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ORANGE COUNTY

Oral Health Strategic Plan

2018-2022

October 2018

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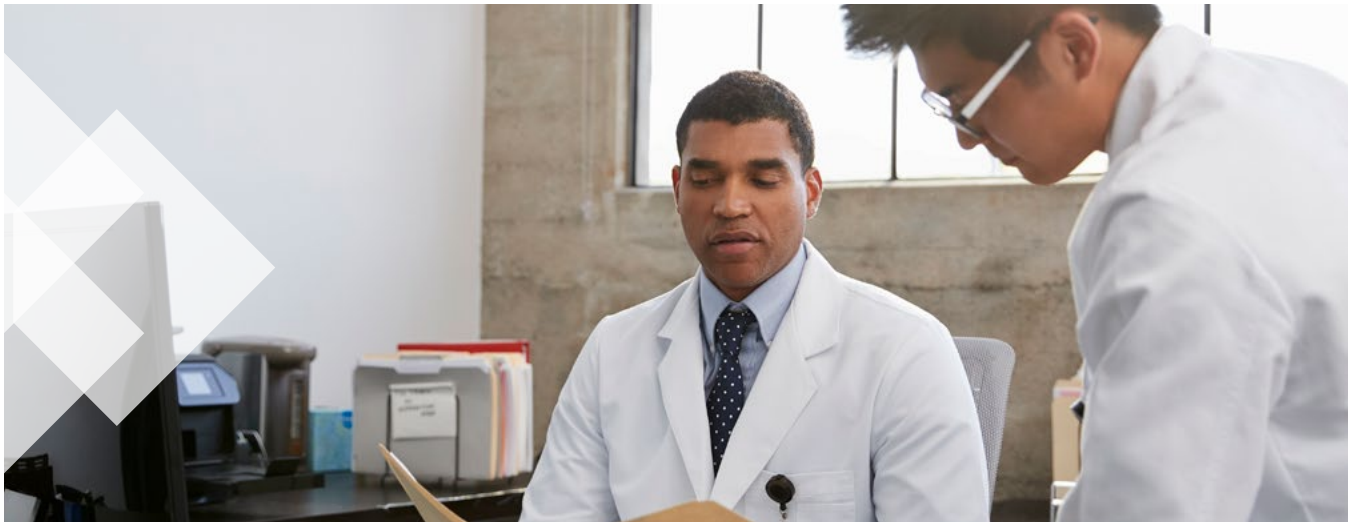
EXECUTIVE SUMMARY



Oral health is an integral part of a person's overall health and well-being. Poor oral health can affect individuals at all stages of life, from infancy to older adulthood. Untreated tooth decay (dental caries) and periodontal disease lead to unnecessary pain, infection, and tooth loss. Dental disease can also contribute to poor quality of life, poor health outcomes, and shares common risk factors with other medical conditions such as diabetes, heart disease and poor reproductive/birth outcomes. While dental disease is largely preventable and treatable, children from low-income families, older adults (age 65 and older), racial and ethnic minorities, low-income pregnant women and people with special health care needs struggle to gain access to quality dental care.

Following a six-month assessment and planning process, the Orange County Local Oral Health Program (OC-LOHP) created this Oral Health Strategic Plan. The plan builds on the expertise of stakeholders across Orange County such as health care providers and clinicians, CalOptima, educational institutions, community based organizations, local governmental agencies, as well as local coalitions and collaboratives and takes into consideration existing programs, policies, best practices and environmental factors.

ORANGE COUNTY ORAL HEALTH NEEDS ASSESSMENT KEY FINDINGS:

- While prevalence of untreated tooth decay has declined among children, many children still suffer from dental disease and disparities persist, affirming the need to focus on early prevention.
- Utilization of dental services by the Medi-Cal child population is low and varies significantly by age, with Orange County's youngest and oldest children utilizing services at a rate lower than their counterparts.
- Utilization of services by Medi-Cal eligible children is higher than California average but falls short of statewide targets.
- Low-income adults lack awareness that Medical benefits cover dental care, while older adults face several barriers toward achieving optimal oral health including inability to pay for dental services.
- There are gaps in data on the oral health of individuals with intellectual and/or developmental disabilities and special health care needs.

VISION, STRATEGIC PLAN OBJECTIVES, AND FOCUS AREAS

This plan will help us work towards our vision that:

All Orange County residents have opportunities and resources for optimal oral health.

ORANGE COUNTY WILL WORK TOWARDS THE FOLLOWING OBJECTIVES IN MEETING OUR VISION:

- **Objective 1**: By 2022, reduce the prevalence of untreated tooth decay by 3% among children 0-11 years of age residing in Orange County.
- **Objective 2:** By 2022, increase the rate of utilization of annual preventive dental services by 5% among children 0-20 years of age residing in Orange County.
- **Objective 3:** By 2022, increase the rate of utilization of dental services by 5% among children, adults and older adults residing in Orange County.

FOCUS AREAS AND GOALS:

The following focus areas represent priorities that were identified based on our guiding principles, needs assessment findings, known evidence-based practices, potential for population-wide impact and feasibility. Each focus area includes several key strategies that will help move Orange County toward our shared goals for oral health.

Access to and Utilization of Dental Services

- **GOAL:** Increase the availability, accessibility and utilization of oral health services, particularly for underserved populations.
  - ☆ **Highlighted Strategy:** Increase access to oral health education and preventive services in schools and other community settings. Coordinate efforts to link children and high-risk populations to a dental home.

Oral Health Education and Public Awareness

- **GOAL:** Increase the community's knowledge of recommended preventive oral health practices and awareness of available dental insurance benefits.
  - ☆ **Highlighted Strategy:** Develop and implement a community-wide oral health public awareness campaign.

Integration of Dental and Medical Care

- **GOAL:** Promote integration of dental and medical care.
  - ☆ **Highlighted Strategy:** Inform and support medical providers, through provider networks such as CHDP, to incorporate oral health preventive services into well-child visits, including reimbursement opportunities.

Dental Workforce

- **GOAL:** Increase the capacity of the dental workforce to serve the diverse needs of Orange County residents.
  - ☆ **Highlighted Strategy:** Develop and share resources with new and potential Denti-Cal providers regarding billing, logistics, and program updates.

Data and Evaluation

- **GOAL:** Develop and implement a County oral health assessment and evaluation plan.
  - ☆ **Highlighted Strategy:** Conduct ongoing evaluation to assess progress and inform program improvements.

Coordination of Countywide Efforts

- **GOAL:** Develop County infrastructure to support the implementation of this plan
  - ☆ **Highlighted Strategy:** Identify and promote new and existing oral health best practices and resources across Orange County.

BACKGROUND

Oral health is an integral part of a person's overall health and well-being. Poor oral health can affect individuals at all life stages, from infancy to older adulthood. While dental disease is largely preventable and treatable, children from low-income families, older adults (age 65 and older), racial and ethnic minorities, low-income pregnant women, people with special health care needs, and people living in rural or remote communities struggle to gain access to quality dental care. Untreated tooth decay (dental caries) and periodontal diseases lead to unnecessary pain, infection, and tooth loss. They also contribute to poor quality of life, poor health outcomes, and share common risk factors with other medical conditions such as diabetes, heart disease and poor reproductive/birth outcomes.

Improving access to dental care and preventing dental diseases is a Healthy People 2020 goal. Based on its community health assessment process, the Orange County Health Improvement Partnership identified oral health as a 'new area of interest' in the Orange County Health Improvement Plan for 2017-19. This resulted in the establishment of the Orange County Oral Health Collaborative. In January 2018, with funding from the California Department of Public Health, a Local Oral Health Program was established within the Orange County Health Care Agency. The Orange County Local Oral Health Program (OC-LOHP) was tasked to conduct a comprehensive oral health needs assessment and engage stakeholders to develop an oral health strategic plan.

Orange County is home to clinics, providers, organizations, coalitions and stakeholders dedicated to improving oral health. The county's provider network and community health center capacity to provide dental services has been expanding over the past 5 years and several stakeholders have identified oral health as an unmet need. Increased attention to oral health care needs statewide has also resulted in policies (e.g. full restoration of dental benefits for adults in the Medi-Cal program) and programs (e.g. Dental Transformation Initiative by the Department of Health Care Services) that have the potential to positively impact the oral health of Orange County residents. This Oral Health Strategic Plan builds on the expertise of stakeholders across the County and takes into consideration existing programs, policies, best practices and environmental factors.

Through coordination and expansion of strategies that increase accessibility and utilization of oral health services, heightened awareness of the importance of oral health as part of overall health, and a stronger oral health workforce, this strategic plan provides a comprehensive roadmap for improving the oral health of all Orange County residents.

CONTEXTUAL FRAMEWORK

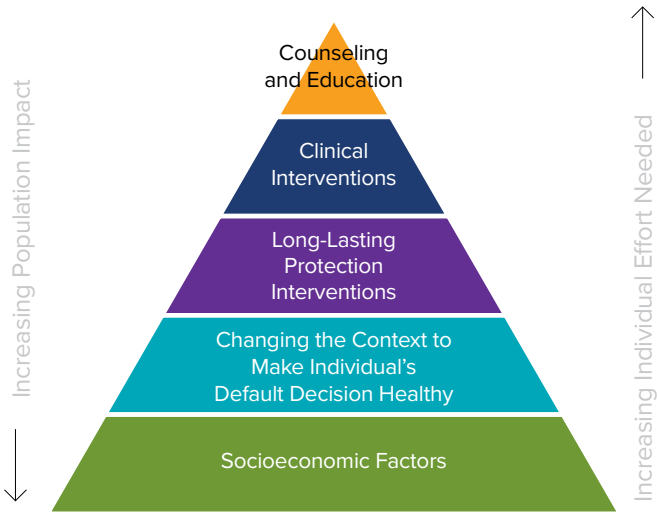
This plan has been shaped by several key strategic frameworks and public health concepts including Frieden's Health Impact Pyramid Framework[1] for Public Health Action, Healthy Poeple 2020 and social determinants of health and key national reports like the Institute of Medicine (IOM) report - Advancing Oral Health in America[2] and the Department of Health and Human Services' Strategic Oral Health Framework for 2014-17[3]. The Plan has also been guided by the California Oral Health Plan 2018 - 2028[4].

The Health Impact Pyramid provides an effective framework to improve public health. The 5-tier pyramid describes different levels of impact resulting from different types of public health interventions. The base of the pyramid is represented by interventions that address social determinants of health and have the potential for greatest impact. In ascending order, are interventions that need higher individual effort and have lower potential for population-wide impact.

This framework emphasizes that 1) Implementing interventions on lower levels of the pyramid tends to be highly effective in achieving population-wide improvements and 2) Synergistic action at each of the levels of the pyramid can achieve the highest possible public health impact.

In the context of oral health, the figure below provides examples of interventions at each level of the impact pyramid. This Plan aims to maintain a strong focus on interventions at the base of the pyramid while ensuring strong efforts are being made to impact higher levels of pyramid to ultimately build a responsive and sustainable system of oral health care in Orange County.

Figure 1: Frieden's Health Impact Pyramid



Examples
Chairside guide for counseling, motivational interviewing, and media campaigns
Evidence-based dental practices
School Dental Sealant program
Fluoridation, mandated dental screening in school, and other settings
Insurance coverage and healthy literacy

1. Frieden TR. A Framework for Public Health Action: The Health Impact Pyramid. American Journal of Public Health. 2010;100(4):590-595. doi:10.2105/AJPH.2009.185652.
2. Institute of Medicine. Advancing Oral Health in America. Washington, D.C.: IOM, 2011.
3. U.S. Department of Health and Human Services Oral Health Coordinating Committee. U.S. Department of Health and Human Services Oral Health Strategic Framework, 2014–2017. Public Health Reports. 2016; 131(March–April):242–256.
4. California Department of Public Health. California Oral Health Plan 2018-2028;Janurary 2018.

GUIDELINES FOR STATE AND TERRITORIAL ORAL HEALTH PROGRAMS

Association of State and Territorial Dental Directors

The Guidelines for State and Territorial Oral Health Programs emphasize the core public health functions of assessment, policy development and assurance. These guidelines from the Association of State and Territorial Directors were used in conducting the oral health assessment and prioritizing goals and strategies of this Plan.

ASSESSMENT:

1. Assess oral health status and implement oral health surveillance system.
2. Analyze determinants of oral health and respond to health hazards in the community.
3. Assess public perceptions about oral health issues and educate/empower people to achieve and maintain optimal oral health.

POLICY DEVELOPMENT:

4. Mobilize community partners to leverage resources and advocate for/act on oral health issues.
5. Develop and implement policies and systematic plans that support state and community oral health efforts.
6. Review, educate and enforce laws and regulations that promote oral health and ensure safe oral health practice.

ASSURANCE:

7. Reduce barriers to care and assure utilization of personal and population-based oral health services.
8. Assure an adequate and competent public and private oral health workforce.
9. Evaluate effectiveness, accessibility, and quality of personal and population-based oral health promotion activities and oral health services.
10. Conduct and review research for new insights and innovative solutions to oral health problems.

GUIDING PRINCIPLES

Orange County's Oral Health Strategic plan will focus on:

Development of this Strategic Plan was also guided by the following foundational principles.

- Prevention of disease and timely linkage to appropriate care.
- Utilization of upstream and sustainable approaches to dental disease prevention.
- Supporting health education, public awareness and change in perceptions around oral health.
- Development and implementation of a plan that is community-inclusive and stakeholder driven.
- Ensuring all programs and efforts are culturally and linguistically appropriate.
- Strengthening and, effectively and efficiently utilizing existing systems of oral health care.
- Addressing needs of underserved populations/communities. Age groups (children/adults/older adults) and specific populations will be determined based on the needs assessment findings related to disease burden and resource gaps.

SOCIAL, ECONOMIC, TECHNOLOGICAL AND POLITICAL CONTEXT

On April 17, 2018, during the stakeholder retreat, various community partners and experts participated in a Forces of Change Assessment. The objective of this assessment was to identify trends and factors that impact – both positively and negatively, the health and oral health of residents of Orange County. These trends were assessed under four categories – Social, Economic, Technological and Political and should be taken into consideration as this Plan is implemented and evaluated.

SOCIAL TRENDS:

- 'Millennials' – those who reached young adulthood in the 21st Century are a fast-growing population.
- Orange County also has a growing population of older adults. By 2040, one in four residents will be 65 years and older.
- There are many new and diverse ways of sharing information and health messages, which also make inaccurate information easily available. Ensuring consistent messaging on an ongoing basis is crucial.
- Orange County's population is becoming increasingly diverse in terms of cultures, languages. Diversity also demands the need to consider cultural differences in how individuals and families access care and analyze information.
- While tobacco use has been addressed a lot over the years, changing demographics and characteristics of a 'smoker' must be considered.
- Individuals, especially children with Special Health Care Needs are continuing to face significant challenges in all sectors.

ECONOMIC TRENDS:

- Decreasing federal and state budget can potentially impact local jurisdictions.
- Homeless and mobile populations can be disproportionately underserved and have low continuity of care.
- Healthy options may not be readily available and affordable to low-income families.
- Broadening socio-economic gap must be monitored and considered while developing programs and policies.
- Changes in tax laws might impact charitable funding to community organizations.
- High cost of higher education is resulting in fewer practitioners (both medical and dental) willing to participate in public programs like Medi-Cal.
- Low reimbursement rates are resulting in a shortage of dental providers accepting Medi-Cal patients.

TECHNOLOGICAL TRENDS:

- Increased access to technology at the individual level is encouraging. At the same time, underserved communities might be further marginalized if they have lower access to technology.
- There are new and better opportunities for patient engagement e.g. phone applications (apps), texts and social media.
- Technological advancements in dentistry are noteworthy e.g. tele-dentistry (delivery of dental care through telehealth-connected teams) and minimally invasive dentistry.
- Newer dental materials have potential e.g. Silver Diamine Fluoride – a new product that can 'arrest' or stop tooth decay from spreading and minimize the need for fillings.

POLITICAL TRENDS:

- Potential federal budget changes might impact Medi-Cal and/or State funding, and sustainability of several programs.
- Immigration policies are ever-changing and must be monitored to define needs of the County's immigrant population.
- Some federal policies (e.g. Medicare) do not prioritize dental benefits which effects Californians. Although California might recognize its importance, policy changes at the federal level are imperative.
- Other states utilize diverse dental workforce like Dental Therapists in Minnesota, Alaska and Maine, which might be considered by California in the future.

BEST PRACTICES IN DENTAL PUBLIC HEALTH

Best practices known to effectively improve oral health of communities include:

Access to age-appropriate preventive dental services
Delivery of age-appropriate services that help prevent tooth decay and other dental diseases is key. It is important to increase access to these services as early as possible, even before dental problems have started.

Support establishment of a dental home through care coordination
Timely linkage to appropriate care through systematic care coordination can help individuals and families navigate a complex oral health care system.

Innovation in location of dental service delivery
Co-location of medical and dental services as well as bringing services to where individuals congregate can help overcome barriers like transportation and time.

Increase awareness of oral health and access to accurate information
Increasing access to culturally and linguistically appropriate oral health information can empower individuals and families to maintain good oral health, make healthy choices and access services in a timely manner.

Integration of oral health and primary care
Bi-directional integration of oral health primary care services not only embraces concepts of 'whole person' care but also reinforces effective oral health interventions.

ADDITIONAL SOURCES:

- Association of State and Territorial Dental Directors (ASTDD) – Best Practice Approach Reports
  https://www.astdd.org/best-practice-approach-reports/

- American Dental Association – Evidence-Based Dentistry
  https://ebd.ada.org/en

EVIDENCE-BASED APPROACHES FOR PREVENTING TOOTH DECAY

The Guide to Community Preventive Services – Improving Oral Health:
https://www.thecommunityguide.org/topic/oral-health

- Community Water Fluoridation
- School-based Dental Sealant Delivery Program

U.S Preventive services Task force:
https://bit.ly/2uyW5Ax

- Application of fluoride varnish to the primary teeth of all infants and children at the age of primary tooth eruption in primary care practices.
- Prescription of fluoride supplementation by Primary Care clinicians starting at age six months for children whose water supply is fluoride deficient.

