

County of San Diego

HEALTH AND HUMAN SERVICES AGENCY

Available Local Oral Health Data

Summary Report

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Acknowledgements

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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 all San Diego County residents be healthy, safe, and thriving. 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.

Executive Summary

Introduction

Oral health is integral to overall health and well-being, across the entire lifespan. Good oral health can improve an individual's quality of life and the ability to speak, smile, eat, and taste (CDC, 2015). Although the two most common oral diseases, dental caries (often referred to as tooth decay or cavities) and periodontal disease (gum disease), are preventable chronic conditions, they continue to affect a large portion of the United States (US) population.

The California Department of Public Health (CDPH) recently developed a State Oral Health Plan for 2018-2028, which “offers the structure for collective action to assess and monitor oral health status and oral health disparities, prevent oral diseases, increase access to dental services, promote best practices, and advance evidence-based policies” (January 2018; full plan is accessible online here: <https://www.cdph.ca.gov/Programs/CCDPPH/DCDIC/CDCB/Pages/OralHealthProgram/OralHealthProgram.aspx>).

Methodology

Using Proposition 56 funds granted from the State of California Oral Health program, the County of San Diego Health and Human Services Agency (HHSA), Maternal, Child, and Family Health Services, Local Oral Health Program (LOHP) strives to improve the oral health of San Diego residents through the development and implementation of a five-year Community Oral Health Improvement Plan (COHIP). The COHIP will be developed in partnership with San Diego State University (SDSU) School of Public Health professor Dr. Tracy Finlayson, and the Institute for Public Health at SDSU.

County LOHP efforts involve a scan of existing data about the oral health status and access to dental care for all San Diego residents. There has not been a countywide health needs assessment that includes oral health (based on self-reported survey measures) since 2003. Historically, the main oral health efforts in San Diego County were focused on pregnant women and children ages 0-5 through the First 5 San Diego Oral Health Initiative, and other initiatives through the Share the Care/Dental Health Initiative (STC/DHI) public-private partnership.

San Diego County is unique and diverse. It is the second largest county in California, and home to over 3 million people of various races, ethnicities, socioeconomic statuses, and backgrounds. The purpose of this report is to summarize the publicly available secondary oral health data for all residents in San Diego County, across the lifespan.

The goals of this data inventory are to understand the current available data, determine gaps, and identify additional primary data that needs to be collected going forward for the COHIP. Current San Diego County population data from the Census and oral health landscape information related to community water fluoridation and dental care access, including the number of Medi-Cal Dental providers and dental health professional shortage areas (DHPSAs), are presented at the beginning of this report. The types of oral health status measures summarized in this report include both clinically assessed and self-reported indices of oral health status and access to dental care. Oral health status indicators include total caries experienced, untreated caries, periodontal disease, tooth loss (and edentulousness, or total tooth loss), denture status, and oral cancer. Self-reported oral health measures include unmet dental needs, symptoms, pain, tooth loss, and denture status. Measures related to access to dental care include dental insurance coverage, time since last dental visit, and perceived barriers to dental care.

In addition to assessing available secondary public data sources, data were requested from known programs and primary data sources through the San Diego County Oral Health Coalition (SDCOHC) membership, thus in some cases, data were not in the public domain. This data inventory was conducted between October 2018 through January 2019. This report summarizes available San Diego County-level data and refers to state and/or national data when San Diego County-specific data were not available. This review of available data focused on recent data from 2010 (post-Affordable Care Act; ACA) through the end of 2018.

Data in this report are organized around the following population groups of interest:

- Infants (age 0-1)
- Toddlers (ages 2-3)
- Youth (ages 4-17)
- Pregnant women
- Seniors (ages 65+)
- Individuals with special needs
- Racial/ ethnic minorities
- New immigrants and refugees
- Individuals with low socioeconomic status
- Veterans

Key Findings

- San Diego County-level oral health data is mostly from self-reported measures, some of which measures are outdated and not representative for the whole county.

- Historically, local programs focused on dental services for pregnant women and children ages 0-5, and there is more data available for children from those current existing programs.
- There is some clinical data available for older adults from the recent statewide assessment, but the county-level data is a relatively small sample.
- Overall, there is limited clinical data available for adults, racial/ethnic minorities, new immigrants, and refugees.
- Large turnout at the 2013 CDA Cares Event in San Diego that provided free dental treatment demonstrated the high need for dental services by San Diego County residents.

Discussion

Overall, the available secondary oral health data for San Diego County are limited, mostly derived from self-reported measures, and mostly about dental service utilization. Much of the data is outdated and not representative of the entire county. Historically, there has been more detailed data available for young children and pregnant women due existing programs focusing on their oral health. There is limited clinical data on the prevalence of dental caries and periodontal disease across the sub-groups and many vulnerable population groups. Notably, there is some recent Basic Surveillance Survey (BSS) data on older adults. There is a need for more oral health data on many racial/ethnic minority groups, new immigrants, refugees, individuals with special needs, individuals with low socio-economic status, adults, and veterans.

The County of San Diego would benefit from more recent surveys on self-reported oral health measures after the ACA as well as additional recent data on clinical indices for all ages. This would allow the LOHP and other programs to better understand the needs of all San Diego County residents, prioritize the additional primary data collection needs, and develop additional education materials and interventions to promote oral health across the lifespan.

Acronyms and Abbreviations

ACA	Affordable Care Act
ASTDD	Association of State & Territorial Dental Directors
BSS	Basic Surveillance Survey
CA	California
CDA	California Dental Association
CDAF	California Dental Association Foundation
CDPH	California Department of Public Health
CDC	Centers for Disease Control and Prevention
CHIS	California Health Interview Survey
COH	Center for Oral Health
CHIP	Children's Health Insurance Program
COHIP	County Oral Health Improvement Plan
DHCS	Department of Health Care Services
Dental HPSA	Dental Health Professional Shortage Area
FPL	Federal Poverty Level
FY	Fiscal Year
FQHC	Federally Qualified Health Center
HCHS/SOL	Hispanic Community Health Study/ Study of Latinos
HHSA	Health & Human Services Agency
HRSA	Health Resources & Services Administration
HQPSoCal	Health Quality Partners of Southern California
IPH	Institute for Public Health
KFH	Kaiser Foundation Hospital
MIHA	Maternal and Infant Health Assessment
NIH	National Institute of Health
LOHP	Local Oral Health Program
OHI	Oral Health Initiative
OSHPD	Office of Statewide Health Planning and Development
RDHAP	Registered Dental Hygienist in Alternative Practice
SDCOE	San Diego County Office of Education
SDCOHC	San Diego County Oral Health Coalition
SDCDS	San Diego County Dental Society
SDCDAS	San Diego County Dental Assistant Society
SDCDHS	San Diego County Dental Hygienists' Society
SDSU	San Diego State University
SPH	School of Public Health
STC/DHI	Share the Care/ Dental Health Initiative
UCSD	University of California San Diego

UDS	Uniform Data System
US	United States
USC	University of Southern California
VVSD	Veteran's Village of San Diego

Introduction

Oral health is integral for overall health and well-being, across the entire lifespan. Good oral health can improve an individual's quality of life and the ability to speak, smile, eat, and taste (CDC, 2015). Although the two most common oral diseases, dental caries (often referred to as tooth decay or cavities) and periodontal disease (gum disease), are preventable chronic conditions, they continue to affect a large portion of the United States (US) population. Nationwide, from 2015-2016, untreated caries prevalence was 13% among children ages 2-19, and nearly half (46%) of all children this age group had some caries experience (Fleming and Afful, 2018).

According to the Centers for Disease Control and Prevention (CDC), by age 34, more than 80% of people have had at least one cavity (CDC, 2015). Furthermore, it is estimated that the US spends more than \$124 billion per year on dental care costs and dental care can affect productivity up to \$6 billion a year (CDC, 2015).

Despite dental disease being described as the “silent epidemic” in 2010 by then US Surgeon General Dr. David Satcher (Kessler, 2017), further public health efforts are needed to reduce the oral health disparities across the country. Current Surgeon General Dr. Jerome Adams has commissioned an updated 2020 Oral Health Report to report on progress since 2000 and to “describe key issues that currently affect oral health, identify challenges and opportunities that have emerged since publication of the first report, articulate a vision for the future, and call upon all Americans to take action” (<https://www.nidcr.nih.gov/news-events/SGRoralHealth>).

The California Department of Public Health (CDPH) recently developed a State Oral Health Plan for 2018-2028, which “offers the structure for collective action to assess and monitor oral health status and oral health disparities, prevent oral diseases, increase access to dental services, promote best practices, and advance evidence-based policies” (January 2018; full plan is accessible online here: <https://www.cdph.ca.gov/Programs/CCDPHP/DCDIC/CDCB/Pages/OralHealthProgram/OralHealthProgram.aspx>).

Using Proposition 56 funds granted from the State of California Oral Health program, the County of San Diego Health and Human Services Agency (HHS), Maternal, Child, and Family Health Services, Local Oral Health Program (LOHP) strives to improve the oral health of San Diego county residents through the development and implementation of a five-year (2018 – 2022) Community Oral Health Improvement Plan (COHIP).

The primary oral health efforts in San Diego County have been through the Share the Care/ Dental Health Initiative (STC/DHI) and First 5's Oral Health Initiative (OHI). STC/DHI is a public-private partnership between the County of San Diego HHS, the

San Diego County Dental Society (SDCDS), and the San Diego County Oral Health Coalition (SDCOHC). STC/DHI is a primarily grant-funded program, established in 1994 to accomplish two goals: 1) to provide access to emergency dental care for children who qualify for the program, and 2) to offer information and education to professionals, parents, and children to foster ongoing preventive dental care (http://sharethecaredental.org/STC_V2/about/).

First 5 San Diego provides dental screenings, exams, and treatment services to children ages 0-5 and pregnant women through the OHI (<https://first5sandiego.org/test-oral-health-page/>). They also provide other programs and services for young children to ensure readiness for school, which are all funded through Proposition 10 dollars (<https://first5sandiego.org/about-first-5-san-diego/>).

San Diego County historically hosts an Oral Health Forum every four years to inform strategic planning and guide oral health promotion efforts. The last Oral Health Forum was held in March 2014. The executive summary report from that Forum and list of attendees is online (http://sharethecaredental.org/STC_V2/wp-content/uploads/2015/12/2014-San-Diego-County-Oral-Health-Forum-Executive-Summary-Report.pdf). The recent focus on oral health in California and LOHP are timely for calling attention to oral health in San Diego County.

The purpose of this report is to summarize the publicly available secondary oral health data for all residents in San Diego County, across the lifespan. The goals of this data inventory are to understand the current available data, determine gaps, and identify additional primary data that needs to be collected going forward for the COHIP. There has not been a countywide health needs assessment that included oral health (self-reported survey measures) since 2003 when the United Way of San Diego County conducted a survey with 3,662 respondents from randomly selected households throughout the county (United Way, 2003).

Methodology

Methods

The San Diego State University (SDSU) Institute of Public Health (IPH) and School of Public Health (SPH) assessed the existing oral health data for San Diego County. The activities included assessing and compiling an inventory of available primary and secondary oral health data to determine the need for other data sources and primary data collection and to create an action plan to prioritize and address gaps.

An inventory of available secondary data was conducted by Dr. Tracy Finlayson (SDSU SPH) and the IPH staff from October 2018 through January 2019. All existing publicly available secondary data sources that document the oral health status and needs of

San Diego County residents were compiled (See **Appendix A**, List of Sources). Additionally, Dr. Tracy Finlayson (SDSU SPH) and the IPH staff reached out to San Diego County Oral Health Coalition (SDCOHC) members and other contacts locally and across the state to request San Diego County-specific data be shared. This report summarizes publicly available San Diego County-level data and refers to state and/or national data when San Diego County-specific data were not available. This review of available data focused on more recent data in the last decade, from 2010 (post-Affordable Care Act [ACA]) through the end of 2018.

Current San Diego County population data from the Census and oral health landscape information related to community water fluoridation and dental care access, including the number of Medi-Cal Dental providers and dental health professional shortage areas (DHPSAs), are presented at the beginning of this report. The types of oral health status measures summarized in this report include both clinically assessed and self-reported indices of oral health status and access to dental care. Oral health status indicators include total caries experienced, untreated caries, periodontal disease, tooth loss (and edentulousness, or total tooth loss), denture status, and oral cancer. Self-reported oral health measures include unmet dental needs, symptoms, pain, tooth loss, and denture status. Measures related to access to dental care include dental insurance coverage, time since last dental visit, and perceived barriers to dental care.

The San Diego County LOHP efforts referenced the Association of State & Territorial Dental Directors (ASTDD) Seven-Step Model for Assessing Oral Health Needs (<https://www.astdd.org/docs/Seven-Step-Model-Introduction.pdf>). Part of Step 3 of the ASTDD model involves conducting an inventory of primary and secondary data to help inform the need for additional primary data collection needed. Publicly available data were tabulated and are reported here along with the source, year, and any additional noteworthy information about the data source (hereafter referred to as “data”).

Data are summarized around the following age groups: infants age 0-1, toddlers ages 2-3, youth ages 4-17, adults ages 18-64, and seniors ages 65 and over; and target population subgroups of interest: pregnant women, individuals with special needs, racial/ ethnic minorities, new immigrants and refugees, individuals with low socioeconomic status (SES), and veterans.

Results

San Diego County Overview



Figure 1. Map of San Diego County, 2011.

Source: Retrieved from <https://DOI:10.1007/s11146-009-9195-x>

San Diego County is composed of 18 cities located in the southwestern corner of the state of California (**Figure 1**). With a population of 3,337,685 (US Census Bureau, 2017), San Diego County is the second most populated county in California (California Demographics, 2018) and is the fifth largest county in the United States (Statista, 2017). San Diego County is the second largest county in California, and home to over 3 million people of various races, ethnicities, socioeconomic statuses, and backgrounds. It is a large, diverse county, with Mexico on its southern border and an ocean on the western border. There is more varied geography of desert and mountains in the eastern region. There is the Marine Corps Base Camp Pendleton in the northwest corner. The Marine Corps and Navy are the two military branches present in San Diego County, which has the largest concentration of military personnel in the nation (<https://www.tjisl.edu/military/san-diego-community>). Additionally, San Diego County has the largest number of Indian reservations of any county (<https://www.sandiego.edu/native-american/reservations.php>).

San Diego County Population by Age Group, 2017

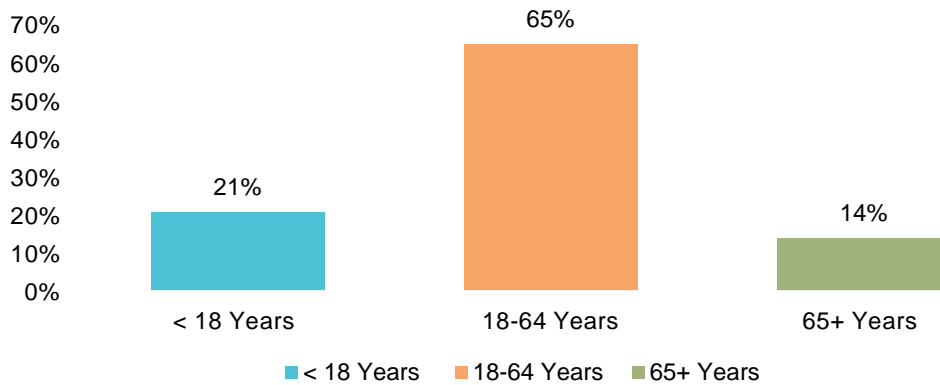


Figure 2. San Diego County population by age group in 2017.
Source: Adapted from US Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

Approximately 21% of the San Diego County population is under the age of 18, 65% are adults between the ages of 18 and 64, and 14% of the population are 65 and older (Figure 2).



Figure 3. Map of San Diego County's six regions
Source: San Diego County Health and Human Services Agency.

Retrieved from https://www.sandiegocounty.gov/content/sdc/hhsa/programs/phs/community_health_statistics/maps.html

The San Diego County Health and Human Services Agency (HHS) has divided the county into six distinct regions, illustrated in **Figure 3**. Oral health needs and access differ between the county's regions.

The San Diego County racial/ethnic group breakdown widely vary by geographical region. **Figure 4** illustrates San Diego County's population by race/ethnicity. San Diego County's population is predominantly non-Hispanic White (46%) and Hispanic or Latino (34%) (US Census Bureau).

