

ORAL HEALTH NEEDS ASSESSMENT

MADERA COUNTY

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Prepared by



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FOREWORD

Oral diseases are largely preventable and affect the overall health and self-esteem of children and adults. Oral health is more than just healthy teeth. Oral health refers to the health of the entire mouth, free of tooth decay, gum disease, chronic oral pain, oral cancer, birth defects (such as cleft lip and palate), and other conditions that affect the mouth and throat. Habits such as tobacco use, consumption of sugary drinks and low oral hygiene can contribute to poor oral health. Systemic issues such as a lack of dental health professionals, dental referrals, and lack of insurance or knowledge of dental insurance benefits can also be attributed to the rise of oral diseases among Madera County's population.



In November 2016, California voters approved Proposition 56, the California Healthcare, Research and Prevention Tobacco Tax Act of 2016 (Prop 56). This initiative increased the state cigarette tax by \$2 per pack, to fund a statewide five-year project to improve the oral health of Californians through local prevention, education, and organized community efforts.

In the summer of 2018, the Madera County Department of Public Health (MCDPH) in collaboration with the University of California, Merced (UCM) conducted the Oral Health Needs Assessment. This report presents findings from the needs assessment and will build the foundation for the development of a Community Health Improvement Plan (CHIP) to address the oral health needs of Madera County through education, community-clinical linkages, and policy systems changes. The MCDPH formed an Oral Health Advisory Committee and is conducting a comprehensive review of the needs assessment findings to guide the planning and implementation of oral health efforts in the community.

The Madera County Oral Health Advisory Committee will assess the research gathered from existing local oral health data, the Key Informant Interviews (KIIs), focus groups and surveys from stakeholders /residents to identify the critical oral health needs and service gaps. This information will be used to develop an Oral Health Strategic Plan and support strategies to improve the oral health status of Madera County residents.

EXECUTIVE SUMMARY

Oral health contributes to overall well-being and self-esteem. Oral diseases, which are largely preventable, cause pain and disability for children and adults who do not have access to adequate oral health services. Untreated oral diseases also contribute to the high costs of care. Unhealthy habits, including tobacco use and sugar-sweetened beverage consumption, can contribute to poor oral health.

This report presents findings from a community-driven assessment process to identify oral health needs, risk and protective factors within Madera County. The assessment process, guided by The Madera County Oral Health Advisory Board, included primary research gathered through key informant interviews and surveys with stakeholders and residents as well as collection and analysis of existing statistical community indicator data. The information will be used to develop an Oral Health Community Health Improvement Plan and support strategies to improve the oral health status of Madera County children and adults. Highlights of the county's strengths and challenges include the following:

Key Findings

Prevalence of oral disease

- About 10% of Madera County kindergarten children screened in 2017 showed evidence of untreated dental decay.
- A significant number (20.4%) of caregivers of children ages 0 to 5 reported that their child had previously needed a filling or been diagnosed with caries (tooth decay).
- 24% of Madera County adults rated the health of their teeth and gums as poor, and almost a third of adults reported a cavity that needs filling. 37.2% of adults surveyed reported having lost 1 to 5 teeth.

Protective factors/risk factors

- Madera County residents do not have access to fluoridated drinking water, and 29% of caregivers reported not purchasing fluoridated toothpaste for their children.
- 55.7% of caregivers reported their child sometimes had juice or other sugary drinks in their bottle, and 34.8% reported sometimes putting their child to bed with a bottle, sippy cup and/or pacifier.
- 16.6% of Madera County adults, higher than the state average, report they currently smoke.

Access to Care

- Despite high rates of tooth loss, only 7.8% of adults reported that they had received dentures, which indicates that there are a number of individuals who have lost teeth and do not receive the prosthetics they need to be able to chew and speak properly.
- Almost 4 out of 10 adults (39%) reported having a cavity that needed filling.
- Insurance coverage varies between adults and children. 85.4% of caregivers reported their child was covered by Denti-Cal, Medi-Cal, and/or Medicaid. 56.5% of adults reporting having some form of dental insurance. 33.7% of adults reported that their dental insurance was through Medicaid/Denti-Cal.
- In Madera County, only 16.9% of Denti-Cal Insurance recipients ages 6-9 received a molar sealant in 2016, and 8.4% of Denti-Cal Insurance recipients ages 10-14 received a molar sealant, despite the integral role sealants play in cavity prevention.
- A large number of adults reported that they did not have a dentist or did not have a usual source of care where they could get treatment. Additionally, a large number of adults (34.5%) reported that they needed care but were unable to get care.

Dental Services Utilization

- The overall rate of non-traumatic dental conditions (NTDC) emergency department visits in Madera County is higher than the California Average. In Madera County, there were 421.1 visits for NTDC per 100,000 individuals, compared to 353.3 visits per 100,000 people across the state.
- 2015-16 Denti-Cal data shows that in Madera County, only 24.9% of adult recipients, and 50.8% of child recipients, had an annual dental visit.
- 32.3% of mothers surveyed reported NOT visiting the dentist during their first trimester, and 66.6% of mothers reported visiting the dentist during that time period.
- 45.8% of Madera County adults reported that they had visited the dentist in the last 6 months or less, 34.3% of adults reported they had not visited the dentist in the last year, and 1.8% reported they had never been to the dentist.
- 31.4% of Madera County children 0 to 5 had never been to the dentist according to their caregivers, and 27.3% of caregivers reported taking their child to the dentist for the first time at age 1.

A. INTRODUCTION

Importance of Oral Health

The health of your mouth is integrally linked to your overall health. Recent research has shown that oral health plays a greater role for general health than previously thought.

Oral health can cause speech development problems in children, and affect nutrient intake and quality of life in both children and adults.¹²⁻¹⁴ In addition to the pain and disability it causes, poor oral health increases the chance of bacterial infections that could affect heart, brain, lung and other organs; and lead to stroke, pneumonia, or other infection.¹⁵ Periodontal disease (gum disease) is associated with cardiovascular disease and diabetes,¹⁶ and the inflammation caused or exacerbated by periodontal disease is thought to also contribute to cognitive impairment.^{16,17}

Oral health is essential to overall health. Good oral health improves a person's ability to speak, smile, smell, taste, touch, chew, swallow, and make facial expressions to show feelings and emotions

However, oral diseases, from cavities to oral cancer, cause significant pain and disability for many Americans.

Healthy People 2020⁸

The most common oral diseases and conditions include tooth decay (cavities or caries), gum disease (periodontal disease, the beginning stage of which is commonly called gingivitis), and throat and mouth cancers.⁶ Caries, in particular, are considered a chronic disease that is prevalent among both children and adults,⁶ however they are preventable through actions like teeth brushing, regular fluoride application, sealing the molars of children before they experience decay on those teeth, reducing sugar intake, and regular preventative dental care.¹⁴ The National Institute of Dental and Craniofacial Research (NIDCR) reports both untreated and treated caries have decreased in adults aged 20-64, but other disparities continue to exist in certain population groups.¹⁸ Black and Hispanic adults, younger adults, and those with lower incomes and less education have more untreated decay.¹⁸

Oral health is something that must be maintained throughout a person's life, and the social determinants of good oral health begin before birth.^{19,20} During pregnancy a healthy diet and good oral hygiene by mothers help to prevent later childhood caries in their children.²⁰ Maintaining good oral hygiene throughout infancy by practicing gum care on infants, not putting infants to sleep with liquid other than water in their bottles, and keeping baby teeth healthy are crucial to not only preventing the pain of childhood caries (tooth decay) in young children, but for proper nutrition, speech development, and to ensure proper spacing of the adult teeth.²¹⁻²³ Once a child has their permanent teeth, maintaining good oral health through

adulthood is crucial, as periodontal diseases (gum disease) and caries (tooth decay) can lead to tooth loss, which affects not only a person's quality of life but the nutritional intake of older adults.¹³ Among older adults, untreated caries (tooth decay) leads to more severe problems like tooth loss and the inability to chew/eat food and high levels of pain.¹³



Since oral health is important to overall health and is something that must be maintained across the lifespan, it is crucial to understand the oral health status of children and adults in Madera County in order to improve the general health of the population.

County Characteristics

Madera County is a rural county in the San Joaquin Valley with an estimated population of 156,890 as of July 1, 2017. There are significant disparities in the county. The median income is \$45,742, and the poverty rate is 20.4% (nearly double the poverty rate in the United States). Additionally, only 71.7% of the population has earned a high school degree or higher compared to 82.1% of the population in California.

Madera County is diverse, with 57.4% of the population Hispanic or Latino, 2.5% Asian and 34.0% of the population non-Hispanic White. 21.5% is foreign-born and 45.1% of people ages 5 or more years report speaking a language other than English at home. Madera County has a young population of 27.4% under the age of 18.

Table 1.1. Characteristics of Madera County, California, and the United States, 2017

Area	Madera County	California	United States
Total Population	156,890	39,536,653	325,719,178
Median Household Income	\$45,742	\$63,782	\$55,322
Percent Medicaid eligible	44.9%	33.4%	19.4%
Percent in Poverty*	20.4%	13.3%	12.3%
Percent Hispanic*	58.0%	39.1%	18.1%
Uninsured (under 65) *	9.7%	8.1%	10.2%
High school graduate or higher (ages 25+)	71.7%	82.1%	87.7%

Source: US Census Bureau Quick Facts

*Estimates are not comparable to other geographic levels due to methodology differences that may exist between different data sources.

The western part of Madera County is designated a dental health professional shortage area (HPSA), with 17 of its census tracts designated an HPSA due to the number of low income and migrant farm workers in the area. In Madera County, 44.9% of the population was certified as eligible to receive Medi-Cal as of 9/2017., however, as of November 2018, the online California Denti-Cal Provider Directory (<https://www.denti-cal.ca.gov/find-a-dentist/home?locale=en>) lists 21 dentists or practices who accept Medi-Cal Dental Insurance, of which 4 are listed as not accepting new patients.

B. METHODS

Primary Data

From July to August 2018, teams from the Madera County Department of Public Health and the University of California, Merced fielded surveys at cities and events in Madera County to learn about the oral health needs of adults and children. Each team member was trained in strategies for effective survey collection. The data gathering process consisted of identifying appropriate locations to field surveys and collaborating with organizations and event organizers.

In Madera County, surveys were fielded in the cities of Madera, Chowchilla, Oakhurst, and Bass Lake. Specific locations of survey collection include:

- Madera County Department of Public Health
- Women, Infant, Children (WIC) clinics
- Department of Social Services
- Parks and Youth Centers
- Health Fairs
- Federally Qualified Health Centers (FQHC)
- Farmers markets

We fielded a “General Population Survey” to individuals over the age of 18 (adults) in which adults were asked the following questions:

- How would you rate your overall health?
- How would you rate the health of your teeth and gums?
- Are you satisfied with the way your teeth look?
- Do you have a dentist?
- About how long has it been since your last trip to the dentist?
- What was the reason for your last dental visit?
- Has your dentist ever talked to you about the types of beverage you drink and the effect of beverages on your teeth?
- Has your dentist ever talked to you about using tobacco, such as asking if you smoke or use tobacco products and/or suggesting you quit?
- If you have not been to the dentist in the past year, please give a reason why. Check all that apply?
- During the past 12 months, was there a time when you needed dental care but could not get it?
- How often do you brush your teeth?
- How often do you floss your teeth?
- How many of your permanent teeth have been removed or lost? Do NOT include wisdom teeth.
- Do you have any bleeding problems?
- Do you have a dry mouth?
- Do you have any broken teeth?

- Do you have cavities that need filling?
- Do you have sore gums?
- Do you have any toothache pain?
- Do you have any loose teeth?
- Do you have any chewing difficulty?
- Do you have dentures?
- How important is it to you personally to see a dentist on a regular basis?
- Do you have dental insurance?
- What is your gender?
- What is your race/ethnicity?
- Are you currently employed?
- How confident are you filling out medical forms by yourself?
- Do you have a high school diploma/GED/ or equivalent degree?
- Do you receive WIC, SNAP, and/or CalFresh benefits?

We also fielded a “Caregiver Survey” to adults with a child 5 or younger throughout out the county. We asked adult caregivers of children ages 0 to 5 (hereafter referred to as “caregivers”) the following questions:

- How old is your child?
- What is your child’s gender?
- What is your relationship to the child?
- At what age did you first take your child to the dentist?
- When did you begin to brush your child’s teeth?
- How often are your child’s teeth brushed?
- How often are your child’s teeth flossed?
- Is your child covered by Denti-Cal, Medi-Cal, and/or Medicaid?
- Do you take your child for a dental check-up (routine visit) at least once a year?
- Have you had trouble seeing a dentist for your child?
- Has your child ever needed a filling or been diagnosed with tooth decay?
- Do you purchase fluoridated toothpaste for your child?
- If you are the child’s mother, did you go to the dentist at least once during the first trimester of your pregnancy?
- When your child was an infant did you practice gum health, before you put them down to sleep for the night?
- Does your child drink tap water at home?
- How often did your child get juice or other sugary drinks in their bottle?
- How often did you put your child to sleep at night with a bottle, sippy cup, and/or pacifier in their mouth?
- How often did you put your child to sleep at night without brushing and/or wiping their teeth/gums after they had any liquid other than water?
- What is your gender?
- What is your age?
- What is your zip code?
- Have you completed a high school degree, GED, or equivalent?
- Do you receive WIC, SNAP, or CalFresh benefits?
- What is your race/ethnicity?

In total, the number of surveys analyzed included 600 General Population surveys, and 411 Caregiver surveys. Because the majority of people who responded identified solely as Latino or White, and few people identified as Asian, African American, Native American, or some other category, we combined racial/ethnic groups in the final analyses into 3 categories – those who solely identified as White (White), those who solely identified as Latino (Latino), and those who identified as something else (Other).