INDIVIDUAL MEASURES TO MAINTAIN OPTIMAL ORAL HEALTH

Find more information at SmileHabitsOC.org

- Maintain oral hygiene by brushing and flossing twice daily with a fluoridated tooth paste. Clean a baby's gums starting at birth and start brushing their teeth as soon as they emerge.

- Establish a dental home by age one and continue regular dental visits.

- Visit a dentist annually (even if one does not have pain and/or dental problem) for routine check-ups, and early detection and treatment of dental disease. Continue visits during pregnancy.

- Limit sugary foods and sugar-sweetened beverages and consume healthy foods.

ORANGE COUNTY ORAL HEALTH NEEDS ASSESSMENT

Between January 15, 2018 and June 30, 2018, a comprehensive oral health needs assessment was conducted. This included analysis of secondary data, and the collection and analysis of primary data. Primary data included both qualitative data in the form of key-informant interviews and focus groups, and quantitative data. Further details of the assessment methodology can be found in the Appendix on page 21.

Key findings from the oral health needs assessment are as follows:

Prevalence of dental disease in children
While prevalence of untreated tooth decay has declined among children in Orange County, many children still suffer from dental disease and disparities persist, affirming the need to focus on early prevention.

Rate of utilization and reasons for non-utilization of dental services by children
Utilization of dental services by the Medi-Cal child population is low and varies significantly by age, with Orange County's youngest and oldest children utilizing services at a rate lower than their counterparts. Utilization of services by Medi-Cal eligible children is higher than California average but falls short of statewide targets.

Utilization of services by and oral health care needs of pregnant women
Low-income pregnant women constitute an underserved population that faces barriers in utilizing dental services during pregnancy and has limited access to information about oral health practices and resources.

Low-income adults in Orange County and their dental service utilization
Utilization of dental services by adults insured through Medi-Cal shows an upward trend. The primary reasons for non-utilization of services is cost and the lack of awareness that Medi-Cal benefits cover dental care.

Children and adults with special health care needs
Individuals with intellectual and developmental disabilities, and special health care needs face significantly more challenges in achieving optimal oral health than their healthier counterparts. Ongoing data collection to determine true disease burden and appropriate solutions to address their needs are imperative.

Institutionalized and community-dwelling older adults
Older adults have unique oral health care needs and face several barriers toward achieving optimal oral health. Monitoring state and federal policies that impact older adults' ability to pay for dental services is critical. From a public health standpoint, increasing access to accurate information and resources to bridge gaps in accessing available services is important.

Dental workforce capacity and the oral health care system
While Orange County has a strong oral health workforce and oral health care system, further capacity building and coordination of efforts are needed to meet the needs of the County's underserved and low-income populations.

VISION, STRATEGIC PLAN OBJECTIVES AND FOCUS AREAS

VISION:

All Orange County residents have opportunities and resources for optimal oral health.

OBJECTIVES OF THE STRATEGIC PLAN:

1. By 2022, reduce the prevalence of untreated tooth decay by 3% among children 0-11 years of age residing in Orange County.
2. By 2022, increase the rate of utilization of annual preventive dental services by 5% among children 0-20 years of age residing in Orange County.
3. By 2022, increase the rate of utilization of dental services by 5% among children, adults and older adults residing in Orange County.

FOCUS AREAS:

- Access to and Utilization of Dental Services
- Integration of Dental and Medical Care
- Data and Evaluation
- Oral Health Education and Public Awareness
- Dental Workforce
- Coordination of Countywide Efforts

GOALS AND STRATEGIES

ACCESS TO AND UTILIZATION OF DENTAL SERVICES

GOAL: Increase the availability, accessibility and utilization of oral health services, particularly for underserved populations.

Partnering with institutions, dental providers and health centers, professionals and organizations to expand delivery of dental services will improve oral health outcomes across the lifespan. These partnerships will include innovative approaches like bringing dental services into settings frequented by underserved populations and the expansion of current systems, such as the countywide health referral line.

STRATEGIES:

- Implement an expanded, countywide telephonic dental referral line system to serve individuals of all ages and populations.

- Increase access to oral health education and preventive services in schools and other community settings. Coordinate efforts to link children and high-risk populations to a dental home.

- Support innovative approaches for delivering dental services to increase access and utilization (e.g. service integration, mobile dental units, Tele-dentistry).

ORAL HEALTH EDUCATION AND PUBLIC AWARENESS

GOAL: Increase the community's knowledge of recommended preventive oral health practices and awareness of available dental insurance benefits.

Oral health promotion efforts will significantly increase both by implementing a community-wide oral health public awareness campaign and thorough targeted oral health messaging that is culturally and linguistically appropriate. This education campaign will increase awareness of the importance of oral health and good oral health practices, as well as Medi-Cal dental benefits and other resources, ultimately empowering individuals in Orange County to make healthy choices and achieve optimal oral health.

STRATEGIES:

- Develop and implement a community-wide oral health public awareness campaign.
- Develop and implement targeted oral health messages to underserved populations.
- Partner with community organizations to increase awareness about Denti-Cal and other individual dental benefits for all eligible consumer populations to increase utilization of dental services.
- Support opportunities to engage and train community members to be oral health educators and advocates.

INTEGRATION OF DENTAL AND MEDICAL CARE

GOAL: Promote integration of dental and medical care.

Integrating oral health education and services into primary care visits has shown to significantly improve oral health and utilization of dental services. By working with provider networks and safety-net clinics, providers will be trained and supported to incorporate oral health education and services into well-child and other patient visits. Provider training and innovative practices can address barriers such as understanding Denti-Cal reimbursement and sharing of data. Dental providers will be trained and encouraged to incorporate smoking cessation and other protective health behaviors into their patient visits.

STRATEGIES:

- Organize a stakeholder workgroup focused on integrating medical and dental care/services.
- Encourage incorporation of dental services within the medical safety net (e.g. FQHCs, FQHC look-alikes, free clinics).
- Inform and support medical providers, through provider networks such as CHDP, to incorporate oral health preventive services into well-child visits, including reimbursement opportunities.
- Explore opportunities with medical provider networks to integrate oral health education into primary care.
- Explore stakeholder partnerships to pilot innovative approaches to promote the integration of medical and dental services (e.g. electronic health records and data sharing).
- Encourage and enable dental providers to counsel patients about tobacco cessation, HPV vaccinations, and other protective oral health behaviors.

DENTAL WORKFORCE

GOAL: Increase the capacity of the dental workforce to serve the diverse needs of Orange County residents.

As in many other counties in California, Orange County faces a shortage of dental providers, particularly to serve the low-income population, individuals insured through Medi-Cal, those with special health care needs, very young children, and older adults. Training and resources will be developed and provided to support the County's dental workforce in serving its diverse population. Resources will be developed based on needs identified by community dental providers and clinics. New and innovative approaches will also be explored to develop, expand and diversify the County's oral health workforce capacity.

STRATEGIES:

- Expand training of oral health providers on topics related to providing care to specific underserved populations.
- Develop and share resources with new and potential Denti-Cal providers regarding billing, logistics, and program updates.
- Explore potential of expanded capacity through allied/alternative models of workforce (RDAs, RDHs, RDHAPs, care coordinators, etc.).
- Support health profession pipeline programs (e.g. Pathways programs) to increase diversity of the county's dental workforce.

DATA AND EVALUATION

GOAL: Develop and implement a County oral health assessment and evaluation plan.

To inform this strategic planning process, a thorough needs assessment was conducted to assess oral health care needs of Orange County residents and specific populations of interest. Data collection will continue during implementation of this plan. Regular and systematic data collection and evaluation is integral to understanding progress made over time. This will also help determine effectiveness of programs, make necessary modifications and develop new strategies and initiatives to achieve optimal oral health for all Orange County residents.

STRATEGIES:

- Conduct and periodically update a countywide oral health needs assessment.
- Conduct ongoing evaluation to assess progress and inform program improvements.
- Formulate and implement a plan for ongoing data collection and evaluation.

COORDINATION OF COUNTYWIDE EFFORTS

GOAL: Develop County infrastructure to support the implementation of this plan

Developing infrastructure to coordinate and communicate progress during implementation is critical to the success of this strategic plan. Coordination of countywide efforts will also support the identification and promotion of best practices and resources. Supporting systems change by educating decision-makers about innovative solutions and policies will help sustain and institutionalize the impact of strategies outlined in this plan.

STRATEGIES:

- Formalize the infrastructure and leadership of the oral health collaborative as a planning body and convener to support the implementation and progress of this plan.
- Develop and implement a communication plan to disseminate information regarding high priority oral health needs and the countywide strategic plan.
- Identify and promote new and existing oral health best practices and resources across Orange County.
- Work with stakeholders to inform and educate decision makers about oral health needs and innovative solutions and policies (e.g. factsheets, briefings).

ACKNOWLEDGEMENTS AND PARTNERS

Thank you to the following organizations and entities for your contributions through participation in the Orange County Oral Health Collaborative, needs assessment, strategic planning steering committee and planning retreat. Your contributions were invaluable in developing this plan.

- AMERICA'S TOOTH FAIRY
- ANAHEIM REGIONAL MEDICAL CENTER
- BURKE CONSULTING
- CALOPTIMA
- THE CAMBODIAN FAMILY COMMUNITY CENTER
- CAMINO HEALTH CENTER
- CENTRAL CITY HEALTH CENTER
- CHAPMAN UNIVERSITY
- CHILDREN AND FAMILIES COMMISSION OF ORANGE COUNTY
- CHILDREN'S HOSPITAL OF ORANGE COUNTY
- COALITION OF ORANGE COUNTY COMMUNITY HEALTH CENTERS
- COMMUNITY ACTION PARTNERSHIP OF ORANGE COUNTY
- EL MODENA FAMILY RESOURCE CENTER
- GOLDEN AGE DENTAL CARE
- HEALTHY SMILES FOR KIDS
- LIVINGSTONE FREE CLINIC
- MOMS ORANGE COUNTY
- ORANGE COUNTY AGING SERVICES COLLABORATIVE
- ORANGE COUNTY HEAD START
- ORANGE COUNTY HEALTH CARE AGENCY
- ORANGE COUNTY SOCIAL SERVICE AGENCY
- PUBLIC HEALTH FOUNDATION ENTERPRISES WOMEN, INFANTS, & CHILDREN
- RADIANT HEALTH CENTERS
- REGIONAL CENTER OF ORANGE COUNTY
- SENIOR HEALTH OUTREACH AND PREVENTION PROGRAM
- SENIOR CITIZEN ADVISORY COUNCIL OF ORANGE COUNTY
- SHARE OUR SELVES COMMUNITY HEALTH CENTER
- ST. JOSEPH MEDICAL CENTER
- ST. JUDE'S NEIGHBORHOOD HEALTH CENTER
- UNIVERSITY OF CALIFORNIA, IRVINE
- WEST COAST UNIVERSITY – ANAHEIM
- WESTERN UNIVERSITY COLLEGE OF DENTAL MEDICINE

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APPENDIX

A. Glossary of terms

Best Practice:
The best clinical or administrative approach at the moment, given the situation, the patient's or community's needs and desires, the evidence about what works for this situation/need/desire, and the resources available.

California Department of Public Health:
Organization within the state of California that works to protect the public's health and helps shape positive health outcomes for individuals, families and communities by offering programs and services, implementing collaboration with local health departments, and state, federal and private partners. Responsibilities include: infectious disease control and prevention, food safety, environmental health, lab services, patient safety, emergency preparedness, chronic disease prevention, and health promotion, family health, health equity and vital records and statistics.

Caries (tooth decay or cavities):
A multi-factorial infectious disease that results in the destruction of the tooth structure by demineralization and ultimately cavitation of the tooth surface if left untreated. It is the most common childhood disease, and yet highly preventable.

Caries Experience:
Any current or past evidence of having dental caries as defined by having at least one decayed, extracted/missing or filled tooth due to caries.

Case Management/Care Coordination:
A collaborative process of assessment, planning, facilitation, care coordination, evaluation, and advocacy for options and services to meet an individual's and family's comprehensive health needs through communication and available resources to promote quality, cost-effective outcomes.

Child Health and Disability Prevention Program (CHDP):
CHDP provides complete health assessments for the early detection and prevention of disease and disabilities for low-income children and youth. A health assessment consists of a health history, physical examination, developmental assessment, nutritional assessment, dental assessment, vision and hearing tests, a tuberculin test, laboratory tests, immunizations, health education/ anticipatory guidance, and referral for any needed diagnosis and treatment. The CHDP Program oversees the screening and follow-up components of the federally mandated Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program for Medi-Cal eligible children and youth. The California law requires that a child is referred to a dentist beginning at age 1 for routine dental care.

Community Health Centers:
Non-profit health centers embedded within the community that serve as the primary medical and/or dental home for medically underserved (e.g. low-income, uninsured) children and adults by providing accessible, affordable, and comprehensive quality healthcare services.

Community Water Fluoridation:
The process of adjusting the amount of fluoride found in drinking water to achieve optimal prevention of tooth decay. Cost-effective way to provide frequent and consistent contact with low levels of fluoride which helps keep teeth strong and reduces cavities/tooth decay by about 25%, and recommended by numerous public health, medical, and dental organization. Fluoride is a naturally occurring mineral released from rock which helps rebuild and strengthen the tooth's surface resulting in: fewer cavities, less severe cavities, less need for fillings and removing teeth, and less pain and suffering because of tooth decay.

Dental Sealants:
A thin, protective coating made from plastic or other dental materials that adhere to the chewing surface of the molars which keeps food out and stops bacteria and acid from settling on the teeth which can keep cavities from forming and reduce the risk of decay by nearly 80%.

Dental Transformation Initiative:
A critical mechanism to improve dental health for Medi-Cal children by focusing on high-value care, improved access, and utilization of performance measures to drive delivery system reform. This strategy aims to increase the use of preventive dental services for children, prevent and treat more early childhood caries, and increase continuity of care for children. Denti-Cal: The California Medi-Cal Dental Program which offer free or low-cost health care for eligible California residents and covers many services related to dental care.

Dentist:
An individual who is skilled and licensed to practice the prevention, diagnosis, and treatment of diseases, injuries, malformations, of the teeth, jaws, and mouth and make makes and inserts false teeth.

Evidence-based practices:
The conscientious, explicit, and judicious use of current best evidence in making decisions about the care of the individual patient by integrating individual clinical expertise with the best available external clinical evidence from systemic research and sound methodology.

Evidence-informed practices:
Use of evidence to identify the potential benefits, harms, and costs of any intervention while acknowledging that what works in one context may not be appropriate or feasible in another; brings local experience and expertise with the best available evidence from research.

Federally Qualified Health Centers or "FQHCs":
All organizations receiving grants under Section 330 of the Public Health Service Act (PHS). FQHCs qualify for enhanced reimbursement from Medicare and Medicaid, as well as other benefits. FQHCs must serve an underserved service area or population, offer a sliding fee scale, provide comprehensive service, have an ongoing quality assurance program, and have a governing board of directors. Fluoride Varnish (FV): A thin coating of fluoride that is applied to tooth surfaces to prevent or stop decay. It has been proven effective in infants and children at high-risk of decay.

Guide to Community Preventive Services:
A collection of evidence-based findings of the Community Preventive Services Task Force (CPSTF). It is a resource to help select interventions to improve health and prevent disease in one's state, community, community organization, business, health care organization, or school. All intervention approaches are intended to improve health directly; prevent or reduce risky behaviors, disease, injuries, complications, or detrimental environmental or social factors, or promote healthy behaviors and environments. Head Start: A national program that promotes school readiness by enhancing the social and cognitive development of children through the provision of educational, health, nutritional, social and other services to enrolled children and families.

HP 2020 or Healthy People 2020:
A comprehensive document of national health-related goals and objectives, published every 10 years by the U.S. Department of Health and Human Services that identify national health targets for that decade, encourage collaborations across sectors, measure the impact of prevention activity, and guide individuals toward making informed health decisions. Oral health is included in these goals and objectives. www.healthypeople.gov/2020/topicsobjectives2020/

Indicator:
A quantitative or qualitative expression of a program or policy that offers a consistent way to measure progress toward the stated targets and goals. The data we will measure to determine if we have achieved our result.

Individuals with Intellectual and Developmental Disabilities:
Persons with disorders usually present at birth and that negatively affect the trajectory of that individual's physical, intellectual, and/or emotional development. Characterized by problems with their: ability to learn, problem solve, and adaptive behaviors related to everyday social and life skills

Individuals with Special Health Care Needs:
Persons with any impairments or limiting conditions including physical, developmental, mental, sensory, behavioral, cognitive, or emotional that requires medical management, health care intervention, and/or use of specialized services or programs.

Local Dental Pilot Project:
Part of the Dental Transformation Initiative with goals to increase dental prevention; caries risk assessment and disease management, and continuity of care among Medi-Cal children by LDPP innovative pilot projects through alternative programs, potentially using strategies focused on urban or rural areas, care models, delivery systems, workforce, local case management initiatives, and/or education.

Local Oral Health Program:
Programs working in alignment to the California Oral Health Plan within counties with the goal to create and expand capacity at the local level to educate, prevent, and provide linkages to treatment programs, including dental disease caused by the use of cigarettes and other tobacco products. Will include program activities related to oral health in their communities: education, disease prevention, linkage to treatment, case management, and surveillance to improve the oral health of Californians.

Medi-Cal:
A public program that offers free or low-cost health coverage for children and adults with limited income and resources covering low-income adults, families with children, seniors, persons with disabilities, pregnant women, children in foster care, and former foster youth up to age 26.

Objective:
Something that one's efforts or actions are intended to attain or accomplish; purpose, goal, or target. Objectives define strategies or implementation steps to attain the identified goals. Unlike goals, objectives are specific, measurable, and have a defined completion date. They are more specific and outline the "who, what, when, where, and how" of reaching the goals.

Orange County Health Care Agency:
An entity within Orange County, charged with protecting and promoting individual, family, and community health through coordination of public and private sector resources with goals to: 1) prevent disease and disability, and promote healthy lifestyles 2) assure access to quality health care services 3) promote and ensure a healthful environment 4) recommend and implement health policy and services based upon assessment of community health needs.