San Diego County Population by Race, 2013-2017

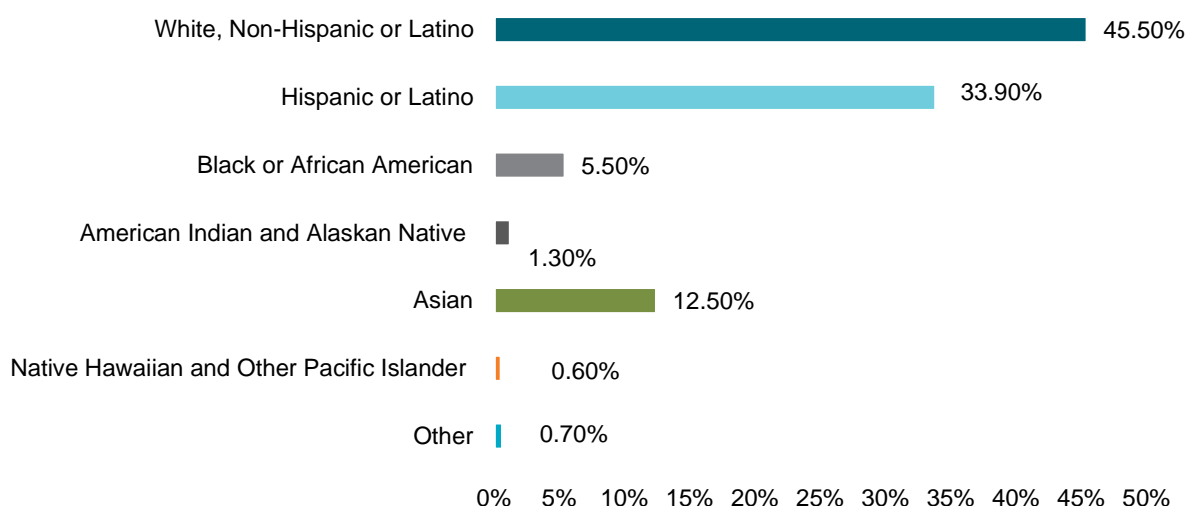


Figure 4. San Diego County population by race in 2017.

Source: Adapted from US Census Bureau, 2013-2017

QuickFacts San Diego County, California

Oral Health Landscape in San Diego County

Fluoridation

Community water fluoridation is an effective public health effort to prevent tooth decay among children, adolescents, and adults (CDC, 2016b). Most water sources do not contain enough fluoride to prevent cavities; on average natural fluoride levels range from 0.1-0.4 parts per million (ppm). The fluoride level in San Diego County water is approximately 0.23 ppm, therefore, fluoride must be added to reach the recommended dental health fluoride range 0.7-0.8 ppm (SDCWA, 2016). In 2014, 75% of the US population received fluoridated water from their community water system compared to the state average in California of 64% (Healthy People, 2019b), which is below the

Healthy People 2020 target of 79.6% (Healthy People, 2019a). A large portion of San Diego County has fluoride levels above 0.7 ppm (mg/L), but parts of the East, North Inland, and North Coastal regions receive water with fluoride levels below 0.7 ppm (mg/L), water with natural fluoride levels, or are undeveloped service areas (SDCDS, 2016). **Appendix B** is the 2016 fluoridation map of San Diego County by the San Diego County Dental Society and the San Diego Fluoridation Coalition.

Dental Health Professional Shortage Area

The Health Resources and Services Administration designates areas with shortage of primary care, dental care, or mental health providers as Health Professional Shortage Areas (HPSAs) (HRSA, 2019).

There are approximately 83 dentists for every 100,000 people in San Diego County (DataUSA, n.d). San Diego County has 19 Dental HPSAs, 12 of which are designated as Federally Qualified Health Centers, 5 are Native American/Tribal Facility Population, and 2 are designated Low Income Population HPSA (HRSA, 2019). See **Appendix C** for a list of HSPA by name, designation date, and HPSA score in San Diego County.

Dental Providers

There are many private dental providers throughout San Diego County. Most (about 70% of dentists in San Diego and Imperial Counties) are part of the San Diego County Dental Society (SDCDS). Their membership directory is online at <https://sdcds.org/member-directory/>.

San Diego County has several community health clinics, many of which offer dental services, and “dental roadmaps” of community dental clinics for each of the six regions can be found at http://sharethecaredental.org/STC_V2/resources/community-dental-clinics/.

The UDS Mapper is a tool designed to show the geographic reach of Federally Qualified Health Centers (FQHC) and health center look-alikes, and dental utilization statistics can be accessed on their webpage. For more information, visit <https://www.udsmapper.org/index.cfm>.

Medi-Cal Dental Providers

The California Department of Health Care Services (DHCS) hosts a Medi-Cal Dental Portal where California residents can search for Medi-Cal Dental Program Providers (the program was previously called “Denti-Cal”). The website allows California residents to search for Medi-Cal Dental providers by zip codes, distance, specialties, and show if providers are accepting new patients. At the time of this report in March 2019, there were 380 California Medi-Cal Dental Program providers listed in the provider directory in

San Diego County, with 238 of them indicating they accepted new patients. The list is constantly updated, for the latest available list visit: <https://www.denti-cal.ca.gov/find-a-dentist/home>.

Dental Insurance

Medical and dental care have been divided by health care delivery systems, insurance, financing, and policies. The Affordable Care Act (ACA) further underlined this divide when dental care was not deemed an essential health benefit for adults, leaving states to choose the dental coverage provided to low-income adults. The ACA mandated dental care for children and pregnant women be an essential health benefit, and it is covered under Medicaid and the Children's Health Insurance Program (CHIP) (Vujicic, 2017).

Adults

According to the 2017 California Health Interview Survey, among adults who had health insurance, 71% had dental insurance and 29% did not have dental insurance. Among adults who did not have health insurance, 21% had dental insurance and 79 % did not have dental insurance (AskCHIS, 2017).

Children (0-18 years old)

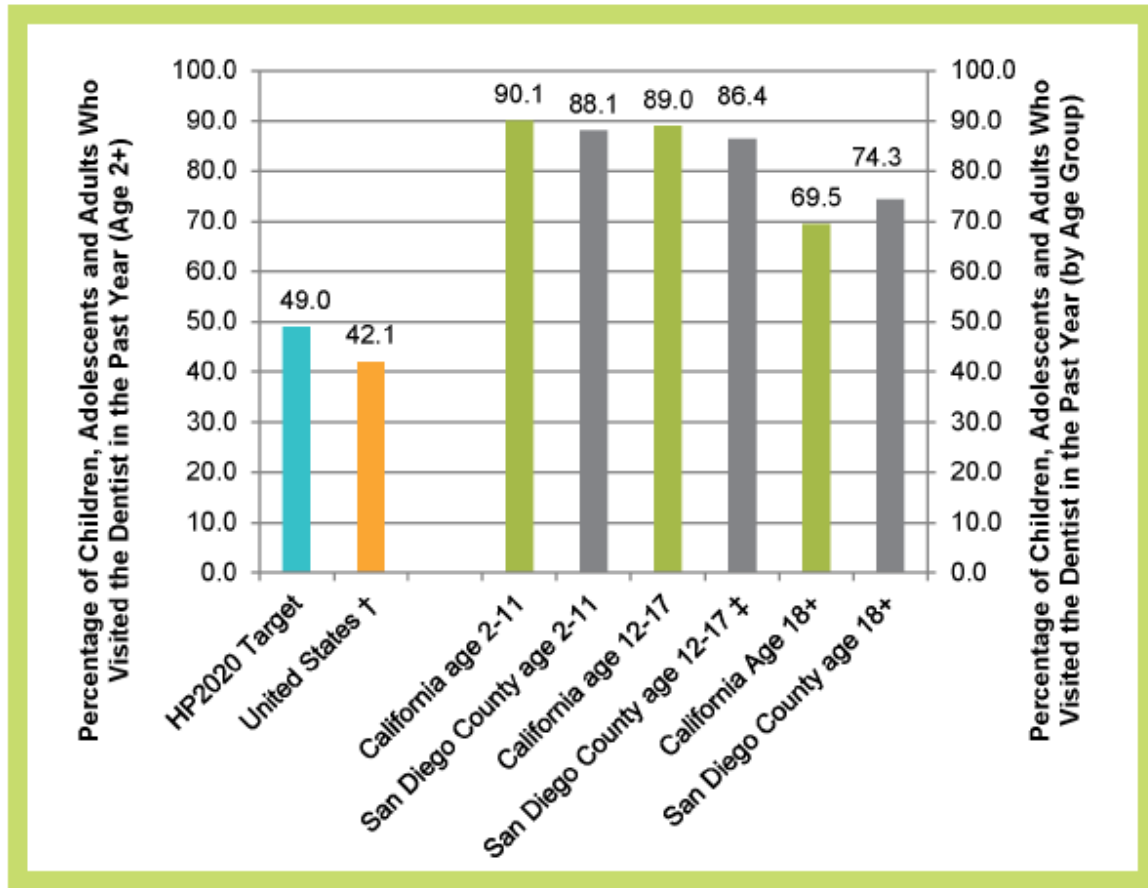
According to the 2017 California Health Interview Survey, among children who were insured, 96% had dental insurance and 4% did not have dental insurance (AskCHIS, 2017).

Dental Utilization

HHSA compared past year dental utilization, a Healthy People 2020 Leading Health Indicator, for San Diego County residents by age groups to California and US rates (**Figure 5**). Based on self-reported data from the 2014 California Health Interview Survey (CHIS), the majority of children ages 2-11 (88.1%) in San Diego County were estimated to have visited the dentist in the past year, compared to 90% of children ages 2-11 for the state. Almost three-fourths of San Diego County adults were estimated to have seen a dentist in the past year, compared to 70% of adults in the state.

[OH-7] Increase the Proportion of Children, Adolescents and Adults Who use the Oral Health Care System

Definition: Persons aged two and over who report having had a dental visit in the past 12 months.



LIMITATIONS: HP2020 indicator variable includes all person aged two years and over. The California Health Interview Survey separates this variable into three age groups. Dental visits for persons in each age group are reported separately for California and San Diego.

‡ San Diego County adolescents age 12 to 17 figure for dental visit less than one year ago is statistically unstable; figure for dental visit less than 6 months ago is reported.

TARGET SOURCE: Healthy People 2020 Objective Data Search. <http://www.healthypeople.gov/2020/data-search/Search-the-Data>

UNITED STATES SOURCE: Medical Expenditure Panel Survey (MEPS), Agency for Healthcare Research and Quality, 2012. Retrieved from http://www.healthypeople.gov/node/5028/data_details.

CALIFORNIA, SAN DIEGO COUNTY & REGIONAL SOURCE: UCLA Center for Health Policy Research. AskCHIS 2014. Time since last dental visit [age in years 2-11; 6 months ago or less and more than 6 months up to 1 year], Time since last dental visit [age in years 12-17; 6 months ago or less and more than 6 months up to one year] (California, San Diego). Time since last dental visit [age in years 18+; 6 months ago or less and more than 6 months up to 1 year] (California, San Diego). Available at <http://ask.chis.ucla.edu>. Exported on August 31, 2015.

Prepared by: County of San Diego, Health & Human Services Agency, Public Health Services, Community Health Statistics Unit, 2015.

Figure 5. Past Year Dental Utilization in San Diego County, Compared to CA and US

Source: County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics Unit. (2018). *Healthy People 2020: How Does San Diego County Measure Up?* www.SDHealthStatistics.com.

Clinical Assessments of Oral Diseases

The primary oral diseases are dental caries, or cavities, and periodontal (or gum) disease. Untreated oral diseases can ultimately lead to tooth loss. There is little current clinically determined oral health data available at the state or county level for most oral diseases, except for recent Basic Screening Survey (BSS) data for older adults in California. There is clinical oral health data available in the National Health and Nutrition Examination Survey (NHANES), and national summary statistics can be found online at <https://www.cdc.gov/nchs/fastats/dental.htm>.

Dental Caries

Dental caries, more commonly known as tooth decay, is caused by acid on the tooth enamel produced by the bacteria found in the mouth that break down food we eat and drink (CDC, 2016c). This disease is a hygiene-related disease that can manifest at an early age and affect many children and adults. The Healthy People 2020 baseline data are quite outdated (pre-2010), except for recent data from the recent state assessment of older adults' oral health (see section for Seniors 65+ on pages 38-41).

Periodontal Disease

Periodontal disease, more commonly known as gum disease, is an inflammatory disease of the gum which causes inflammation near the root of the tooth. Gum disease and the initial state of this condition, gingivitis, presents with redness and swelling along the gum line and bleeding after brushing (AAP, 2018). Periodontal disease is caused by bacteria in the mouth that form plaque (AAP, 2018). This disease is another hygiene-related disease affected by other risk factors such as smoking, diabetes, stress, pregnancy, and nutrition (APA, 2018). This disease can manifest at an early age and affect many children and adults.

Self-reported periodontal status information at the state level can be found in the Population Assessment of Tobacco and Health (PATH) Study: <https://pathstudyinfo.nih.gov/UI/HomeMobile.aspx>.

Cancer

<u>Indicator</u>	<u>Source Name</u>	<u>US</u>	<u>CA</u>	<u>SD</u>	<u>Source</u>
Estimate of new cases diagnosed in 2019 due to oral and pharynx cancer	American Cancer Society (ACS)	53,000 (2019)			https://www.cancer.org/research/cancer-facts-statistics/all-cancer-facts-figures/cancer-facts-figures-2019.html
Oral cancer deaths	SD HHSA ^a			76 (2013)	https://www.sandiegocounty.gov/content/sdc/hhsa/programs/phs/community_health_statistics/archives.html
Oral cancer hospitalizations	SD HHSA ^a			175 (2013)	https://www.sandiegocounty.gov/content/sdc/hhsa/programs/phs/community_health_statistics/archives.html
Oral cancer emergency department discharges	SD HHSA ^a			22 (2013)	https://www.sandiegocounty.gov/content/sdc/hhsa/programs/phs/community_health_statistics/archives.html

^a Found under San Diego County Health and Human Services health data > archives> cancer archives

In addition to the priority populations discussed in this report, it is important to assess the oral cancer data in San Diego County. In 2013, there were 76 deaths (age-adjusted rate 2.29 per 100,000 population), 175 hospitalizations (age-adjusted rate 5.33 per 100,000 population), and 22 emergency department discharges (age-adjusted rate .068 per 100,000 population) reported due to oral cancer in San Diego County (HHSA, 2015). Oral cancer death rates are usually low as oral cancer often may go unnoticed, undiagnosed or undiscovered due to silent or late symptoms (Oral Cancer Foundation, 2018).

The American Cancer Society estimates that in 2019, there will be 53,000 new cases diagnosed, and 10,860 deaths will occur due to oral and pharynx cancer the United States (ACS, 2019). Many factors including age, genetics, race, gender, and behavioral risk factors like tobacco and excessive alcohol use may increase the risk of oral cancer (ACS, 2019).

Disparities are found among cancer survival rates. According to the CDC, the 5-year survival rate for oral pharyngeal cancer is lower for African American men (36%) compared to their white counterparts (61%) (CDC, 2016a).

San Diego Community Dental Events

CDA Cares

In 2013, the California Dental Association (CDA) Foundation and CDA Foundation hosted a CDA Cares Event in San Diego to provide free dental services to individuals experiencing barriers to dental care (CDA Foundation, 2019). The 2013 event served 2,203 patients, of which 1,844 provided answers to a self-reported exit interview.

The interview respondents were asked about the reason for attending the event; 29% reported a need for dental cleaning, 27% reported pain, 26% reported a need of dental filling, 19% reported a broken tooth, 7% reported infection, and 6% reported a need of replacing or fixing dentures. Among those patients who reported pain, 25% reported experiencing pain for more than 1 year, 17% reported experiencing pain 6 months to 1 year, 29% of individuals had experienced pain for 2 to 6 months, 20% reported experiencing pain for 1 month or less, and 9% reported pain for a week or less (M. Koonce, personal communication, January 7, 2014).

The primary reasons reported for not visiting a dentist were not being able to afford it (47%) and not having dental insurance (39%). After meeting with the dental providers, 65% of the respondents reported it was very likely they would follow up with a dentist after attending the event and 96% reported someone discussed and explained their treatment needs. See **Appendix D** for a summary of the CDA Cares Event data.

The CDA Cares event in San Diego provided \$1.62 million in care and performed 12,518 procedures with the help of 1,706 volunteers (M. Koonce, personal communication, January 7, 2014). The high turnout at this one-day event suggests that there is a great need for dental care and a range of services in San Diego County.

One data limitation to note is that CDA Cares participants were not asked if they lived in San Diego County. Travel distance was queried, and 7% reported traveling more than 50 miles to attend. It is not known if all who sought care at the event were San Diego County residents, but it is likely that a majority were.

Subgroup Populations

Infants (0-1 years old)

<u>Indicator</u>	<u>Source Name</u>	<u>US</u>	<u>CA</u>	<u>SD</u>	<u>Source Link</u>
Infant Health Insurance Coverage Type – self-reported	MIHA ^a			5% uninsured 2013-2015	https://www.cdph.ca.gov/Programs/CFH/DMCAH/MIHA/CDPH%20Document%20Library/2013-2015/SnapshotCo_SanDiego_2013-2015_MaternalCharacteristics.pdf
Access to Dental Services for children 0-5 (dental screening, dental examination, and treatment)	First 5 ^b			2017-2018	http://first5sandiego.org/annual-evaluation-reports/

^a Population-based survey; San Diego County n=602; Maternal and Infant Health Assessment (MIHA) survey

^b Data includes children 0-5 and pregnant women, *Annual Program Report of services provided by First 5 San Diego*

Early Childhood Caries

Oral health during infancy is an important health indicator that can have a lasting impact on a person’s health. Early Childhood Caries (ECC), also referred to as “baby bottle tooth caries”, is a bacterial infection manifested by decay in an infant’s and young child’s teeth before the age of 6 (CDA, 2010). There are several parental guidelines in place to help prevent ECC, including using a small amount of fluoride toothpaste twice a day. The amount of fluoride used depends on the child’s age and weight, but caregivers should initiate this practice after consulting a dentist. Another preventative measure includes monitoring the infant’s sugary liquids like milk and juice. Caregivers should be advised to clean the infant’s teeth after feedings and before going to sleep. Health care providers should discuss and advise, in a linguistically appropriate and culturally sensitive manner, discontinuing “at-will bottle and sippy cup use” around 12 months of age. Lastly, infants should visit the dentist at first tooth eruption or before their first birthday (CDA, 2010).