General population survey: 600

Survey language

- English: 72%
- Spanish: 28%

Race/ethnicity:

- 22% Non-Hispanic White
- 3% NH Black
- 1% Asian
- 58% Hispanic
- 11% Multi-race/ethnicity

Gender:

- 24% Male
- 67% Female

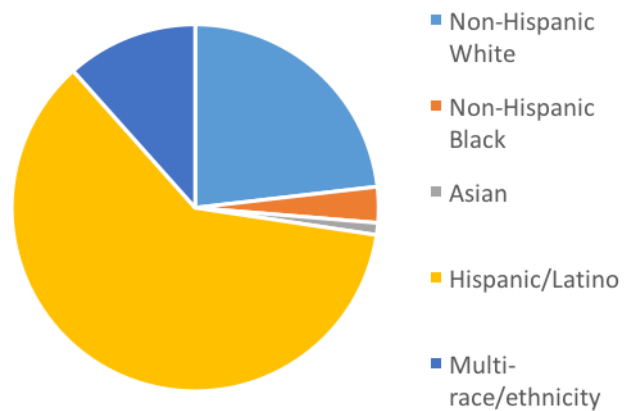
High school diploma/GED equivalent:

- 65% Yes
- 28% No

Reported receiving WIC

- 44%

General Population Race/Ethnicity



Caregiver survey: 411

- English: 62%
- Spanish: 38%

Race/ethnicity:

- 8% White
- 82% Latino/Hispanic/Chicano
- 3% Black/African America
- 1% Asian
- 5% Other

Gender of child:

- Female: 48.18%
- Male: 49.64%

Relationship to child:

- Mother: 87%
- Father: 9%
- Grandparent: 2%

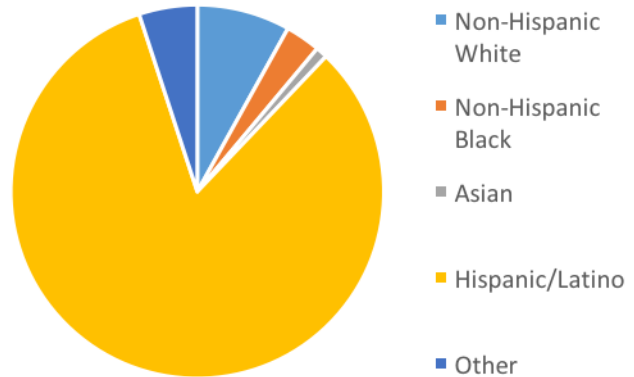
Reported receiving WIC, SNAP or CalFresh

- 84%

Age of child at time of survey:

- Less than one: 17%
- One: 19%
- Two: 21%
- Three: 18%
- Four: 14%
- Five: 9%

Caregiver Survey Race/Ethnicity



Key Informant Interviews

Between June and August 2018, 30 in-depth key informant interviews (KIIs) were conducted with healthcare providers and representatives from governmental agencies and community-based organizations (CBOs) in Madera County. Interviews utilized open-ended qualitative questions to gain insight into the organization/program and identify the oral health resources and programming options available to Madera County residents. Interviews also explored the gaps, barriers and unique challenges to accessing and utilizing oral health services in the county.

Key Informant Interviewees (Population Interviewed)

Key informant interviews were conducted with a variety of providers (including staff), and representatives from governmental agencies and CBOs/non-profit organizations throughout Madera County. Below is a list of agencies, organizations, and programs represented by interview participants. Individual names and titles are not included for confidentiality:

Community-Based Organizations

- Food Distribution Organization
- Family Resource Centers
- Madera Community College
- Madera Head Start Program
- Federally Qualified Health Center
- Local Dental Society

Government Agency Programs

- Madera County Department of Public Health
- Madera County Women, Infant, Children (WIC)
- Madera County First 5 Program
- Madera County Behavioral Health

Oral Health Provider(s)/Programs

- General Dentist
- Dental Office Manager
- Dental hygienist
- Registered Dental Hygienist Alternative Practice (RDHAP)
- Pediatrician

Madera County Key Informants	
Providers	
Dentists (DDS)	2
Dental Hygienists	4
Medical Providers (e.g., MD, RN, etc.)	4
Dental office staff	4
CBOs / Non-profits	5
Gov. Agency	11
Total	30

Secondary Data

This report also includes data from a number of secondary data sources:

- Data from the California Health Interview (CHIS) related to Madera County was accessed through the AskCHIS portal.²⁴ AskCHIS can be accessed at <http://ask.chis.ucla.edu>. The California Health Interview Survey is a random digit dial survey of households in California that asks health questions to adults, teenagers, and children in each of the 58 counties of California.²⁵ In 2016, CHIS collected health information on 235 adults, 6 adolescents, and 32 children in Madera County.²⁶ In 2015, CHIS sampled 239 adults, 6 adolescents, and 18 children in Madera County.²⁷ As a result, we combined the CHIS 2015 and 2016 when extracting data from AskCHIS.
- State law AB1433 requires that every entering kindergartener receive an oral health assessment as part of their school readiness activities.²⁸ The California dental association has requested the results of these assessments and has made them available online, by both county and school district,²⁹ at <https://www.cda.org/public-resources/community-resources/kindergarten-oral-health-requirement/ab1433-results>.
- Data on Cancer rates were obtained from the California Cancer Registry, which tracks all diagnosed cases and deaths due to cancer, and makes these rates of various subtypes of cancer available by county in both in map and table form.³⁰ This registry can be found at <https://www.cancer-rates.info/ca/>.
- Data on emergency department use for non-traumatic dental conditions (NTDCs), and regional/county data on the number of women who went to the dentist during pregnancy (from the Maternal and Infant Health Assessment) was provided to counties directly by the California Public Health Department.
- We obtained data on Medicaid Dental Insurance recipients from publicly available reports and datasets. We used:
 - The dataset – Multi-Year Medi-Cal Dental Measures and Sealant Data by County and Age Calendar Year 2013 to 2016 <https://data.chhs.ca.gov/dataset/test-dhcs-dental-utilization-measures-and-sealant-data-by-age-groups-calendar-year-2013-to-2015>
 - The dataset – Multi-Year Medi-Cal Dental Measures Data by County, Age, and Calendar Year 2013 to 2016 <https://data.chhs.ca.gov/dataset/test-dhcs-multi-year-dental-measures-data-by-county-calendar-year-2013-to-2015>
 - The dataset – Multi-Year Medi-Cal Dental Measures Data by County, Ethnicity, and Age Calendar Year 2013 to 2016 <https://data.chhs.ca.gov/dataset/dental-utilization-measures-and-sealant-data-by-county-ethnicity-age-calendar-year-2013-to-2015>
 - The report - Department of Health Care Services Beneficiary Utilization Performance Measures Report Fee-For-Service - Statewide by County - State Fiscal Year 2015-2016 Quarter 4 <https://www.dhcs.ca.gov/services/Pages/FFSPerformanceMeasures.aspx>
 - The report – Department of Health Care Services, Medi-Cal Dental Service Division (April 2017) Annual Dental Visit (ADV) by County (October 2015-September 2016).

C. FINDINGS

I. HEALTH STATUS

Introduction

The oral health status of an individual can affect and be affected by other chronic and systemic diseases such as diabetes, cardiovascular disease, and HIV^{9,15-17}; and periodontal disease (gum disease) is considered a complication of diabetes.³¹ As a result, preventing poor oral health is crucial to maintaining a healthy population.

The most common oral diseases and conditions include caries (tooth decay), gum disease (periodontal disease), and throat and mouth cancers.⁶ However, there are other important oral health symptoms which may indicate the beginning of these diseases, which are important to track. Tooth pain can be a symptom of either periodontitis (gum disease) or caries (tooth decay), and bleeding gums can indicate the onset of gum disease.³² Additionally, a dry mouth can exacerbate oral health conditions, as saliva is used to wash away particles in the mouth.³² It is also important to understand how many people have lost one or more teeth (other than wisdom teeth) because tooth loss can be prevented, and the number of individuals with lost teeth can be a proxy for access to care, and the standard of care that the community is experiencing.³³

...oral health problems are more severe among people with diabetes, and HIV infected people often have oral lesions that affect their quality of life because of dry mouth, impaired and sugar-rich dietary habits, and poor nutrition.

World Health Organization Regional
Office for Europe⁹

Self-Rated Health and Self-Rated Oral Health

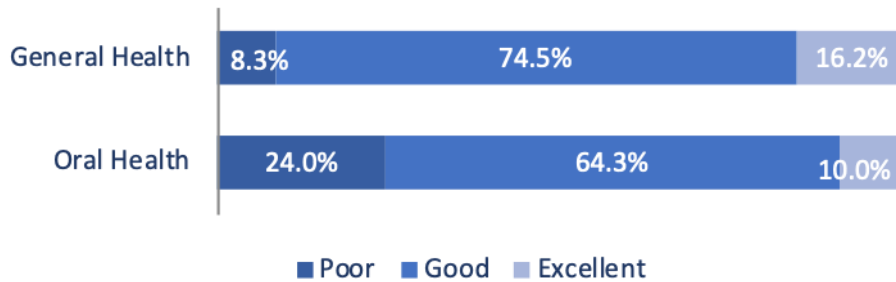
Understanding how people perceive their own health is important and can help predict their health status.¹¹ In Madera County, a good portion of adults felt that both their overall health and the health of their teeth and gums are either good or excellent, however, more adult respondents rated their oral health as poor than rated their overall health.

- 74.5% of adults rated their overall health as good, while 64.3% rated their oral health as good.
- 8.3% of adults rated their overall health as poor, while 24.0% rated the health of their teeth and gums as poor.
- More individuals who identified as White (14.3%) rated their oral health as excellent while only 8.6% of individuals who identified as Latino rated their oral health as excellent.

Self-rated health (SRH) is the mostly widely used, validated, single-item indicator of health status across social science research that independently predicts morbidity and mortality.

Altman et al.¹¹

Figure 1.1. Self-rated overall health and health of teeth and gums, Madera County 2018



In California, 4.4% of adults reported their general health as poor, while 8.9% reported their oral health as poor (Source: AskCHIS 2015-16)

Health ratings varied by race/ethnicity. Whites and adult respondents of other races reported higher rates of:

- poor overall health compared to Latinos
- poor oral health compared to Latinos

Table 1.1. Self-rated overall health and health of teeth and gums, Madera County, 2018

	Overall health			Health of your teeth and gums			
	White	Latino/Chicano	Other	White	Latino/Chicano	Other	
Poor	11.3%	6.0%	12.8%	Poor	29.3%	21.8%	23.9%
Good	69.2%	78.7%	67.0%	Good	54.1%	68.4%	64.2%
Excellent	18.1%	14.9%	17.4%	Excellent	14.3%	8.6%	10.1%

The California Health Interview Survey (CHIS) surveyed individuals on their self-rated health. In 2015-16 (2-year prevalence) 30.8% of individuals surveyed by the CHIS reported their overall health was good, while 17.1% reported their health as fair, and 4.4% reported their overall health as poor. The CHIS also surveyed individuals on the condition of their teeth. In 2015-16, 33.1% reported the condition of their teeth as good, 18.3% reported the condition of their teeth as fair, 8.9% reported the condition of their teeth as poor, and 2.1% of those surveyed reported they had no natural teeth.

Identified Needs

Bleeding gums, dry mouth, sore gums, chewing difficulty

A number of adults in Madera County reported symptoms of mouth pain, such as toothache pain, which could indicate developing caries (tooth decay) or gum disease, chewing difficulty, which impacts the quality of life, and bleeding gums, and could be an early symptom of periodontal diseases.^{32,34,35}

- 25.7% of adults reported bleeding gums
- 22.8% of adults reported dry mouth
- 16.5% of adults reported sore gums
- 18.5% of adults reported chewing difficulty

Figure 1.2. Percentage of adults reporting bleeding gums, dry mouth, sore gums, toothache pain, and chewing difficulty in Madera County, 2018

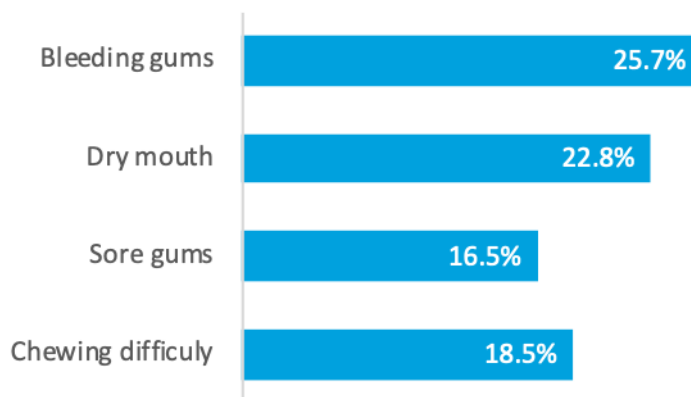


Table 1.2. Percentage of adults reporting bleeding gums, dry mouth, sore gums, toothache pain, and chewing difficulty by race/ethnicity, Madera County, 2018

	White	Latino/ Chicano	Other
Bleeding gums	23.3%	27.0%	23.9%
Dry mouth	24.8%	20.1%	28.4%
Sore gums	20.3%	16.1%	13.8%
Chewing difficulty	18.8%	19.5%	12.8%

Adult tooth decay and damage

It is important to have teeth free of caries (tooth decay) as this increases the quality of life and ability to eat and enjoy food.^{13,14}

Additionally chipped or broken teeth can damage the root of the tooth.³⁶ A number of adults reported more severe mouth damage including caries that needed filling, loose teeth, and broken teeth.

- Almost 4 out of 10 of adults (39%) reported a cavity that needs filling, with 41.1% of Latinos reporting a cavity that needed filling.
- One third, or 33.33%, of adults, reported broken teeth and 39.9% of White respondents reported having broken teeth

Although tooth decay is largely preventable, it remains one of the most common chronic disease of childhood, affecting up to two-thirds of adolescents. Cavities also affect adults; among those aged 20-64 years, more than 90% had at least one cavity, and 27% had untreated decay.

CDC⁶

Figure 1.3. Percent of adults reporting cavities that need filling, loose teeth, or broken teeth in Madera County, 2018

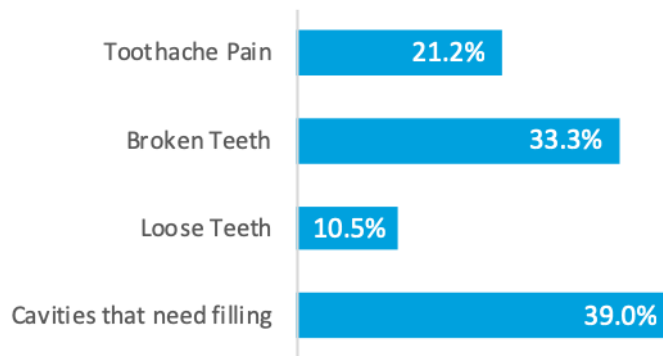


Table 1.3. Percent of adults reporting cavities that need filling, loose teeth, or broken teeth by race/ethnicity, Madera County, 2018

	White	Latino/Chicano	Other
Toothache Pain	21.1%	21.6%	19.3%
Broken Teeth	39.9%	31.3%	32.1%
Loose Teeth	12.8%	10.3%	7.3%
Cavities that need fillings	36.1%	41.1%	36.7%

Adult tooth loss

A large number of adults reported that they had experienced tooth loss, which could also affect their quality of life.¹³ However, only 7.8% of adults reported that they had received dentures, which indicates that there are a number of adults who have lost teeth and do not receive the prosthetics they need to be able to chew and speak properly.

- 37.2% of adults reported they had lost 1 to 5 teeth
- 10.0% of adults reported they had lost 6 or more teeth
- 2.0% of adults reported they had lost all their teeth.