Orange County Health Improvement Partnership:
A community-wide initiative that aligns public and private resources within the public health system to improve health for all communities in Orange County. The partnership is charged with doing the following to fulfill the vision of an optimal public health system: 1) community health assessments 2) community health plans 3) coordination and collaboration 4) capacity building and 5) leadership.

Outcome:
The result of implementing the plan, as experienced by the population.
Periodontal Disease: An inflammatory disease that affects the soft and hard structures that support the teeth. In its early stage, called gingivitis, the gums become swollen and red due to inflammation, which is the body's natural response to the presence of harmful bacteria.

Preventive Dental Service:
Oral care that involves education, treatment, and practices of maintain your teeth and gum through daily brushing and annual dental cleanings; exams that detect for potential dental decay.

Primary Care Provider or Physician (PCP):
A physician, nurse practitioners, clinical nurse specialist or physician assistant, as allowed under state law, who provides, coordinates, or helps a patient access a range of health care services.
Registered Dental Hygienist (RDH):
A licensed dental professional, registered with a dental association or regulatory body whose primary concern is nonsurgical periodontal therapy, maintenance of dental health, and prevention of oral disease as well as patient education.

Registered Dental Hygienist in Alternate Practice (RDHAP):
A licensed registered dental hygienist with specialized training that holds a specific license to allow them to practice in settings outside of the traditional dental office including: schools, skilled nursing facilities, hospitals, private homes, and in some instance their own offices.

Screening (dental):
A physical examination of a child's mouth with the purpose to identify whether the individual can benefit from dental treatment, and to identify if there are any problems which may need a closer look in the dental office.

Social Determinants of Health:
The conditions in the environments in which people are born, live, grow, learn, work play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks.

State Oral Health Plan:
A roadmap for accomplishing the goal and objectives that have been developed in collaboration with partners and stakeholders, including the state oral health coalition, and members from the public health, dental, and medical communities; used to direct skilled personnel and funding decision to reduce the prevalence of oral disease.
Tooth Loss: The process in which one or more teeth are lost permanently. Can be the result injury or disease such as dental avulsion, tooth decay, gum disease or injury; normal for deciduous teeth (baby teeth).

U.S. Community Preventive Services Task Force:
An independent, nonfederal panel of public health and prevention experts that provides evidence-based findings and recommendations about community preventive services, programs, and other interventions aimed at improving population health; members represent a broad range of research, practice, and policy expertise in community preventive services, public health, health promotion, and disease prevention.

Virtual Dental Home:
The Virtual Dental Home (VDH) is a newly developed system of care that proposes to provide all the essential ingredients of a "dental home," which means it focuses on creating oral health, but does so using geographically distributed telehealth-connected teams. It emphasizes prevention and early intervention services in those settings, and links and expands the involvement of dental offices and clinics with those groups and in those settings.

Women, Infants and Children (WIC):
The Special Supplemental Nutrition Program for Women, Infants, and Children - better known as the WIC Program - serves to safeguard the health of low-income pregnant, postpartum, and breastfeeding women, infants, and children up to age 5 who are at nutritional risk by providing nutritious foods to supplement diets, information on healthy eating including breastfeeding promotion and support, and referrals to health care; 50-60% of newborns in California are eligible for this program www.fns.usda.gov/wic/aboutwic/.

B. NEEDS ASSESSMENT SUMMARY

Prevalence of Dental Disease in Children

While prevalence of untreated tooth decay has declined among children in Orange County, many children still suffer from dental disease and disparities persist, affirming the need to focus on early prevention.

WHY IS THIS IMPORTANT?

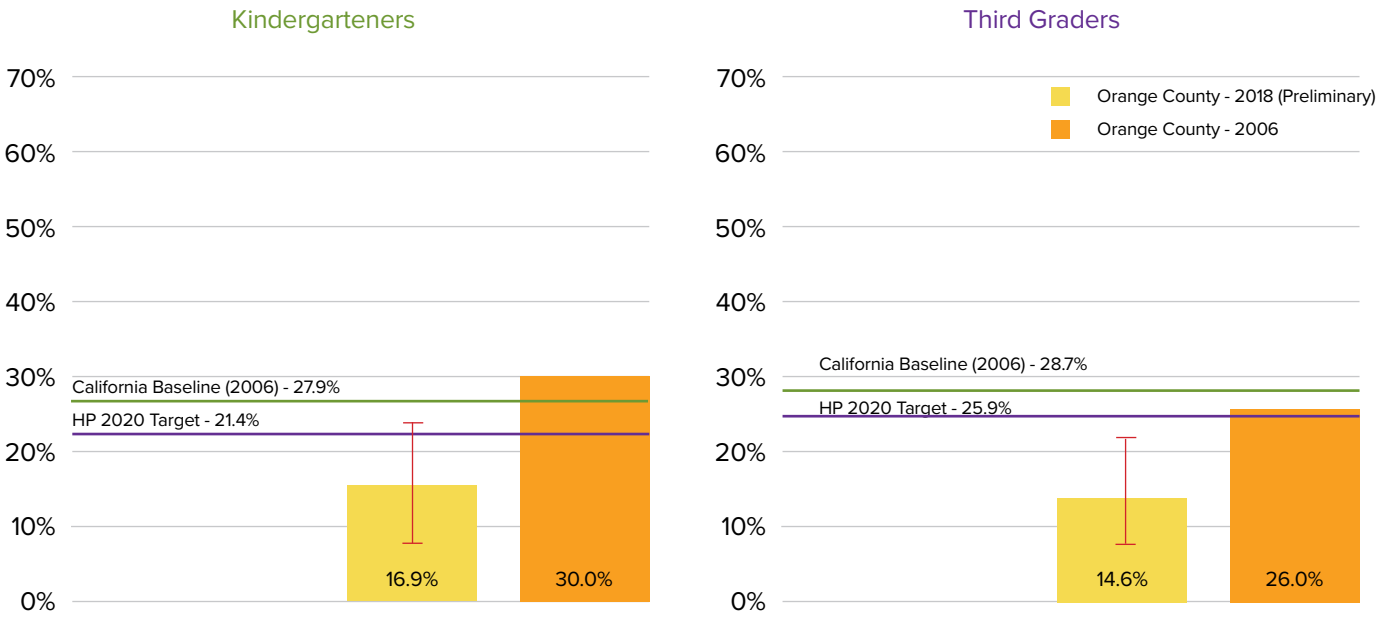
Tooth decay is preventable, yet nationally, it is the most common chronic disease of children – 5 times more common than asthma[1]. Left untreated, tooth decay can result in unnecessary complications like pain, infection and swelling, impact school readiness and performance, and negatively affect nutrition, sleep and overall well-being[2, 3]. One study concluded that students with a toothache in the last 6 months were four times more likely to have a lower grade point average than their healthier counterparts[3]. In California, one in three children has tooth decay by the time he/she reaches third grade[4]. Recent national data show that although tooth decay has declined significantly among children, disparities by race/ ethnicity persist[5]. Reducing the prevalence of tooth decay in children is a Healthy People 2020 objective. Dental disease and lack of prevention thereof, also comes with significant economic burdens both to individuals and communities. In California, the estimated cost of emergency room visits for preventable and non-traumatic dental conditions was nearly $55 million in the year 2007[6]. One California study showed that students' absences due to dental problems cost schools districts about $29.7 million annually[7]. With timely access to age-appropriate preventive measures, burden of tooth decay can be minimized.

FINDINGS:

- Most recent preliminary data show that 16.9% kindergarteners and 14.9% third graders in Orange County's Public Schools suffer from untreated tooth decay. Although these data are still preliminary, it is apparent that there has been a favorable decline in the prevalence of tooth decay since 2006 (30.0% among kindergarteners and 26.0% among third graders).
- Tooth decay experience, although lower than 2006, continues to be higher than national Healthy People 2020 targets. Nearly half the kindergarteners (47.2%) in Orange County have experienced tooth decay (defined by the presence of tooth decay that has been treated or is still untreated). More than half the third graders (55.3%) also have tooth decay experience.
- In summary, while fewer children compared to previous years have untreated tooth decay, many are still entering the public-school system having had tooth decay that was treated. To achieve better population oral health outcomes as it relates to tooth decay among children, early prevention (as early as a child's first birthday) is key.
- A significant proportion of children still experience some tooth decay (treated and untreated combined). Nearly half the children entering Kindergarten had experienced tooth decay.
- One in five children (0-5 year old) in Orange County's Head Start or Early Head Start programs needed dental treatment.
- Between 2012 and 2016, of all children who visited Emergency Departments for preventable and non-traumatic dental conditions, rates were highest among one of the County's youngest children aged 1 to 2 years (282.4 per 100,000). Second highest were visits by 3 to 5 year-olds at the rate of 186.7 per 100,000. These rates were lower than California average but are 100% avoidable.
- Disparities persist. National data from 2016 show that while tooth decay is declining overall, Hispanic/Latino, Black/African-American and Asian children have higher rates of disease.

NOTE: Data for prevalence of tooth decay by race/ethnicity and poverty status is being collected and will be published in a separate document.

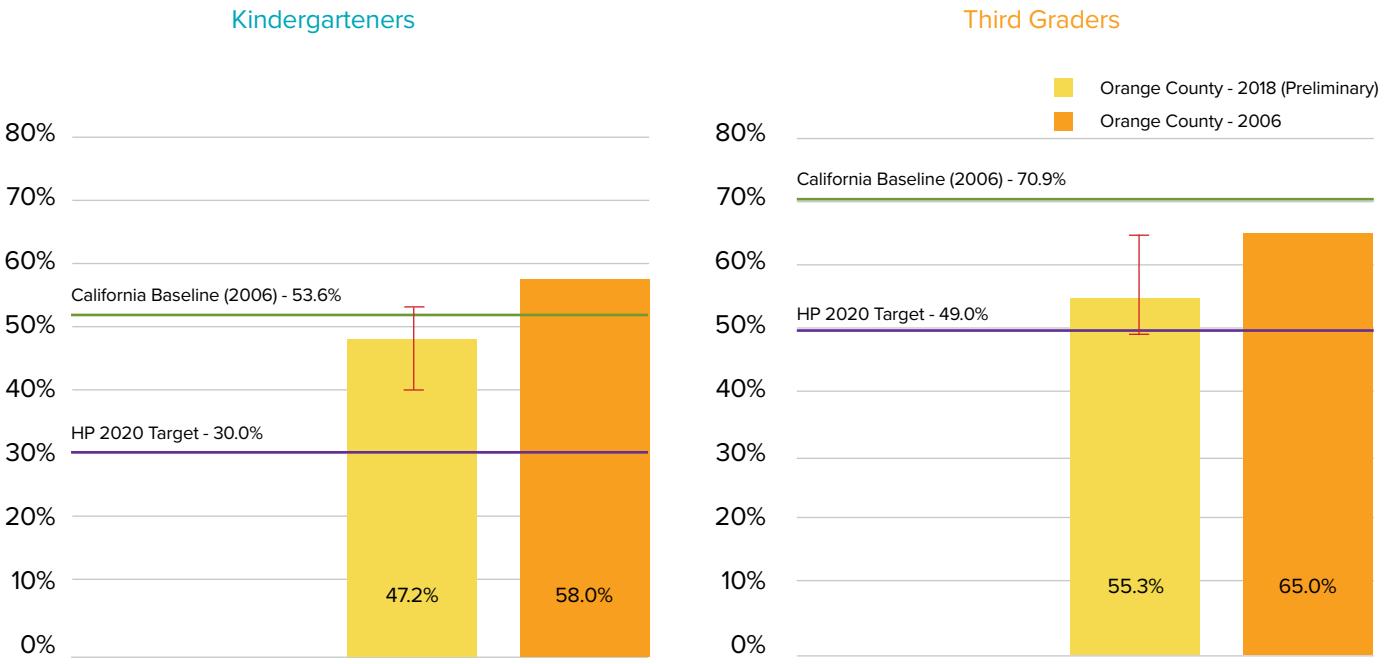
Percent of Kindergarten and Third Grade Students with Untreated Tooth Decay, Orange County, 2006 and 2018.



Note: Orange County data for 2018 is preliminary and estimates are calculated with 90% confidence. Data collection is ongoing and results with 95% confidence limits will be published in a separate document before June 2019.

Source: Orange County Basic Screening Survey, 2018-19. Orange County Health Care Agency and Center for Oral Health; California Smile Survey, 2006.

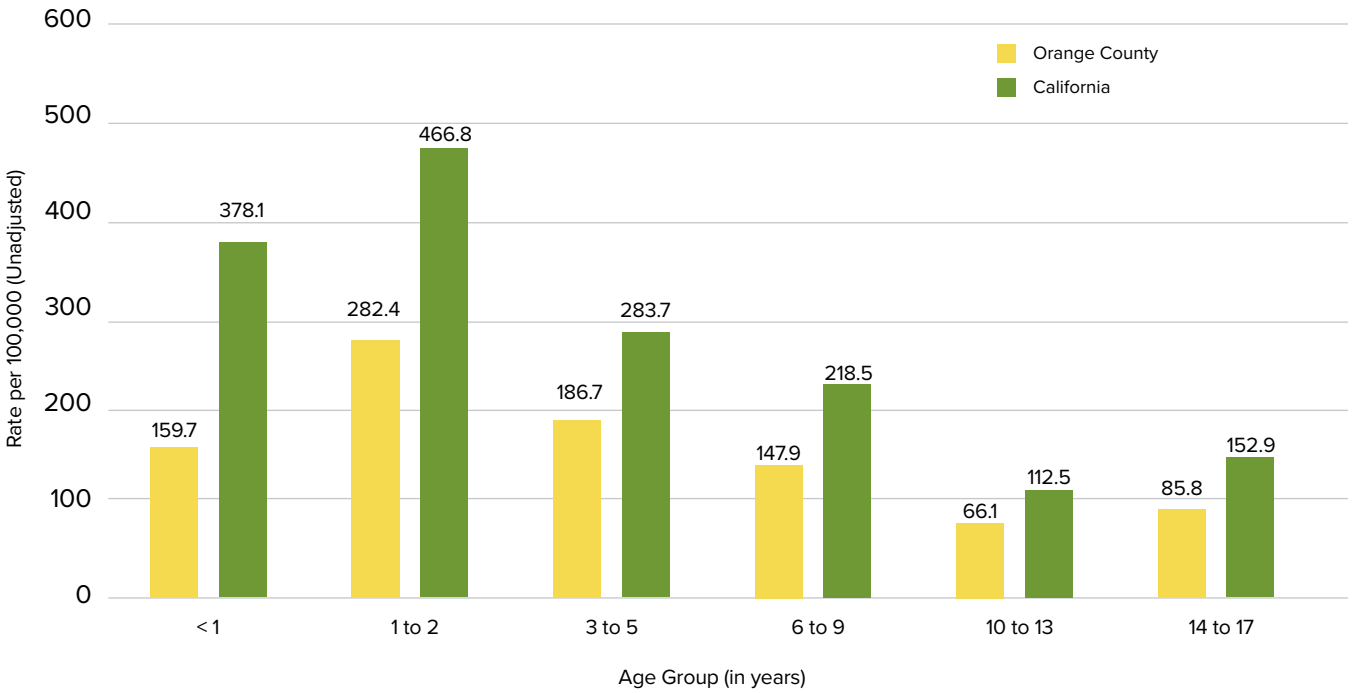
Percent of Kindergarten and Third Grade Students who have ever Experienced Tooth Decay (Prevalent Untreated and/or Treated Tooth Decay), Orange County, 2006 and 2018.



Note: Orange County data for 2018 is preliminary and estimates are calculated with 90% confidence. Data collection is ongoing and results with 95% confidence limits will be published in a separate document before June 2019.

Source: Orange County Basic Screening Survey, 2018-19. Orange County Health Care Agency and Center for Oral Health; California Smile Survey, 2006.

Non-Traumatic Dental Conditions (NTDC) related Emergency Department (ED) Visits by Children, Orange County and California, by Age Group, 2012-2016



Note: The Office of Statewide Health Planning and Development (OSHPD) collect data about each emergency department (ED) visit from all hospitals in California. Each visit is given a code based on the International Classification of Diseases (ICD). These codes can be utilized to identify non-traumatic dental conditions (NTDC) that are seen in the emergency room. During 2015, hospitals in the United States switched from using the ninth edition of ICD (ICD-9) to the 10th edition (ICD-10). The ASTDD reference below consists of a list of codes and their associated descriptions used to define NTDCs. NTDCs range from caries, periodontal disease, erosion, cysts, impacted teeth and all other non-traumatic conditions in the mouth. Damage to the mouth that is deemed to be due to trauma is excluded from this list.

Data come from the OSHPD 2012-2016 Emergency Department files. Population estimates for Orange County came from the California Department of Finance. The rate of NTDCs do not exclude visits from the same person coming multiple times. These rates are not age-adjusted.

Source: Office of Statewide Health Planning and Development; California Department of Public Health – Office of Oral Health.

1. Dye BA, Li X, Beltrán-Aguilar ED. Selected oral health indicators in the United States, 2005-2008. NCHS Data Brief. 2012;(96):1-8. http://www.cdc.gov/nchs/data/databriefs/db96.pdf. Accessed September 14, 2016
2. Jackson SL, Vann WF Jr, Kotch JB, Pahel BT, Lee JY. Impact of poor oral health on children's school attendance and performance. Am J Public Health. 2011;101(10):1900-1906.
3. Pourat N, Nicholson G. Unaffordable 3.Dental Care Is Linked to Frequent School Absences. UCLA: Center for Health Policy Research. 2009; Available at https://escholarship.org/uc/item/14g1w8s7.
4. Dental Health Foundation. Mommy It Hurts to Chew. 2006; Available at https://centerfororalhealth.org/wp-content/uploads/2018/02/Mommy-It-Hurts-To-Chew.compressed.pdf
5. Fleming E., Afful J. Prevalence of Total and Untreated Dental Caries Among Youth: United States, 2015–2016. NCHS data brief. 2018;(307), 1-
6. California Health Care Foundation. Emergency Department Visits for Preventable Dental Conditions in California. 2009; Available at https://www.chcf.org/wp-content/uploads/2017/12/PDF-EDUseDentalConditions.pdf.
7. Seirawan H, Faust S, Mulligan R. The Impact of Oral Health on the Academic Performance of Disadvantaged Children. American Journal of Public Health. 2012;102(9):1729-1734.