Insurance

While there are many barriers towards accessing dental care, understanding the beliefs and attitudes towards perceived dental care is important. According to the 2003 United Way Dental Needs survey, 36% of adults with children reported that “not needing dental care” was the reason for their child not receiving dental care, and 27% of respondents indicated that infant children did not need dental care (United Way, 2003 p.8).

The Maternal and Infant Assessment (MIHA) San Diego County Survey from 2013-2015, reveals the percentage of infants insured under private and public insurance are similar, only 5% of mothers reported their infant being uninsured (**Figure 6**). **Figure 7a** shows percentage of infants insured under private and public insurance in San Diego

County compared to maternal age from 2013-2015. **Figure 7b** shows percentage of infants insured under private and public insurance in San Diego County compared to maternal income from 2013-2015.

San Diego County Infant Health Insurance Coverage, 2013-2015

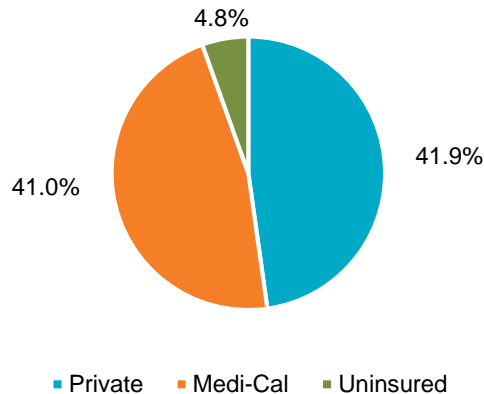


Figure 6. Maternal and Infant Health Assessment (MIHA) Survey County and Regional Data Snapshots for Subgroups, 2013-2015.

Source: California Department of Public Health; 2018.

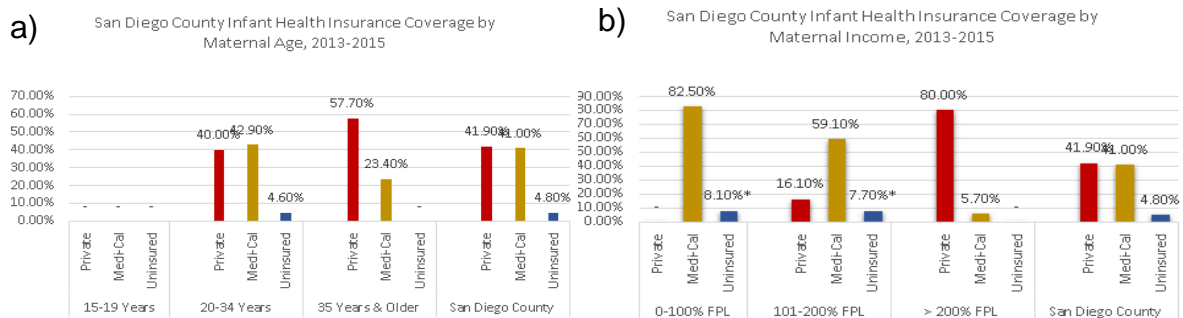


Figure 7. Maternal and Infant Health Assessment (MIHA) Survey County and Regional Data Snapshots for Subgroups a) by Maternal Age b) by Maternal Income, 2013-2015.

Source: California Department of Public Health; 2018.

Data Notes from MIHA (2018):

- Estimates not provided by MIHA due to the relative standard error (RSE) >50%, fewer than 5 women reported, or the weighted population denominator for the column is less than 100 women

* Estimate should be interpreted with caution due to low statistically reliability standard.

Access to Dental Services

Tooth decay is the most common chronic disease among children; therefore, it is imperative to initiate good oral health behaviors during infancy. The Oral Health Initiative (OHI), funded under California’s First 5 program, provides oral health services and preventative education to children ages 0-5 and pregnant women (First 5, 2018). OHI provides comprehensive oral health services including dental screenings, dental exams, dental treatment, oral health education, oral health training to health providers and their staff (HQP SoCal, 2017). OHI provides oral health services free of charge to children under the age of 6 who do not have or are ineligible for insurance (Medi-Cal or Private insurance). OHI also provides oral health services to pregnant women and women who gave birth within the last 90 days who do not have or are ineligible for insurance (Medi-Cal or Private insurance) (HQP SoCal, 2017).

It is estimated that in San Diego County, 31% of children ages 0-5 have never visited a dentist (First 5, 2018). In 2017-2018, OHI’s local efforts to increase access to dental services resulted in the screening of 23,012 children and 6,091 pregnant women in San Diego County, of which 16,303 children and 4,094 pregnant women received a dental examination (First 5, 2018). Furthermore, 14,612 children and 2,064 pregnant women received dental treatment (First 5, 2018).

The First 5 program participants were predominantly Hispanic children (65%) and parents (59%). **Figure 8a** illustrates the parent/caregiver population by race and **Figure 8b** depicts the child population by race served by the First 5 program.

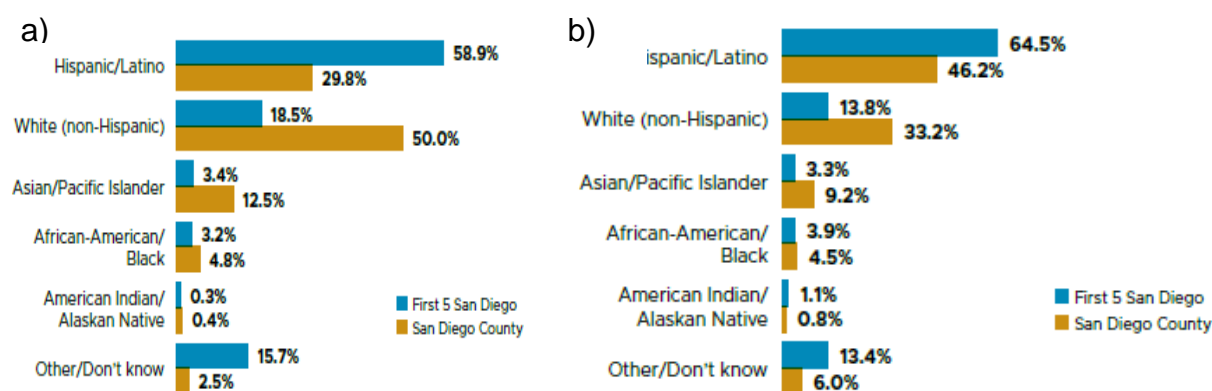


Figure 8. The First 5 program participants by race: a) parents/ caregivers; b) children.

Source: Reprinted from First 5 San Diego, 2018.

Retrieved from <http://first5sandiego.org/wp-content/uploads/2018/12/F5-0472-Annual-Report-2018-4p7.pdf>

In efforts to provide access to dental care in San Diego County areas with a high number of underserved children, OHI provides Offsite Dental Services to four preschools by assisting parents with scheduling dental appointments and applying for insurance. In 2017-2018, OHI reported 123 children from the targeted zip codes 91945, 92115, and 92020 were screened, and 47 children were given a dental exam and received dental treatment (First 5, 2018).

In 2017, The Health Center Partners had fifteen member health centers throughout California who provided comprehensive oral health services and 39 dental sites throughout San Diego County (HQP SoCal, 2017).

OHI is affiliated with over 25 San Diego County clinics that provide First 5 OHI services. During the Fiscal Year 2016-17, 23,979 children and 6,790 pregnant women received an oral health screening; 14,815 children and 4,778 pregnant women received a dental exam; and lastly 13,321 children and 2,662 pregnant women began dental treatment (HQP SoCal, 2017). See **Appendix E** for OHI's 2017 infographic summary of services. A list of First 5 San Diego OHI affiliated services can be found by visiting: <https://first5sandiego.org/ohi-clinics/>

Toddlers (2-3 years old)

<u>Indicator</u>	<u>Source Name</u>	<u>US</u>	<u>CA</u>	<u>SD</u>	<u>Source</u>
Children's dental home, completed dental exam, needed dental treatment, received dental treatment	Neighborhood House Association - Head Start and Early Head Start ^a			2016 - 2017	http://www.neighborhoodhouse.org/about-us/%20agency-reports/#sthash.E06GhyMo.6dpTxAtM.dpbs
Visited the dentist in the last year (age 2-17) – <i>self-reported</i>	CHIS ^b			2009	http://healthpolicy.ucla.edu/chis/bhc/Documents/BHC_Fact_Sheet_City_Heights.pdf
Length of time since last dental visit – <i>self-reported</i>	CHIS ^c			2017	http://ask.chis.ucla.edu/AskCHIS/tools/_layouts/AskChisTool/home.aspx#/geography
Length of time since last dental visit for children 2-11 – <i>self-reported</i>	KidsData.org ^d			2015	https://www.kidsdata.org/topic/264/lastdentalvisit/table#fnt=86&loc=368&tf=89&ch=1091,486,718,719,720,721&sortColumnId=0&sortType=asc

^a Annual Program Report of services provided by Head Start

^b UCLA Center for Health Policy Research California Health Interview Survey (CHIS) 2009

^c Data includes 0-18-year-olds

^d kidsData.org is a program of Lucile Packard Foundation for Children's Health; Data source is CHIS 2015

Access to Dental Services

Access to dental services is essential to the development of a child's oral health. Lack of access to dental examinations and treatment could lead to adverse oral health outcomes. The 2011 Building Healthy Communities Health Profile reported the 2009 dental utilization rate for San Diego County children ages 0-17 as 87% (UCLA Center for Health Policy Research, 2011, p. 3). As shown in **Figure 9**, between 2013-2014, 7% of San Diego County youth ages 2-11 reported never having had a dental visit, 4% reported having a dental visit over 12 months ago, 16% reported they had a dental visit 6 to 12 months ago, and 73% reported they had a dental visit less than 6 months ago.

Time Since Last Dental Visit in children aged 2-11, San Diego County, 2013-2014

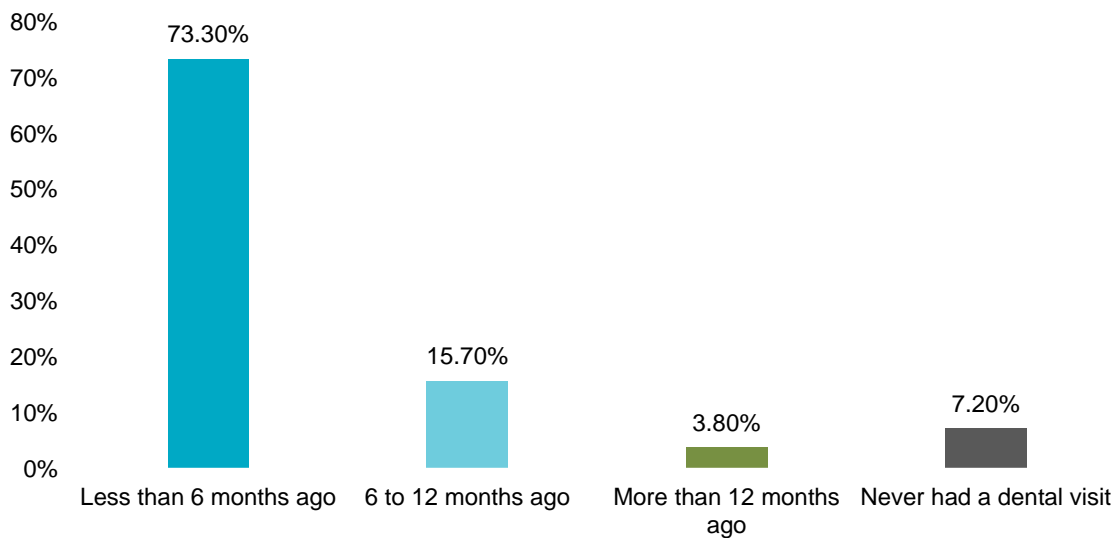


Figure 9. Time since last dental visit, for ages 2-11 years in San Diego County, from 2013-2014.

Source: Adapted from KidsData.org, a program of Lucile Packard Foundation for Children’s Health.

According to the 2017 California Health Interview Survey, there was a decrease among San Diego County children ages 2-11 reported never having had a dental visit; 4% of children between 2-11 had never been to the dentist, 9% reported visiting a dentist more than 6 month ago up to 1 year ago, and 88% reported visiting the dentist 6 months ago or less (AskCHIS, 2017).

Head Start and Early Head Start

San Diego County’s Head Start and Early Head Start childhood development program is managed by the Neighborhood House Association’s (NHA) Children, Youth, and Family Services (CYFS) department. During the year 2016-2017, The NHA Early Head Start program reported 98% of children in San Diego who were enrolled had a dental home. Within the Head Start program, the NHA reported 99% of children had a dental home, 96% of children completed a dental exam, 24% of children needed dental treatment, 87% received dental treatment (NHA, 2018).

Youth (4-17 years old)

<u>Indicator</u>	<u>Source Name</u>	<u>US</u>	<u>CA</u>	<u>SD</u>	<u>Source</u>
Estimated untreated tooth decay among 5 to 11-year-olds	Centers for Disease Control and Prevention ^a	2014			https://www.cdc.gov/oralhealth/children_adults/child.htm
Percentage and number of children 6-9 who received dental sealants – <i>National Health Center Data</i>	Health Resources & Service Administration ^b	2015 -			https://bphc.hrsa.gov/uds/datacenter.aspx
County Oral Health Assessment (OHA) data*	County of San Diego Health & Human Services Agency			2017 -	Email communication to SD County HHS
Insurance coverage (ages 0-11 and 12-17) – <i>self-reported</i>	UCLA Center for Health Policy Research ^c			2009	http://healthpolicy.ucla.edu/chis/bhc/Documents/BHC_Fact_Sheet_City_Heights.pdf
Estimate of school days missed each year due to dental problems - <i>Status of Oral Health in California Report</i>	California Department of Public Health		2017		https://www.cdph.ca.gov/Programs/CCDCDP/DCDC/DCDCB/CDPH%20Document%20Library/Oral%20Health%20Program/Status%20of%20Oral%20Health%20in%20California_FINAL_04.20.2017_ADA.pdf
Copy of Oral Health Assessment form – <i>included in appendix</i>	California Department of Education		2018		https://www.cde.ca.gov/ls/he/hn/oralhealth.asp
Estimate of San Diego County children 2-11 who have not visited dentist (ever or in more than one year) - <i>Live Well San Diego Report Card</i>	The Children's Initiative and Live Well San Diego			2016	https://www.thechildrensinitiative.org/reports
160 San Diego dentists report serving children with Medi-Cal but are not accepting new Medi-Cal patients - <i>Live Well San Diego Report Card</i>	The Children's Initiative and Live Well San Diego ^d			2018	https://www.thechildrensinitiative.org/reports
Length of time since last dental visit for children 12 years-old and younger – <i>self-reported</i>	The Children's Initiative and Live Well San Diego ^e			2016	https://www.thechildrensinitiative.org/reports
Length of time since last dental visit for children 12-17 – <i>self-reported</i>	KidsData.org ^f			2015	https://www.kidsdata.org/topic/264/lastdentalvisit/table#fmt=86&loc=368&tf=89&ch=1091,486,718,719,720,721&sortColumnId=0&sortType=asc
Barriers by adolescents to access dental care	Teens! Let's talk about teeth and keeping them for life			2015 -	Finlayson and colleagues pilot study report, qualitative research with key informants and focus groups, in north San Diego County

*not publicly available. Data source: SD County HHS (raw data)

^a CDC Data from *Selected Oral Health Indicators in the United States 2005–2008*. National Center for Health Statistics Brief 96.

^b UDS Reports 2015-2017; only 1 dental question; Clinical Data

^c County estimates are from CHIS 2009

^d Data referenced by source Insure Kids Now. USHHS, 2018. Other note: Many San Diego Dentists reported not serving young children or be able to accommodate children with special needs

^e Data Referenced by source: CHIS

^f KidsData.org; a program of Lucile Packard Foundation for Children's Health. Data Referenced by source: CHIS.

Nationally, 1 out of 5 children ages 5-11 and 1 out of 7 adolescents ages 12-19 has at least one tooth with untreated decay (CDC, 2014). In the 2017 National Health Center Data UDS report, the Health Resources & Services Administration reported out of 8,395,134 patients under 18 years of age, 51% of children ages 6-9 received dental sealants. Previously, in 2016, 49% of children ages 6-9 received dental sealants (total patients <18 =8,005,982) and in 2015, 42% of children ages 6-9 received dental sealants (total patients <18= 7,589,449) (HRSA, 2017).