Figure 1.4. Number of permanent teeth lost or removed, reported by adults in Madera County, 2018

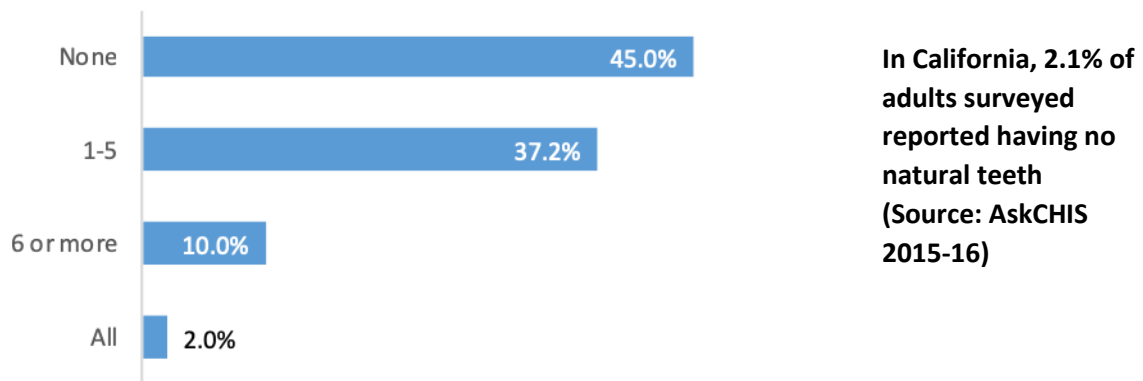


Table 1.4. Number of permanent teeth lost or removed, reported by adults in Madera County by race/ethnicity, 2018

	White	Latino/ Chicano	Other
None	31.6%	48.0%	48.6%
1-5	42.9%	36.5%	33.9%
6 or more	18.1%	8.6%	5.5%
All	3.0%	1.2%	3.7%

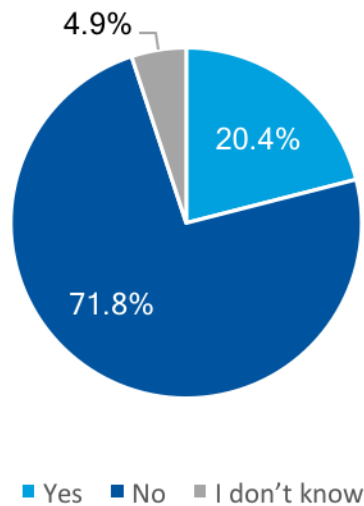
* Does not include wisdom teeth

Child tooth decay

A significant number of caregivers (of children ages 0 to 5) reported that their child had previously needed a filling or been diagnosed with caries, which can affect the child’s quality of life, school attendance, and speech development. ^{12,22}

- 20.4% of respondents reported that the child (ages 0-5) had previously needed a filling or been diagnosed with tooth decay.
- Nearly 5% reported they do not know if their child had previously needed a filling or been diagnosed with tooth decay.
- 20.6% of Latino caregivers reported that their child had been previously diagnosed with tooth decay.

Figure 1.5. Percent of children (ages 0-5) who had previously needed a filling or been diagnosed with tooth decay, Madera County, 2018



In 2017, 65.9% of children received a pre-kindergarten oral health assessment. Of those children, only 10.1% were reported as having previous decay.

Source: AB1433 database

Table 1.5. Percent of children (ages 0-5) who had previously needed a filling or been diagnosed with tooth decay by race/ethnicity, Madera County, 2018

	White	Latino/ Chicano	Other
Yes	18.8%	20.6%	23.1%
No	75.0%	71.3%	74.4%
I don't know	3.1%	5.7%	0.0%

State law AB1433 requires that every entering kindergartener receive an oral health assessment as part of their school readiness activities. This data allows us to see how widespread caries are among the general child population.

- In Madera county in 2017, only 65.9% of all kindergarteners received an oral health assessment, though this varied by the school district and ranged from 0% returned to 80% returned.
- Of these 65.9% of students, 10.1% of them had experienced decay. The percentage of kindergarteners with caries ranged by the school district from 0% to 28.9%.

Tooth decay (cavities) is one of the most common chronic conditions of childhood in the United States. Untreated tooth decay can cause pain and infections that may lead to problems with eating, speaking, playing, and learning.

CDC⁵

For the last 4 years, the number of pre-kindergarteners in Madera County who were screened and had untreated dental decay was low. Although the trend does look like it is increasing, the number of total children who turned in the assessment increased to 376 in 2017.

Figure 1.6. The number of pre-kindergarteners who were screened and had untreated dental decay in Madera County, 2013-2017 (Source: California Dental Association AB 1433 Pre-K Reported Data)

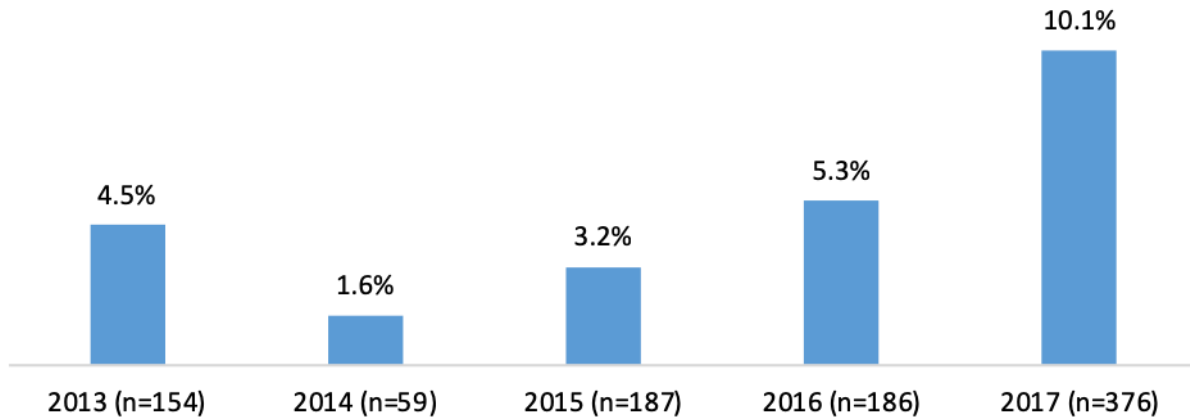


Table 1.6. Percent of kindergarteners in Madera County who received a pre-kindergarten dental assessment, and percent of kindergarteners in Madera County who received a pre-kindergarten dental assessment and had previously experienced dental decay by the school district, 2017

School District	Percent received Assessment	Percent Decay
Alview-Dairyland Union Elementary	n/a	n/a
Bass Lake Joint Elementary	n/a	n/a
Chawanakee Unified	54.7%	0.0%
Chowchilla Elementary	68.5%	0.0%
Golden Valley Unified	56.9%	15.5%
Madera County Office of Education	80.0%	0.0%
Madera Unified	0.0%	n/a
Raymond-Knowles Union Elementary	n/a	n/a
Yosemite Unified	75.0%	28.9%
Madera Total	65.8%	10.1%

Cancer

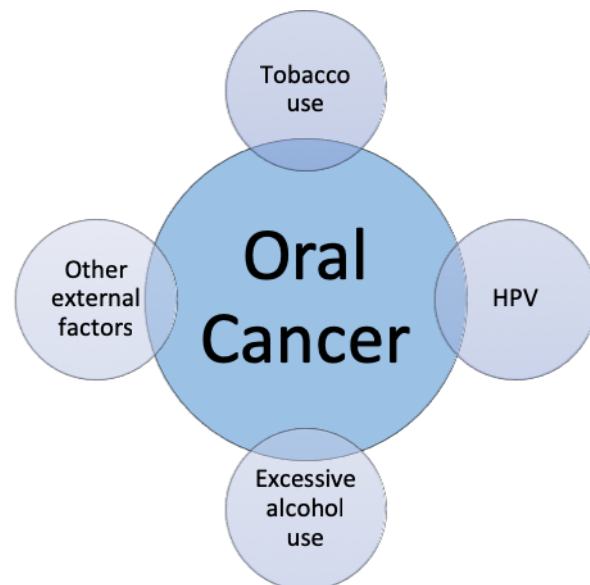
Oral cancer includes cancers of mouth, tongue, the tissue lining the mouth and gums, tongue, and the area of the throat at the back of the mouth.³⁷ Risk factors for oral cancer include a history of oral cancer, tobacco use (cigarettes, cigars, pipes, and smokeless tobacco), harmful use of alcohol, a low consumption of fruit and vegetables, sun exposure, and HPV (Human Papilloma Virus).^{6,37}

In 2014 (the most recent year for which data is available) there were 4,251 new oral cavity and pharynx related cancer cases reported (for an age-adjusted incident rate of 10.1), and 1,027 deaths from oral related cancers (for an age-adjusted incident rate of 2.47) in California.

- In Madera County, there is no data on oral cavity and pharynx invasive cancer listed in the California Cancer Registry for the most recent year that data is available (2014).
- The 5-year age adjust incident rate (2010-2014) is lower in Madera County than California (9.29 vs 10.3), however, no data on 5-year mortality rates for Madera County were listed in the California Cancer Registry

In 2012, there were nearly 40,000 new cases of cancer of the oral cavity and pharynx diagnosed in the United States and nearly 9,000 deaths. The 5-year survival rate for these cancers is about 59 percent.

CDC⁶



II. ACCESS TO CARE AND UTILIZATION OF CARE

Introduction

Dental visits are important to take additional preventive measures for oral health care, including regular checkups, exams, x-rays, fluoride varnishing, and cleanings. Regular dental visits can help identify dental health problems early, prevent issues, and detect some diseases or medical conditions with symptoms that appear in the mouth.³⁸ Dental visits allow an opportunity for patients to learn about their oral health, brushing and flossing techniques, and educational information from dental health professionals. Long periods of time between dental visits can contribute to the progression of oral health issues.³⁹ For children, it is important that they visit a dentist before the age of 1, and after their first tooth appears in order to prevent caries (tooth decay).²¹ It is particularly important that pregnant women receive dental care since hormonal changes during pregnancy can increase the risk of gingivitis, tooth or gum infection, and caries.⁴⁰ Additionally, periodontal disease (gum disease) during pregnancy has been linked to premature birth.⁴¹

The biggest problem for access to care, I think, is dentists... There's not enough of them to take Denti-Cal in the first place. And then on top of that, the ones that do are very limited, so they don't accept new patients.

Key Informant, Dental Provider

Insurance coverage is a way of offsetting the cost of visiting the dentist, and is obtained from a range of sources: employer-sponsored coverage, fee-for-service, and federal health insurance programs.⁷ However, having dental coverage does not guarantee dental services are available and accessible. Adults with Denti-Cal may have access to more services now, but many providers take a limited number of Denti-Cal patients and most do not take Denti-Cal patients at all. This adds an additional barrier to underserved groups getting the care they need and increases oral health disparities.

A proportion of adults in Madera County do not have dental insurance coverage, thus are required to pay out-of-pocket or do not seek oral health care services. Individuals without insurance may also seek care from the emergency department of hospitals. There are Federally Qualified Health Centers (FQHCs) that have a sliding scale and will see those who are uninsured. Additionally, there are some dental offices that will set up payment plans with their patients who have no insurance or high deductibles. These vary from practice to practice and depend on the provider's capacity and desire to incorporate these plans into their practice.

Insurance

Differential rates of insurance coverage were reported for adults and children. A higher percentage of children were reported as having dental insurance than adults.

- 56.5% of adults reported they had dental insurance
- 83.2% of caregivers reported that their child was covered by dental insurance

Americans with dental benefits are more likely to go to the dentist, take their children to the dentist, receive restorative care and experience greater overall health.

National Association of Dental Plans ⁷

Figure 2.1. Percent of adults and children who reported having dental insurance in Madera County 2018

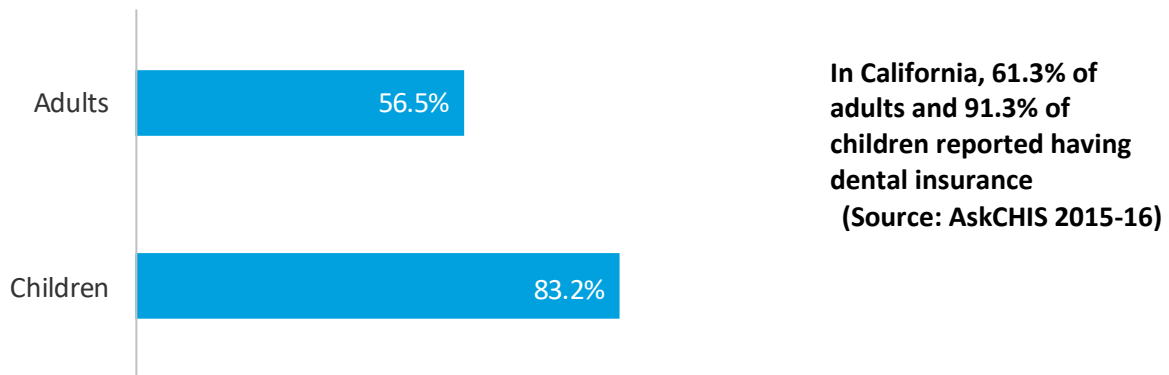


Table 2.1. Percent of adults and children who reported having dental insurance by race/ethnicity in Madera County 2018

	Dental insurance for adults			Dental insurance for children			
	White	Latino/ Chicano	Other	Yes	White	Latino/ Chicano	Other
Yes	22.6%	10.9%	8.3%	Yes	22.6%	10.9%	8.3%
No	31.6%	35.3%	32.1%	No	31.6%	35.3%	32.1%
I don't know	16.5%	11.2%	12.8%	I don't know	16.5%	11.2%	12.8%

Coverage for adults and children varied, with a higher percentage of children reporting coverage by Denti-Cal, Medi-Cal, and/or Medicaid. The majority of adults reported coverage through their employer, Medicaid or did not answer the question.

- 85.4% of caregivers reported the child was covered by Denti-Cal, Medi-Cal, and/or Medicaid
- 33.7% of adults reported that their dental insurance was through Medicaid/Denti-Cal, while 12.8% of adults reported that their insurance was through their employer
- Whites (22.6%) had double the rates of employer-based dental insurance compared to Latinos (10.9%) and Other racial/ethnic groups (8.3%)

Figure 2.2. Dental insurance source for adults by race/ethnicity in Madera County, 2018

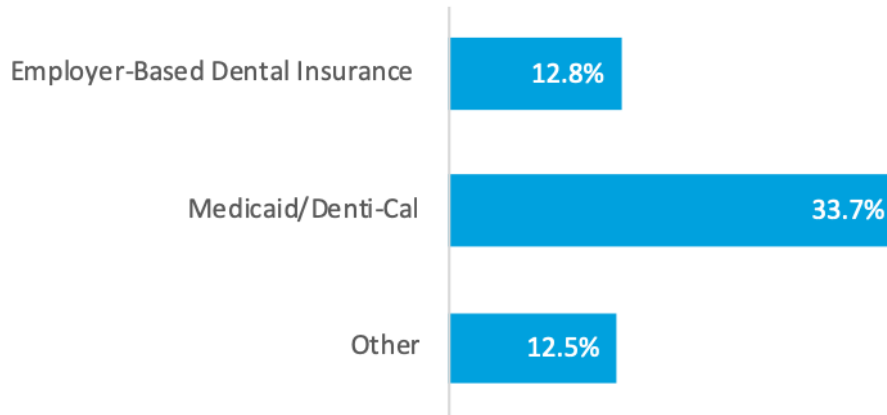


Table 2.2. Dental insurance for adults by race/ethnicity in Madera County, 2018

	White	Latino/ Chicano	Other
Employer-Based Dental Insurance	22.6%	10.9%	8.3%
Medicaid/Denti-Cal	31.6%	35.3%	32.1%
Other	16.5%	11.2%	12.8%

Usual Source of Dental Care

A large number of adults reported that they did not have a dentist, or did not have a usual source of care where they could get treatment. Additionally, a large number of adults reported that they had needed care but could not get it.