Utilization of Dental Services by Children

Utilization of dental services by the Medi-Cal child population is low and varies significantly by age, with Orange County's youngest and oldest children utilizing services at a rate lower than their counterparts. Utilization of services by Medi-Cal eligible children is higher than California average but falls short of statewide targets.

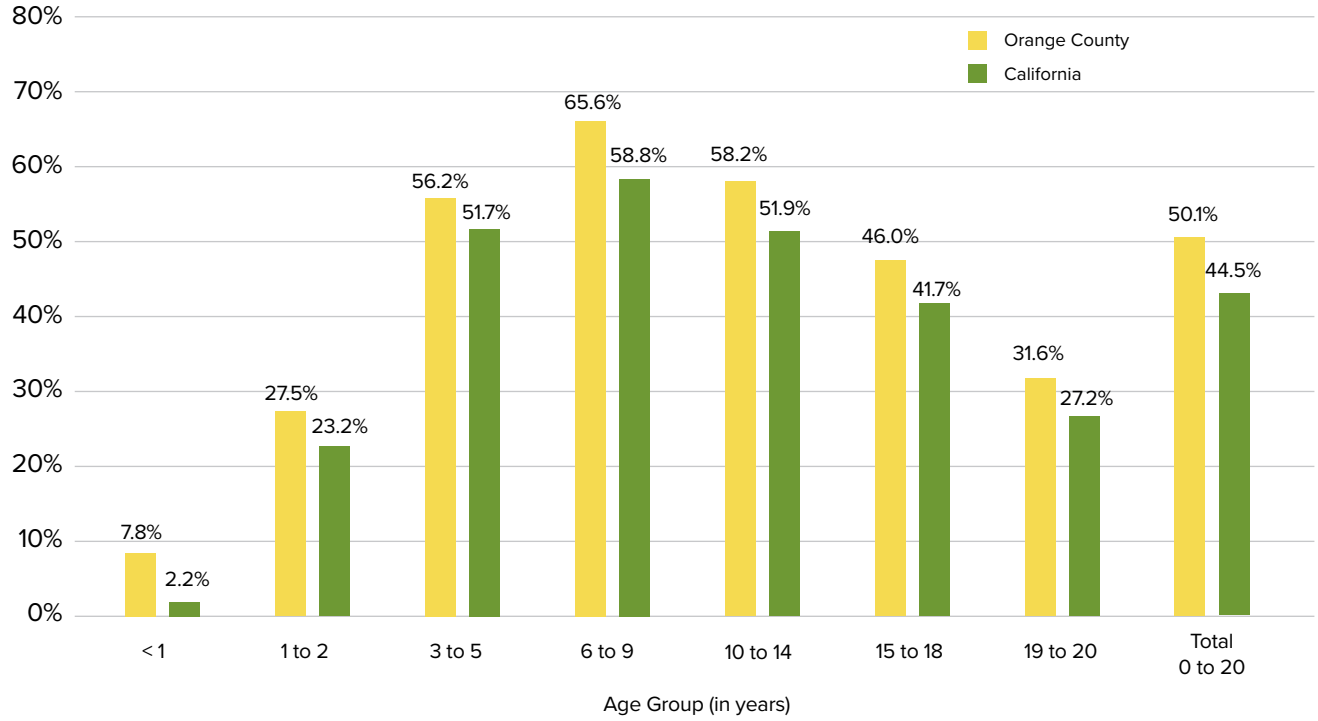
WHY IS THIS IMPORTANT?

Utilization of dental services is an important indicator of access to dental care and timely receipt of age-appropriate services. The AAPD recommends that parents and other care providers help every child establish a dental home by 12 months of age[1]. The AAPD also recommends that a child should be seen by a dentist every 6 months or according to a schedule recommended by the dentist based on the child's individual needs and risk of disease[1]. Preventive services like risk-based fluoride supplementation (e.g. Fluoride Varnish) and placement of dental sealants on permanent molar (back) teeth are proven methods for preventing tooth decay that a dental professional can provide to children. Annual dental visits and regular exams also ensure early detection and treatment of tooth decay, which can otherwise go unnoticed until it is too late causing pain and infection. Children insured through Medi-Cal have full dental benefits through the Medi-Cal dental program commonly called Denti-Cal. Utilization of dental services by Medi-Cal eligible children is a key indicator of access to dental care for Orange County's underserved and low-income communities. Increasing the rate of utilization of dental services by children is also a Healthy People 2020 objective.

KEY FINDINGS:

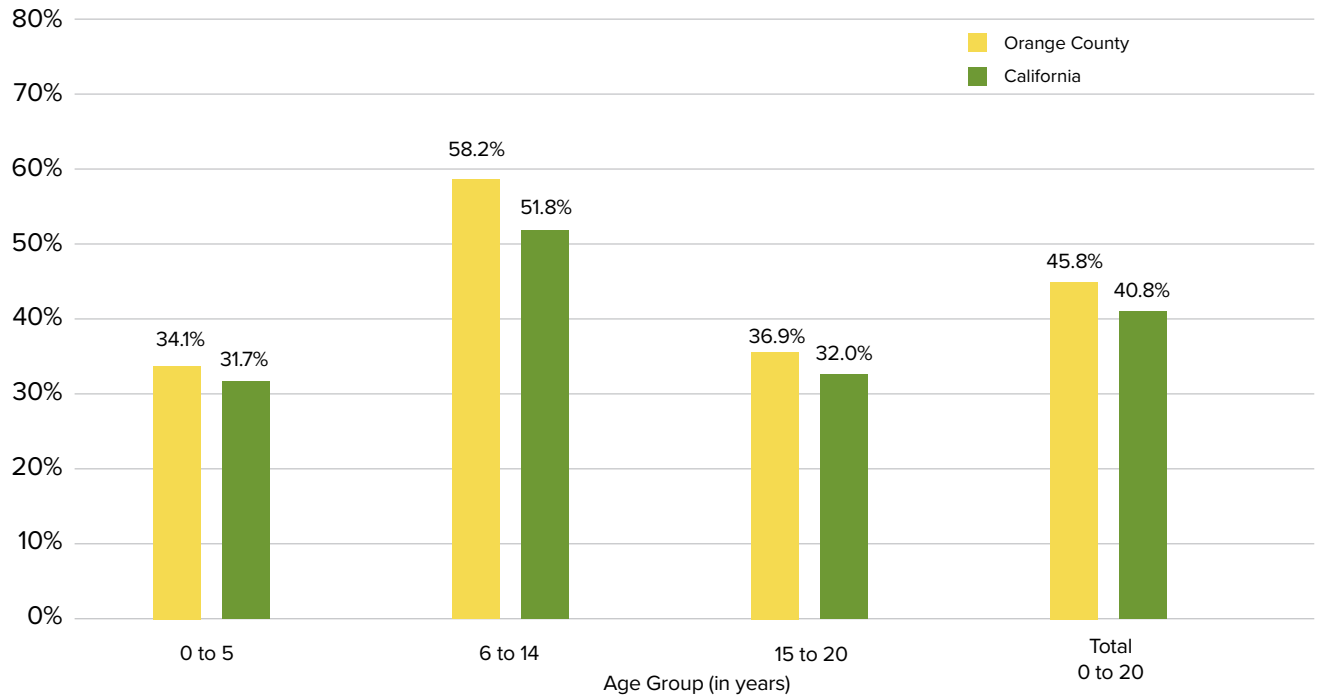
- Only one in two children (50.1%) children had a dental visit during the past year per 2016 data, although annual visits are recommended for all children.
- Only 27.5% of children 1 to 2 years of age had a dental visit during the past year.
- Less than half (45.8%) the Medi-Cal eligible children received a preventive dental service during the past year according to 2016 data. Utilization of preventive services was much lower among 0 to 5 year-old children at 34.7%.
- Utilization rates for annual dental visits (at least one visit during the past year for any eligible service) are highest among 6-9 years old children (65.6%) followed by 10-14 years (58.2%) and 3-5 years (56.2%) old children.
- Utilization rates are lowest among Orange County's youngest and oldest Medi-Cal eligible children.
- Across each age group and overall, Medi-Cal children in Orange County fare better than California average, in utilization of dental services.
- Utilization of services by Medi-Cal eligible children has declined slightly over the years from 51.0% in 2013 to 50.2% in 2016 for annual dental visits and from 46.2% in 2013 to 45.8% in 2016 for preventive dental visits. Utilization rates for dental sealants by children ages 6 to 14 has declined from 17.7% to 14.3%.
- The primary reason for non-utilization of dental services by children 0-5 years of age, as reported by parent/guardian was cost (although Medi-Cal covers all dental services) followed by not having a dentist/difficulty finding one among 6-18-year olds.

Percent of Medi-Cal Eligible Children (0-20 years of age) who had a Dental Visit during the Past Year, Orange County and California, by Age Group, 2016



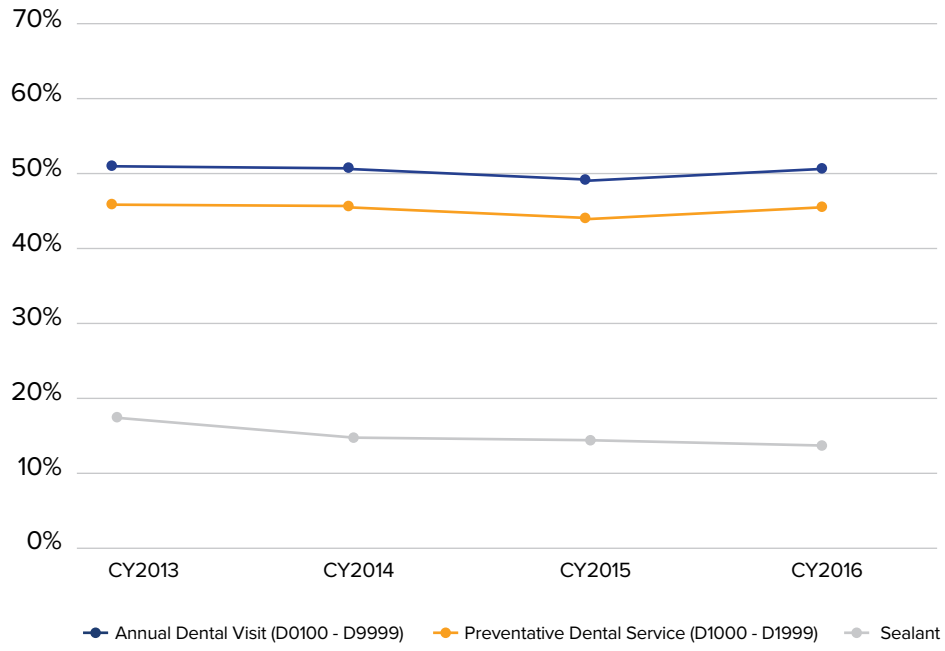
Note: Data presents rate of utilization of dental services as measured by an Annual Dental Visit (ADV). Annual Dental Visit is defined by yearly dental visit to a dental provider that results in the receipt of a dental service in the range of codes D0100-D9999..

Percent of Medi-Cal Eligible Children (0-20 years of age) who had a Preventive Dental Visit during the Past Year, Orange County and California, by Age Group, 2016

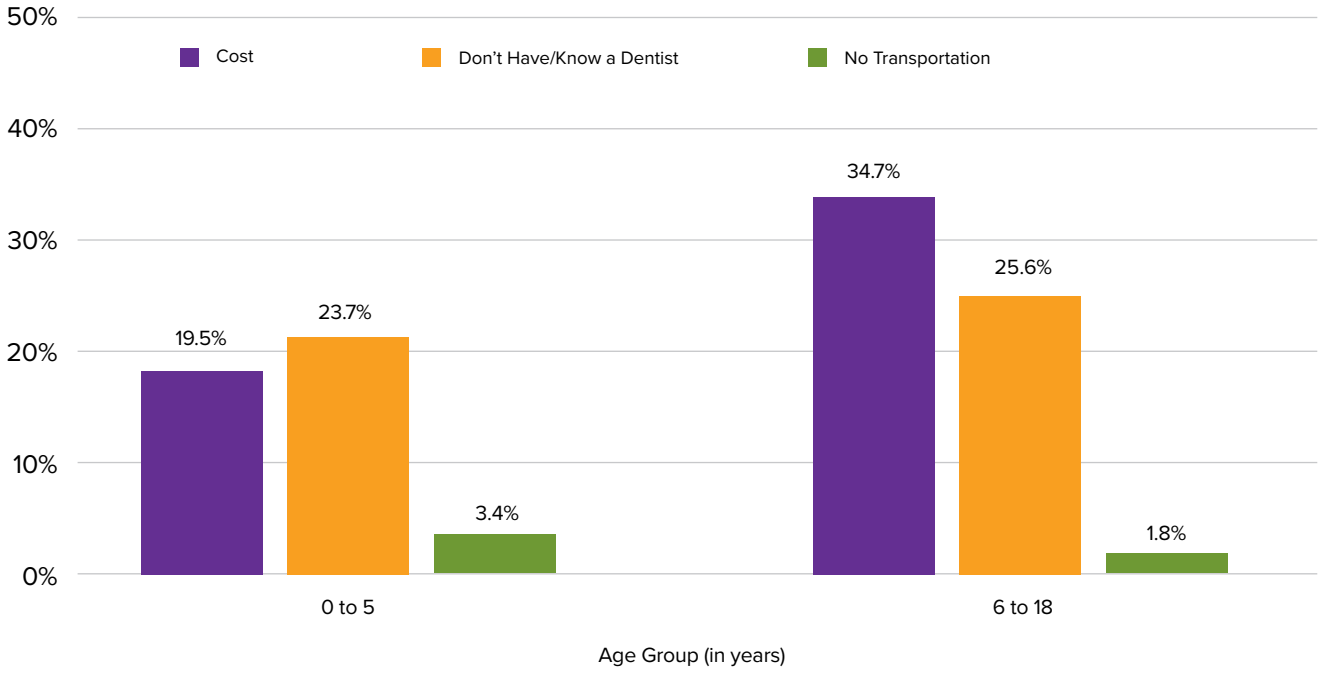


Note: Data presents rate of utilization of dental services as measured by a Preventive Dental Visit (PDV). A Preventive Dental Visit is one that results in the receipt of a preventive service that lies within the codes D1000-D1999. For example, D1206- Topical application of fluoride varnish or D1351- Sealant per tooth.

Utilization of Dental Services by Medi-Cal Eligible Children (0-20 years of age), Orange County, 2013-2016



CalOptima Members' Reasons for Not Seeing a Dentist during the Past 12 Months, Orange County, 2017.



NOTE: Data represents members of CalOptima, Orange County' Medi-Cal Managed Care Plan.

Source: CalOptima Member Health Needs Assessment.

1. American Academy of Pediatric Dentistry Council on Clinical Affairs. Policy on the dental home. Pediatr Dent. 2015;37(6) (Reference Manual):24-25

Oral Health Status of Pregnant Women

Low-income pregnant women constitute an underserved population that faces barriers in utilizing dental services during pregnancy and has limited access to information about oral health practices and resources.

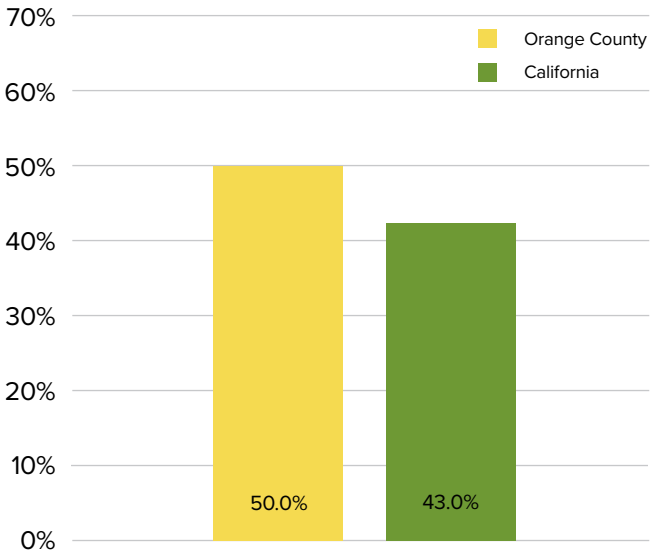
WHY IS THIS IMPORTANT?

Pregnancy is characterized by unique and complex physiological changes, which may also adversely affect oral health. Poor maternal oral health has also been shown to elevate the risk of pregnancy complications and adverse birth outcomes like pre-eclampsia, pre-term birth, and low birth-weight infants[1]. Professionally delivered dental services are safe throughout pregnancy and benefits outweigh risks by a wide margin. In 2013, The American College of Obstetricians and Gynecologists (ACOG) concluded that "ample evidence shows that oral health care during pregnancy is safe and should be recommended to improve the oral and general health of the woman"[2, 3]. Yet, more than half the women do not visit a dentist during pregnancy in California. Oral health care during pregnancy not only protects the mother but also extends to her child and family. Research has shown that woman's oral health status during pregnancy is a good predictor of her future child's risk for developing dental caries[4]. Pregnancy is an opportune time to not only address a woman's oral health but also promote good oral health practices for her newborn child. This approach is a great example of upstream approaches to population-level dental disease prevention. In addition to dental providers, health professionals like physicians, nurses and midwives can also play a critical role in promoting good oral health practices among pregnant women. California data show that women whose healthcare providers recommended a dental visit during pregnancy are nearly twice as likely to have dental care as women who did not get this recommendation[5].