Oral Health Assessment

In 2007, Assembly Bill 1433 established the requirement to complete an Oral Health Assessment. California public schools require students to complete an Oral Health Assessment form, which documents the outcomes of an oral health assessment performed by a licensed dental health provider (CDE, 2018b). In San Diego County, the Oral Health Assessment rate for 2017-2018 was 64%. Among kindergarten and first graders, 27% had experienced caries or had fillings, 21% presented with visible tooth decay, 19% were recommended for early care, and 4% were recommended for urgent care (CDE, 2018a; San Diego County HHSA, May 29, 2019).

Oral Health Assessment – Barriers to Dental Care

The Oral Health Assessment form allows parents and caregivers to waive the assessment, providing the most appropriate reason. For the year 2017-2018, 7% of parents reported being unable to find a dental office that accepts the child's dental insurance, 5% reported being unable to afford their child's oral health assessment, 49% declined their child receiving a dental check-up, and 39% selected "other" as the reason. (CDE, 2018a; San Diego County HHSA, May 29, 2019). **Appendix F** shows the Oral Health Assessment form (English version).

Insurance

In 2009, 61% of children (children age 0-11 and youth 12-17) in San Diego County were insured by private coverage, 35% were insured by a government program, and approximately 5% were uninsured (UCLA Center for Health Policy Research, 2011, p. 3). In California, an estimated 874,000 days of school were missed each year due to dental problems, creating an economic impact costing schools \$29 million (CDPH, 2017).

Access to Dental Services

In 2016, an estimated 55,000 San Diego County children ages 2-11 either did not visit the dentist in the last year or have never visited a dentist (The Children's Initiative, 2017). Although more than 160 San Diego County dentists report serving children insured under Denti-Cal, many are not accepting new patients, do not serve young children, or are not able to assist children with special needs (The Children's Initiative, 2017). In 2013, San Diego County's percentage of children 12 years or younger who had not visited the dentist in more than one year or have never visited the dentist was at 21% compared to California's 24%. More recently in 2016, it was reported that 21% of children 12 years or younger have not visited the dentist in more than one year compared to the state's average, 17% (The Children's Initiative, 2017). **Figure 10** shows the length of time since last dental visit in youth aged 12-17 between 2013-2014.

Time Since Last Dental Visit in children aged 12-17,
San Diego County, 2013-2014

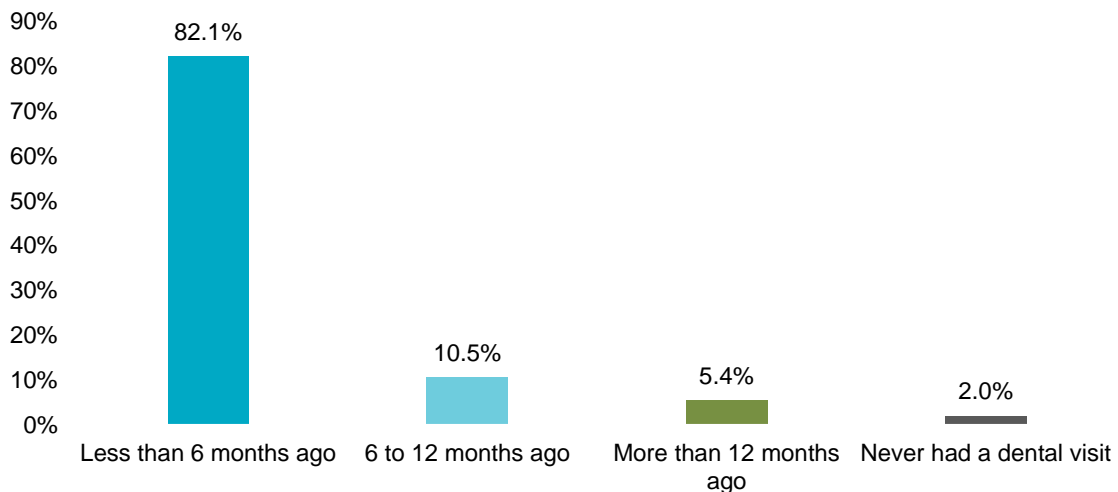


Figure 10. Time since last dental visit, for ages 12-17 years old in San Diego County, from 2013-2014.

Source: Adapted from KidsData.org, a program of Lucile Packard Foundation for Children's Health.

Barriers to Dental Care

In a pilot research study “Teens! Let’s talk about teeth and keeping them for life” funded by San Diego State University and in partnership with Vista Community Clinic, Dr. Finlayson and her research team conducted a series of qualitative focus groups from July 2015-March 2016 about knowledge, attitudes, and beliefs of Mexican migrant teens ages 12-19. Key informants ranked the inability to pay for dental care as the largest barrier perceived by adolescents, with being uninsured or ineligible for dental insurance ranked as the second largest barrier to accessing dental care (Finlayson et al, 2016).

Vulnerable Populations

The vulnerable populations identified in this report include pregnant women, seniors, individuals with special needs/developmental disabilities, racial/ethnic minorities, new immigrants, refugees, migrants, individuals with low socioeconomic status, and veterans. These population groups are largely affected by health disparities, including low access to healthcare and low socio-economic status.

Pregnant women

<u>Indicator</u>	<u>Source Name</u>	<u>US</u>	<u>CA</u>	<u>SD</u>	<u>Source</u>
Access to dental services for pregnant women	First 5 Annual Report ^a			2017 - 2018	http://first5sandiego.org/annual-evaluation-reports/
Percentage of women who did not receive dental care during pregnancy, percentage reporting having dental issues during pregnancy- <i>self-reported</i>	Oral Health During Pregnancy and Early Childhood: Evidence-Based Guidelines for Health Professionals ^b		2002 - 2007		https://www.cdafoundation.org/portals/0/pdfs/poh_guidelines.pdf
Percentage of women who did not receive dental care during pregnancy with Medi-Cal - <i>self-reported</i>	Oral Health During Pregnancy and Early Childhood: Evidence-Based Guidelines for Health Professionals ^b		2002 - 2007		https://www.cdafoundation.org/portals/0/pdfs/poh_guidelines.pdf
Comparison between insurance type and likelihood of completing dental visit	California Department of Public Health (CDPH) and the California Department of Health Care Services (DHCS) ^b		2012		https://www.cdph.ca.gov/Programs/CCDPHP/DCDIC/CDCB/CDPH%20Document%20Library/Oral%20Health%20Program/2017HealthDisparitiesFactSheets_V3_ADA.pdf
Maternal health insurance coverage type - <i>self-reported</i>	Maternal and Infant Health Assessment (MIHA) Survey ^c			2013 - 2015	https://www.cdph.ca.gov/Programs/CFH/DMCAH/MIHA/CDPH%20Document%20Library/2013-2015/SnapshotCo_SanDiego_2013-2015_MaternalCharacteristics.pdf
Maternal health condition, health status before, during, after pregnancy- <i>self-reported</i>	Maternal and Infant Health Assessment (MIHA) Survey ^c			2013 - 2015	https://www.cdph.ca.gov/Programs/CFH/DMCAH/MIHA/CDPH%20Document%20Library/2013-2015/SnapshotCo_SanDiego_2013-2015_MaternalCharacteristics.pdf
Women ages 25-34 are largest population living in poverty - <i>Census Data</i>	DataUSA ^d			n.d.	https://datausa.io/profile/geo/san-diego-county-ca/#health

^a *Annual Program Report of services provided by First 5 San Diego*. Data includes children 0-5 and pregnant women. Data reported under infant section for clarity. Services include dental screening, dental examination, and treatment.

^b Data Referenced by source: Maternal and Infant Health Assessment (MIHA)

^c Population-based survey; San Diego County sample size was 602

^d Data Referenced by source: Census Bureau

Oral health during pregnancy can affect the health of the mother and the unborn child. It is widely understood that dental disease during pregnancy is associated with increased risk of adverse birth outcomes such as premature babies and low birth weight (First 5, 2018). The transfer of oral bacteria can occur through saliva exchange from mother to child during daily interaction, e.g. sharing a spoon during food tasting (Anil et al., 2015).

Barriers to Dental Care

In California, 65% of women who delivered between 2002 and 2007 did not receive dental care during pregnancy. Moreover, 52% of those reported having dental issues during the pregnancy (CDA, 2010). Among women utilizing public insurance, it is reported that 79% of women enrolled in Medi-Cal did not receive any dental care during pregnancy. From this percentage, 8% reported not receiving dental care due to their providers advising against it (CDA, 2010 p. 27).

There is a common misconception about the safety of oral health care during pregnancy. Often medical and dental providers themselves fail to understand the importance of addressing oral healthcare needs during pregnancy. The failure to refer pregnant women to dental services coupled with other barriers including financial barriers, limited or lack of dental insurance, lack of perceived need, and transportation issues among other personal challenges can cause detrimental effects to the oral health of the mother and the infant (CDA. 2010). Poor oral health can lead to common chronic diseases like dental caries and periodontal disease. According to the California Dental Association, there is conflicting evidence between the association of periodontal disease and adverse pregnancy outcomes like premature birth and low birth weight; nevertheless, the available evidence shows that oral health care during pregnancy is safe for both pregnant women and the fetus (CDA, 2010).

Insurance

Although pregnant women have been eligible for Denti-Cal since 2005, oral health disparities are still prevalent among young low-income minority women (CDA, 2010). Pregnant women enrolled in private health insurance plans were more likely to complete a dental visit during pregnancy than those with public insurance such as Medi-Cal (CDPH and DHCS, 2017). **Figure 11a** shows maternal pre-pregnancy insurance coverage and **Figure 11b** shows maternal postpartum insurance coverage between 2013-2015 for San Diego County. Private health insurance was used more often than public insurance prior to pregnancy while the public insurance usage increase after birth of child (MIHA, 2018).

A higher percent (31%) of Hispanic women reported being uninsured prior to pregnancy compared to the county report (20%), (**Figure 12a**). During pregnancy, Hispanic and

African American women reported a higher utilization of Medi-Cal compared to White and Asian/Pacific Islander women (**Figure 12b**).

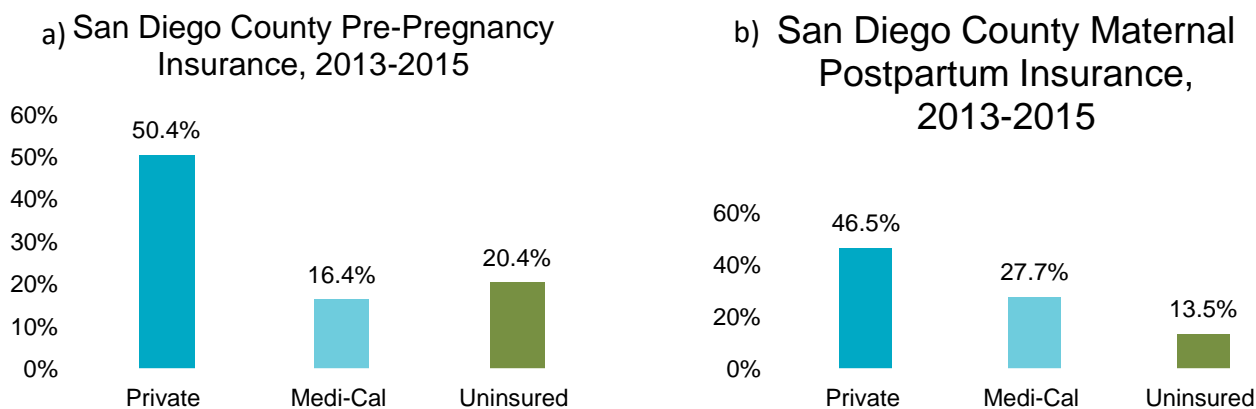


Figure 11. Maternal and Infant Health Assessment (MIHA) Survey a) San Diego County Pre-pregnancy insurance for women b) San Diego County Maternal Postpartum Insurance. County and Regional Data Snapshots for Subgroups, 2013-2015.

Source: California Department of Public Health; 2018.

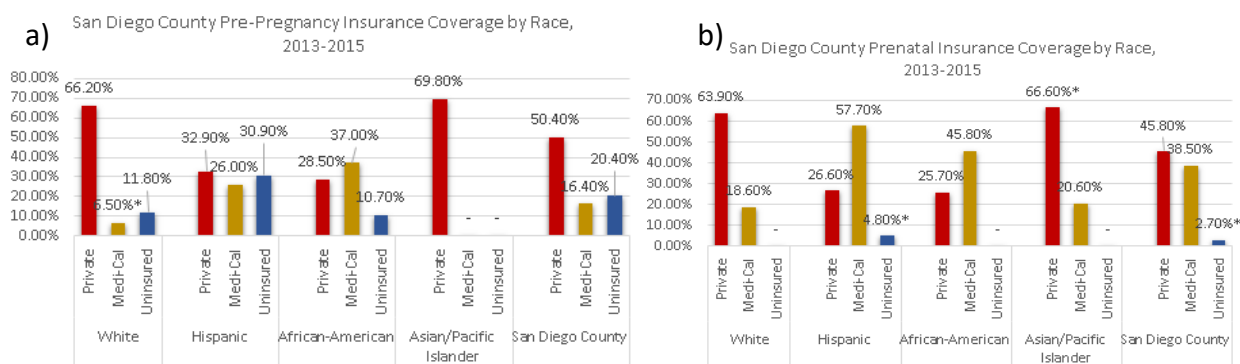


Figure 12. Maternal and Infant Health Assessment (MIHA) Survey a) San Diego County Pre-pregnancy insurance by race b) San Diego County Prenatal insurance by race. County and Regional Data Snapshots for Subgroups by Race, 2013-2015.

Source: California Department of Public Health; 2018.

Note from MIHA (2018)

- estimate not provided by MIHA due to the relative standard error (RSE) >50%, fewer than 5 women reported, or the weighted population denominator for the column is less than 100 women

* Estimate should be interpreted with caution due to low statistically reliability standard

Among Medi-Cal recipients in 2012, African American and Hispanic women were more likely to complete a dental visit during pregnancy compared to White or Asian/Pacific Islander women (**Figure 13**) (CDPH and DHCS, 2017).

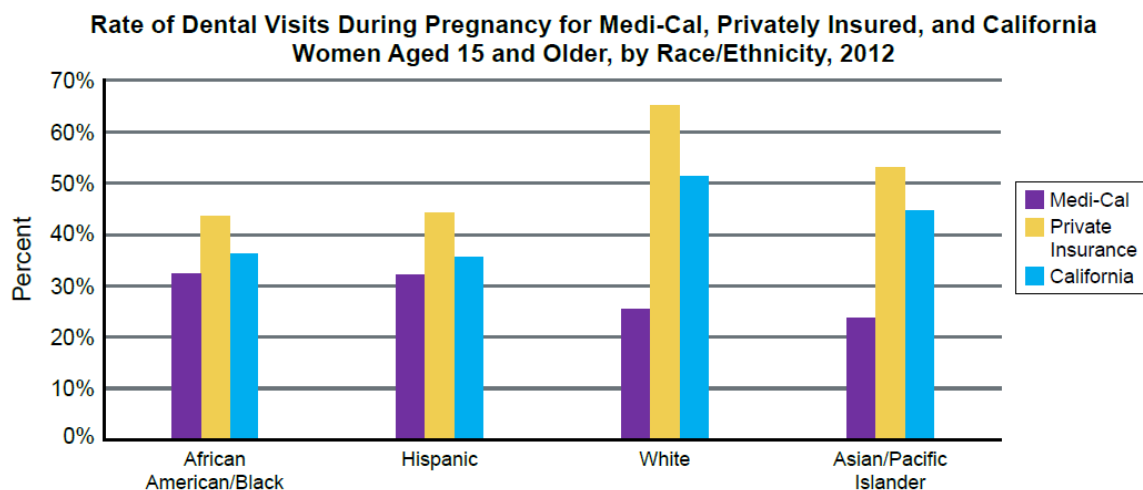


Figure 13. Dental visits during pregnancy for insured women age ≥ 15 by race/ethnicity in California, 2012.

Source: Reprinted from Health Disparities in the Medi-Cal Population report by The California Department of Public Health (CDPH) and the California Department of Health Care Services (DHCS), 2017.

Access to Dental Care

In 2012, four out of ten (42%) California women 15 years and older completed a dental examination during their pregnancy. The primary reasons women failed to receive care included lack of perceived need and financial barriers (CDA, 2010). The largest group living in poverty in San Diego County were females ages 25-34, followed by males ages 18-24, and females ages 18-24 (DataUSA, n.d.). San Diego County female residents ages 25-34 were among the largest group without healthcare coverage, which may or may not include dental (DataUSA, n.d.).

A woman's level of education can further impact her health status, mental health, access to a support system, and the ability to access to prenatal care, increasing barriers to receiving dental care. According to the Maternal and Infant Health Assessment Survey from 2013-2015, 94% of San Diego County women reported being in "good to excellent health" before their pregnancy. Of these, 83% of women with less than a high school education reported their health being "good to excellent" before their pregnancy compared to 93% of women with some college education. Among Medi-Cal recipients, 88% reported their health as "good to excellent" compared to 98% of women who utilized private insurance. African American women (90%) reported their health status as "good to excellent" compared to Hispanic and White women, 92% and 96%, respectively (MIHA, 2018).