- 37.5% of adults reported that they did not have a usual source of care
- 34.5% of adults reported that there was a time in the past year that they needed care but could not get it

Figure 2.3. Percentage of adults who reported having a dentist, Madera County, 2018

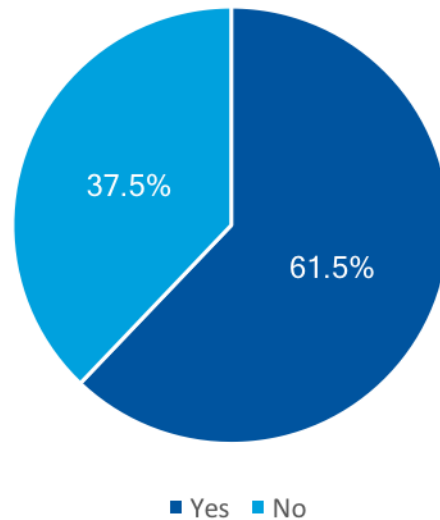


Table 2.3. Percentage of adults who reported having a dentist by race/ethnicity, Madera County, 2018

	White	Latino/Chicano	Other
Yes	66.2%	61.5%	58.7%
No	31.6%	37.9%	40.4%

Figure 2.4. Percentage of adults who reported they needed dental care but could not get it in Madera County 2018

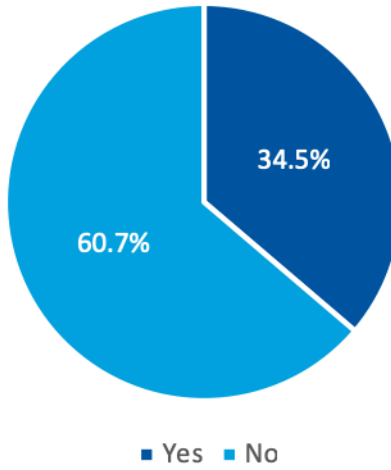


Table 2.4. Percentage of adults who reported they needed dental care but could not get it in Madera county by race/ethnicity, 2018

	White	Latino/Chicano	Other
Yes	24.8%	37.6%	35.8%
No	70.7%	57.8%	58.7%

Dental Visits

Dental visits for adults

A large number of adult respondents reported that they had visited the dentist within the past year, and a small proportion of individuals reported they had never been to the dentist. When asked about why they had last visited the dentist, the majority of adults reported they had been to the dentist for a check-up.

- 49.3% of adults reported their last visit to the dentist was for a check-up, while 46.2% of adults reported they visited the dentist for a problem
- Over one-third (34.3%) of respondents reported that they had not visited the dentist in the past year
- 45.8% of adults reported they visited the dentist in the last 6 months or less

Figure 2.5. Percentage of adults reporting visiting the dentist for a check-up or dental problem in Madera County, 2018

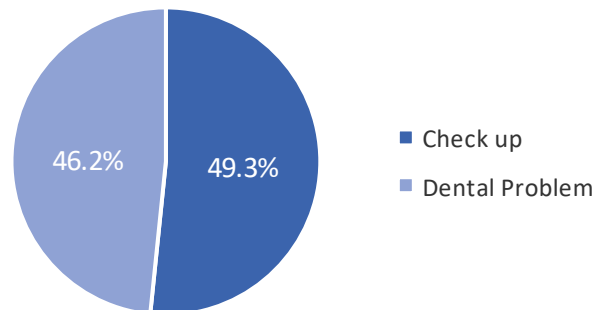


Figure 2.6. Percentage of adults reporting they had visited the dentist within 6 months or less, the past year, more than 1 year, or who had never been to the dentist, Madera County 2018

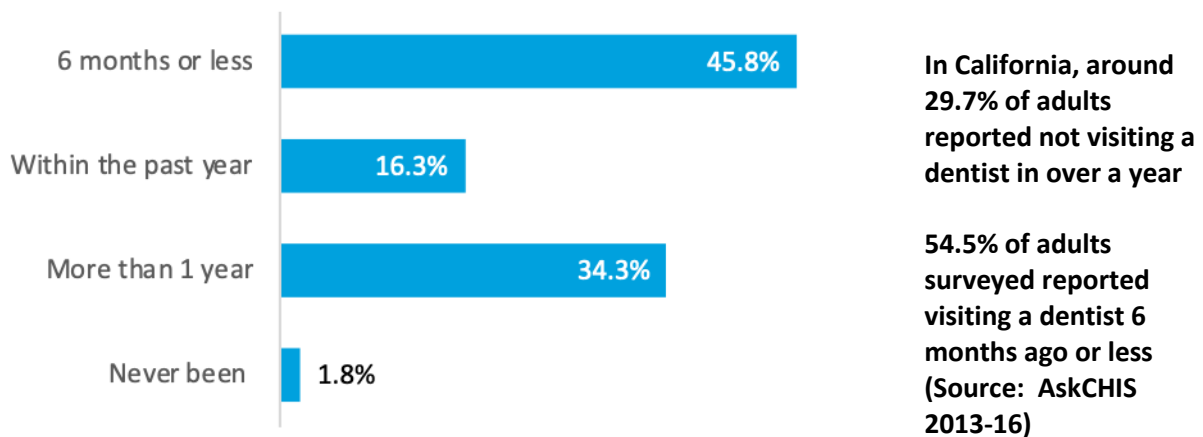


Table 2.5. Percentage of adults reporting last dental visit in Madera County by race/ethnicity, 2018

	White	Latino/ Chicano	Other
6 months or less	52.6%	44.8%	43.1%
Within the past year	11.3%	18.7%	14.7%
More than 1 year	32.3%	33.3%	39.5%
Never been	1.5%	1.7%	1.8%

Adults who had not visited the dentist in the past year were asked to select from a list of reasons why they had not visited the dentist (respondents could select more than 1 response). Responses varied with the most common response being cost (22.2%), lack of insurance (17.0%), not liking to go to the dentist (9.0%), that the respondent did not perceive a problem with their teeth (7.5%), or that the individual was scared of the dentist (6.7%). 25% of Latino respondents selected cost (too expensive) as a reason that they had not visited the dentist.

Figure 2.7. Percentage of adult respondents that reported the reasons they did not visit a dentist in the past year in Madera County, 2018

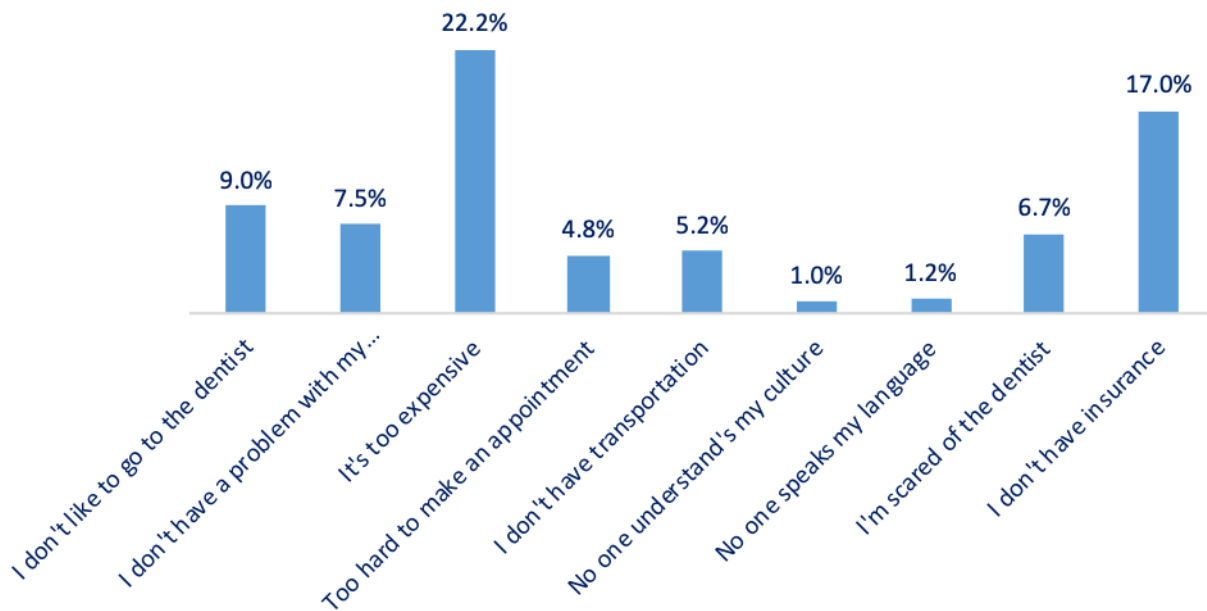


Table 2.6. Reasons adults identified for not visiting a dentist in the past year in Madera County by race/ethnicity, Madera County, 2018

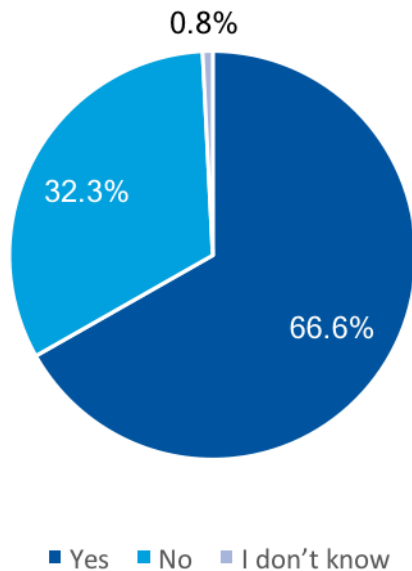
	Total	White	Latino/Chicano	Other
I don't like to go to the dentist	9.0%	8.3%	8.3%	11.0%
I don't have a problem with my teeth	7.5%	6.0%	7.2%	9.2%
It's too expensive	22.2%	13.5%	25.9%	19.3%
Too hard to make an appointment	4.8%	3.8%	4.3%	7.3%
I don't have transportation	5.2%	5.3%	4.0%	8.3%
No one understands my culture	1.0%	0.8%	0.6%	1.8%
No one speaks my language	1.2%	0.8%	1.2%	1.8%
I'm scared of the dentist	6.7%	8.3%	6.0%	6.4%
I don't have insurance	17.0%	11.3%	17.8%	21.1%

Dental visits for pregnant women

It is important for pregnant women to see a dental provider. It is particularly important as the oral health of mothers can help determine the oral health of their children.^{19,20} When women in Madera County were surveyed as part the California Maternal and Infant Health Assessment (MIHA) 2015-16, only 38.5% of the women surveyed said they had gone to the dentist during pregnancy. This percentage was higher among respondents to the Caregiver survey:

- 32.3% of mothers taking the caregiver survey reported NOT visiting the dentist during their first trimester
- 66.6% of mothers reported visiting the dentist during that time period

Figure 2.8. Percentage of women reporting they went to a dentist at least once during their first trimester of pregnancy, Madera County, 2018



In California, 43.0% of women received a dental visit during pregnancy (Source: Maternal and Infant Health Assessment 2015-2016)

Table 2.7. Percentage of women reporting they went to a dentist at least once during their first trimester of pregnancy by race/ethnicity, Madera County, 2018

	White	Latino/ Chicano	Other
Yes	64.0%	68.4%	50.0%
No	36.0%	30.6%	46.7%
I don't know	0.0%	1.0%	0.0%

Dental visits for children

It is important to take children to the dentist by age one.²¹ However, almost half of caregivers of children ages 0 to 5 take their child to the dentist before the age of one:

- 44.1% of respondents reported taking their child to the dentist for the first time at age 1 or younger
- 31.4% reported their child had never been to the dentist

Figure 2.9. Age of child’s first visit to the dentist, Madera County, 2018

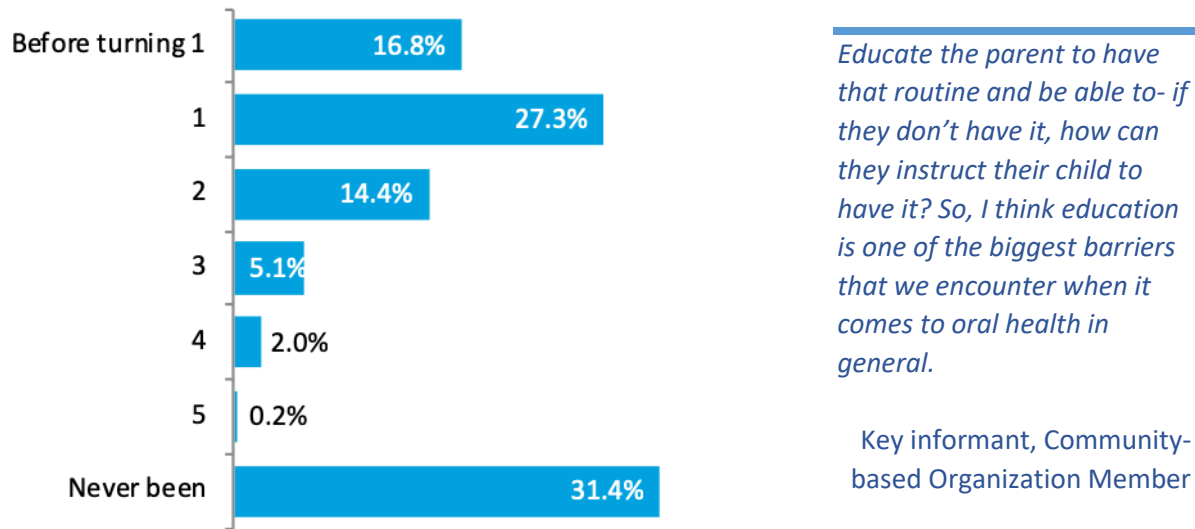


Table 2.8. Age of child’s first visit to the dentist, Madera County by race/ethnicity, 2018

	White	Chicano/ Latino	Other
Before turning 1	31.3%	14.3%	23.1%
1	18.8%	29.6%	15.4%
2	21.9%	13.1%	20.5%
3	3.1%	6.0%	0.0%
4	0.0%	1.8%	5.1%
5	0.0%	0.3%	0.0%
Never been	25.0%	32.2%	33.3%

Routine dental visits are important for a child’s oral health, and the American Academy of Pediatric Dentists recommends that children visit the dentist every 6 months.⁴² Almost a quarter of respondents did not take their child to the dentist at least once a year.