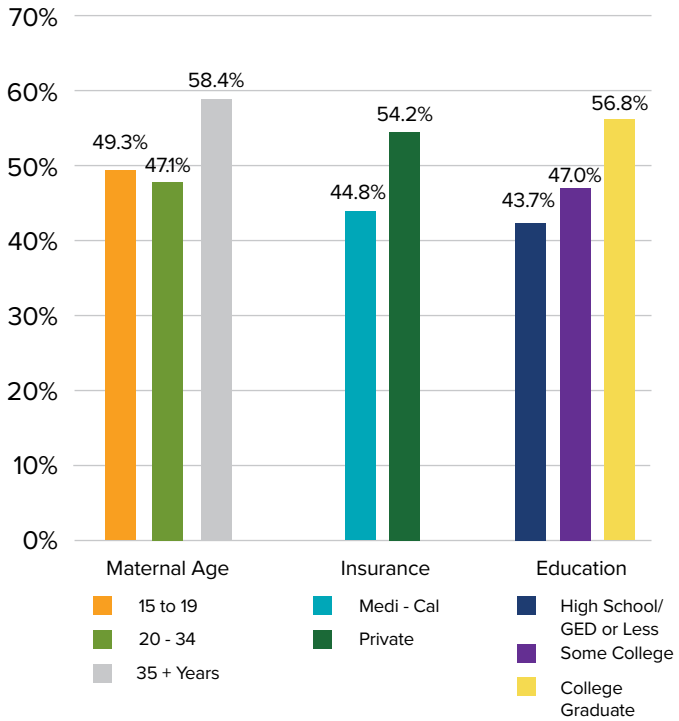
KEY FINDINGS:

- Only half the pregnant women (50.0%) in Orange County reported receiving any dental care during pregnancy.
- Rate of utilization of dental services by pregnant women in Orange County is significantly higher than California average (43.0%).
- Maternal age, insurance status and educational attainment predict a woman's utilization of dental services during pregnancy.
- In Orange County, younger women (47.1% for 20 to 34-year-old women) were less likely than their older counterparts (58.4% for women 35 years and older) to visit a dental professional during pregnancy.
- Women with private insurance (54.2%) were significantly more likely to utilize dental services during pregnancy than those with Medi-Cal (44.8%).
- Having a college degree (56.8%) significantly increased the likelihood of a woman utilizing dental services during pregnancy as compared to women without a college degree.
- Disparities by race and ethnicity persist. Black and Latina women had the lowest utilization rates (39.8% and 42.4% respectively) followed by Asian women (51.6%). All non-White groups of women utilized dental services at a lower rate during pregnancy than utilization rates for White women in Orange County and utilization rates for Black and Latina women were also lower than Orange County average (50%).

Percent of Pregnant Women Who Received Dental Care during Pregnancy, Orange County and California, 2015-16

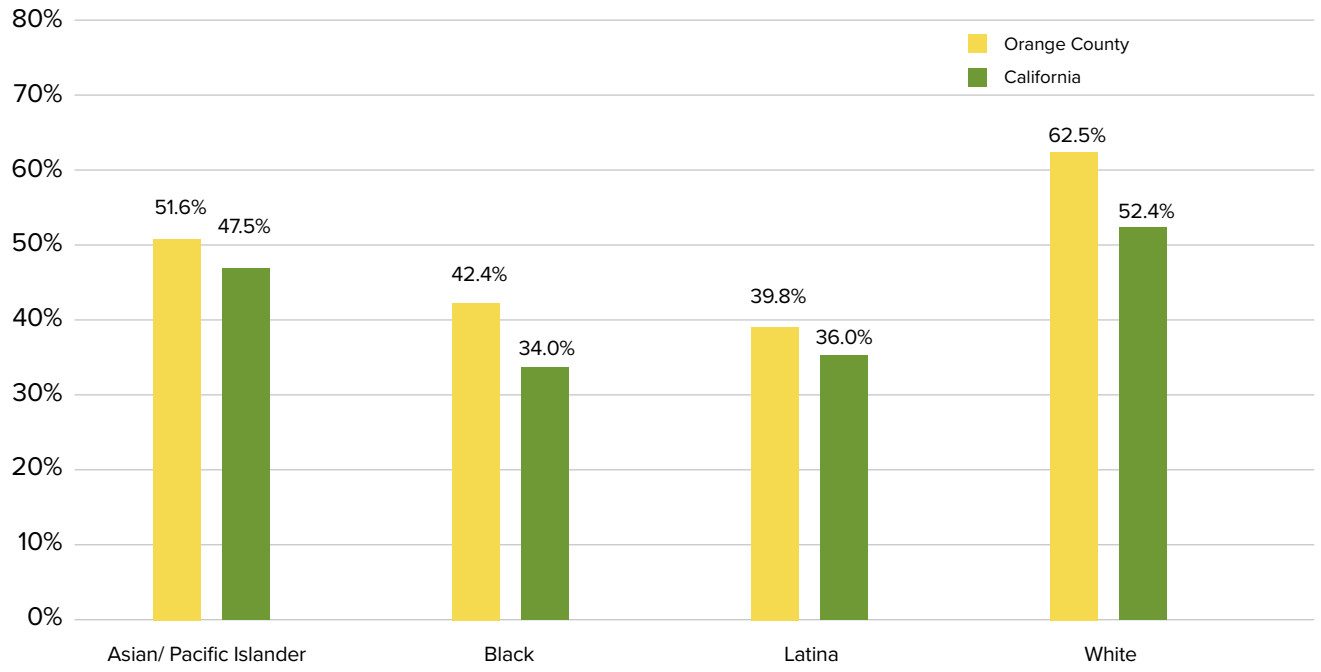


Percent of Pregnant Women Who Received Dental Care during Pregnancy, Orange County, by Maternal Age, Insurance and Education, 2015-16



SOURCE: Maternal Infant Health Assessment (MIHA), California Department of Public Health

Percent of Pregnant Women Who Received Dental Care during Pregnancy, Orange County, by Race/Ethnicity, 2015-16



SOURCE: Maternal Infant Health Assessment (MIHA), California Department of Public Health

Specific barriers to accessing dental care during pregnancy

(as noted through 622 convenience sample surveys of low-income pregnant women in Orange County, focus groups and key-informant interviews)

- ☆ **Cost of care too high or lack of insurance – This was also commonly cited by women eligible for or insured by Medi-Cal who were unaware of covered dental benefits.**
- ☆ **Did not have a dental problem that warranted dental care.**
- ☆ **Confusion about the need for and safety of preventive or ongoing dental care during pregnancy.**

Less than half the women surveyed stated that their Primary Care Physician/ Obstetrician/ Gynecologist talked to them about maintaining the health of their mouth and teeth during pregnancy.

1. Han YW. Oral Health and Adverse Pregnancy Outcomes – What's Next? Journal of Dental Research. 2011;90(3):289-293. doi:10.1177/0022034510381905.
2. Oral Health Care during Pregnancy Expert Workgroup. Oral Health Care during Pregnancy: A National Consensus Statement. 2012; Available at https://www.mchoralhealth.org/PDFs/OralHealthPregnancyConsensus.pdf
3. American College of Obstetricians and Gynecologists. Oral Health Care during Pregnancy and Through the Lifespan [Committee Opinion, No. 569, reaffirmed in 2017]. 2013; Available at https://www.acog.org/Clinical-Guidance-and-Publications/Committee-Opinions/Committee-on-Health-Care-for-Underserved-Women/Oral-Health-Care-During-Pregnancy-and-Through-the-Lifespan
4. Chaffee BW, Gansky, SA, Weintraub JA, Featherstone JDB, RamosGomez, FJ. Maternal Oral Bacterial Levels Predict Early Childhood Caries Development. Journal of Dental Research. 2014; 93(3), 238–244.
5. California Department of Public Health. Status of Oral Health in California – Oral Disease Burden and Prevention. 2017; Available at https://www.cdph.ca.gov/Programs/CCDPHP/DCDIC/CDCB/CDPH%20Document%20Library/Oral%20Health%20Program/Status%20of%20Oral%20Health%20in%20California_FINAL_04.20.2017_ADA.pdf

Utilization of Dental Services by Adults

Utilization of dental services by adults insured through Medi-Cal shows an upward trend. The primary reasons for non-utilization of services is cost and the lack of awareness that Medi-Cal benefits cover dental care.

WHY IS THIS IMPORTANT?

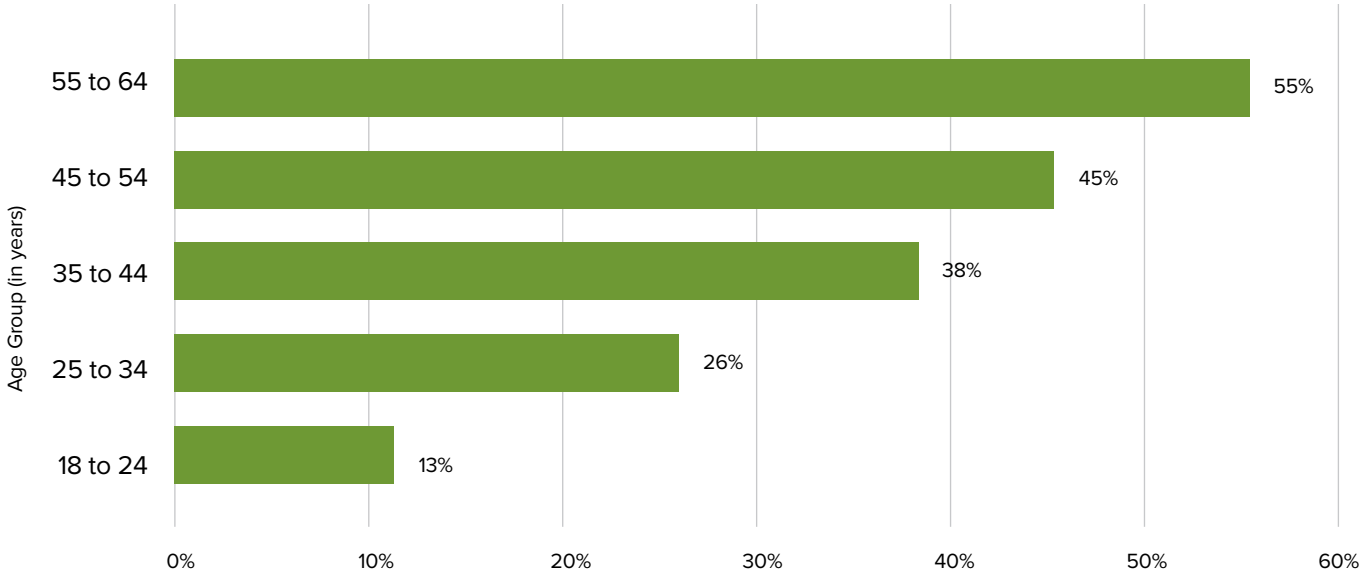
Dental disease can affect individuals across the life span. Early prevention coupled with ongoing care and maintenance through adulthood is integral to good health and well-being. Individuals are also at an elevated risk of dental problems like gum (and periodontal) disease and oral/pharyngeal cancer during adulthood. Good oral health in adulthood also ensures optimal oral health as one ages and enters older adulthood. National data show that dental disease among adults often goes untreated[1]. More than 1 in 4 (27%) U.S. adults have untreated tooth decay, nearly half (46%) of adults 30 years and older have gum disease[1, 2]. It is important to ensure that adults have the resources needed to utilize dental services in a timely manner and are aware of good oral health practices. Increasing the rate of utilization of dental services by adults is also a Healthy People 2020 objective.

KEY FINDINGS:

- In California, 36% adults 18 to 64 years of age reported having a history of tooth loss resulting from tooth decay and/ or periodontal disease. This rate was the same as U.S. average.
- Statewide, the prevalence of tooth loss due to preventable dental diseases like tooth decay and gum disease higher among older age groups. Prevalence was 13% among 18 to 24 year olds and 55.0% among 55 to 64 year olds.
- Both at the State and County-level, data on prevalence of tooth decay in adults 18 to 64 years of age is not available. As part of this needs assessment, this data gap has been identified and will be addressed over the coming years.
- A proxy for unmet dental care need and poor access to care is the rate of utilization of emergency departments for preventable and non-traumatic dental conditions. Adults 18 to 35 years of age had the highest rate of utilization (248.5 per 100,000) of emergency departments for non-traumatic dental conditions compared to all other age groups in both Orange County and California.
- Although preventable, use of EDs in Orange County is lower than California, these visits are still prevalent.
- Low-income adults who are eligible for Medi-Cal have had dental benefits sporadically. After a complete cut-down of dental benefits for adults in Medi-Cal in 2009, benefits were partially restored in 2013 and fully restored in 2018. Data show that utilization of services by adults increased significantly following partial restoration of adult dental benefits in 2013. With full restoration of benefits, utilization is expected to further increase.
- From 2013 to 2016, utilization of services by adults eligible for Medi-Cal increased significantly from 2013 (9.1%) to 2014 (22.5%). Utilization of services also increased slightly from 2014 (22.5%) to 2015 (23.5%) but dropped by 1.1% in 2016 (22.4%).
- Yet, at best, less than 1 in 3 adults have had at least one dental visit during the past year (Annual Dental Visit or ADV).
- Data from 2016 shows that Medi-Cal eligible adults 19 to 34 years of age in Orange County (19.0%) utilize dental services at a significantly lower rate than their older counterparts (35 to 44 years: 23.0% and 45 to 64 years: 25.6%). The primary reason for non-utilization of dental

services by 18 to 64 year old adults who were CalOptima members (Orange County's Medi-Cal Managed Care Plan) was cost, followed by not having a dentist/difficulty finding one. More than half the adults (52.7%) cited cost as the key barrier to accessing dental care[4]. This is a combination of lack of awareness that Medi-Cal covers dental care and cost of services that are not covered by Medi-Cal (before full restoration of benefits in 2018) or out-of-pocket costs.

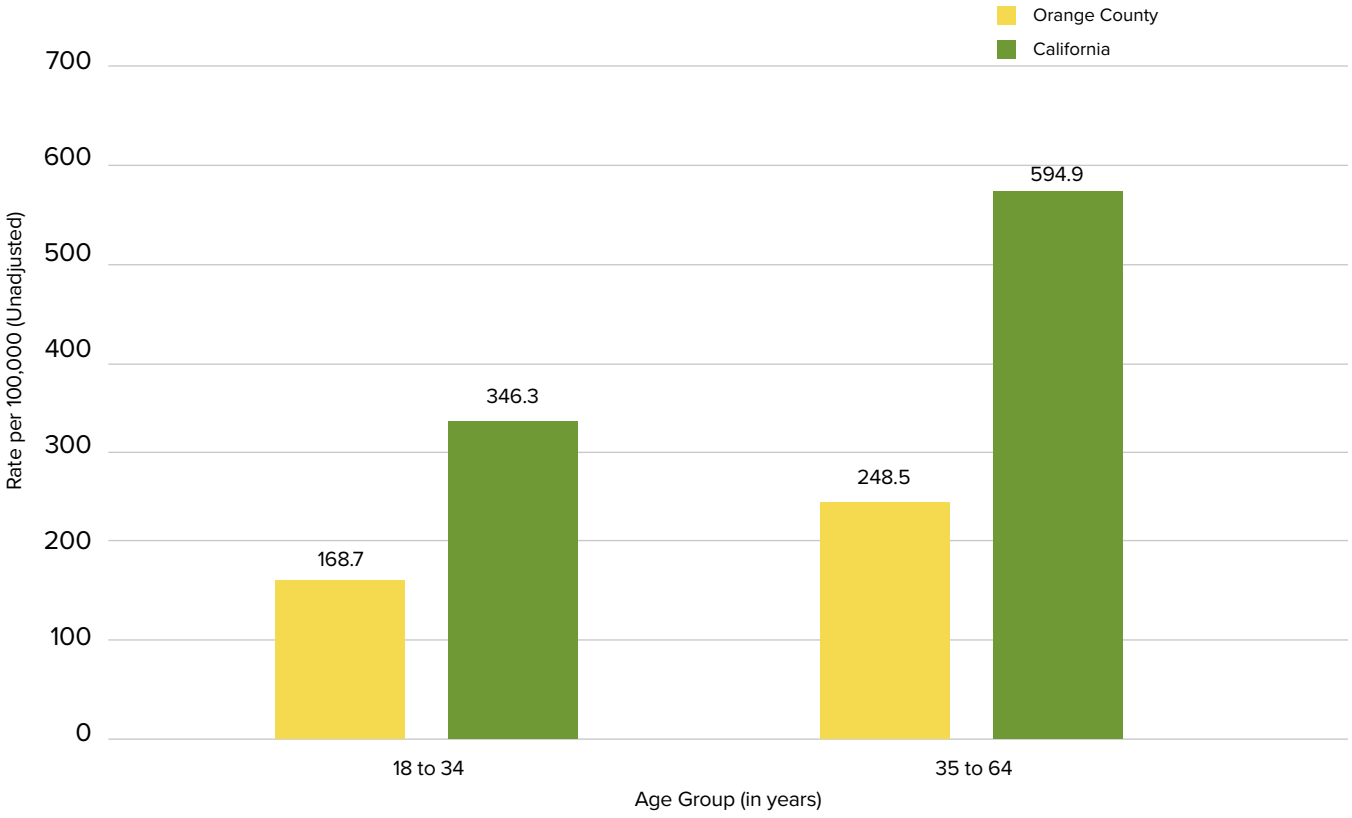
Prevalence of Permanent Tooth Extraction due to Tooth Decay or Gum Disease among Adults 18 to 64 years of age, California, 2012



Notes: Adults are person 18 years and older. Includes teeth lost to infection, but not teeth lost for other reasons, such as injury or orthodontics. Wisdom teeth removed because of tooth decay or gum disease are included. Responses of Don't know/ Not sure/ Refused were coded as missing[3].