Seniors (65+)

Indicator	Source Name	US	CA	SD	Source
% untreated tooth decay, periodontal disease, dental treatment need	Center for Oral Health ^a		2016 -	2016 -	https://centerfororalhealth.org/wp-content/uploads/2018/03/Oral-Health-of-Older-Adults.pdf
Top 8 primary diagnosis in North County San Diego include dental examinations and dental caries	Kaiser Foundation Hospital ^b			2016	https://about.kaiserpermanente.org/content/dam/internet/kp/comms/import/uploads/2013/10/KP_CHNA_Report_2016-SAN-DIEGO-Rev-11.30.17.pdf
Adult (65+) dental utilization (% of annual dental visit, preventative dental services, dental exams, treatment)	California Department of Health Care Service ^c		2017 -		https://www.dhcs.ca.gov/services/Pages/DentalReports.aspx
San Diego County residents 65-74 are the largest demographic group with Medicare coverage	DataUSA ^d			n.d.	https://datausa.io/profile/geo/san-diego-county-ca/#health

^a Convenience sample (community-dwelling) and skilled nursing home residents (state representative sample). * Raw data for San Diego County shared upon request to the Center for Oral Health and tabulated by Dr. Finlayson.

^b KFH Needs Assessment

^c *Medi-Cal Dental Data*. Data Referenced by source: DHCS Data Warehouse (MIS/DSS) as of July 2018

^d Data Referenced by source: Census Bureau

Oral health is a multifaceted and complex part of a person's overall health and well-being. While oral disease is preventable and treatable, older adults experience additional barriers to dental care, including limitations associated with aging and chronic health conditions. Many older adults may present with chronic conditions that impact their mobility and strength, such as arthritis or a stroke, further impacting their ability to perform personal hygiene tasks (CDA, 2005).

San Diego County male and female residents ages 65-74 are the largest demographic group with Medicare coverage in California (DataUSA, n.d.). Medi-Cal Dental utilization from June 2017 to May 2018 reported 25% of adults ages 65-74 and 22% of adults ages 75+ had an annual dental visit, and 16% and 15% receive dental treatment, respectively (DHCS, 2018). **Figure 14** illustrates the dental utilization rates from June 2017 to May 2018 for older adults in California.

Appendix G also shows a map with the number of adults ages 65 and over that have lost all their teeth.

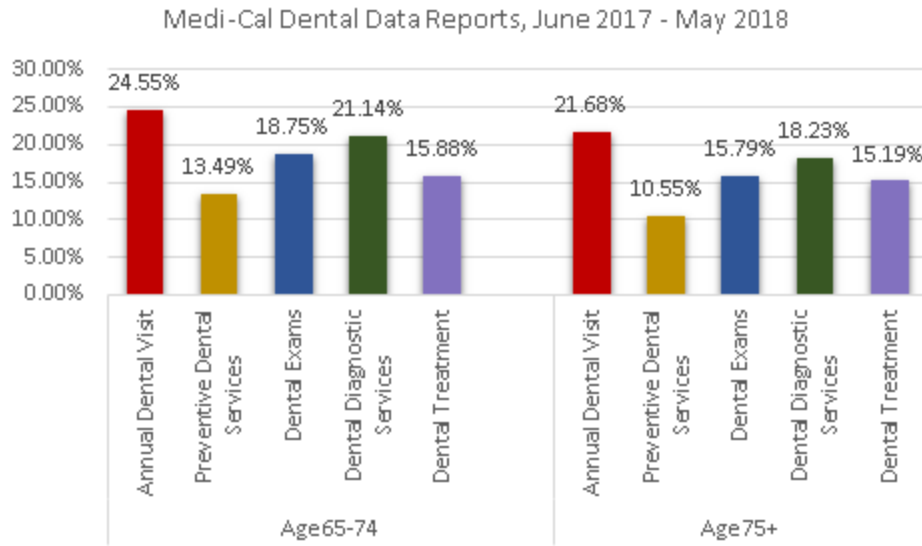


Figure 14. Medi-Cal Dental Utilization among California adults age 65-74 and 75+.
 Source: Adapted from California Department of Health Care Services, 2018.

Oral Health Studies

The Center for Oral Health (COH) is a non-profit organization in California that aims to improve oral health among vulnerable populations in the State of California and the United States. The organization partners with experts in the oral health field to advance public health research and promote oral health education and prevention (COH, 2018)

Between January 2016 – September 2017, the COH conducted a statewide oral health needs assessment in California, including San Diego County. COH conducted oral health screenings among community-dwelling adults (i.e. living in a home, apartment, or retirement center) and adults residing at skilled nursing homes (which was sampled in a way to be weighted in the final state report to be representative statewide). COH screenings were conducted by Registered Dental Hygienists (RDH) who utilized the Basic Screening Survey (BSS) developed by ASTDD (COH, 2018 p.14).

The total state sample consisted of 2,372 older adults ranging from 65 to 96 years old. Most of the adults surveyed were primarily male; 39% were White, 25% were Hispanic, 7% were African American, and 24% were categorized as other (COH, 2018).

Skilled Nursing Home Residents

The COH (2018) reported 48% of older adults screened at skilled nursing homes (SNH) have untreated tooth decay and 17% have four or more teeth affected by tooth decay, with the rate of untreated tooth decay being more prevalent in adults ages 85 and over. Among the SNH adults, 65% needed treatment for tooth decay or periodontal treatment; 14% needed periodontal and early/urgent care, 21% needed early/urgent care, 27%

needed periodontal care only, and 38% did not have a need for dental care or treatment. The need for early tooth decay care was 21%, and the need for urgent tooth decay care was 7% among SNH residents. Among older adults at skilled nursing homes, 35% had lost all their natural teeth, 6% had lost more than six teeth, and 60% had more than 6 natural teeth. Among SNH residents who had lost all their teeth, 40% did not have dentures, 5% only had one denture (upper or lower), and 60% had a full set of dentures (upper and lower) (COH, 2018).

The San Diego County SNH sample included older adults from two urban sites, where a total of 37 BSSs was conducted. Among the San Diego sample, 46% were female, and 73% were White, and their average age was 73.5 (range 65-100). Among them, 43% had and wore upper dentures, and 38% had and wore lower dentures. About half (54%) had no functional posterior contacts, and 11% had one side only. A few (15%) were identified as needing periodontal care based on the screenings. Most (59%) had no urgent needs, but 22% needed early care and 19% needed care urgently.

Community-Dwelling Residents

Among community-dwelling residents, approximately 1 out of 3 adults presented with untreated tooth decay, with 5% having four or more teeth affected by decay, 24% needing immediate periodontal treatment, and 14% having at least one loose tooth in its socket (COH, 2018).

In the state sample, 18% of community-dwelling adults were missing all their natural teeth, while 7% had lost more than 6 teeth and 75% had more than 6 natural teeth. Eighteen percent of community-dwelling adults who had lost all their teeth do not have dentures, 12% only have one denture (upper or lower), and 70% have a full set of dentures (upper and lower) (COH, 2018).

According to the “A Healthy Smile Never Gets Old” report, older adults living in rural nursing homes are 10% more likely to have untreated tooth decay compared to older adults living in urban nursing homes (Center for Oral Health, 2018).

The San Diego County community sample included older adults from three sites (two congregate meal sites and one site offering day care services) in the South Bay area. There was a total of 104 BSSs conducted. Among the San Diego community sample in the COH study, 48% were female, 32% were White, and the average age was 73.6 (range 65-94). Among this sample, 38% had and wore upper dentures and 25% had and wore lower dentures. Slightly over one-quarter (29%) had no functional posterior contacts and 19% had one side only. About one-third (38%) were identified as needing periodontal care based on the screenings. Nearly half (48%) needed early care and 13% needed care urgently. A data limitation of the COH is that the community-dwelling seniors were part of a convenience sample.

Primary Diagnosis

The Kaiser Foundation Hospital report for San Diego County Primary Care and Specialty Clinics utilized 2013 Office of Statewide Health Planning and Development (OSHDP) data. North County Health Services, a Federally Qualified Health Center (FQHC), reported dental examinations and dental caries extending into dentin among the top 8 primary diagnoses among adults and seniors in North County (KFH San Diego, 2016).

Individuals with special needs or disabilities

<u>Indicator</u>	<u>Source Name</u>	<u>US</u>	<u>CA</u>	<u>SD</u>	<u>Source</u>
Percentage of children with disabilities receive services	Neighborhood House Association - Head Start and Early Head Start ^a			2016 - 2017	http://www.neighborhoodhouse.org/about-us/%20agency-reports/#sthash.E06GhyMo.6dpTxAtM.dpbs
Adults with developmental disabilities- percentage of dental caries, periodontal disease, need for dental services.	Research Pilot Study ^b			2013 - 2014	S. Rayate SDSU thesis and Finlayson and colleagues conference presentations (2015)

^a Annual Program Report of services provided by Head Start “services” was not defined.

^b Adults with Developmental Disabilities Needs Assessment Pilot Study. Partnership between San Diego State University (Dr. Finlayson and study team), San Diego Regional Center, and San Ysidro Health Center. Rayate 2015 SDSU thesis on “Prevalence and Correlations of Dental Caries Among Adults with Developmental Disabilities in San Diego” from the convenience sample of 325. Data are not publicly available. Dr. Finlayson presented this preliminary data at 2014 SD County Oral Health Forum and final data at other conferences.

Access to Dental Care

Individuals with special needs often face challenges in locating dental health providers who can accommodate their needs. In San Diego County, 12% of 2016-2017 Head Start enrollees were diagnosed with having a disability and 100% of children with disabilities received dental services (NHA, 2018).

San Diego Regional Center, San Ysidro Health Center and SDSU - Research

A partnership between the San Diego Regional Center (SDRC), the San Ysidro Health Center (SYHC) and SDSU Graduate School of Public Health conducted an oral health needs assessment for adults with developmental disabilities. The sample was comprised of a convenience sample of 325 adult clients with developmental disabilities in the South Bay area of San Diego County. The assessment took place between September 2013 and February 2014 and included community-dwelling adults and adults living in facilities. Participants or their legally authorized representatives provided consent to be in the study. SYHC dentists screened study participants, rated oral health status on a study-specific clinical screening form, and assessed access to care and hygiene routines in a short survey. Results are summarized in **Figures 15 and 16**.

The assessment found that a large portion the convenience sample presented with periodontal disease. The research study found that nearly half (46%) of community-dwelling adults and 15% of facility-dwelling adults reported being unable to find a dentist willing to see them.

Oral Health Needs of Community-Dwelling Adults with Developmental Disabilities, 2013-2014

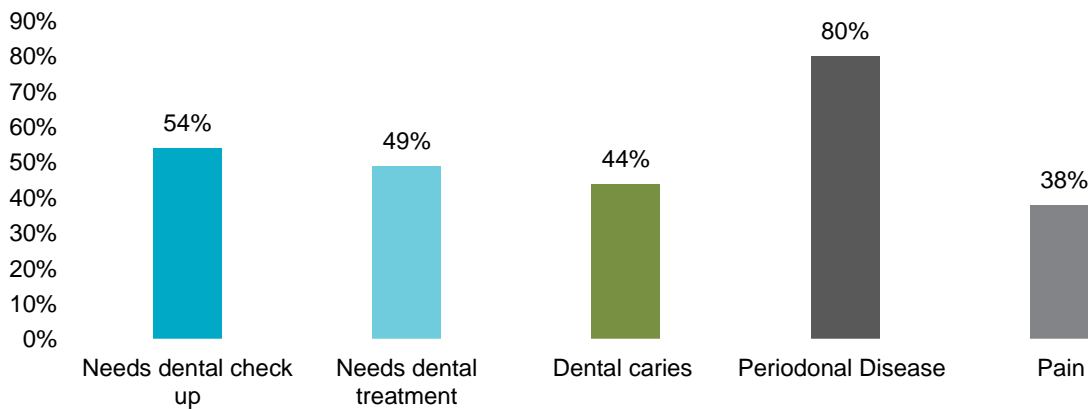


Figure 15a. Oral health needs among community-dwelling adults with developmental disabilities.

Source: Finlayson and colleagues, 2015; Rayate 2015

Oral Health Behaviors Among Community-Dwelling Adults with Developmental Disabilities, 2013-2014

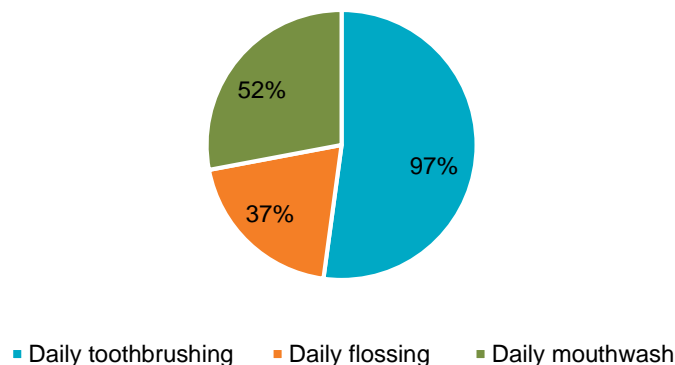


Figure 15b. Oral health behaviors among community-dwelling adults with developmental disabilities.

Source: Finlayson and colleagues, 2015; Rayate 2015

Oral Health Needs of Facility-Dwelling Adults with Developmental Disabilities, 2013-2014

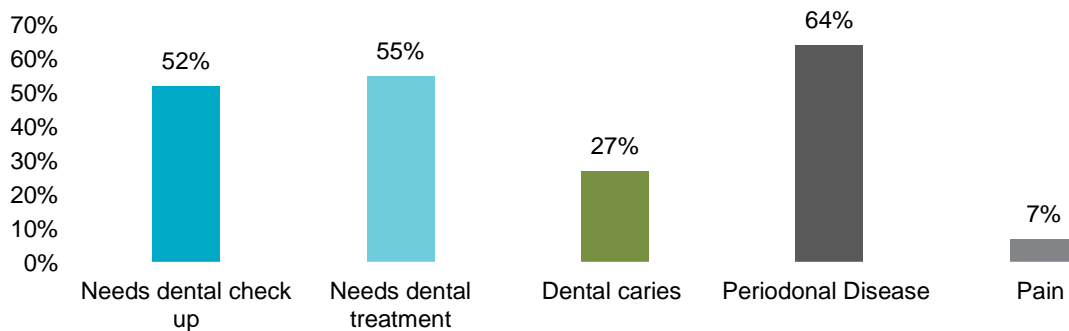


Figure 16a. Oral health needs among facility-dwelling adults with developmental disabilities.

Source: Finlayson and colleagues, 2015; Rayate 2015

Oral Health Behaviors Among Facility-Dwelling Adults with Developmental Disabilities, 2013-2014

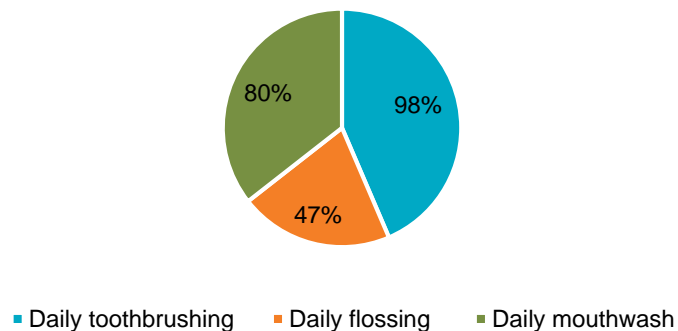


Figure 16b. Oral health behaviors among facility-dwelling adults with developmental disabilities.

Source: Finlayson and colleagues, 2015; Rayate 2015

The participant demographics were as followed: 158 males and 167 females; 55% White, non-Hispanic and 45% classified as “Hispanic and Others” (“Others” included African American, Asian, mixed race, and other races). Approximately 63% of the participants resided in facilities and 36% resided at community homes.

The prevalence of untreated caries in this sample overall was 37%. The prevalence of dental caries among facility-dwelling residents and community residents was 30% and 50%, respectively (Rayate, 2015).

Barriers to Dental Care

During the short interview, the participants and some primary caregivers discussed common barriers to dental care. The study reported the largest barrier to dental care was “No dentist was willing to see them” (33%). Other barriers included financial or insurance barriers (30%) and transportation. The limitations to this study included self-reported data where recall bias could have been present and a visual dental exam where dental cavities could have been missed (Rayate, 2015).

Racial/ethnic minorities

<u>Indicator</u>	<u>Source Name</u>	<u>US</u>	<u>CA</u>	<u>SD</u>	<u>Source</u>
Dental diagnoses accounted for 8% among Federal Qualified Health Centers	Kaiser Foundation Hospital ^a			2013	https://about.kaiserpermanente.org/content/dam/internet/kp/comms/import/uploads/2013/10/KP_CHNA_Report2016-SAN-DIEGO-Rev-11.30.17.pdf
Estimated untreated tooth decay rate among African American and Mexican American adults compared to white counterparts	Centers for Disease Control and Prevention ^b	2016			https://www.cdc.gov/oralhealth/oral_health_disparities/index.htm
Percentage of sample with unfilled cavity, missing teeth -SOL <i>Databook Report</i>	Study of Latino (SOL) ^c			2008 - 2011	https://sandiegohchssol.blogspot.com/search?q=data

^a Data Referenced by source: OSHPD

^b source: Division of Oral Health, National Center for Chronic Disease Prevention and Health Promotion

^c Data is not reported by city; random sample intended to represent the target population of their respective community

Primary Diagnosis

Utilizing OSHPD data from 2013, the Kaiser Foundation Hospital reported there were approximately 103 clinics in San Diego County, 78% of which were estimated to be Federally Qualified Health Centers. Most of their patient demographics were Hispanic, low-income, and enrolled in Medi-Cal or paid out of pocket. Among the “Principal Diagnosis” reported by OSHPD, a dental diagnosis accounted for 8% (**Figure 17**).