- 69.3% of caregivers reported taking their child for a dental check-up at least once per year
- 24.1% of caregivers reported they did NOT take their child at least once per year.

Figure 2.10. Has the child been to the dentist in the last year in Madera County, 2018

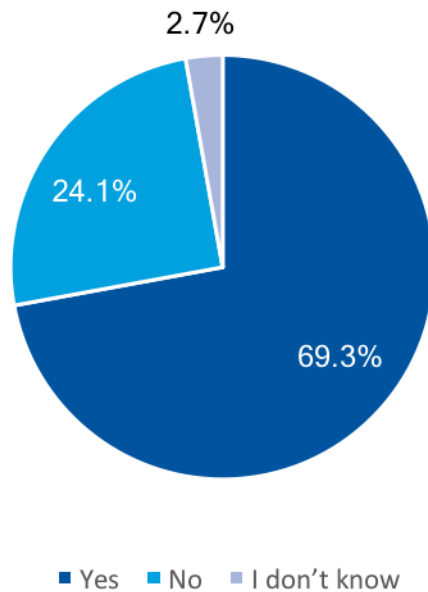


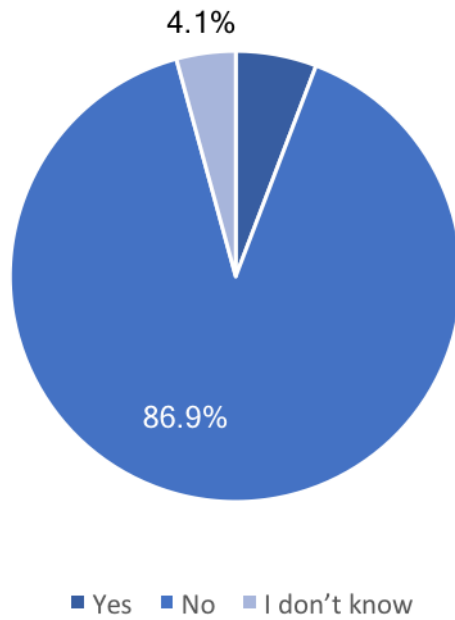
Table 2.9. Has the child been to the dentist in the last year in Madera County by race/ethnicity, 2018

	White	Latino/ Chicano	Other
Yes	81.3%	68.7%	66.7%
No	15.6%	24.8%	28.2%
I don't know	3.1%	3.0%	0.0%

In Madera County, there is a limited number of pediatric dentists, and many general dentists will not take children under the age of 5, one reason being potentially difficult behavior from the child. Despite reported barriers:

- Only 5.6% of caregivers reported having trouble seeing a dentist for their child. 86.9% of caregivers DID NOT report having trouble seeing a dentist for their child.

Figure 2.11. Percentage of caregivers that reported having trouble seeing a dentist for their child, Madera County, 2018



In California, 5.0% of children needed dental care but could not access it (Source: AskCHIS 2015)

Table 2.10. Percentage of caregivers that reported having trouble seeing a dentist for their child by race/ethnicity, Madera County, 2018

	White	Latino/ Chicano	Other
Yes	6.3%	5.4%	7.7%
No	90.6%	87.2%	84.6%
I don't know	3.1%	4.8%	0.0%

Visits to the emergency department for dental issues by uninsured individuals, or those who cannot make an appointment with their dentist is problematic as many emergency department staff are not trained or equipped to deliver dental care, and may often only be able to provide temporary solutions to oral health-related issues.⁴³ As a result, emergency department visits for non-traumatic dental conditions (NTDC, a dental issue that is not the result of trauma) are an important indicator of the number of individuals who do not have access to care. The overall rate of non-traumatic dental conditions (NTDC) emergency department visits in Madera is higher than the California Average:

- In Madera County, there were 421.1 visits for NTDC per 100,000 individuals, compared to 353.3 visits per 100,000 people in the state of California.

Figure 2.12. Rate out of 100,000 of non-traumatic dental conditions (NTDC) emergency department visits in Madera County 2018

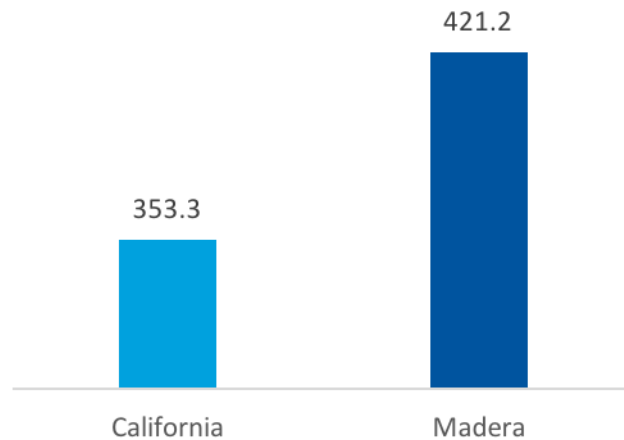


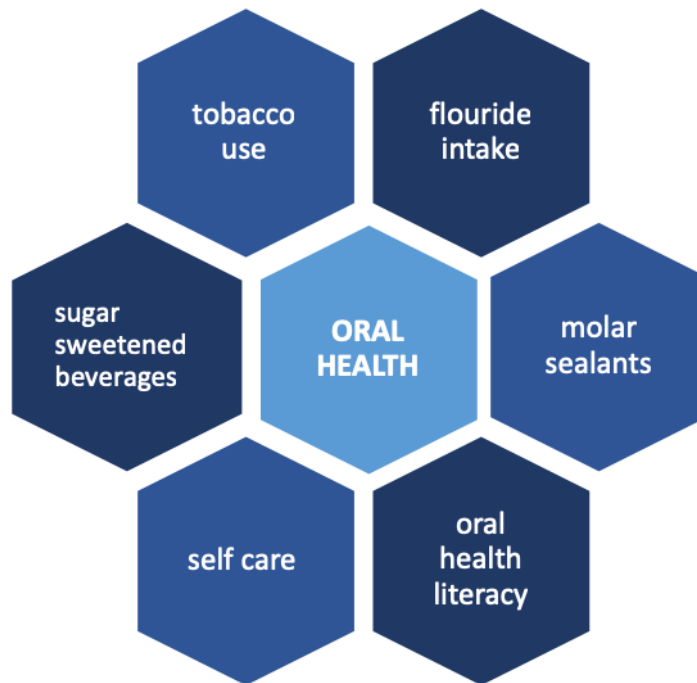
Table 2.11. Rate out of 100,000 of non-traumatic dental conditions (NTDC) emergency department visits by race/ethnicity in Madera County 2018

	White	Latino/Chicano	Other
California	391.2	300.8	623.9
Madera	330.9	496.1	147.0

III. MODIFIABLE RISK FACTORS

Introduction

A modifiable risk factor is a thing we can change. Besides access and utilization of dental care, modifiable risk factors for oral health include fluoride application, the cessation of tobacco product use, the reduction of the intake of sugar-sweetened beverages, self-care (flossing and brushing), sealing children’s molars before decay occurs, and oral health literacy.^{5,44-46} For children and infants, it is particularly important to ensure that sugar-sweetened beverages, such as juice, are not fed through their bottle, and that caretakers practice routine gum care (wiping down the gums with a damp cloth). An important way of preventing childhood caries is the use of sealant. Coating the surface of children’s molars with opaque plastic material or sealant has been shown to be an effective preventive method against caries (tooth decay) in school-age children, and can decrease the rate of cavity formation on the molars by 80%.⁴ Because molars erupt at different age points, children should receive sealants around the age of 6 after their first molars erupt, and again around the age of 12 when their second permanent molars erupt.⁴⁷



Fluoridated Products

Fluoride prevents caries (tooth decay) in both children and adults, and the fluoridation of water in low socio-economic communities can reduce oral health disparities through helping to prevent cavities.⁴⁸ In Madera County, the water system is not fluoridated.⁴⁹ Other sources of fluoride such as fluoride varnish and the use of fluoridated toothpaste (for children over 2) can help prevent cavities.^{5,50} However, almost 30% of caregivers did not purchase fluoridated toothpaste:

- 56.7% of caregivers reported they purchased fluoridated toothpaste
- 29.0% of caregivers reported they DID NOT purchase fluoridated toothpaste

Figure 3.1. Percentage of caregivers that reported purchasing fluoridated toothpaste, Madera County 2018

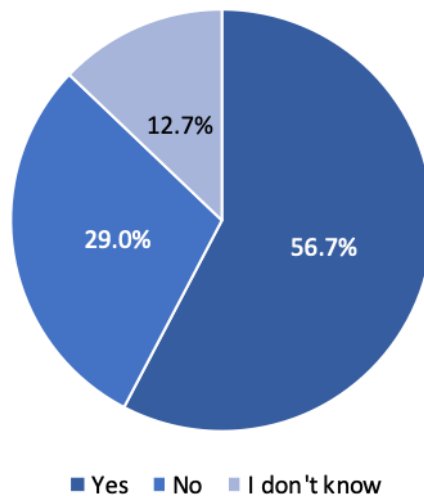


Table 3.1. Percentage of caregivers that reported purchasing fluoridated toothpaste by race/ethnicity, Madera County 2018

	White	Latino/ Chicano	Other
Yes	59.4%	56.7%	56.4%
No	28.1%	28.7%	33.3%
I don't know	12.5%	13.4%	7.7%

Dental Sealants

Sealing children's molars helps to prevent cavities.⁵¹ In the United States, the latest available data (1999-2004) states that 30% of children ages 6-11, and 38% of children ages 12-19 have received dental sealants.^{52,53} Data for the total number of children who have sealants at the state, regional, or county level is not available. However, Denti-Cal provides the number of covered children ages 6-9 and 10-14 who received sealants on a yearly basis.

Dental Sealants continue to prevent over 80% of cavities 2 years after placement. Yet only about 1 in 3 children aged 6 to 8 years has sealants.

CDC⁴

In Madera County, we see that sealant utilization is low in children.

- In Madera County, 16.9% of Denti-Cal recipients ages 6-9 received a molar sealant in 2016, and 8.4% of Denti-Cal recipients ages 10-14 received a molar sealant in 2016

Dental Sealants¹

- **Applied to molars, where most cavities in children and adolescents occur**
- **Protect against 80% of cavities for 2 years and 50% of cavities for 4 years**

The CDC recommends²

- **Applying a fluoride varnish when the first tooth appears**
- **Dental sealants for school age children**
- **Community water fluoridation**

Tobacco and Sugar-Sweetened Beverages

Tobacco use

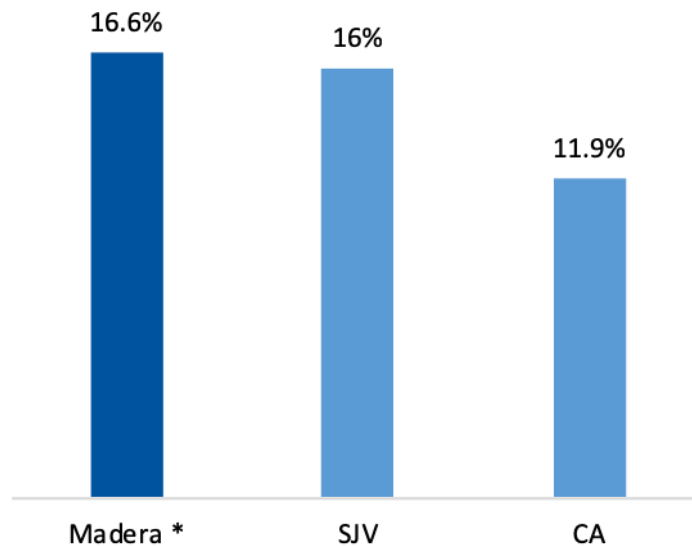
Tobacco use is an important risk factor for oral disease that is preventable.³

- The overall smoking prevalence in California for 2015-16 (2-year prevalence rate) reported by the California Health Interview Survey (AskCHIS) was 12.4%, while 15.7% of respondents in the San Joaquin Valley reported they were a smoker during the same time period.
- 16.6% of adults surveyed in Madera County by the CHIS during 2016 reported that they were a current smoker, compared to 11.9% in California

The most significant effects of smoking on the oral cavity are: oral cancers and pre-cancers, increased severity and extent of periodontal diseases, as well as poor wound healing.

World Dental Federation ³

Figure 3.2. The smoking rate of traditional cigarette use among adults in Madera County is above the state rate.



Source: AskCHIS California Health Interview Survey 2016

I think the thing we need to be aware of going forward is also the vaping. I don't think people realize that even though it's not necessarily a cigarette, how bad these other alternatives are.

Key Informant, Dental Provider

Dental Interventions for Tobacco and Sugar-Sweetened Beverages

Dentists are an important point of contact in the system and are often able to influence their patients to change their behavior when talking to them about tobacco use and sugar-sweetened beverages.^{54,55} In Madera County, more adults reported that they had talked to their dentist about drinking sugar-sweetened beverages than had talked to them about tobacco use. However, this could be because 39.7% of adult respondents reported that they do not use tobacco products, so their dentist may not talk to an individual who does not smoke about tobacco.

- 53.5% of adults reported their dentist had talked to them about sugar-sweetened beverages.
- 34.8% of adults reported their dentist had talked to them about tobacco.