Source: Behavioral Risk Factor Surveillance System, California, 2012[3]

Non-Traumatic Dental Conditions (NTDC) related Emergency Department (ED) Visits by Adults 18 to 64 Years of Age, Orange County and California, by Age Group, 2012-2016

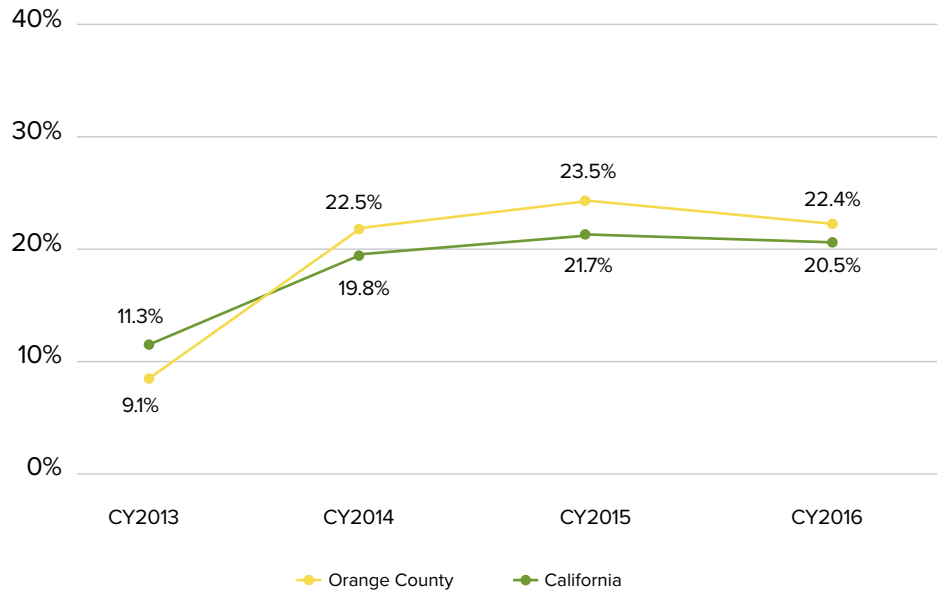


Note: The Office of Statewide Health Planning and Development (OSHPD) collect data about each emergency department (ED) visit from all hospitals in California. Each visit is given a code based on the International Classification of Diseases (ICD). These codes can be utilized to identify non-traumatic dental conditions (NTDC) that are seen in the emergency room. During 2015, hospitals in the United States switched from using the ninth edition of ICD (ICD-9) to the 10th edition (ICD-10). The ASTDD reference below consists of a list of codes and their associated descriptions used to define NTDCs. NTDCs range from caries, periodontal disease, erosion, cysts, impacted teeth and all other non-traumatic conditions in the mouth. Damage to the mouth that is deemed to be due to trauma is excluded from this list.

Data come from the OSHPD 2012-2016 Emergency Department files. Population estimates for Orange County came from the California Department of Finance. The rate of NTDCs do not exclude visits from the same person coming multiple times. These rates are not age-adjusted.

Source: Office of Statewide Health Planning and Development; California Department of Public Health – Office of Oral Health.

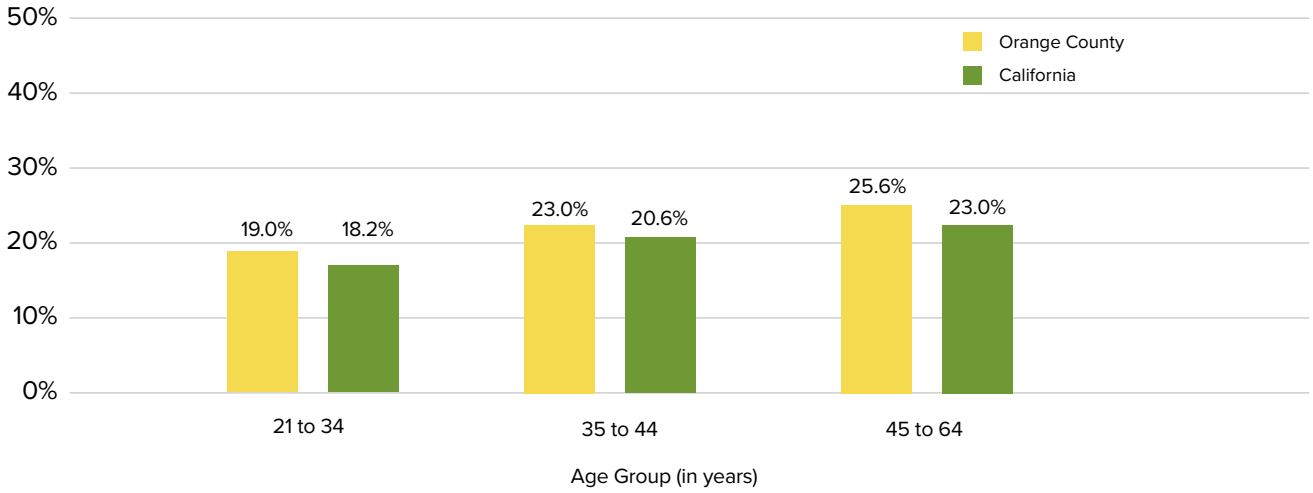
Percent of Medi-Cal Eligible Adults (21 to 64 years of age) who had a Dental Visit during the Past Year, Orange County and California, 2013-2016



Source: California Department of Health Care Services, Open Data Portal; Available at https://data.chhs.ca.gov/

Note: Data presents rate of utilization of dental services as measured by an Annual Dental Visit (ADV). Annual Dental Visit is defined by yearly dental visit to a dental provider that results in the receipt of a dental service in the range of codes D0100-D9999.

Percent of Medi-Cal Eligible Adults (21 to 64 years of age) who had a Dental Visit during the Past Year, Orange County and California, by Age Group, 2016



Source: California Department of Health Care Services, Open Data Portal; Available at https://data.chhs.ca.gov/

Note: Data presents rate of utilization of dental services as measured by an Annual Dental Visit (ADV). Annual Dental Visit is defined by yearly dental visit to a dental provider that results in the receipt of a dental service in the range of codes D0100-D9999.

1. Dye BA, Thornton-Evans G, Xianfen L, Iafolla TJ. Dental Caries and Tooth Loss in Adults in the United States, 2011-2012. NCHS Data Brief, no 197. Hyattsville, MD: National Center for Health Statistics; 2015.
2. Eke PI, Dye, BA, Wei L, et. al. Update on prevalence of periodontitis in adults in the United States: NHANES 2009 to 2012. J of Periodontology. 2015;86(5):611-622.
3. California Department of Public Health. Status of Oral Health in California – Oral Disease Burden and Prevention. 2017; Available at https://www.cdph.ca.gov/Programs/CCDPHP/DCDIC/CDCB/CDPH%20Document%20Library/Oral%20Health%20Program/Status%20of%20Oral%20Health%20in%20California_FINAL_04.20.2017_ADA.pdf
4. CalOptima. Member Health Needs Assessment. 2018; Available at https://www.caloptima.org/~/media/Files/CalOptimaOrg/508/Community/CommunityGrants/2018_MHNAFinalReport.ashx

Institutionalized and Community Dwelling Older Adults

Older adults have unique oral health care needs and face several barriers toward achieving and maintaining optimal oral health. Monitoring state and federal policies that impact older adults' ability to pay for dental services is critical. From a public health standpoint, increasing access to accurate information and resources to bridge gaps in accessing available services is imperative.

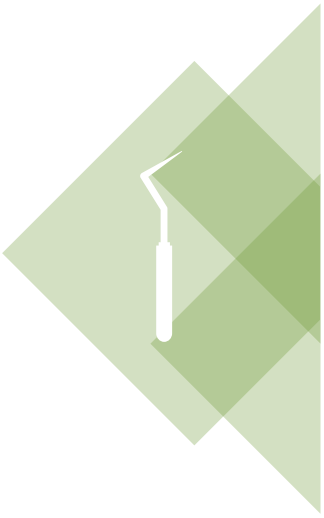
WHY IS THIS IMPORTANT?

More than 15% of Orange County's population are older adults and by the year 2040, one in four residents of Orange County will be 65 years and older. Older adults have unique oral health care needs and face a myriad of barriers in accessing care and maintaining good oral health[1]. Nationally, approximately 50% of nursing home residents are unable to perform three or more of the "Activities of Daily Living," one of which is personal hygiene that includes oral care[2]. Poor oral health of older adults is also fueled and exacerbated by natural changes associated with aging and other chronic health conditions[2]. These conditions can negatively impact overall health by making it difficult to chew or speak, undermining nutrition, leading to infection, exacerbating chronic conditions like hypertension and diabetes, impacting self-esteem, and lowering quality of life[1-5]. A recent study showed that older adults who had 20 or more natural teeth retained in their mouth had a significantly lower 5-year mortality rate than their counterparts who had 19 or fewer natural teeth[6]. In California, recent data show that nearly one in two older adults residing in Skilled Nursing Facilities and one in three community dwelling seniors has untreated tooth decay[7]. Decreasing the percent of older adults with tooth loss due to tooth decay or gum disease is also a Healthy People 2020 objective. Availability of sound county-level secondary data on the oral health status and access to services for older adults continues to be a challenge, which was also identified in the Orange County Older Adult Profile of 2016[8].

FINDINGS:

- Recently published statewide data show that older adults residing in both institutional and community settings have a high rate of dental disease and have significant unmet oral health care needs.
- California-wide data show that older adults in institutional settings have an especially high burden of disease and disparities by rurality of residence are apparent.
- Data from a cross-sectional convenience sample of community-dwelling older adults in Orange County show that 3 in 10 have unmet treatment needs for tooth decay and 1 in 4 have unmet treatment needs for gum disease.
- Several barriers have been identified through qualitative interviews and focus groups and semi-qualitative surveys of key stakeholders in Orange County. The most critical barrier is the ability to pay for services. Medicare and Medi-Cal are the primary source of health coverage for more than half of the older adults in Orange County. Medicare on one hand does not cover dental services unless it is medically necessary, and Medi-Cal has not covered all dental services for several years until coverage for adults was fully restored in 2018. For adults on public insurance with dental benefits (e.g. Medi-Cal) there are other barriers to care which have been highlighted in the section on 'System of Care'.
- Several other barriers that are unique to older adults include but are not limited to difficulty navigating the oral health care system, not having a dentist and transportation.
- In institutionalized settings, due to fragile health and complex needs coupled with co-morbidities faced by residents, barriers to receiving dental care on-site and outside the facility at a dental clinic are more significant.

- Thirty-eight percent (38.2%) of older adults (65 years and older) who were CalOptima members (Orange County's Medi-Cal Managed Care Plan) reported not visiting a dentist in the past year[9]. The primary reason for non-utilization of dental services was cost, followed by not having a dentist/difficulty finding one. Nearly half the older adults (44.5%) cited cost as the key barrier to accessing dental care[9]. Other reasons cited were not having or knowing a dentist (17.2%) and transportation (7.7%)[9].



Key findings from the statewide report are as follows[6].

UNTREATED TOOTH DECAY

- **Half the older adults residing in skilled nursing facilities have untreated tooth decay.**
- **More than one in three community-dwelling older adults suffer from untreated tooth decay.**

TOOTH LOSS DUE TO DENTAL DISEASE

- **One in three older adults in California's skilled nursing homes have lost all their teeth.**
- **Eighteen percent (18%) of the community dwelling older adults screened have lost all their natural teeth, most of them due to tooth decay.**

INABILITY TO CHEW – MISSING OR POOR FUNCTIONAL CONTACT BETWEEN TEETH

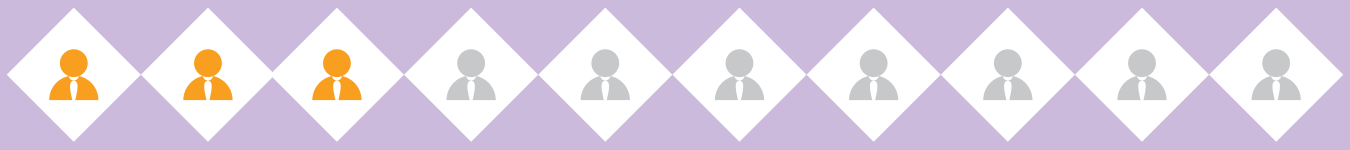
- **Nearly 40% of nursing home residents cannot chew because they do not have a functional contact between their upper and lower back teeth on either side of their mouth.**
- **Nearly 18% of the community-dwelling older adults cannot chew due to lack of a functional contact between their upper and lower back teeth.**

HEALTH POOR GUM (PERIODONTAL) HEALTH

- **Sixty-five percent (65%) of older adults residing in SNHs need treatment for tooth decay and/or periodontal (gum) treatment.**
  - ☆ **Nearly one in three (27%) older adults in SNHs need gum (gingival or periodontal) treatment immediately.**
  - ☆ **Nearly one in three (27%) older adults in SNHs need treatment for a decayed tooth immediately or within 2 to 4 weeks.**

- **Forty-six percent (46%) of the community-dwelling older adults screened need treatment for tooth decay and/or periodontal (gum) treatment.**
  - ☆ **Nearly one out of four (24%) older adults need gum (gingival or periodontal) treatment immediately.**
  - ☆ **One in three (32.7%) community-dwelling older adults need treatment for a decayed tooth immediately or within 2 to 4 weeks.**

Percent of Community-Dwelling Older Adults (65 years and older) with Unmet Dental Treatment Needs, Orange County, 2017



Three in ten (30.0%) older adults need treatment for untreated tooth decay

One in four (25.0%) older adults need treatment for gum (gingival/ periodontal) disease

Note: Data represents a convenience sample of 682 older adults ages 65 and up surveyed at 24 sites that included senior centers, congregate meal sites and adult day health centers across Orange County. Data is not representative of the older adult population since 1) sample is not probabilistic and hence, not representative of the County's community-dwelling older adults and 2) sample does not include institutionalized older adults who tend to have a higher burden of disease and unique demographic and health characteristics.

Source: Center for Oral Health. A Healthy Smile Never Gets Old – A California Report on the Oral Health of Older Adults. 2018; Additional data collection for Orange County Health Care Agency – Orange County Oral Health Needs Assessment.

1. Hyde S,Dupuis V, Mariri BP,Dartevelle S. Prevention of tooth loss and dental pain for reducing the global burden of oral diseases. International Dental Journal. 2017; 67 Suppl 2:19-25.
2. Interagency Forum on Aging-Related Statistics. Older Americans 2016: Key Indicators of Well-Being. 2016; Available at https://agingstats.gov/docs/latestreport/older-americans-2016-key-indicators-of-wellbeing.pdf.
3. Association of State and Territorial Dental Directors. Best Practice Approach Report: Oral Health in the Older Adult Population (Age 65 and older). 2017; Available at https://www.astdd.org/bestpractices/bpar-oral-health-in-the-older-adult-population-age-65-and-older.pdf
4. Taylor GW, Borgnakke WS. Periodontal disease: associations with diabetes, glycemic control and complications. Oral Diseases. 2008; 14(3):191-203.
5. Sjögren P, Nilsson E, Forsell M, Johansson O, Hoogstraate J. A Systematic Review of the Preventive Effect of Oral Hygiene on Pneumonia and Respiratory Tract Infection in Elderly People in Hospitals and Nursing Homes: Effect Estimates and Methodological Quality of Randomized Controlled Trials. Journal of the American Geriatrics Society. 2008; 56(11):2124-30.
6. Hirotomi T, Yoshihara A, Ogawa H, Miyazaki H. Number of teeth and 5-year mortality in an elderly population. Community Dentistry and Oral Epidemiology. 2015; 43(3):226-31.
7. Bhaskara S, Barzaga CE. A Healthy Smile Never Gets Old. 2018; Available at http://www.centerfororalhealth.org/wp-content/uploads/2018/03/Oral-Health-of-Older-Adults.pdf.
8. Orange County Healthy Aging Initiative. Orange County Older Adult Profile, 2016. 2016; Available at http://ochealthiertogether.org.
9. CalOptima. Member Health Needs Assessment. 2018. Available at https://www.caloptima.org/~/media/Files/CalOptimaOrg/508/Community/CommunityGrants/2018_MHNAFinalReport.ashx.

Children and Adults with Special Health Care Needs

Individuals with intellectual and developmental disabilities, and special health care needs face significantly more challenges in achieving optimal oral health than their healthier counterparts. Ongoing data collection to determine true disease burden and access to care barriers and designing appropriate solutions to address them are imperative.

WHY IS THIS IMPORTANT?

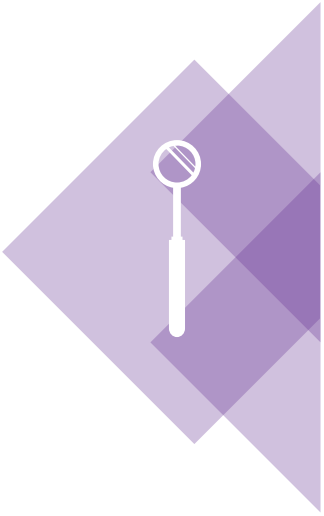
Individuals with intellectual and developmental disabilities (IDDs), and special health care needs in the United States have poorer oral health and encounter more barriers attempting to access dental services than the general population[1, 2]. They are at an elevated risk for tooth decay, gum disease and associated exacerbation of existing health issues[1,2]. They also face unique challenges in maintaining oral health hygiene and accessing dental services. Additionally, there is a lack of research and surveillance that documents their oral health status and oral health care needs and challenges at national, state, and local levels. As a result, this population continues to remain underserved and, consequently, suffer from poor oral health which can significantly impact their overall health, well-being, and quality of life. Even though data are sparse, literature and stakeholder inputs suggest that addressing specific needs of this underserved population should be a critical component of the oral health agenda in Orange County.

FINDINGS:

- A key finding is the lack of actionable data that documents the oral health status, dental care needs, challenges and barriers of individuals with IDDs and special health care needs, for both children and adults.
- In 2010, 56.7 million people, about 19% of the U.S. population, reported having a disability[3].
- Compared to the general population, individuals with IDDs are less likely to be employed, more likely to live in poverty, and more likely to rely on government assistance than their healthier counterparts.

  Nationally, 1 in 10 people without disabilities live in poverty and 1 in 4 cannot make ends meet (200% at FPL). This suggest that these individuals are more financially vulnerable and, thus, less likely able to afford much needed dental services, leaving them at risk for poorer oral health and coinciding health risks.
- For those with IDDs, dental care is often reported as a top medical need following mental health services and medication. One study found that among 4,732 adults with IDDs about 88% of the participants had caries, 32.3% had untreated dental caries, 80.3% were diagnosed with periodontitis, and 10.9% were edentulous[4].
- Qualitative data collected from key stakeholders in Orange County resulted in the identification of the following barriers:
  - Very few providers in the community are trained, equipped and willing to serve this population. Special training and capacity needed to treat some children and adults under general anesthesia is a significant barrier.
  - Wait times to be seen by the few providers in the community tend be long.
  - Provider participation in Medi-Cal and shortage of dental providers in general is discussed in the section ‘System of Care’. But, providers are also not reimbursed appropriately for the additional time they invest into caring for persons with special health care needs.