Clinic Encounters by Principal Diagnosis, Total Encounters in 2013 ~2.06 million

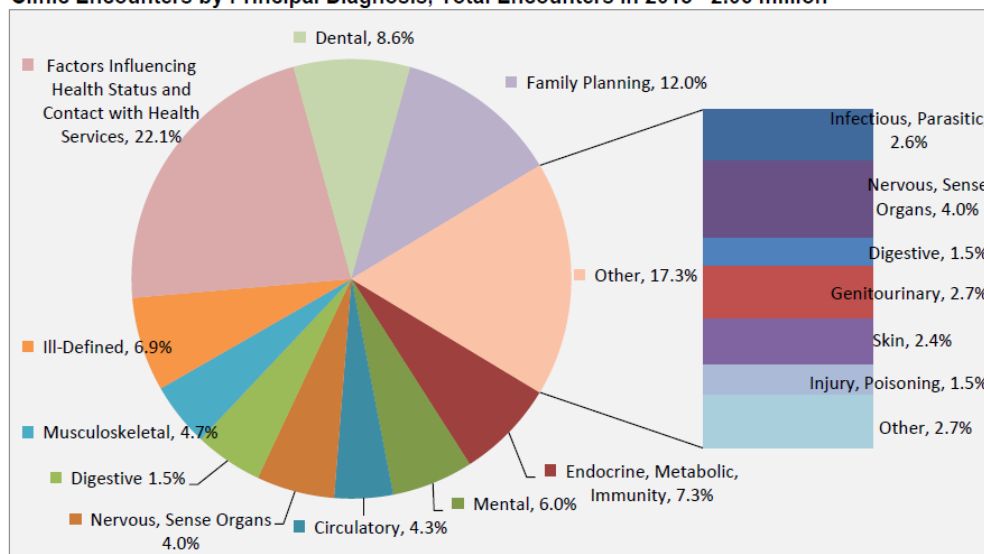


Figure 17. Clinic encounters by principal diagnosis.

Reprinted from 2016 Community Health Needs Assessment by Kaiser Foundation Hospital San Diego. (2016, September). Source: Retrieved from https://about.kaiserpermanente.org/content/dam/internet/kp/comms/import/uploads/2013/10/KP_CHNA_Report2016-SAN-DIEGO-Rev-11.30.17.pdf

According to the CDC, African-American and Mexican-American adults (ages 35-44) experience untreated tooth decay twice as much as their white counterparts (CDC, 2016a). African Americans, Hispanics, and American Indians and Alaska Natives are greatly affected by oral health disparities (CDC, 2016a).

Hispanic and Latinos

The Hispanic Community Health Study/Study of Latinos (HCHS/SOL) collected data between 2008 and 2011 on Hispanic and Latino individuals from four communities: San Diego, CA; Bronx, NY; Miami, FL; and Chicago, IL. The participants were recruited as a random sample intended to represent the target population of their respective community and not the United States population. Data collected from over 4,000 participants from each community was reported in the latest “Data Book: A Report to the Communities” by SOL in 2013. SOL reported oral health data among the participants of all the recruitment cities (US Department of Health & Human Services, 2013).

The following data is not generalizable to all Latinos in San Diego County but includes San Diego participant data. The percentage of participants with at least one unfilled cavity decreased as age increased. Among adults ages 18-44, 38% of men and 32% of women had at least one unfilled dental cavity compared to their senior counterparts, with 21% of men and 17% of women having at least one unfilled dental cavity. A

possible cause for this observation would be that older adults may have more missing teeth (US Department of Health & Human Services, 2013).

Nationwide, among the different nationalities and backgrounds, Central-American participants had a higher percentage of having at least one unfilled cavity (35%), followed by Mexican participants (34%), Puerto Ricans (30%), Cubans (28%), South Americans (23%), and Dominican participants (21%) (US Department of Health & Human Services, 2013).

HCHS/SOL reported the percentage of participants missing at least one tooth was greater among adults over 45 years of age. Thirty-six percent of men and 42% of women ages 18-44 had at least one missing tooth, compared to 75% of men and 80% of women ages 45-64 and 77% of men and 76% of women ages 65-74 (US Department of Health & Human Services, 2013).

When comparing having at least one missing tooth by nationalities and background, Cuban participants had the higher percentage at 66% followed by South Americans (65%), Central Americans (63%), Dominicans (63%), Puerto Ricans (61%), and Mexican participants (50%) (US Department of Health & Human Services, 2013).

Most of the participants in the San Diego community were of Mexican nationality (3817), 61 were Central American, 43 were South American, 39 were Puerto Rican, 9 were Cuban, and 2 were Dominican (US Department of Health & Human Services, 2013).

Finlayson et al (2018) published an article titled “Unfair Treatment and Periodontitis Among Adults in the Hispanic Community Health Study/Study of Latinos (HCHS/SOL)” which utilized the 2008-2011 HCHS/SOL dental data. According to the article, the San Diego participant data showed 14% had mild periodontitis, 30% had moderate periodontitis, and 7% had severe periodontitis.

New immigrants, refugees, and migrants

<u>Indicator</u>	<u>Source Name</u>	<u>US</u>	<u>CA</u>	<u>SD</u>	<u>Source</u>
Refugee arrivals to California	Kaiser Foundation Hospital Needs Assessment	2010	-		https://about.kaiserpermanente.org/content/dam/internet/kp/comms/import/uploads/2013/10/KP_CHNA_Report2016-SAN-DIEGO-Rev-11.30.17.pdf
Barriers to healthcare among refugees in San Diego	Kaiser Foundation Hospital Needs Assessment	2010	-		https://about.kaiserpermanente.org/content/dam/internet/kp/comms/import/uploads/2013/10/KP_CHNA_Report2016-SAN-DIEGO-Rev-11.30.17.pdf
Refugee arrivals to California	United Nations High Commissioner for Refugees	2016	-		https://www.unhcr.org/en-us/us-refugee-resettlement-facts.html?query=US%20Resettlement%20Facts
Dental caries - highest reported diagnosis among arrivals	Office of Refugee Health Report	2016	-		https://www.cdph.ca.gov/Programs/CID/ORH/CDPH%20Document%20Library/ORH%202016-2017%20Data%20Report.pdf
San Diego County refugee arrival data	San Diego Refugee Forum			2017 - 2018	http://www.sdrefugeeforum.org/county-arrival-reports.html
Dental caries, top chronic condition among refugee arrivals	County of San Diego Refugee Health Assessment Program (RHAP)			2014 - 2017	https://www.sandiegocounty.gov/hsa/programs/phs/tuberculosis_control_program/refugee_health_programs.html
Mobile clinic provided free dental care to 100 students in Migrant Education Program in San Diego	Migrant Education Program Mobile Dental Clinic			2017	https://www.sdcoe.net/news/Pages/Clinic-Helps-Ensure-Healthy-Smiles-for-Migrant-Education-Students-.aspx

Refugees

Among the 31,221 refugees that arrived in California during 2010-2014, 13,801 settled in San Diego County. Among those refugees, the largest group arriving to San Diego County were from Iraq, followed by Iran, and Southeast Asia (KFH San Diego, 2016). More recent data from 2016-2017 shows that for the 53,716 refugees admitted into the United States between October 2016 and September 2017, the top countries of origin were the Democratic Republic of the Congo followed by Iraq and Syria (UNHCR, 2018). During the 2017 fiscal year, California remains the top US state for resettlement (UNHCR, 2018). The latest San Diego County monthly arrivals data showed resettlement admission has declined drastically compared to the 2016-2017 federal fiscal year (FY) (**Figure 18**).

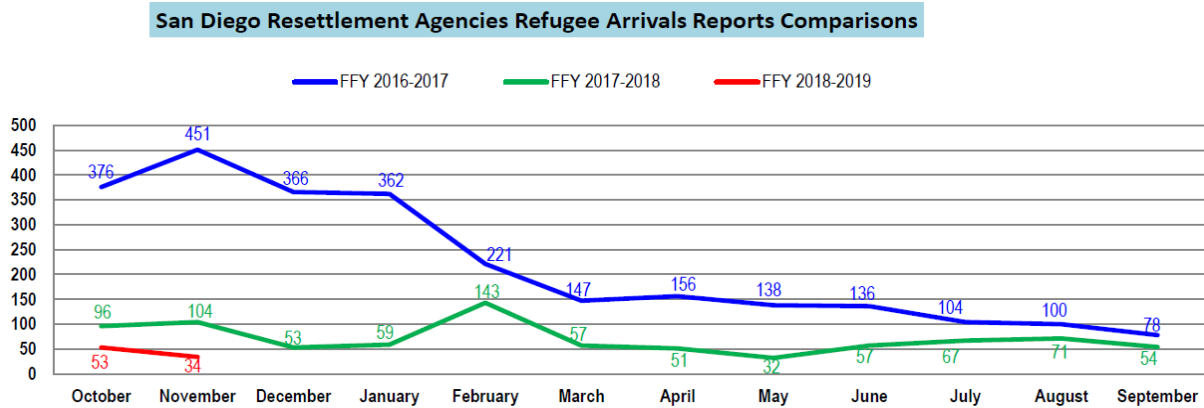


Figure 18. San Diego Resettlement Agencies Refugee Arrivals, three Federal FY comparison.

Source: Reprinted from San Diego Refugee Forum retrieved from <http://www.sdrefugeeforum.org/county-arrival-reports.html>

Dental Caries among refugees

According to the Office of Refugee Health Report of the top ten diagnoses among refugee arrivals from October 2016 to September 2017, the top diagnosis was dental caries (18%), followed by obesity (5%), anemia (5%), hyperlipidemia (4%), and hypertension (3%) (Office of Refugee Health, 2017).

According to the Tuberculosis Control and Refugee Health Branch, dental caries was the highest chronic condition found among refugee arrivals (16%) in San Diego County during FY 2016-2017. The prevalence of dental caries has remained among the top chronic conditions within this group. Dental caries were found among 15% of refugee arrivals during FY 2015-2016 and among 12% during FY 2014-2015 (HHSA, 2018a; HHSA, 2018b; HHSA, 2018c).

Perceived Health Concerns by Refugees in San Diego

In 2007, the University of California San Diego conducted an “Assessment of Community Member Attitudes Towards Health Needs of Refugees”, where the top health concerns among refugee children were nutritional issues (obesity and malnutrition) and mental health. The top concerns among refugee women included reproductive health issues, domestic violence, and mental health. Lastly, the top reported health concerns for elderly refugees was hypertension, diabetes, and mental health. Due to the nature of the assessment, the ranking of the top health concerns should be interpreted with caution (KFH San Diego, 2016 p.194).

Barriers to Healthcare among Refugees in San Diego

Although not specific to dental care, the Kaiser Hospital Foundation reported the largest perceived barriers to healthcare for refugees included lack of transportation, cultural barriers, language barriers, and insurance or issues navigating the healthcare system (KFH San Diego, 2016 p.195).

Migrants

The San Diego County Office of Education (SDCOE) Migrant Education Program partners with the University of Southern California (USC) Herman Ostrow School of Dentistry to provide dental exams for children in need. The Herman Ostrow School of Dentistry utilizes their mobile clinics to reach underserved areas and populations. The children received a dental evaluation which includes teeth cleanings, x-rays, and fluoride treatment. Other treatments provided by the USC Mobile Clinic included filling cavities, applying dental sealants, and performing extractions. During the 2017 event, the Migrant Education Program dental clinic served more than 100 children from San Diego County (SDCOE, 2017).

Individuals with low socioeconomic status

<u>Indicator</u>	<u>Source Name</u>	<u>US</u>	<u>CA</u>	<u>SD</u>	<u>Source</u>
Estimated untreated tooth decay and periodontal disease rate – compared by level of education	Centers for Disease Control and Prevention ^a	2016			https://www.cdc.gov/oralhealth/children_adults/child.htm
Dental insurance among adults (>18 years-old) self-reported	California Health Interview Survey			2017	http://ask.chis.ucla.edu/AskCHIS/tools/_layouts/AskChisTool/home.aspx#/geography

^a source: Division of Oral Health, National Center for Chronic Disease Prevention and Health Promotion

The 2017 American Community Survey showed the median household income in San Diego County was \$70,824 and the poverty rate was 12%, compared to the national average median household income at \$57,617 and poverty rate of 14% (DataUSA, n.d.). As of November 2018, the State of California Labor Market Information Division reported the unemployment rate in San Diego was 3% compared to the national unemployment rate of 4% (State of California Employment Development Dept, 2018, p. 1).

The largest demographic group living in poverty in San Diego County is females ages 25-34 (DataUSA, n.d.). When comparing poverty by race, the largest racial/ethnic group living below the poverty line in San Diego County in 2016 was White (47%), followed by Hispanic (33%), Asian (8%), Other (5%), African-American (5%), and Native Americans (1%) (DataUSA, n.d.).

According to the CDC, adults (ages 35-44) with less than a high school education experienced untreated tooth decay and periodontal disease almost three times as much as adults with some college education (CDC, 2016a).

Access to Dental Care

According to the Building Healthy Communities 2011 Health Profile self-reported data from April to September 2010, 12% of adults in San Diego County reported fair to poor health, 21% reported not visiting the doctor in the last year, 16% reported visiting the emergency department in the last year, and 23% reported delaying medical care and filling prescription drugs within the last year (UCLA Center for Health Policy Research, 2011, p. 2). The United Way of San Diego County 2003-2004 survey noted that adults between the ages of 45 to 64 were more likely to need dental care compared to other age groups; 68% of the survey participants between the ages of 20 to 34 indicated they needed dental care, and 80% of the survey participants between the ages of 45 to 64 indicated they needed dental care (United Way, 2003 p.2). **Figure 19** shows the percentage of adults who visited the dentist or dental clinic in San Diego County.

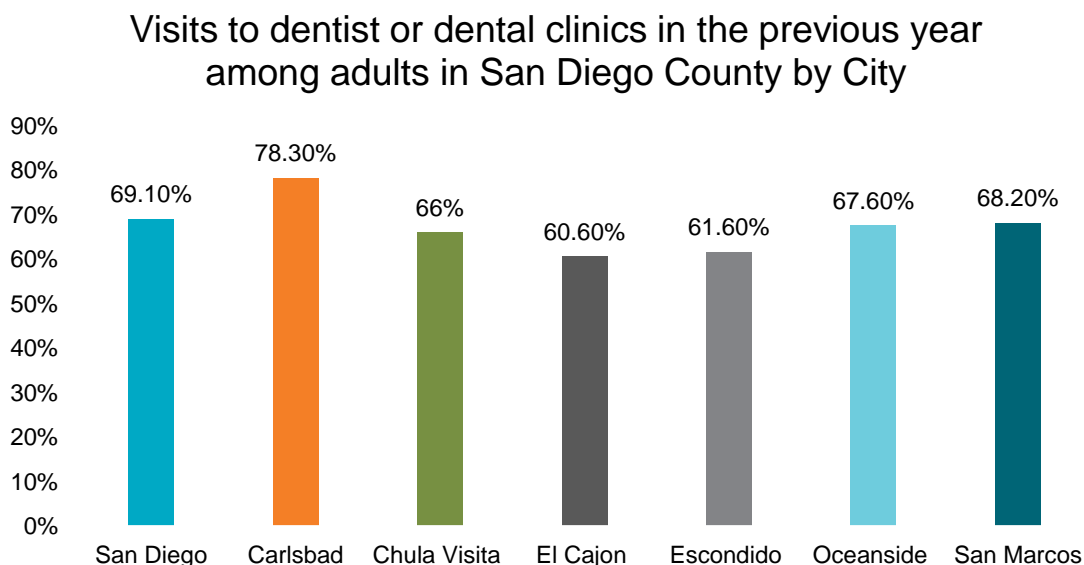


Figure 19. Adults who visited a dentist or dental clinic (greater than or equal to 18 years) in San Diego County by city.

Source: Adapted from City Health Dashboard [2018]

In **Appendix G**, the second map shows visits to a dentist or dental clinic among adults (18+ years of age) in San Diego County, by census tract.

Adult Insurance

According to the 2017 California Health Interview Survey, among adults who were insured, 71% had dental insurance and 29% did not have dental insurance. Among adults who were not insured, 21% had dental insurance and 79% did not have dental insurance (AskCHIS, 2017).