Figure 3.3. Has your dentist talked to you about using tobacco or drinking sugar-sweetened beverages, Madera County, 2018

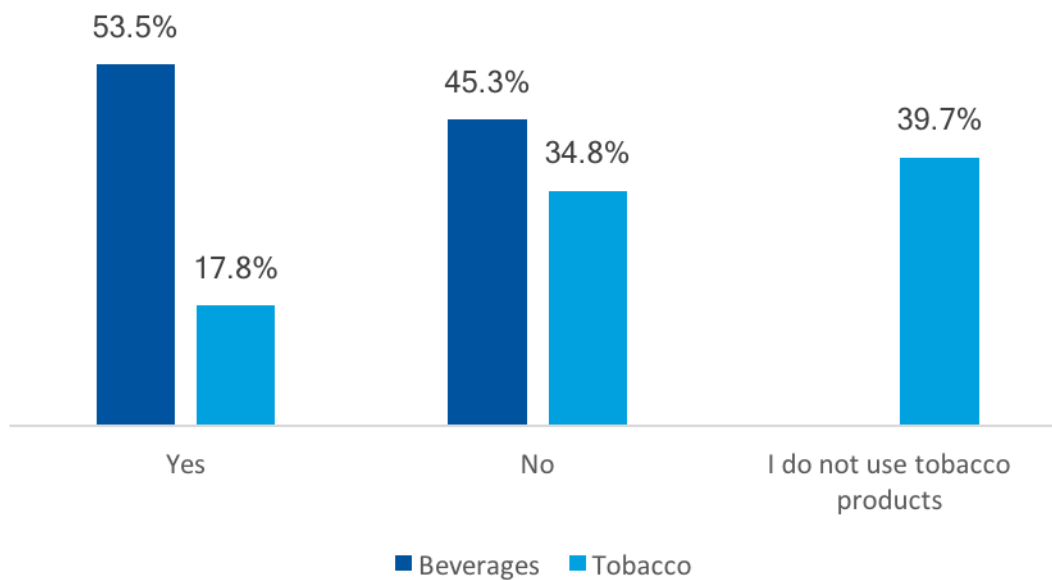


Table 3.2. Has your dentist talked to you about drinking sugar sweetened beverages, Madera County by race/ethnicity, 2018

	White	Latino/ Chicano	Other
Yes	49.6%	55.5%	53.2%
No	46.6%	42.5%	43.1%

Table 3.3. Has your dentist ever talked to you about using tobacco in Madera County by race/ethnicity, 2018

	White	Latino/ Chicano	Other
Yes	35.3%	33.3%	39.5%
No	17.3%	18.1%	17.4%
I do not use tobacco products	40.6%	41.4%	34.9%

Infants and Sugar-Sweetened Beverages

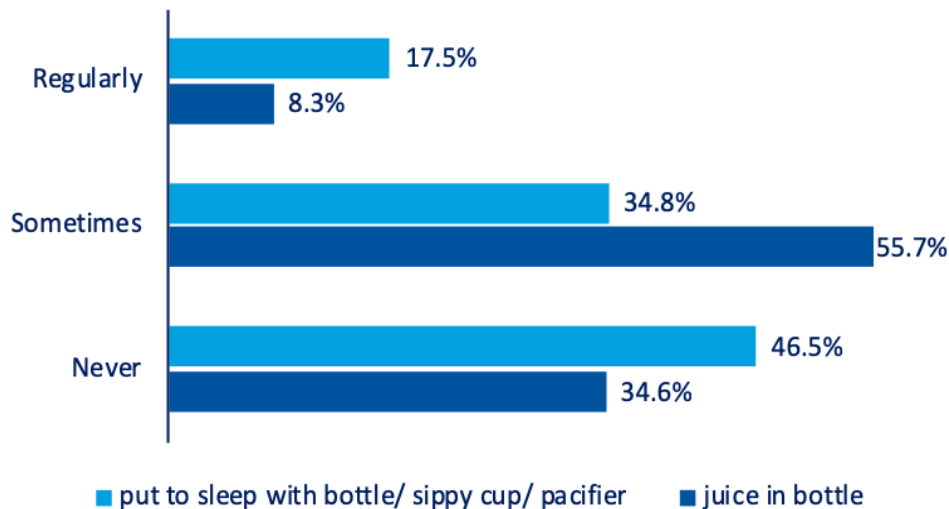
Sugary beverages in bottles and sippy cups may increase the chance of that child developing caries (tooth decay) at a young age.^{23,56} Many caregivers reported that their child had juice or other sugary drinks in their bottle either sometimes or regularly, while a number of caregivers reported that they sometimes or regularly put their child to bed with a bottle, sippy cup and/or pacifier.

We see many children that have severe cavities and dental tooth decay. And it is usually related to drinking sugar-containing fluids from baby bottles for inappropriate long periods of time, especially while lying down.

Key informant, Government Staff

- 55.7% of caregivers reported their child SOMETIMES had juice or other sugary drinks in their bottle, while only 34.6% said their child NEVER had juice or other sugary drinks in their bottle
- 57.6% of Latinos said their child SOMETIMES had juice or other sugary drinks in their bottle
- 46.5% of caregivers responded they NEVER put their child to bed with a bottle, sippy cup, and/or pacifier, while 34.8% of caregivers responded they SOMETIMES and 17.5% said they REGULARLY did so.

Figure 3.4. Percentage of children that get juice or a sugary beverage in their bottle or are put to sleep with a bottle, Madera County 2018



In California, only 4.9% of caregivers reported their child sleeps with a bottle in their mouth

(Source: AskCHIS 2015-2016)

Table 3.4. Percentage of children that get juice or a sugary beverage in their bottle or are put to sleep with bottle by race/ethnicity, Madera County, 2018

	White	Latino/Chicano	Other
Never	56.3%	33.7%	23.1%
Sometimes	37.5%	57.6%	56.4%
Regularly	6.3%	7.8%	15.4%

Table 3.5. Percentage of children that get put to sleep at night with a bottle, sippy cup, and/or pacifier in their mouths by race/ethnicity in Madera County, 2018

	White	Latino/Chicano	Other
Never	50.0%	47.2%	33.3%
Sometimes	40.6%	34.6%	35.9%
Regularly	9.4%	17.3%	28.2%

Self-Care

Adult self-care for teeth

Adults should brush twice a day using fluoridated toothpaste and floss at least once a day to remove debris between their teeth in order to prevent plaque buildup on the teeth and gumline.^{44,45} A large proportion of those surveyed indicated that they brushed their teeth at least twice a day. However, a good proportion of adults indicated that they never flossed their teeth, or only flossed their teeth when needed.

- 91.2% of adults indicated they brushed once a day or more often
- 13.7% of adults indicated that they never flossed

Figure 3.5. The frequency of brushing and flossing of teeth reported by adults, Madera County 2018

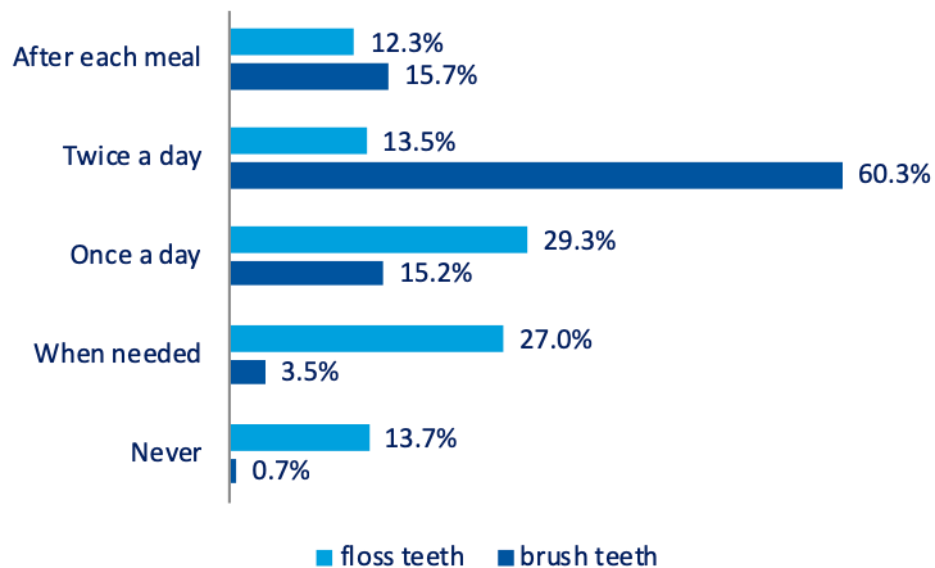


Table 3.6. The frequency of tooth brushing reported by adults by race/ethnicity in Madera County, 2018

	White	Latino/ Chicano	Other
Never	0%	0.6%	1.8%
When needed	3.0%	3.2%	5.5%
Once a day	29.3%	8.1%	21.1%
Twice a day	51.9%	67.0%	49.5%
After each meal	10.5%	17.0%	16.5%

Table 3.7. Number of times adults floss their teeth by race/ethnicity in Madera County, 2018

	White	Latino/Chicano	Other
Never	16.5%	11.5%	17.4%
When needed	27.1%	26.2%	30.3%
Once a day	29.3%	31.0%	24.8%
Twice a day	12.0%	15.5%	8.3%
After each meal	9.8%	13.5%	11.0%

Caring for children’s teeth

Parents should begin to brush their child’s teeth as soon as the first tooth erupts.⁵⁷ About 3 out of 4 caregivers reported beginning brushing their child’s teeth when the first tooth showed. Over 80% of caregivers reported brushing their children’s teeth once or more per day, but flossing is less prevalent among children.

- 75.2% of caregivers reported first brushing their child’s teeth when the first tooth showed, while 14.8% of children did not have their teeth brushed until they were 2 to 3 years of age.
- 51.6% of caregivers reported brushing their child’s teeth twice or more per day and 32.1% reported brushing their child’s teeth at least once per day.
- 10.2% of caregivers reported flossing their child’s teeth twice or more per day. 39.14% of caregivers reported flossing their child’s teeth a few times a week or less.

Figure 3.6. The frequency of children who brush and floss their teeth reported by their caregivers, Madera County 2018

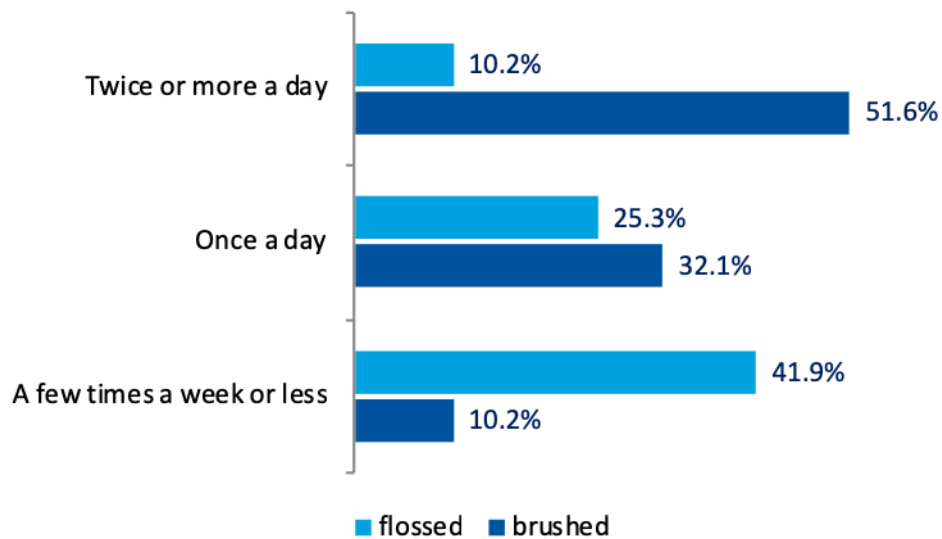


Table 3.8. Age at which tooth brushing was introduced reported by their caregivers by race/ethnicity, Madera County 2018

	White	Chicano/ Latino	Other
When the first tooth showed	84.4%	74.3%	76.9%
When they were 2-3 years of age	9.4%	15.5%	15.4%
After 3 years of age	0%	0.3%	0.0%

Table 3.9. The frequency of tooth brushing in children reported by their caregivers by race/ethnicity, Madera County 2018

	White	Latino/ Chicano	Other
A few times a week or less	6.3%	10.8%	10.3%
Once a day	43.8%	31.0%	30.8%
Twice or more a day	43.8%	52.2%	56.4%

Table 3.10. The frequency of flossing in children reported by their caregivers by race/ethnicity, Madera County 2018

	White	Latino/ Chicano	Other
A few times a week or less	62.5%	39.1%	51.3%
Once a day	18.8%	27.2%	15.4%
Twice or more a day	3.1%	10.5%	12.8%

Child's gum health

It is important to practice gum health (e.g. wipe down gums) for infants without teeth, beginning the first few days after birth.⁵⁷ A number of caregivers did not regularly practice gum health before they put their child down to sleep for the night. Additionally, a large number of caregivers put their child to sleep at night without regularly brushing and/or wiping their teeth/gums after they had any liquid other than water (e.g. breastmilk, formula, juice, etc.)

- 30.7% of those surveyed reported they *regularly* practiced gum health before putting their child to sleep, while 65.7% reported they *sometimes* or *never* practiced gum health before bed.
- 9.5% of caregivers reported they *regularly* put their child to bed without brushing and or/ wiping their teeth/gums after drinking a liquid other than water, and 56.2% reported they *sometimes* did.
- 10.5% of Latino and 9.4% of White caregivers reported that they *regularly* put their child to bed without brushing and or/ wiping their teeth/gums after drinking a liquid other than water.

Figure 3.7. The Frequency of caregivers reporting practicing gum care for their child before sleep or putting the child to sleep without brushing or wiping their gums after drinking liquid other than water in Madera County 2018

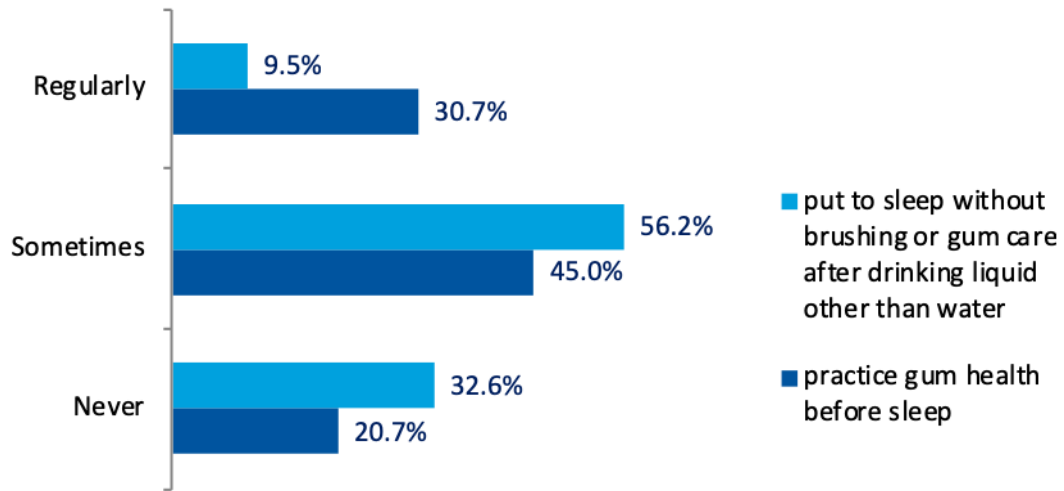


Table 3.11. The frequency of caregivers reporting practicing gum care before the child sleeps by race/ethnicity in Madera County 2018

	White	Latino/Chicano	Other
Never	18.8%	20.3%	28.2%
Sometimes	43.8%	45.4%	41.0%
Regularly	28.1%	31.3%	28.2%

Table 3.12. The frequency of caregivers reporting wiping teeth/gums of child after having any liquid other than water by race/ethnicity in Madera County 2018

	White	Latino/Chicano	Other
Never	37.5%	32.2%	30.8%
Sometimes	53.1%	56.4%	61.5%
Regularly	9.4%	10.5%	2.6%

Health Literacy (adults)

Health literacy is, “the degree to which an individual has the capacity to obtain, communicate, process, and understand basic health information and services to make appropriate health decisions,”⁵⁸ and patients with low health literacy may miss appointments, be unable to complete registration forms, or name medications.⁵⁹ Asking adults about their confidence in their ability to understand and to fill out health-related forms are often used as a measure of health literacy.^{60,61} The majority of adults who responded to our survey reported that they were always or sometimes confident when filling out medical forms by themselves.

