce poor behavioral health outcomes among San Diegans.[17]

For more local data and statistics on behavioral health outcomes, visit the Behavioral Health Data Workbook or Behavioral Health Dashboard.

For more information on behavioral health outcomes, visit the County of San Diego's Behavioral Health Services Division.

Appendix. Methodology

Exploring Health Disparities in San Diego County by Age is part of series of reports exploring disparities among San Diego County residents. The goal of this report was to identify health and sociodemographic disparities which could provide local agencies, organizations, groups, services, and individuals a starting point in developing solutions to improve the health and wellbeing of the residents of San Diego County.

The series of reports can be found in the reports section of www.sdhealthstatistics.com.

Disclaimer: It should be noted that these reports are not an update of the series of health equity reports published in March of 2016. The current iteration of reports include more indicators and health outcomes than the previous reports, which used 2011 data (2010 for two maternal child health indicators).

Data Sources

Health Data
Health outcome data were compiled from the County Community Health Statistics Unit's San Diego County Community Profiles document. Specifically, death, hospitalization, in-patient treatment, skilled nursing facility/intermediate care, physical rehabilitation, and emergency department discharge rates for various health outcomes were analyzed to identify health disparities within San Diego County's populations.

Emergency department and patient discharge data provided by the Office of Statewide Health Planning and Development (OSHPD) was grouped via the Healthcare Cost and Utilization Project (H-CUP) Clinical Classification Software (CCS) groupings. H-CUP is a family of healthcare databases and related software tools developed through a Federal-State-Industry partnership and sponsored by the Agency for Healthcare Research and Quality (AHRQ). Mortality data was provided by the California Department of Public Health, Center for Health Statistics, Office of Health Information and Research, Vital Records and Business Intelligence System (VRBIS). Mortality codes were grouped according to the National Center for Health Statistics (NCHS) ICD-10 Mortality Codebook 2e-

v1, 2017. Alzheimer's Disease and Related Dementias (ADRD) emergency department, patient discharge and mortality ICD-10 codes were grouped according to Alzheimer's Association 2017 Facts and Figures Report. Additional information on code grouping sources for health indicators, population data, and geographies are available in Community Health Statistics Data Guide and Metadata file.

Demographic Data
In addition to identifying health disparities, demographic information and lifestyle/behavioral data on each group was provided to highlight some of the potential contributing factors to these health outcomes.

San Diego Association of Governments (SANDAG)
The number of residents in report including any breakdowns by age, gender, and race/ethnicity as well as population forecast numbers by the same breakdowns come from SANDAG.

American Community Survey (ACS)
Sociodemographic and economic data from the U.S. Census Bureau's ACS was used, wherever available. 2017 1-year estimates were used except for the Geography and Socioeconomic (SES) Reports which are based on subregional area data requiring 5-year estimates (data years 2013-2017).

Lifestyle/Behavioral Health Data
California Health Interview Survey (CHIS)
In lieu of socioeconomic data from ACS at the race and ethnicity levels required for the county, these type of indicators were pulled from CHIS. Where available, lifestyle and behavioral indicators such as the percent of current adult smokers and percent of residents reporting at least one doctor's visit in the past year were pulled from CHIS. Lastly, whenever possible, 2017 estimates were used; however, years may have been combined to arrive to statistically stable estimates. Note: Even combining multiple years, subdividing the population may produce unstable estimate which were noted in the text.

Appendix. Methodology

Definitions

Burden of disease includes death and discharges from the emergency department, hospital, in-patient treatment, skill nursing facility, and physical rehab facility.

Overall Methods

The overall methods used to explore health disparities among San Diego County residents were the following:

- Death and primary discharge data from the community health profiles was used to first, look at the overall burden of chronic, communicable, injury, behavioral health outcomes, and maternal and child health outcomes in the last 5 years (2013-2017) to look at the trends among subpopulations by age, gender, and race/ethnicity. This step was not possible for the geography and SES reports due to shifting of categories from year to year.
- Subsequently, the exploration of health disparities focused on the 2017 data only. Each section attempts to highlight the conditions and death and/or medical encounters most relevant among the subgroup of the population.
- Where relevant, differences across groups are also mentioned in the text.

Age, Gender, and Race and Ethnicity Reports

Data in the community health profiles are already produced and broken down by age, gender, and race/ethnicity. However, groupings used for the geography and socioeconomic status reports were developed with different criteria detailed below.

For the Race and Ethnicity report, Asian and Native Hawaiian/Pacific Islanders (NHPI) were combined to form a single category referred to as Asian/Pacific Islander (API) to provide a larger sample size since NHPI has a low count demographically and low representation in the medical encounter database.

In the Geography report, geography is measured using urbanicity type based on ESRI's Urbanicity Tapestry data. ESRI defines urbanicity as the "degree of population density, size of city, and location relative to a metropolitan area."[11] Each of the 41 subregional Areas (SRAs) of San Diego County were assigned into one of six urbanicity groups based on ESRI's tapestry data: rural, semirural, suburban periphery, metro cities, urban periphery, and principal urban centers. Few of the SRAs were 100% rural, for example. In most cases, SRAs were a combination of urbanicity types and were assigned into the urbanicity type that had the highest distribution in the SRA. Based on this criteria, San Diego County SRAs fell into one of five urbanization categories because none of the SRAs could be categorized as semirural. The following sections contain more information on the urbanicity characteristics.

Socioeconomic Status (SES) Report

Socioeconomic Status (SES) was calculated using Median Household Income (MHI) as the proxy measure. The MHI was pulled for 2017 by subregional area (SRA) from ESRI Community Analyst. A Jenks Natural Breaks Optimization method was then applied to the data, resulting in 5 categories with the best goodness of variance fit (GVF=.96). Finally, the 41 SRAs were assigned into one of the five groups: lowest, low, middle, high, and highest income groups.

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