- Many children with IDDs go without a dental visit until adulthood and miss out on the opportunity to receive preventive services, which are even more crucial for this population due to challenges associated with self-care and hygiene.
- There is some confusion among parents and caregivers regarding covered services under Medi-Cal and out-of-pocket expenses.
- There is a lack of tested and curated tools and resources for caregivers and families regarding maintaining oral hygiene and special techniques for the same.
- While some advances have been made to being services to where people are – e.g. schools and skilled nursing homes, more efforts are needed in this area to increase access to dental care for persons with special health care needs.
- Most crucial is the explicit inclusion of individuals with IDDs in public health initiatives and collection of data to inform action and evaluate efforts.



1. Pezzementi ML, Fisher MA. Oral Health Status of People with Intellectual Disabilities in the Southeastern United States. Journal of the American Dental Association. 2005;136, 903-912.
2. Kancherla V, Van Naarden Braun K, Yeargin-Allsopp M. Dental Care Among Young Adults with Intellectual Disability. Research in Developmental Disabilities. 2013;34, 1630-1641.
3. Brault MW. Americans with Disabilities: 2010. 2012 U.S. Census Bureau, 1-24.
4. Morgan JP, Miniham PM, Stark PC, Finkelman MD, Yantsides KE, Park A, Nobles CJ, Tao W, Must A. The Oral Health Status of 4,732 Adults with Intellectual and Developmental Disabilities. Journal of the American Dental Association. 2012;143 (8), 838-846.

Dental Workforce Capacity and the Oral Health Care System

While Orange County has a strong oral health workforce and oral health care system, further capacity building and coordination of efforts are needed to meet the needs of the County's underserved and low-income populations.

WHY IS THIS IMPORTANT?

While home oral care and population-based prevention are critical to maintaining oral health, professional dental care is also crucial. In the oral health care system, there are several types of workforce, service delivery sites and non-traditional access points. To meet the needs of a diverse population in a large geographic area like Orange County, it is critical to assess, build and evaluate capacity and coordinate efforts to ensure that everyone has access to timely and quality dental services, especially the most vulnerable and underserved populations.

The oral health care system is comprised of (not limited to):

1. Dental providers – Including dentists, dental hygienists, dental hygienists in alternative practice and dental assistants.
2. Dental clinics – Individual clinics, group practices etc., that are often privately owned by the provider or corporately owned by a dental service organization (DSO).
3. Hospital-based dental clinics
4. Community clinics or health centers – Federally-qualified Health Centers (FQHC), FQHC look-alikes, community and free clinics.
5. Mobile dental clinics/vans/practices – These may be run by any of the above clinic types and are intended to increase access beyond the brick-and-mortar clinic's geographic reach. This is also a practice of choice for institutional facilities like skilled nursing homes and helps bring services to individuals who are unable to travel to a dental clinic. This also includes the practice of Tele-Dentistry or Virtual Dental Home (VDH)[1].
6. School-based health centers with dental clinics
7. School-based or school-linked dental programs – These are programs focused on increasing access to preventive dental services (like screenings, fluoride varnish application, sealant placements, oral hygiene instruction and care coordination) at schools.

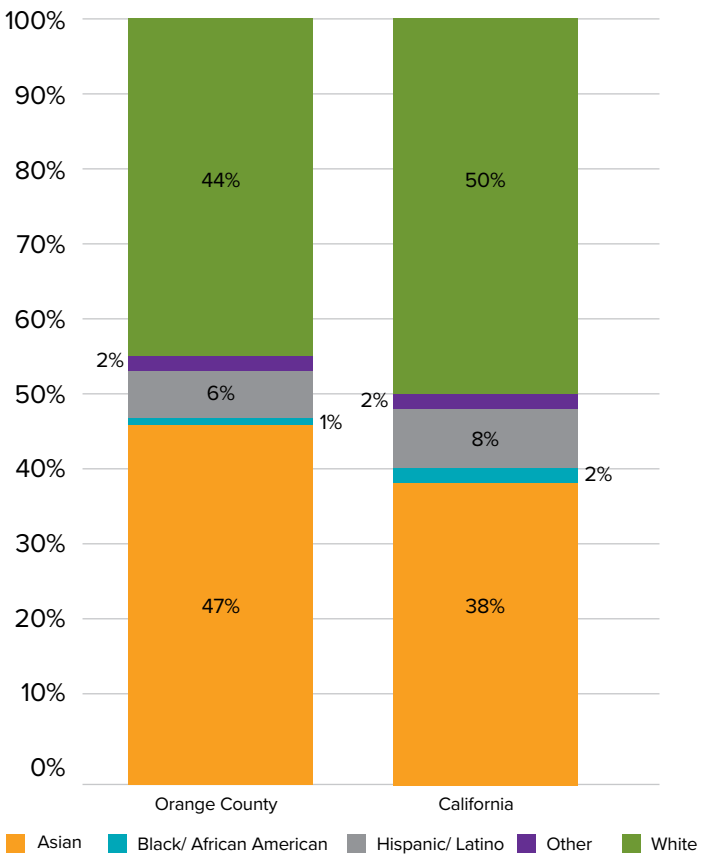
Increasing the number of FQHCs with an oral health component is a Healthy People 2020 objective. The oral health care system plays a central role in achieving several other HP 2020 objectives.

FINDINGS:

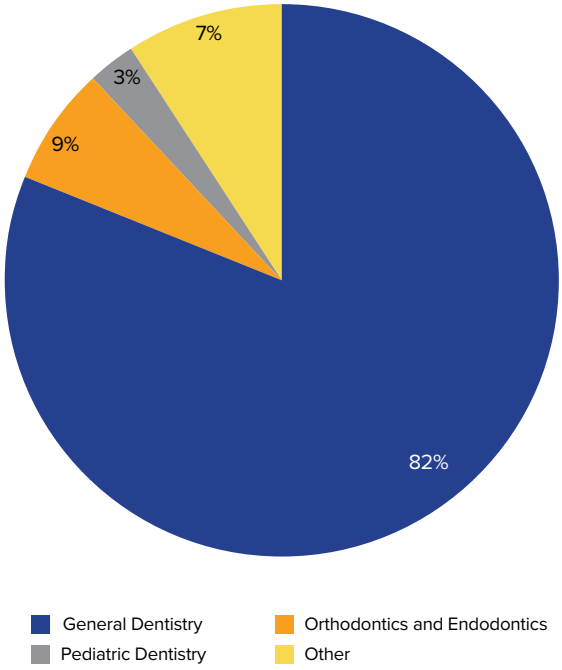
- Orange County has 3,716 professionally active dentists, 1,739 dental hygienists (RDH) and 10 registered dental hygienists in alternative practice (RDHAP).
- Overall, there is 1 dentist per 856 residents in Orange County, which is better than the dentist to population ratio for California (1: 1,312). In Orange County, there are more dentists per 100,000 residents (102.33 per 100,000) compared to California (76.79 per 100,000).
- Forty-seven percent (47%) of Orange County dentists are Asian, 44% are white, 6% are Hispanic/Latino and 1% Black/African American. The racial and ethnic distribution of the dental workforce in Orange County is like that of California overall.
- There is a shortage of dentists who specialize in pediatric dentistry. Only 3% of all active dentists in Orange County are pediatric dentists. This has been identified by stakeholders as a key barrier as it impacts access to care for very young children (1-3 years of age), children who need general anesthesia to receive dental care, children with intellectual and developmental disabilities and those with other special health care needs.

- While Orange County has a large dental workforce, only 1 in 10 dentists accept Denti-Cal (Medi-Cal's dental program). Given that more than 850,000 OC residents are eligible for and/ or are enrolled in Medi-Cal, there are only 423.11 dentists per 100,000 Medi-Cal eligibles.
- Several barriers have been identified through qualitative interviews for low dentist participation in Denti-Cal. The most commonly cited reason is the low reimbursement rate for dentists who participate in Denti-Cal. California has the second lowest Medicaid (Denti-Cal) reimbursement rates in the country. It is important to note that several state-level policy changes have resulted in an increase in reimbursement rates since 2017 and more work is being done to address this issue.
- A survey of Denti-Cal providers in Orange County shows that most threshold languages are spoken at clinics (88.7% Spanish, 34.0% Vietnamese, 17.7% Korean and 21.3% Farsi). More than 80% of the clinics reported that they serve children and adults but, only 68% reported to treat children younger than 3 years of age.
- One key barrier identified among Denti-Cal providers and clinics is that often, Denti-Cal clients account for small proportion of their patient population. In fact, more than 58% of the Denti-Cal providers surveyed, reported that Denti-Cal patients make up less than half of their total caseload.
- Geographic distribution of dentists is also important to note. As shown in the two maps in this section, certain parts of the County have a shortage of dental providers given the proportion of OC's Denti-Cal eligibles who reside there.
- There is a strong and fast expanding network of FQHCs and community/ free clinics that provide dental services in Orange County. Sixteen (16) health centers in Orange County provide dental services at 32 dental sites, five of which are mobile dental units and four are tele-dentistry units. The County is also home to several FQHC look-alikes and non-profit clinics that are committed to increasing access to dental care. Health Centers in Orange County (under the leadership of the Coalition of Orange County Community Health Centers) have been building capacity through collaboration and quality improvement. The Coalition also received Health Center Controlled Network designation in 2016 that promotes development and operation of networks of safety-net providers to ensure health care access to medically underserved populations. Six (6) clinical focus measures have been identified with the goal of meeting or exceeding the Healthy People 2020 goal – Dental Sealants is one of those focus measures.
- Orange County is a recipient of the Dental Transformation Initiative – Local Dental Pilot Project grant from the California Department of Health Care Services. The lead agency is the Children and Families Commission of Orange County. The project (July 2017 to December 2020) aims to increase access to dental care for Medi-Cal eligible children (0-20 years of age) through innovative strategies like development and implementation of a referral line, tele-dentistry, care coordination and by building Denti-Cal dental provider capacity.

Professional Active Dentists in Orange County and California, by Race/ Ethnicity, 2016

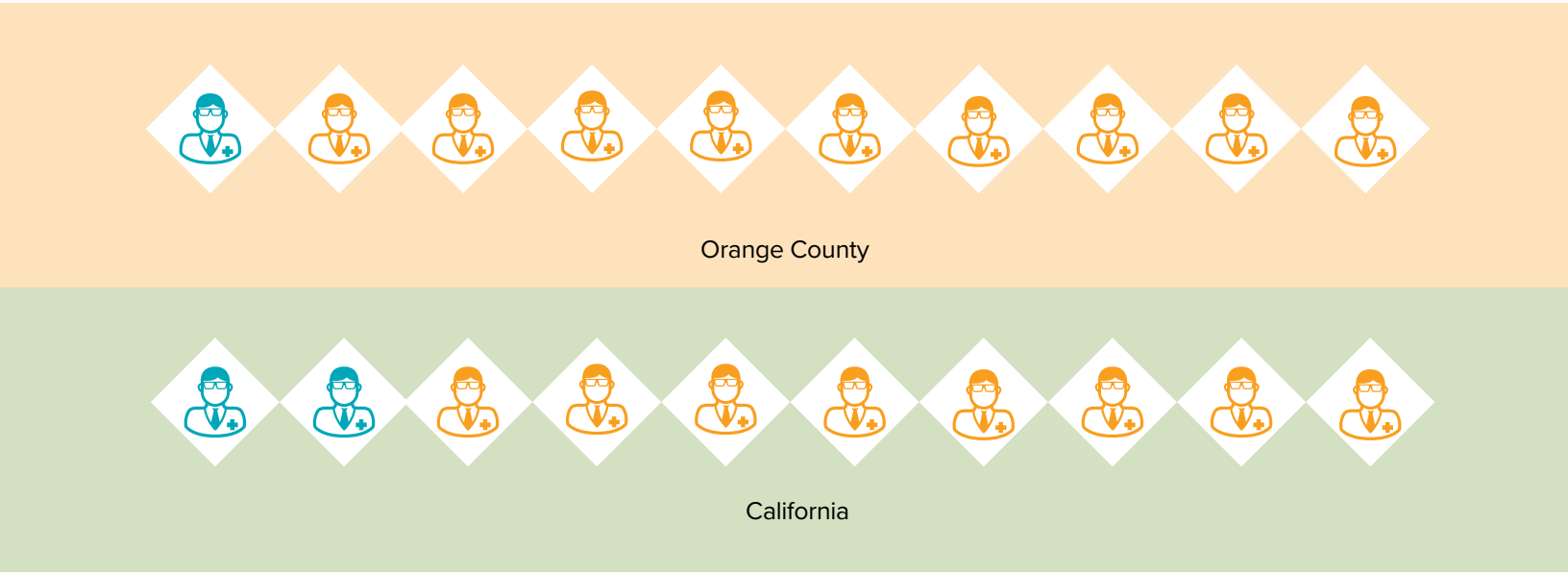


Professional Active Dentists in Orange County, by Practice Area, 2016

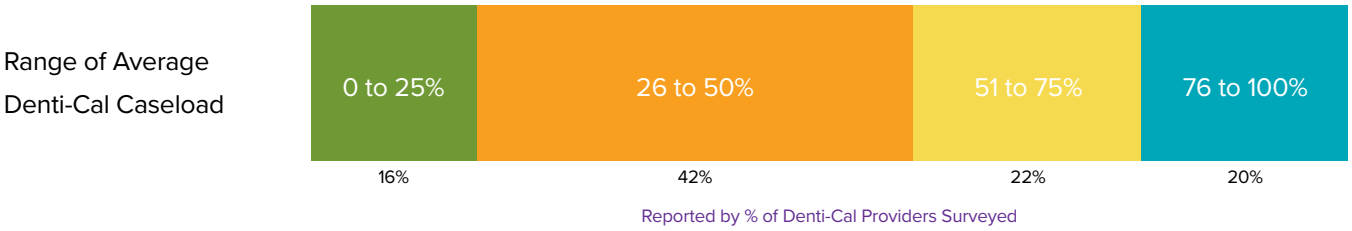


Source: American Dental Association, Health Policy Institute analysis of HPI Office Database

Percent of Professionally Active Dentists Who Accept Denti-Cal (Medi-Cal's Dental Program), Orange County and California, 2016



Average Denti-Cal Patient Caseload as a Percent of Total Clinic Caseload as Reported by Denti-Cal Providers in Orange County, 2018



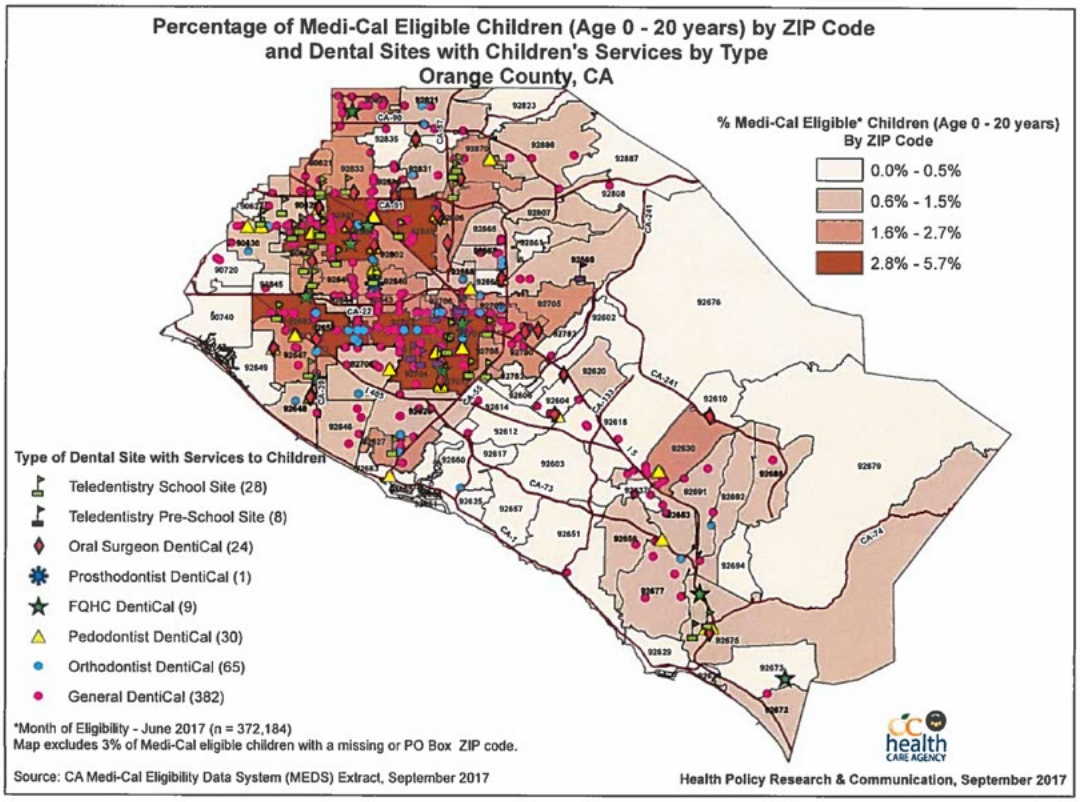
Source: Orange County Health Care Agency Denti-Cal Provider Survey, 2018

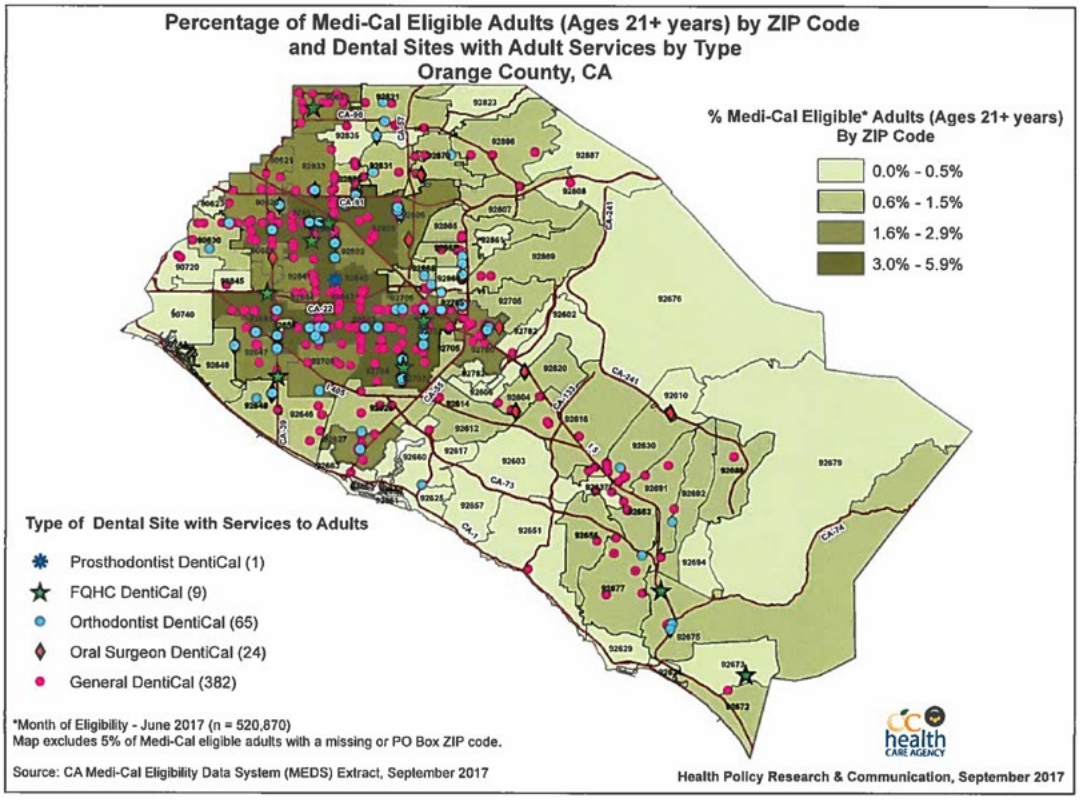
Notes: A dentist practicing in more than one county is counted in each of the counties in which the dentist practices. Hence, dentists may be counted twice, and the total number of dentists calculated by adding the number of dentists in each county may not provide an accurate estimate of dentists in California.