- 63.0% responded that they were always confident in filling out forms.
- 24.7% responded that they were sometimes confident in filling out forms.
- 30.5% of Latinos responded that they were sometimes confident about filling out forms.

Figure 3.8. Percent of adults who reported they were always, sometimes, or never confident filling out medical forms by themselves, Madera County 2018

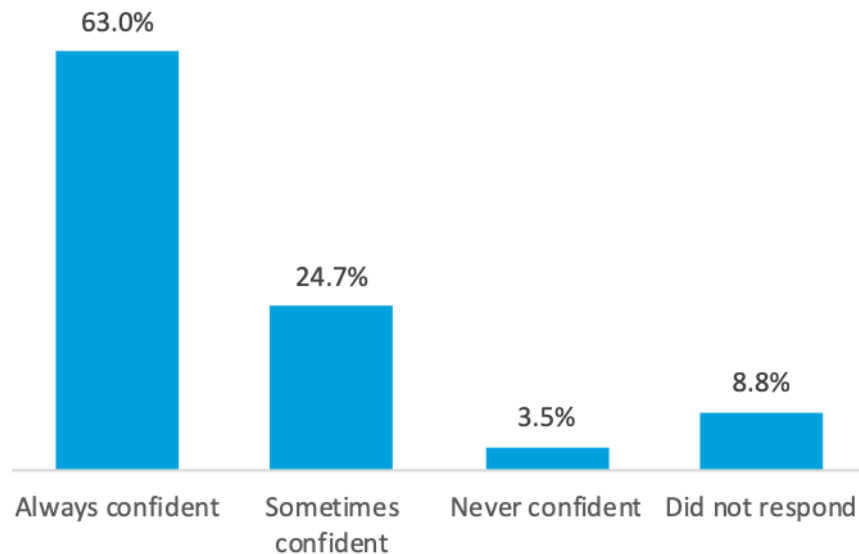


Table 3.13. Percent of adults who reported they were always, sometimes, or never confident filling out medical forms by themselves by race/ethnicity in Madera County 2018

	White	Latino/Chicano	Other
Always	76.7%	61.5%	54.1%
Sometimes	17.3%	30.5%	15.6%
Never	3.0%	4.3%	1.8%

IV. MEDI-CAL DENTAL PROGRAM

I think for a lot of our Medi-Cal population, finding dental providers that accept Medi-Cal [is difficult].

Key informant, Community-based Organization Member

Introduction

In Madera County, 44.9% of the population was certified as eligible to receive Medi-Cal as of September 2017. As a result, the experience of Medi-Cal Dental Insurance recipients represents the experiences of many individuals in Madera County. In 2018, Medi-Cal Dental Insurance expanded benefits and coverage for its recipients, so the trends observed in the data presented below may change.

Additionally, the number of dentists and dental practices available to cover this population is low. As of November 2018, the online California Denti-Cal Provider Directory (<https://www.denti-cal.ca.gov/find-a-dentist/home?locale=en>) lists 21 dentists or practices who accept Medi-Cal Dental Insurance, of which 4 are listed as not accepting new patients. Of the 21 practices or dentists, 19 listed their specialty as a general practitioner, three as orthodontics, and one as oral surgery.

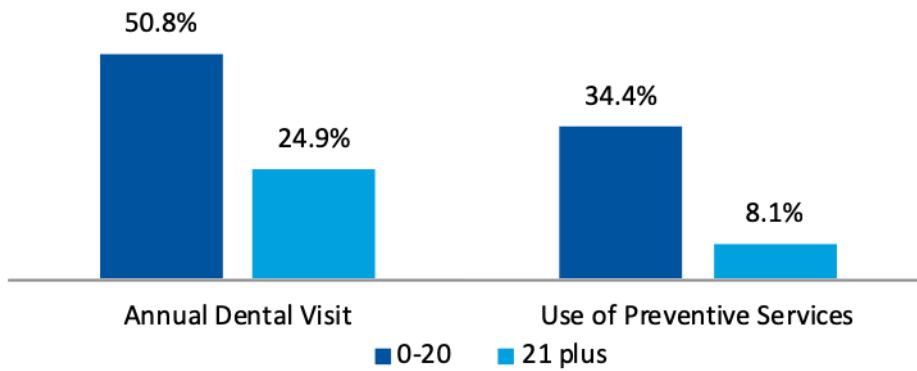
There is evidence that expanding dental benefits in Medicaid is associated with an increase in dental care utilization. For example, Massachusetts expanded dental benefits to all adults aged 19 through 64 with incomes at or below 100 percent of the federal poverty level in 2006. Following this reform, there was a 7.2 percentage point increase in dental care utilization in 2007-2008 and an 11.0 percentage point increase in dental care utilization in 2009-2010 for low income individuals. Additionally, a national analysis of the potential impact of Medicaid expansion found the probability that an adult visits the dentist increased by 16.4 to 22.0 percent within 12 months of gaining dental benefits through Medicaid.

Yarbrough et al ¹⁰, p. 11

Annual Dental Visits

Denti-Cal data from 2015-2016 shows that in Madera County, only 24.9% of adult recipients, and 50.8% of child recipients, had an annual dental visit.

Figure 4.1. Percent of Denti-Cal Patients in Madera County Who Report Benefit Utilization by Age Group July 2015- June 2016 (SFY 2015-16)



Source: Department of Health Care Services. Beneficiary Utilization Performance Measures Report Fee-For-Service - Statewide by County - State Fiscal Year 2015-2016 Quarter 4

Preventive Services

Denti-Cal recipients under 18 receive dental services at higher rates than adults. A large number of children/adolescents ages 6-18 will see the dentist within a 3-year period, but after the age of 21, the number of adults who received any dental services in the last 3 years drops below 55% for each age range reported.

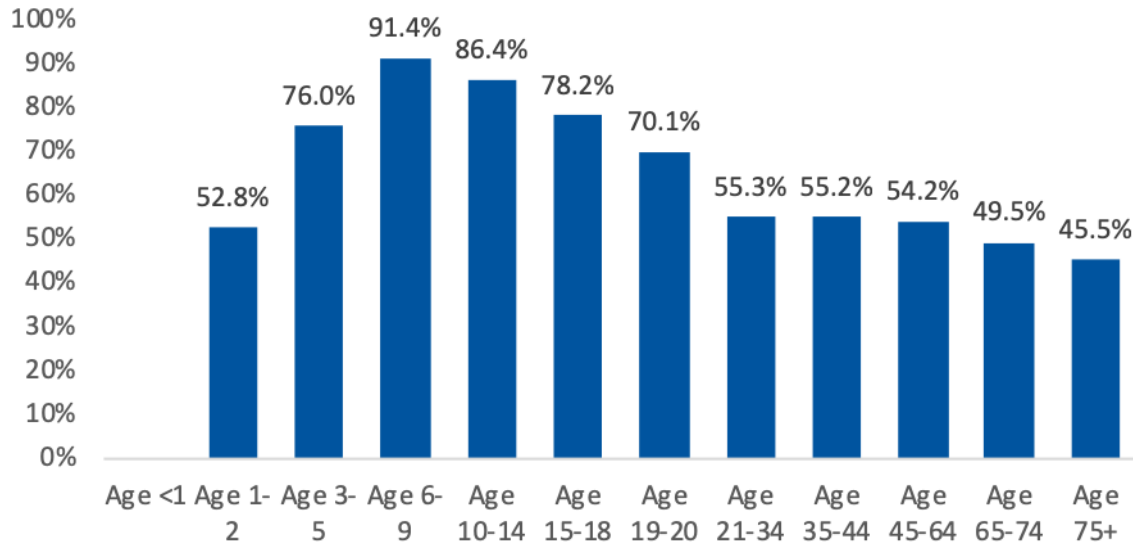
In the community sample, more children visited than adults or used preventive services than adults. However, a lower proportion of children visited the dentist that were reported by the California Health Interview Survey (CHIS) or the Caregiver Survey, which could be due to the fact that both the caregiver and CHIS surveys include individuals with private insurance, which is accepted by more dentists in the area.

Table 4.1. Percentage of beneficiaries who received any dental service (D0100-D9999) over a 1 year, 2 year, and 3-year period by age group in Madera County as of 2016

	Over 1 year	Over 2 years	Over 3 years
Age <1			
Age 1-2	29.6%	42.8%	52.8%
Age 3-5	61.2%	72.7%	76.0%
Age 6-9	71.0%	85.2%	91.4%
Age 10-14	63.4%	78.5%	86.4%
Age 15-18	52.2%	68.2%	78.2%
Age 19-20		56.0%	70.1%
Age 21-34	27.1%	43.5%	55.3%
Age 35-44	29.2%	44.6%	55.2%
Age 45-64	28.5%	44.4%	54.2%
Age 65-74	26.1%	40.4%	49.5%
Age 75+	24.9%	38.2%	45.5%

Source: Multi Year Medi-Cal Dental Measures Data by County and Age Calendar Year (2013-2016)

Figure 4.2. Percentage of beneficiaries who received any dental service (D0100-D9999) over a 3-year period by age group in Madera County as of 2016



Restorative Treatment

When looking at the percentage of Medi-Cal Dental Insurance recipients who received a restorative dental treatment, we see that a significant proportion of children/adolescents ages 3-18 received these treatments which indicate poor oral health among this population. 20.9% of children ages 3-5 received restorative treatments, which is a similar proportion to the community-based caregiver survey that was conducted. 20.4% of caregivers reported that their child (ages 0-5) had previously needed a filling or been diagnosed with tooth decay. After age 21, the percentage of adults who receive restorative treatments in each age group drops to below 10% of those enrolled in Medi-Cal Dental Insurance. The low number of adults who receive restorative treatment should not be interpreted as indicating that a low proportion of adults suffer from poor oral health, but rather may indicate that a significant number of adults who are enrolled in Medi-Cal Dental Insurance are not receiving restorative dental treatment when they need it.

Table 4.2. Percentage of individuals enrolled in Denti-Cal who have received treatment for caries (D2000-D2999), or Caries-preventive procedure (D1203-D1208, D1310, D1330, D1351), or restorative dental treatment (D2000 - D2999) in Madera County, 2016

	Treatment for caries or Caries-preventive procedure	Restorative Dental Treatment
Age <1		
Age 1-2	15.2%	4.1%
Age 3-5	41.9%	20.9%
Age 6-9	53.1%	27.1%
Age 10-14	42.8%	21.1%
Age 15-18	33.1%	19.3%
Age 19-20		10.9%
Age 21-34	11.1%	8.6%
Age 35-44	11.6%	9.1%
Age 45-64	9.5%	7.4%
Age 65-74	6.9%	4.6%
Age 75+	6.3%	3.3%

Source: Dental Utilization Measures and Sealant by Count and Age Calendar Year (2013-2016)

V. SUMMARY OF KEY INFORMANT INTERVIEWS

Key Informant Interviews: Common Themes

Key informant interviews (KIIs) are interviews with individuals who are knowledgeable and can provide insight about a certain topic of interest due to their involvement as professionals, members of the community, and/or firsthand experience. A number of themes emerged from these interviews which are summarized below.

Table 5.1. Number of key informants that mentioned each theme during their interview

Theme	Number of key informant mentions
Shortage of providers	14
Medi-Cal dental program navigation	17
Transportation	13
Fear/distrust of dentists	15
Documentation status as a barrier to accessing services	8
Care sought when oral health problems were acute	12
Gaps in care and preventive behaviors at different life stages	18
Oral health and diet connection	28
Oral health and tobacco use	18

Shortage of providers – Key informants mentioned the shortage of providers in particular areas. Specifically, they discussed the need for more: 1. Providers who accept Medi-Cal dental insurance, 2. Specialty providers, including pediatric dentists, and 3. Providers in the local area available to treat the population.

I think the other big issue for us is the availability of dentists. We just don't have very many dentists in town. And then we may not have enough dentists that will accept Denti-Cal that would then create access for those folks that are Denti-Cal eligible.

–Governmental Staff

The biggest problem for access to care, I think, is dentists...There's not enough of them that take Denti-Cal in the first place. And then on top of that, the ones that

do are very limited, so they don't accept new patients. They may be on the provider list, but when they call, they don't...So, there aren't enough providers.

–Dental provider

Getting kids in—especially for dental care or for Denti-Cal services...it's just like with healthcare. There's just a very small pool of providers with a large pool of need.

–Governmental staff

Medi-Cal dental program navigation – Some key informants mentioned that Medi-Cal dental insurance is difficult to understand and poses challenges for covered individuals, who may find it difficult to be aware of their benefits, find local providers, and make appointments.

So, many times they're not receiving adequate dental care, and that's for a variety of reasons. There's a shortage of dentists to treat them. The parents, often are unaware that benefits are available, or whether they qualify for them.

–Community-based organization staff

[My patients] say that it is difficult to navigate [Denti-Cal], so it's hard to get in, and then it's hard to get the appointment.

–Medical Provider

We just don't have very many dentists in town. And then we may not have enough dentists that will accept Denti-Cal that would then create access for those folks that are Denti-Cal eligible.

–Governmental staff

Transportation – Some key informants mentioned that transportation is a barrier to accessing services, and some of them worked to help clients overcome these barriers.

If you live out in the country, you may find yourself having to make arrangements and actually pay for somebody to take you into town for whatever service you need.

–Governmental staff

Right now, [some of our clients] don't – they don't have access to Merced or Madera easily. So, many of our clients do not have cars. And we can give them bus tickets

–Community-based organization staff

Transportation is a big issue for these families. They don't have a way to get to the dentist, so another factor we kind of consider is providers that are near—

within walking distance of a bus stop. So, if they get, if they can get to a bus that can drop them off pretty quick.

–Governmental staff

Fear/distrust of dentists – Key informants noted that past dental experiences and costly visits may have dissuaded people from visiting the dentist regularly. Key informants noted that this fear could lead to delays in seeking care for both adults and children.

I think a lot of patients have preconceived notions of what dental care is like, meaning, they've either had a bad experience at a younger age, or they have a fear that it's going to be a very expensive visit all around, so they don't put a high priority on [oral health] ...

–Dental provider

[I've seen dental providers] providing services on children that would require anesthesia – and lot of it from them was cavities, lack of education, fear. Some of the things we saw is that the mom and dad were fearful of dentists, [so] they weren't very likely to take their kids to a dentist.

–Governmental staff

If the adult patient [is afraid] of having dental work I see where sometimes they won't complete their dental work. And it gets worse or they come in just to have just that one issue taken care of and then not come back. You know, they only come in when the tooth is hurting them really badly and we either have to do a root canal with a crown, or it's gone so far where they've lost the tooth. And it's basically just fear, the fear that will cause that.

–Dental provider staff

Documentation status as a barrier to accessing services— Key informants have noticed people may not be utilizing services due to their documentation/citizenship status and fear of deportation.