Veterans

<u>Indicator</u>	<u>Source Name</u>	<u>US</u>	<u>CA</u>	<u>SD</u>	<u>Source</u>
2016 Demographic profiles, veteran population statistics (population, race, and age)	San Diego County Health and Human Services Agency			2015	https://www.sandiegocounty.gov/content/dam/sdc/hhsa/programs/phs/CHS/demographics/FINAL_2016_Demographic_Profiles_1.30.18.pdf
Number of veterans served, received dental care at free clinic	John Geis DDS Dental Clinic at Veterans Village of San Diego VVSD*			2016	https://www.sdcdcf.org/john-geis-dds-clinic.html

*Not public data, requested from San Diego County Dental Society

In 2016, San Diego County demographics showed 9% of the population were veterans, 90% of which were male and 10% were female (HHSA, 2018). Of the veteran population in San Diego County, 65% were non-Hispanic White, 14% were Hispanic or Latino, and 21% were other races (HHSA, 2018). In San Diego County, 16% of veterans were ages 18-34, 27% were ages 35-54, 18% were ages 55-64, 20% were ages 65-74, and 20% were ages 75+ (HHSA, 2018).

Dental Clinics

The John Geis DDS Dental Clinic at the Veterans Village of San Diego (VVSD) is a free dental clinic that opened in November 2015 to provide dental care services to San Diego veterans. The Dental Clinic is run as a partnership between the San Diego Dental Health Foundation, VVSD, and the University of California San Diego's student-run Free Dental Clinic (SCDCF, 2017). The Dental Clinic at VVSD has seen over 1,562 patients and has successfully treated 396 veterans since first opening. In 2018, 28 Dental professors and 53 dental student volunteers provided 13,911 hours of service and assisted 118 veterans. The San Diego County Dental Society reports over \$783,860 has been provided in dental care and treatment (Personal communication, San Diego County Dental Society, January 8, 2019).

Key Findings

- San Diego County-level oral health data is mostly from self-reported measures, some of which are outdated and not representative for the whole county.
- Historically, local programs focused on dental services for pregnant women and children 0-5 years of age, and there is more data available for children from those current existing programs.
- There is some clinical data available for older adults from the recent state-wide assessment, but the county-level data is a relatively small sample.
- Overall, there is limited clinical data available for adults, racial/ethnic minorities, new immigrants, and refugees.
- Large turnout at the 2013 CDA Cares Event in San Diego demonstrated the high need for dental services by San Diego County residents.

Discussion

Data included in this report were limited to what was available from public websites and accessible online and was supplemented by only a few known local data sources. Additional data do exist, and part of the next steps will include obtaining needed permissions and reaching out to community groups more widely to identify oral health data being collected. The existing oral health data provides a baseline and will inform the LOHP's Community Oral Health Improvement Plan.

Conclusion & Recommendations

Overall, the available secondary oral health data for San Diego County are limited, mostly derived from self-reported measures, and mostly about dental service utilization. Much of the data is outdated and not representative of the entire county. Historically, there has been more detailed data available for young children and pregnant women due existing programs focusing on their oral health. There is limited clinical data on the prevalence of dental caries and periodontal disease across the sub-groups and many vulnerable population groups. Notably, there is some recent Basic Surveillance Survey (BSS) data on older adults. There is a need for more oral health data on many racial/ethnic minority groups, new immigrants, refugees, individuals with special needs, individuals with low socio-economic status, adults, and veterans.

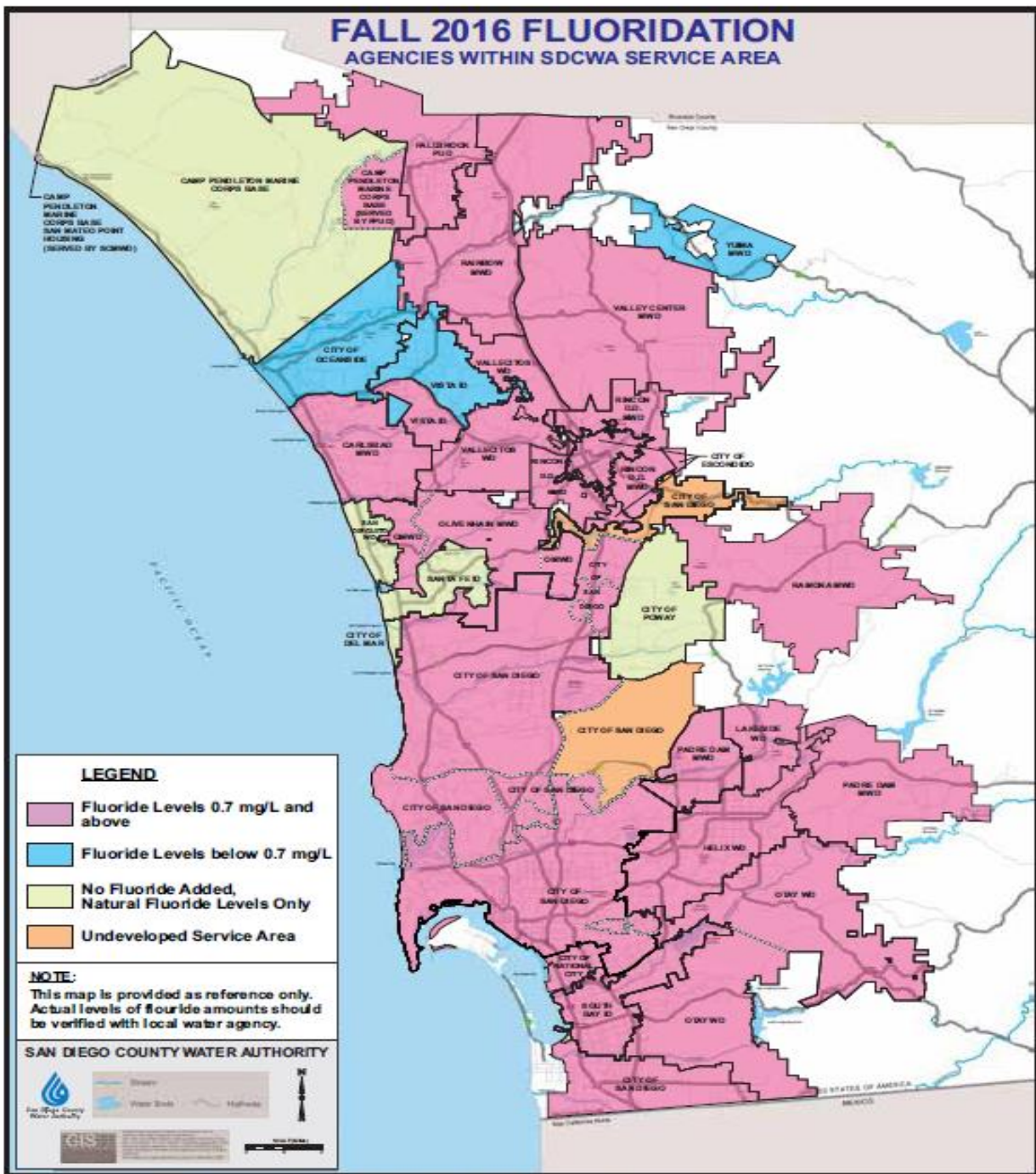
The County of San Diego would benefit from more recent surveys on self-reported oral health measures after the ACA, as well as additional recent data on clinical indices for all ages. This would allow the LOHP and other programs to better understand the needs of all San Diego County residents, prioritize additional primary data collection needs,

and develop additional education materials and interventions to promote oral health across the lifespan.

Appendix A - List of Sources

Source Name	Website
American Cancer Society	https://www.cancer.org/research/cancer-facts-statistics/all-cancer-facts-figures/cancer-facts-figures-2019.html
California Demographics	https://www.california-demographics.com/counties_by_population
California Dental Association	https://www.cda.org
California Dental Association Foundation	https://www.cdafoundation.org
California Department of Education	https://www.cde.ca.gov
California Department of Health Care Services	https://www.dhcs.ca.gov
California Department of Public Health	https://www.cdph.ca.gov
California Health Interview Survey	http://healthpolicy.ucla.edu/chis/Pages/default.aspx
Centers for Disease Control and Prevention	https://www.cdc.gov
Center for Oral Health	https://centerfororalhealth.org
The Children's Initiative	https://www.thechildrensinitiative.org/reports
DataUSA	https://datausa.io
First 5 San Diego	http://first5sandiego.org/annual-evaluation-reports/
Health & Human Services Agency	https://www.sandiegocounty.gov/hhsa
Health Resource and Services Administration	https://bphc.hrsa.gov/uds/datacenter.aspx
Healthy People 2020	https://www.healthypeople.gov/2020/topics-objectives/topic/oral-health/objectives
Kaiser Foundation Hospital	https://about.kaiserpermanente.org/content/dam/internet/kp/comms/import/uploads/2013/10/KP_CHNA_Report2016-SAN-DIEGO-Rev-11.30.17.pdf
Maternal and Infant Health Assessment	https://www.cdph.ca.gov/Programs/CFH/DMCAH/MIHA/Pages/Data-and-Reports.aspx
Neighborhood House Association	http://www.neighborhoodhouse.org/about-us/agency-reports/#sthash.E06GhyMo.dpbs
San Diego County Dental Society	https://sdcds.org
San Diego Dental Health Foundation	https://www.sdcdh.org/john-geis-dds-clinic.html
San Diego Water Authority	https://www.sdcwa.org/fluoridation
Share the Care/Dental Health Initiative	https://www.sandiegocounty.gov/content/sdc/hhsa/programs/phs/dental_health_initiative_share_the_care.html
UCLA Center for Health Policy Research	http://healthpolicy.ucla.edu
UDS Mapper	https://www.udsmapper.org/
US Census Bureau	https://factfinder.census.gov

Appendix B - Fluoridation Map of San Diego County



Source: Retrieved from <https://sdcds.org/public-oral-health/>

Appendix C - San Diego County Dental Health Professional Shortage Areas

data.HRSA.gov

Discipline	HPSA ID	HPSA Name	Designation Type	Primary State Name	HPSA FTE	HPSA Score	Status	Rural Status	Designation Date	Update Date
Dental Health	60699906B3	The Sycuan Band of the Kumeyaay Nation	Native American/Tribal Facility/Population	California	0	16	Designated	Non-Rural	10/26/2002	06/07/2018
Dental Health	60699906XZ	Indian Health Council, Inc.	Native American/Tribal Facility/Population	California	0	18	Designated	Non-Rural	07/18/2011	08/14/2012
Dental Health	60699906Z8	San Diego American Indian Health Center	Native American/Tribal Facility/Population	California	0	16	Designated	Non-Rural	03/03/2010	02/02/2012
Dental Health	60699906ZO	Southern Indian Health Council	Native American/Tribal Facility/Population	California	0	17	Designated	Non-Rural	12/26/2002	01/27/2015
Dental Health	60699906ZQ	Campo Clinic	Native American/Tribal Facility/Population	California	0	7	Designated	Rural	10/21/2010	10/21/2010
Dental Health	606999063P	La Maestra Family Clinic	Federally Qualified Health Center	California	0	16	Designated	Non-Rural	10/28/2003	06/04/2014
Dental Health	606999063R	Family Health Centers of San Diego	Federally Qualified Health Center	California	0	16	Designated	Non-Rural	10/26/2002	12/12/2014
Dental Health	606999064K	Borrego Community Health Foundation	Federally Qualified Health Center	California	0	18	Designated	Rural	11/10/2003	11/26/2014
Dental Health	606999065M	San Diego Family Care	Federally Qualified Health Center	California	0	15	Designated	Non-Rural	09/30/2003	11/26/2014
Dental Health	606999066K	San Ysidro Health Center	Federally Qualified Health Center	California	0	12	Designated	Non-Rural	10/21/2003	10/16/2017
Dental Health	606999066U	Mountain Health	Federally Qualified Health Center	California	0	18	Designated	Rural	10/21/2003	10/21/2003
Dental Health	606999066Y	Vista Community Clinic	Federally Qualified Health Center	California	0	20	Designated	Non-Rural	10/23/2003	12/19/2017
Dental Health	606999067H	Neighborhood Healthcare/Escondido	Federally Qualified Health Center	California	0	14	Designated	Non-Rural	10/26/2002	12/12/2014
Dental Health	606999068C	Imperial Beach Community Clinic	Federally Qualified Health Center	California	0	21	Designated	Non-Rural	02/28/2006	09/15/2017
Dental Health	60699906E6	North County Health Project, Inc.	Federally Qualified Health Center	California	0	15	Designated	Non-Rural	10/28/2003	12/12/2014
Dental Health	60699906H5	Operation Samahan, Inc.	Federally Qualified Health Center	California	0	19	Designated	Non-Rural	04/30/2007	12/10/2015
Dental Health	60699906M4	St. Vincent De Paul Village	Federally Qualified Health Center	California	0	15	Designated	Non-Rural	08/01/2008	11/27/2014
Dental Health	6061638170	Low Income-MSSA 159/Campo/Jacumba	Low Income Population HPSA	California	0	12	Designated	Rural	11/15/2012	12/26/2017

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Printed on: 01/13/2019

Discipline	HPSA ID	HPSA Name	Designation Type	Primary State Name	HPSA FTE	HPSA Score	Status	Rural Status	Designation Date	Update Date
		Component State Name	Component County Name	Component Name	Component Type		Component GEOID		Component Rural Status	
		California	San Diego County	211	Census Tract		06073021100		Rural	
Dental Health	6067437100	Low Income - MSSA 161C/Golden Hill/Logan Heights	Low Income Population HPSA	California	3.1	16	Designated	Non-Rural	08/25/2011	10/28/2017
		Component State Name	Component County Name	Component Name	Component Type		Component GEOID		Component Rural Status	
		California	San Diego County	35.01	Census Tract		06073003501		Non-Rural	
		California	San Diego County	35.02	Census Tract		06073003502		Non-Rural	
		California	San Diego County	36.01	Census Tract		06073003601		Non-Rural	
		California	San Diego County	36.02	Census Tract		06073003602		Non-Rural	
		California	San Diego County	38	Census Tract		06073003800		Non-Rural	
		California	San Diego County	39.01	Census Tract		06073003901		Non-Rural	
		California	San Diego County	39.02	Census Tract		06073003902		Non-Rural	
		California	San Diego County	40	Census Tract		06073004000		Non-Rural	
		California	San Diego County	41	Census Tract		06073004100		Non-Rural	
		California	San Diego County	45.01	Census Tract		06073004501		Non-Rural	
		California	San Diego County	46	Census Tract		06073004600		Non-Rural	
		California	San Diego County	47	Census Tract		06073004700		Non-Rural	
		California	San Diego County	48	Census Tract		06073004800		Non-Rural	
		California	San Diego County	49	Census Tract		06073004900		Non-Rural	
		California	San Diego County	50	Census Tract		06073005000		Non-Rural	
		California	San Diego County	51	Census Tract		06073005100		Non-Rural	
		California	San Diego County	52	Census Tract		06073005200		Non-Rural	
		California	San Diego County	53	Census Tract		06073005300		Non-Rural	
		California	San Diego County	54	Census Tract		06073005400		Non-Rural	
		California	San Diego County	55	Census Tract		06073005500		Non-Rural	
		California	San Diego County	56	Census Tract		06073005600		Non-Rural	

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Source: San Diego County Dental Health Shortage Areas. Reprinted from <https://data.hrsa.gov/tools/shortage-area/hpsa-find>

Appendix D - San Diego 2013 CDA Cares Event Summary

San Diego 2013 CDA Cares Event Summary		
Total Patients: 2,203 Respondents: 1,844 (84%)		

1. Please state your age range:		
under 18	77	0.4%
18-24	155	8%
25-34	381	21%
35-54	797	43%
55+	433	23%

2. Overall, how satisfied were you with the CDA Cares event?		
Very satisfied	1670	91%
Somewhat satisfied	132	7%
Neither satisfied or dissatisfied	14	1%
Somewhat dissatisfied	12	1%
Very dissatisfied	16	1%

3. Did you feel welcomed and respected while you were at the clinic?		
Yes	1825	99%
No	19	1%

4. How far did you travel today?		
0 to 10 miles	202	11%
11 to 20 miles	615	34%
21 to 50 miles	894	49%
More than 50 miles	126	7%

5. What brought you to the clinic? Check all that apply.		
Pain	497	27%
Infection	125	7%
Missing teeth	73	4%
Broken teeth	355	19%
Need my teeth cleaned	527	29%
Need my denture/partials fixed or replaced	118	6%
Need a filling	481	26%
Other	303	17%

6. If pain brought you to this clinic, how long have you been in pain? (n=493)		
A week or less	46	9%
A month or less	98	20%
2 to 6 months	145	29%
6 months to 1 year	83	17%
More than a year	121	25%

7. Do you have dental insurance?		
No	1641	91%
Denti-cal (dental coverage children receive if they have Medi-cal)	64	4%
Healthy Families	6	0%
Military coverage	7	0%
Insurance through my employer or my spouse's employer	61	3%
Insurance that I purchase privately for myself and/or my family	30	2%

8. When was the last time you visited a dentist?		
Within the last year	482	26%
1 to 3 years	548	30%
3 to 5 years	274	15%
5 to 10 years	256	14%
More than 10 years	220	12%
Can't remember	54	2%