The Health Policy Institute (HPI) Office Database is created using the American Dental Association (ADA) masterfile. In addition to the ADA masterfile, the HPI Office Database contains information from the National Provider Identifier (NPI) dentist registry maintained by the Centers for Medicare and Medicaid Services, Insure Kids Now database maintained by the Centers for Medicaid and Medicare Services, Association of Dental Support Organizations (ADSO) membership list, and data on federally qualified health center (FQHC) provider sites from Health Resources and Services Administration. More information on the HPI Office Database is available at http://www.ada.org/~/media/ADA/Science%20and%20Research/HPI/Files/HPIOfficeDatabaseMethods.pdf

The American Dental Association (ADA) masterfile contains the most up-to-date information on dentists in the United States. The masterfile is a database of all dentists, practicing and non-practicing, in the United States. It is updated through a variety of methods including reconciliation with state licensure databases, death records, various surveys and censuses of dentists carried out by the ADA. We used the masterfile's 2016 data to gather information on the profile of the dentist population.

Professionally active dentists are those who are listed in the ADA masterfile as licensed, not retired, living in the 50 states or District of Columbia, and having a primary occupation of private practice (full- or part-time), dental school/faculty staff member, armed forces, other federal services (i.e., Veterans' Affairs, Public Health Service), state or local government employee, hospital staff dentist, graduate student/intern/resident, or other health/dental organization staff member. This report excludes dentists who are in U.S. territories or U.S. armed forces overseas.



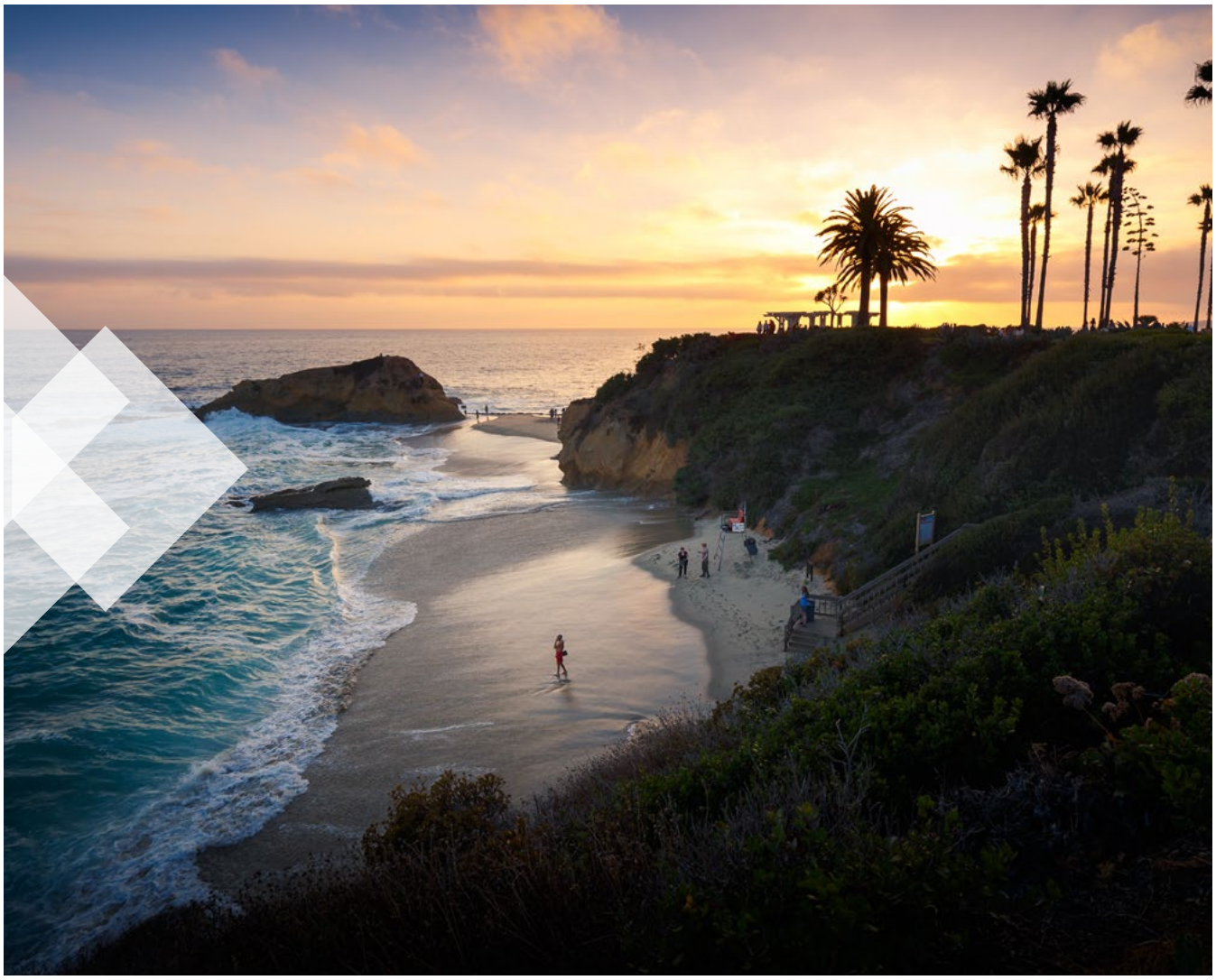


1. University of The Pacific, Pacific Center for Special Care. Virtual Dental Home System of Care. Available at http://dental.pacific.edu/departments-and-groups/pacific-center-for-special-care/innovations-center/virtual-dental-home-system-of-care

C. Healthy People 2020 Objectives

Healthy People 2020 Oral Health Indicators: Target Levels and Current Status for United States and California

Healthy People 2020 Objective		U.S. Target (%)	U.S. Baseline (various years) (%)	California Baseline (%)
OH-1	Dental caries experience			
	Young children, ages 3-5 (primary teeth)	30%	33.3%[a]	53.6%[k]
	Children, ages 6-9 (primary and permanent teeth)	49%	54.4%[a]	70.9%[l]
	Adolescents, ages 13-15 (permanent teeth)	48.3%	53.7%[a]	
OH-2	Untreated dental decay in children			
	Young children, ages 3-5 (primary teeth)	21.4%	23.8%[a]	27.9%[k]
	Children, ages 6-9 (primary and permanent teeth)	25.9%	28.8%[a]	28.7%[l]
	Adolescents, ages 13-15 (permanent teeth)	15.3%	17%[a]	
OH-3	Untreated dental decay in adults			
	Adults ages 35-44 (overall dental decay)	25%	27.8%[a]	
	Adults ages 65-74 (coronal caries)	15.4%	17.1%[a]	
	Adults ages 75 and older (root surface)	34.1%	37.9%[a]	
OH-4	Permanent tooth extraction because of dental caries or periodontal disease			
	Adults ages 45-64	68.8%	76.4%[a]	49.5%[m]
	Adults ages 65-74 (lost all their natural teeth)	21.6%	24%[a]	8.7%[m]
OH-5	Moderate or severe periodontitis, adults age 45-74	11.5%	12.8%[b]	
OH-6	Oral and pharyngeal cancers detected at the earliest stage	35.8%	32.5%[c]	23.2%[n]
OH-7	Oral health care system use in the past year by children, adolescents, and adults	49%	44.5%[d]	
OH-8	Low-income children and adolescents who received any preventive dental service during past year	33.2%	30.2%[d]	
OH-9	School-based health centers (SBHC) with an oral health component			44%[o]
	Includes dental sealants	26.5%	24.1%[e]	
	Oral heath component that includes dental care	11.1%	10.1%[e]	
	Includes topical fluoride	32.1%	29.2%[e]	
OH-10	Local health departments (LHDs) and Federally Qualified Health Centers (FQHCs) that have an oral health component			
	FQHCs with an oral health component	83%	75%[f]	
	LHDs with oral health prevention or care programs	28.4%	25.8%[g]	
OH-11	Patients who receive oral health services at FQHCs each year	33.3%	17.5%[f]	18.5%[p]
OH-12	Dental sealants			
	Children, ages 3-5 (primary molars)	1.5%	1.4%[a]	
	Children, ages 6-9 (permanent molars)	28.1%	25.5%[a]	27.6%[l]
	Adolescents, ages 13-15 (permanent molars)	21.9%	19.9%[a]	
OH-13	Population served by optimally fluoridated water systems	79.6%	72.4%[h]	63.7%[q]
OH-14	Adults who receive preventive interventions in dental offices (developmental)			
	Tobacco and smoking cessation informantion in past year	N/A	N/A	
	Oral and pharyngeal cancer screening in past year	N/A	N/A	
OH-15	States with system for recording and referring infants with cleft lip and palate (developmental)r	N/A	N/A	N/A
OH-16	States with oral and craniofacial health surveillance system	100%	62.7%[i]	0
OH-17	State and local dental programs directed by Public Health Professionals (PHP)			
	Indian Health Service and Tribal dental programs directed by PHP	25.7%	23.4%[i]	
	Indian Health Service Areas and Tribal health programs with dental public health program directed by a dental professional with public health training	12 programs	11 programs[i]	



a= National Health and Nutrition Survey, 1999-2004
b= National Health and Nutrition Survey, 2001-2004
c= National Program of Cancer Registries (NPCR), CDC/National Chronic Disease Prevention and Health Promotion (NCCDPHP); Surveillance, Epidemiology, and End Results (SEER) Program, National Institutes of Health (NIH)/National Cancer Institute (NCI), 2007
d= Medical Expenditure Panel Survey (MEPS), AHRQ, 2007
e= School-Based Health Care Census (SBHCC), National Assembly on School-Based Health (NASBHC), 2007-2008
f= Uniform Data System (UDS), Health Resources and Service Administration (HRSA)/Bureau of Primary Health Care (BPHC), 2007
g= Annual Synopses of State and Territorial Dental Public Health Programs (ASTDD Synopses), Association of State and Territorial Dental Directory (ASTDD), 2008
h= Water Fluoridation Reporting System (WFRS), CDC/NCCDPHP, 2008
i= ASTDD Synopses, ASTDD, 2009
j= Indian Health Service, Division of Oral Health, 2010
k= Data from California Smile Survey (2006) for kindergarten
l= Data from California Survey (2006) for 3rd grade children
m= BRFSS, 2012
n= CCR, 2011
o= School Based Health Alliance. Of 231 health centers, 1010 have some type of dental service, 49 offer preventive services only, 49 offer both preventive and restorative services, and 3 offer dental treatment only.
p= HRSA, DHHS, 2013. Percentage calculated using number of patients who received dental services and total patients served. (Source: http://bphc.hrsa.gov/uds/datacenter.aspx?year=2-13&state=CA)
q= CDC 2012 Water Fluoridation Statistics
r= HP 2020 developmental objective lack national baseline data. They indicate areas that need to be placed on the national agenda for data collection.

D. California Oral Health Plan Summary

The full Plan can be found at https://bit.ly/2KxjXLe.

2018-2025 CALIFORNIA ORAL HEALTH PLAN

VISION

Healthy Mouths for all Californians

MISSION

The Partnership convenes stakeholders to coordinate and facilitate the implementation of the California Oral Health Plan to improve the oral health of Californians throughout the lifespan.

GOALS

1. **Determinants of health, healthy habits, and population-based interventions**
   Improve the oral health of Californians by addressing determinants of health and promote healthy habits and population-based prevention interventions to attain healthier status in communities.

2. **Community Clinical Linkages**
   Align the dental health care delivery system, payment systems, and community programs to support and sustain community-clinical linkages for increasing utilization of dental services.

3. **Collaboration to Expand Infrastructure and Capacity**
   Collaborate with payers, public health programs, health care systems, foundations, professional organizations, and educational institutions to expand infrastructure, capacity, and payment systems for supporting prevention and early treatment services.

4. **Communication**
   Develop and implement communication strategies to inform and educate the public, dental teams, and decision makers about oral health information, programs, and policies.

5. **Surveillance System**
   Develop and implement a surveillance system to measure key indicators of oral health and identify key performance measures for tracking progress.

E. California Oral Health Plan Indicators

The full Plan can be found at https://bit.ly/2KxjXLe

Indicators	Timeframe	Baseline	Target [1]	Data Source
Caries experience - Kindergarten -Third Grade	2015-2025	53.6% (2004-05) 70.6% (2004-05)	42.9% 56.5%	Survey of Kindergarten and 3rd grade children
Untreated caries -Kindergarten -Third Grade	2015-2025	27.9% (2004-05) 28.7% (2004-05)	22.3% 23.0%	Survey of Kindergarten and 3rd grade children
Tooth loss 35-44 years Ever had a permanent tooth extracted	2015-2025	38.4% (2014)	34.6%	BRFSS
65+ Complete tooth loss	2015-2025	8.70% (2014)	7.80%	BRFSS
Community Water Fluoridation (CWF) -Percent of the population on CWF	2015-2025	63.7% (2015)	70.0%	Safe Drinking Water Information System
Tobacco cessation counseling in dental office	2015-2020	35.7%	39.3% [1]	2010 Survey of Dental Offices [2]
Preventive dental visit in children	2015-2020	63.3% (2011-12)	69.6%	National Survey of Children's Health
Living in household with income 0-99% FPL	2015-2020	83.6% (2011-12)	92.0%	
Living in household with income 400% FPL or higher	2015-2020			
Preventive dental visit among Medicaid children (0-20 years)	2015-2020	37.8% (2014)	47.8%	Denti-Cal Performance Measure [3]
Children with dental sealant on a molar (6-9 years)	2015-2020	27.6% (2004-05)	33.1%	Survey of Kindergarten and 3rd grade children
Pregnant women with dental visit during pregnancy	2015-2019	42.1% (2012)	48.4% [4]	MIHA
Children under 6 years enrolled in Medi-Cal receiving dental services provided by a non- dentist provider	2015-2020	2.80%	12.8% [3]	CMS Form 416
People with diabetes who have at least an annual dental visit	2015-2020	60.0%	66.0%	BRFSS
Oral and pharyngeal cancer detected at the earliest stage	2015-2020	23.2% (2011)	25.5%	Cancer Registry
Emergency room visits	2015-2020	298/100,000 [113,000 visits- 2012)]	268/100,000	OSHPD
Number of children treated under general anesthesia	2015-2020	NA	Developmental	

Number of Community Health Worker and Home Visiting Program that provide oral health counseling and care coordination	2015-2020	NA		
Number of payers that implement dental benefit policies and payment strategies that support community-clinical linkage models	2015-2020	NA		
Number of FQHCs providing dental services	2015-2025	68.0% (N=886) 5 (2013)	74.8%	OSHPD
Number of patients who receive dental services at FQHCs.	2015-2020	19.8%		UDS system
Number of dentists practicing in dental professional shortage areas	2015-2020	Developmental		OSHPD
Number of local health departments with scopes of work, oral health action plan and budgets	2015-2020	Developmental	10	Title V

1. Target calculated proportionally based on HP 2020 OH-11 measure unless otherwise stated.
2. American Dental Association. 2010 Survey of Dental Practice. Available: https://www.healthypeople.gov/2020/data-source/survey-dental-practice
3. Dental Transformation Initiative. Current Medi-Cal 2020 Special Terms and Conditions (STCs). Page 68. http://www.dhcs.ca.gov/provgovpart/Pages/DTI.aspx.
4. HRSA Perinatal and Infant Oral Health Quality Improvement (PIOHQI) Program performance measure.
5. UCLA Center for Health Policy Research. Better Together: Co-Location of Dental and Primary Care Provides Opportunities to Improve Oral Health. Health Policy Brief, September 2015. Available: http://healthpolicy.ucla.edu/publications/Documents/PDF/2015/Dental-brief-sep2015.pdf

health CARE AGENCY

ORANGE COUNTY

This Strategic Plan was made possible by Proposition 56, the California Healthcare, Research and Prevention Tobacco Tax Act of 2016.

Oral Health Strategic Plan

2018-2022

October 2018