9. If you have not been to a dentist recently, what are the reasons? (check all that apply)		
I cannot afford to pay	741	47%
I don't have dental insurance	620	39%
I didn't think I needed to go to a dentist	47	3%
I couldn't find a dentist in my area	9	1%
I couldn't find a dentist who takes my insurance	6	0%
I don't like dental treatment		
I'm afraid to get dental treatment	53	3%
Can't get time off from work	15	1%
Too far to travel		
No transportation	15	1%
Other	72	5%

10. Have you gone to the emergency room for dental problems in the last 5 years?		
Yes	147	8%
No	1646	92%

11. If yes, how many times (n=146)		
1 time	91	62%
2 to 4 times	45	31%
5 or more times	10	7%

14. Do you have a place to go to be seen for dental care after today?		
Did you receive a list of dentists and/or dental clinics in your area so you can continue your care? (Sacramento)		
Yes	1703	95%
No	94	5%
I don't know		

15. How likely are you to follow up with a dentist after visiting this clinic?		
Very likely	1189	65%
Somewhat likely	436	24%
Neutral	0	0%
Somewhat unlikely	49	3%
Very unlikely	21	1%
Not sure/don't know	96	5%
If unlikely, can you please explain why?	40	2%

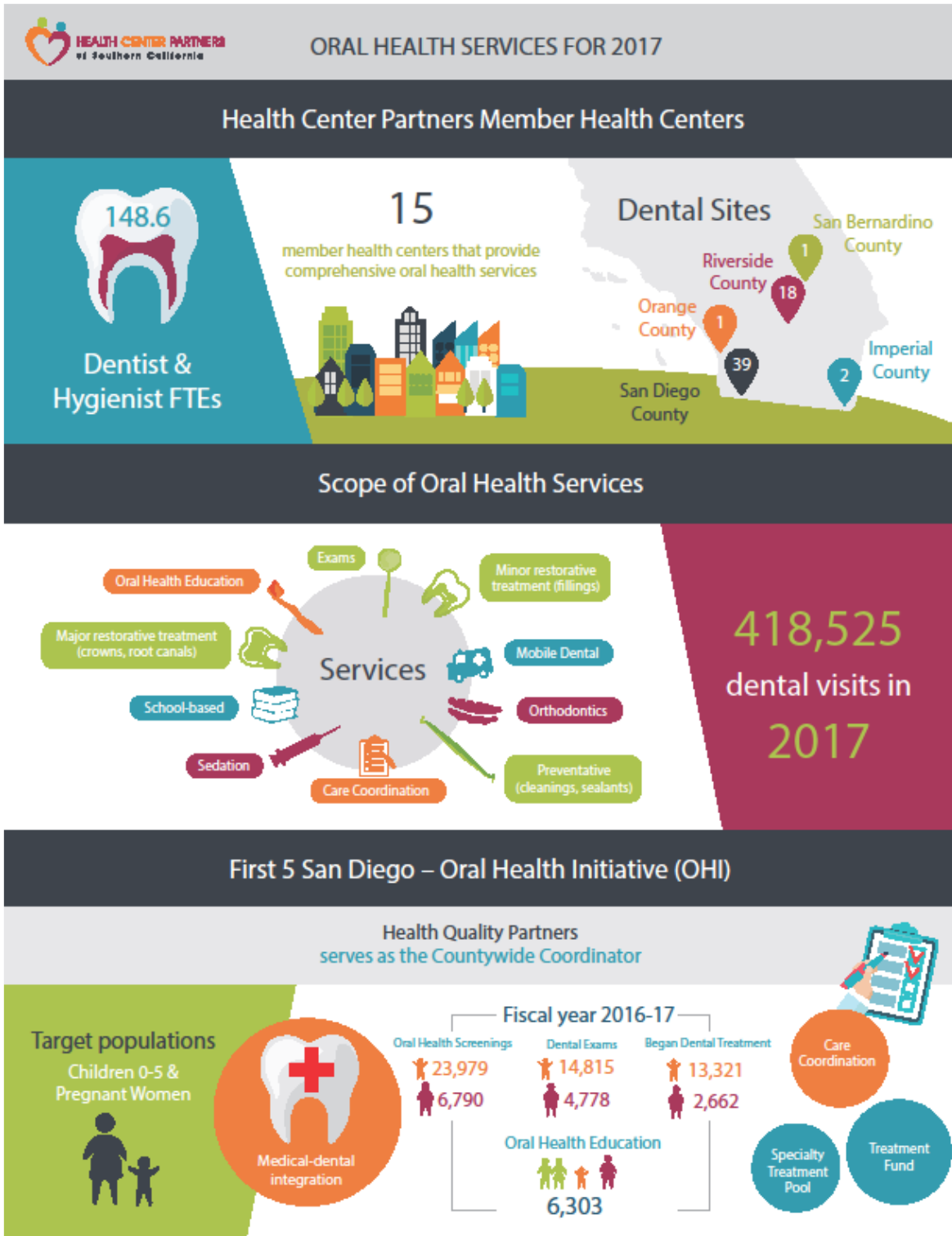
16. Did you receive instructions about how to follow up with your dental care at home? (Sacramento)		
Yes	1677	93%
No	120	7%

17. How many children under the age of 6 reside in your household?		
0	1361	74%
1	301	16%
2	115	6%
3	46	3%
4	11	0%
5	5	0%
6+	4	0%

18. Did someone discuss your treatment needs and explain to you what was going to be done today and why		
Yes	1744	96%
No	74	4%

Source: California Dental Association and San Diego County Dental Society

Appendix E - Oral Health Services for 2017 Among HQPSoCal clinics



Appendix F - Oral Health Assessment Form

California Department of Education
 March 2008
 Page 1 of 1

Oral Health Assessment Form

California law (*Education Code Section 49452.8*) states your child must have a dental check-up by May 31 of his/her first year in public school. A California licensed dental professional operating within his scope of practice must perform the check-up and fill out Section 2 of this form. If your child had a dental check-up in the 12 months before he/she started school, ask your dentist to fill out Section 2. If you are unable to get a dental check-up for your child, fill out Section 3.

Section 1: Child's Information (Filled out by parent or guardian)

Child's First Name:	Last Name:	Middle Initial:	Child's birth date:
Address:			Apt.:
City:			ZIP code:
School Name:	Teacher:	Grade:	Child's Sex: <input type="checkbox"/> Male <input type="checkbox"/> Female
Parent/Guardian Name:	Child's race/ethnicity: <input type="checkbox"/> White <input type="checkbox"/> Black/African American <input type="checkbox"/> Hispanic/Latino <input type="checkbox"/> Asian <input type="checkbox"/> Native American <input type="checkbox"/> Multi-racial <input type="checkbox"/> Other _____ <input type="checkbox"/> Native Hawaiian/Pacific Islander <input type="checkbox"/> Unknown		

Section 2: Oral Health Data Collection (Filled out by a California licensed dental professional)

IMPORTANT NOTE: Consider each box separately. Mark each box.

Assessment Date:	Caries Experience (Visible decay and/or fillings present) <input type="checkbox"/> Yes <input type="checkbox"/> No	Visible Decay Present: <input type="checkbox"/> Yes <input type="checkbox"/> No	Treatment Urgency: <input type="checkbox"/> No obvious problem found <input type="checkbox"/> Early dental care recommended (caries without pain or infection; or child would benefit from sealants or further evaluation) <input type="checkbox"/> Urgent care needed (pain, infection, swelling or soft tissue lesions)
_____ Licensed Dental Professional Signature		_____ CA License Number	_____ Date

Section 3: Waiver of Oral Health Assessment Requirement

To be filled out by parent or guardian asking to be excused from this requirement

Please excuse my child from the dental check-up because: (Check the box that best describes the reason)

- I am unable to find a dental office that will take my child's dental insurance plan.
My child's dental insurance plan is:
 Medi-Cal/Denti-Cal Healthy Families Healthy Kids Other _____ None
- I cannot afford a dental check-up for my child.
- I do not want my child to receive a dental check-up.
- Optional: other reasons my child could not get a dental check-up: _____

If asking to be excused from this requirement: ► _____
Signature of parent or guardian Date

The law states schools must keep student health information private. Your child's name will not be part of any report as a result of this law. This information may only be used for purposes related to your child's health. If you have questions, please call your school.

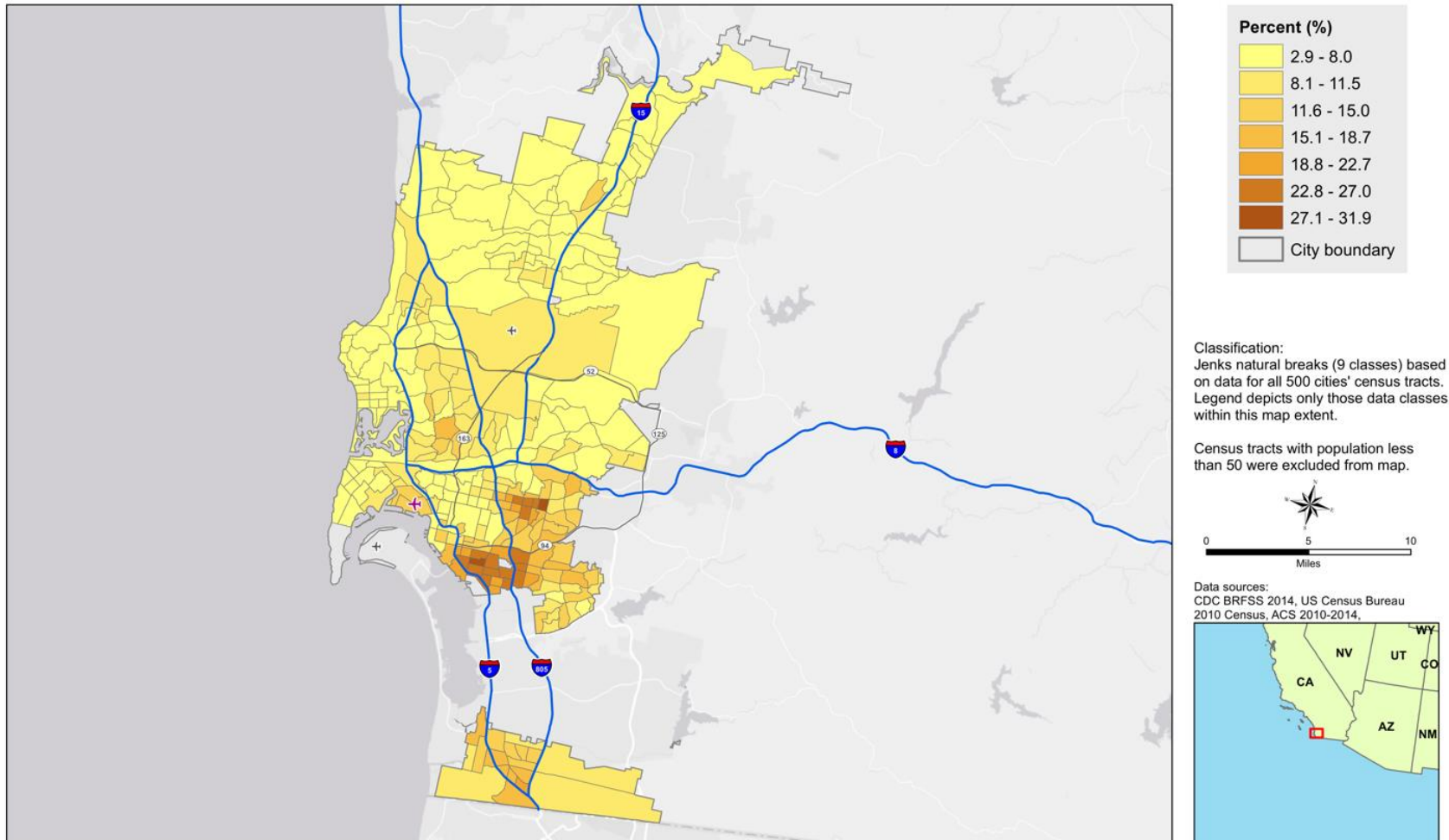
Return this form to the school *no later than May 31* of your child's first school year.
 Original to be kept in child's school record.

Note: Also available in Spanish.

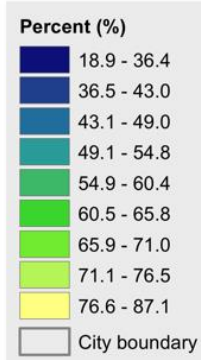
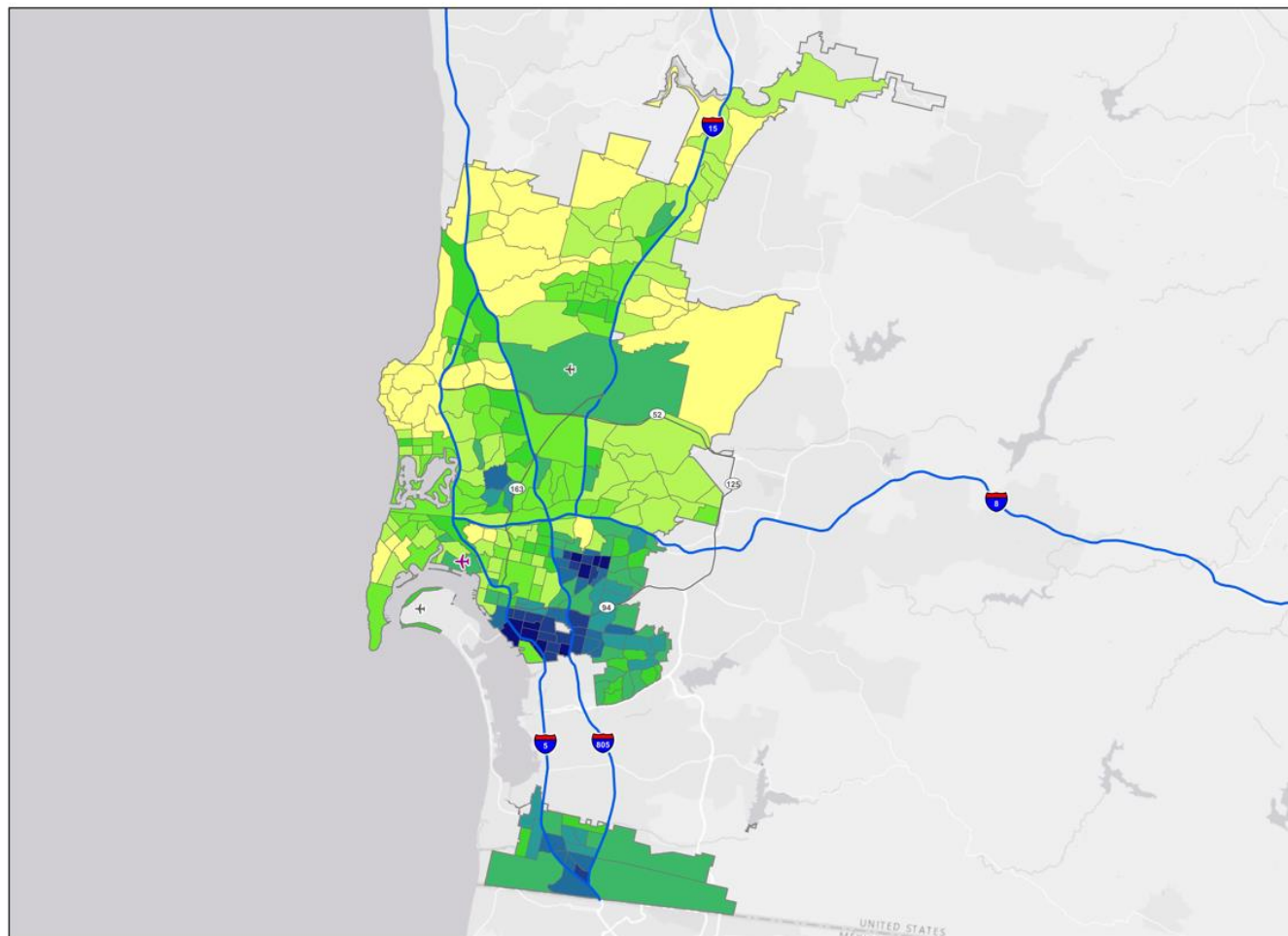
Source: Retrieved from California Department of Education website: <https://www.cde.ca.gov/ls/he/hn/oralhealth.asp>

Appendix G - The 500 Cities Project: Local Data for Better Health 2014 San Diego, CA

All teeth lost among adults aged ≥ 65 years by census tract, San Diego, CA, 2014



Visits to dentist or dental clinic among adults aged ≥ 18 years by census tract, San Diego, CA, 2014



Classification:
 Jenks natural breaks (9 classes) based on data for all 500 cities' census tracts. Legend depicts only those data classes within this map extent.

Census tracts with population less than 50 were excluded from the map.



Data sources:
 CDC BRFSS 2014, US Census Bureau 2010 Census, ACS 2010-2014.



Map created by CDC/NCCDPHP/DPH/ESB-GIS

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Date: 10/14/2016

Source: <http://www.cdc.gov/500cities/>
 Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Population Health, Epidemiology and Surveillance Branch (CDC/NCCDPHP/DPH/ESB)

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