I do know there is this percentage for sure that they are afraid – I heard just the other day – fear of working with some of our community agencies because of the green card, because of the thinking that they're going to be deported... yes, there's a lot of fear.

–Community-based organization staff

[There are] concerns about [documentation status], and that really gets in the way of people being able to access services when they need them.

–Governmental staff

And we know there's a huge need, and we're not sure if immigration issues, if they're afraid of being turned in; and we don't ask for – we don't ask any

questions other than health-related questions. So, like I said, it's just very disheartening [to have low turnout at our free dental clinic events].

Community-based organization staff

Care is only sought when oral health problems become acute— Some key informants noted that they observed that oral health becomes a priority when it is acute, and as a result many people go to dentist primarily for pain or emergency care. Some informants noted a link between the failure to prioritize preventive care and seeking care only when in pain.

People go to the dentist once they have pain. So, therefore instead of seeing it as preventive care, they're seeing it like emergency care.

– Government staff

I think when they think about going to the dentist, they think about when there's pain. I don't think they think about going to the dentist for prevention. I think by the time they get there, it's too late. So, they don't associate it with a pleasant preventive experience. It's usually, you know, because they're already in pain... I think it changes the perception of dentistry.

–Dental provider

Preventative [care] is not as valued because it's in your mouth too, so you're not necessarily feeling the effects of the preventative. You feel, "Oh, my tooth hurts. Fix it." You feel that more. So just like gum disease too. The prevention is hard to motivate patients with the prevention of gum disease because it's something they don't feel until it's a big problem... They're not feeling the benefits of the preventative care.

–Dental provider

Gaps in care and preventive behaviors at different life stages – Key informants identified that many community members do not prioritize—or do not recognize the need to prioritize—oral maintenance (i.e., hygiene, diet, and routine dental visits) throughout childhood, adolescence, and adulthood. They linked oral health problems in the community to a lack of prevention practices in the areas of nutrition, self-care, and routine dental visits.

Their parents don't see it as a bad thing to give them a Mountain Dew or a large soda. And so, these kids are coming with a lot of cavities and a lot of silver teeth and a lot of mouth issues before they even get into school. A lot of them, what I personally see, is they're not getting that education early on.

–Community based organization staff

A lot of [teenagers] hadn't ever seen a dentist. Or they have, and they didn't follow through after maybe seeing them once or twice.

–Governmental staff

Well, I think basically a lot of adults I think being consistent and going every six months to the dentist. Almost everybody knows it's important to brush their teeth, but if they're busy with their life and they're not getting in to see the dentist and they have periodontal disease too... they may even have insurance. It's just making the time to go and see the dentist.

–Dental provider

Oral health and diet connection – Nearly all key informants discussed how poor diet can influence poor oral health, and vice versa, and noted the need for education around the link between mouth and body.

Candy is used as a reward...What do you do when trying to reward your child and incentivize them when you're poor? You give them candy. So, we [have to] teach them...maybe play a game instead of candy.

–Community-based organization staff

Our goal here is education for the parents because there is the idea too that baby teeth don't really matter, and they really do kind of set the tone for the adult teeth that come in. So, if a kid loses their teeth at an early age, not only having ramped decay can cause infections, very serious infections and pain, problems eating, so that leads to poor nutrition, and then early loss of the teeth can kind of set the stage for some malocclusions for their adult teeth, and also it sets the tone for the oral hygiene years where diet is especially high in sugar and carbs, and then that can lead to loss of adult teeth.

–Dental provider

They don't realize how important it is to their systematic health, with nutrition and gum disease being correlated to...heart disease, diabetes, all of those things. So, when you're not aware of those things, your oral health kind of takes a backseat...

–Dental Provider

Drug use and other substance use increases oral health issues – Drug use, particularly methamphetamine, in Madera county was identified as a serious problem by key informants.

For clients who use methamphetamine, they have extreme dental problems... Sometimes they describe it as what's called meth mouth, and that is where the teeth turn black and either break off or fall out. It's a real problem.

–Medical Provider

A lot of drugs do cause dry mouth, and meth, in particular, causes frequent intake of sugary carbohydrates, so between those two things, it also kind – some people respond by grinding their teeth. So, people at a very young age can have very severe cavities and compromised teeth and lose their teeth at a young age,

which sets the tone for the rest of their lives, unfortunately. Harder to get a job if you're missing a front tooth.

–Dental Provider

What I've seen is a lot of younger people because of the drugs, losing their teeth...and when you are involved in methamphetamines and other drugs, you tend to not care about your oral hygiene and your – and any other hygiene as well. So, it is a real problem here in Madera and everywhere...

–Community-based organization staff

Oral health and tobacco use – Key informants also identified tobacco as a priority, and reported how they discuss tobacco with their clients/patients and mentioned the increase of tobacco use among youth (i.e., e-cigarettes and vaping).

Tobacco prevention programs did a really good job. I think the taxes impacted a lot...and then the craze of vaping came out. So, I think among kids and adults even, you're seeing a lot more of that...the education around vaping [is needed].

Community-based organization staff

[Tobacco use is] actually a question on our intake form. Whether they use chewing tobacco or do traditional smoking. We even have a question on recreational drugs. And if they mark yes to any of those, or if they mark no but we smell something, then we go ahead and we talk to them about the dangers. Not only of lung cancer, but oral cancer, staining of teeth, all of that...

–Dental provider

I think the thing we need to be aware of going forward is also the vaping. I don't think people realize that even though it's not necessarily a cigarette, how bad these other alternatives are. And, I think there's a huge need to educate, especially the younger population, on those. Because I'm seeing that as something that is probably in the community just as much as smoking is, if not more.

–Dental provider

D. RECOMMENDATIONS

These assessment findings are meant to guide Madera County Public Health Department and its partners in developing an Oral Health Community Health Improvement Plan for the county to be implemented in 2019. To address the highest needs identified in this assessment and align with the goals and objectives of the State Oral Health Plan, the implementation strategies should at a minimum focus on:

- Caries prevention among young children (e.g., preventive dental visits, dental sealants);
- Dental visits for pregnant women during pregnancy;
- Efforts to expand fluoride application;
- Tobacco cessation counseling in dental offices and other healthcare settings;
- Integration of oral health in general health settings, and promotion by medical providers;
- Emergency department visits for preventable dental conditions;
- Accessible Medi-Cal dental utilization data for program planning, advocacy, and education.
- Education about sugar-sweetened beverages and oral health

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APPENDICES

The appendix contains the information and data which can be used to supplement the findings presented in the Needs Assessment.

Appendix A: Results from General Population Survey, Madera County, 2018, by Race/Ethnicity

Appendix B: Results from Caregiver Survey by Race/Ethnicity, 2018

Appendix C: California Health Interview Survey Dental related health measures by County and Region

Appendix D: California health interview survey dental related health measures by race/ethnicity

Appendix E: Receipt of dental visit during pregnancy among California women with a recent live birth by county and region, Maternal and Infant Health

Appendix F: Medi-Cal Dental Insurance Statistics, 2016

MEASURE: Annual Dental Visit (D0100 - D1999)

MEASURE: Preventive Services (D1000 - D1999)

MEASURE: Dental Exams (D0120, D0145, D0150)

MEASURE: Restorative Services (D2000 - D2999)

MEASURE: Dental Treatment (D2000-D9999)

MEASURE: Caries or Fluoride Treatment (D2000 - D2999 or D1203 - D1208, D1310, D1330, D1351)

Appendix A: Results from General Population Survey, Madera County, 2018, by Race/Ethnicity

	White		Latino/Chicano		Other		Total	
	n	%	n	%	n	%	n	%
How would you rate your overall health?								
Poor	15	11.28%	21	6.03%	14	12.84%	50	8.33%
Good	92	69.17%	274	78.74%	73	66.97%	447	74.50%
Excellent	24	18.05%	52	14.94%	19	17.43%	97	16.17%
Overall, how would you rate the health of your teeth and gums?								
Poor	39	29.32%	76	21.84%	26	23.85%	144	24.00%
Good	72	54.14%	238	68.39%	70	64.22%	386	64.33%
Excellent	19	14.29%	30	8.62%	11	10.09%	60	10.00%
Are you satisfied with the way your teeth look?								
No	62	46.62%	182	52.30%	53	48.62%	300	50.00%
Yes	68	51.13%	158	45.40%	51	46.79%	283	47.17%
Do you have a dentist?								
No	42	31.58%	132	37.93%	44	40.37%	225	37.50%
Yes	88	66.17%	214	61.49%	64	58.72%	369	61.50%
About how long has it been since your last trip to the dentist?								
6 months or less	70	52.63%	156	44.83%	47	43.12%	275	45.83%
Within the past year	15	11.28%	65	18.68%	16	14.68%	98	16.33%
More than 1 year	43	32.33%	116	33.33%	43	39.45%	206	34.33%
Never been (if never been skip to question 10)	2	1.50%	6	1.72%	2	1.83%	11	1.83%

	White		Latino/Chicano		Other		Total	
	n	%	n	%	n	%	n	%
What was the reason for your last dental visit?								
I had a dental problem	64	48.12%	157	45.11%	51	46.79%	277	46.17%
I was going for a check-up	61	45.86%	181	52.01%	51	46.79%	296	49.33%
Has your dentist ever talked to you about the types of beverages you drink and the effect of beverages on your teeth?								
No	62	46.62%	148	42.53%	47	43.12%	261	43.50%
Yes	66	49.62%	193	55.46%	58	53.21%	321	53.50%
Has your dentist ever talked to you about using the tobacco, such as asking if you smoke or use tobacco products and/or suggesting you quit?								
Yes	47	35.34%	116	33.33%	43	39.45%	209	34.83%
No	23	17.29%	63	18.10%	19	17.43%	107	17.83%
I do not use tobacco products	54	40.60%	144	41.38%	38	34.86%	238	39.67%
If you have not been to the dentist in the past year, please give a reason why. Check all that apply?								
I don't like to go to the dentist								
No	120	90.23%	318	91.38%	97	88.99%	543	90.50%
Yes	11	8.27%	29	8.33%	12	11.01%	54	9.00%
I don't have a problem with my teeth								
No	123	92.48%	322	92.53%	99	90.83%	552	92.00%
Yes	8	6.02%	25	7.18%	10	9.17%	45	7.50%
It's too expensive								
No	113	84.96%	257	73.85%	88	80.73%	464	77.33%

	White		Latino/Chicano		Other		Total	
	n	%	n	%	n	%	n	%
Yes	18	13.53%	90	25.86%	21	19.27%	133	22.17%
Too hard to make an appointment								
No	126	94.74%	332	95.40%	101	92.66%	568	94.67%
Yes	5	3.76%	15	4.31%	8	7.34%	29	4.83%
I don't have transportation								
No	124	93.23%	333	95.69%	100	91.74%	566	94.33%
Yes	7	5.26%	14	4.02%	9	8.26%	31	5.17%
No one understands my culture								
No	130	97.74%	345	99.14%	107	98.17%	591	98.50%
Yes	1	0.75%	2	0.57%	2	1.83%	6	1.00%
No one speaks my language								
No	130	97.74%	343	98.56%	107	98.17%	590	98.33%
Yes	1	0.75%	4	1.15%	2	1.83%	7	1.17%
I'm scared of the dentist								
No	120	90.23%	326	93.68%	102	93.58%	557	92.83%
Yes	11	8.27%	21	6.03%	7	6.42%	40	6.67%
I don't have insurance								
No	116	87.22%	285	81.90%	86	78.90%	495	82.50%
Yes	15	11.28%	62	17.82%	23	21.10%	102	17.00%
During the past 12 months, was there a time when you needed dental care but could not get it?								
No	94	70.68%	201	57.76%	64	58.72%	364	60.67%
Yes	33	24.81%	131	37.64%	39	35.78%	207	34.50%
How often do you brush your teeth?								
Never	0	0.00%	2	0.57%	2	1.83%	4	0.67%
When needed	4	3.01%	11	3.16%	6	5.50%	21	3.50%
Once a day	39	29.32%	28	8.05%	23	21.10%	91	15.17%

	White		Latino/Chicano		Other		Total	
	n	%	n	%	n	%	n	%
Twice a day	69	51.88%	233	66.95%	54	49.54%	362	60.33%
After each meal	14	10.53%	59	16.95%	18	16.51%	94	15.67%
How often do you floss your teeth?								
Never	22	16.54%	40	11.49%	19	17.43%	82	13.67%
When needed	36	27.07%	91	26.15%	33	30.28%	162	27.00%
Once a day	39	29.32%	108	31.03%	27	24.77%	176	29.33%
Twice a day	16	12.03%	54	15.52%	9	8.26%	81	13.50%
After each meal	13	9.77%	47	13.51%	12	11.01%	74	12.33%
How many of your permanent teeth have been removed or lost? Do NOT include wisdom teeth.								
None	42	31.58%	167	47.99%	53	48.62%	270	45.00%
1-5	57	42.86%	127	36.49%	37	33.94%	223	37.17%
6 or more	24	18.05%	30	8.62%	6	5.50%	60	10.00%
All	4	3.01%	4	1.15%	4	3.67%	12	2.00%
Do you have any bleeding gums?								
No	98	73.68%	245	70.40%	76	69.72%	425	70.83%
Yes	31	23.31%	94	27.01%	26	23.85%	154	25.67%
Do you have a dry mouth?								
No	98	73.68%	267	76.72%	72	66.06%	443	73.83%
Yes	33	24.81%	70	20.11%	31	28.44%	137	22.83%
Do you have any broken teeth?								
No	76	57.14%	220	63.22%	66	60.55%	368	61.33%
Yes	53	39.85%	109	31.32%	35	32.11%	200	33.33%
Do you have cavities that need filling?								
No	82	61.65%	197	56.61%	61	55.96%	346	57.67%
Yes	48	36.09%	143	41.09%	40	36.70%	234	39.00%

	White		Latino/Chicano		Other		Total	
	n	%	n	%	n	%	n	%
Do you have sore gums?								
No	103	77.44%	282	81.03%	86	78.90%	480	80.00%
Yes	27	20.30%	56	16.09%	15	13.76%	99	16.50%
Do you have any toothache pain?								
No	101	75.94%	262	75.29%	80	73.39%	448	74.67%
Yes	28	21.05%	75	21.55%	21	19.27%	127	21.17%
Do you have any loose teeth?								
No	113	84.96%	303	87.07%	93	85.32%	517	86.17%
Yes	17	12.78%	36	10.34%	8	7.34%	63	10.50%
Do you have chewing difficulty?								
No	105	78.95%	273	78.45%	87	79.82%	471	78.50%
Yes	25	18.80%	68	19.54%	14	12.84%	111	18.50%
Do you have dentures?								
No	118	88.72%	303	87.07%	99	90.83%	528	88.00%
Yes	12	9.02%	32	9.20%	1	0.92%	47	7.83%
Do you have dental insurance?								
No	36	27.07%	139	39.94%	23	21.10%	202	33.67%
Yes	87	65.41%	195	56.03%	56	51.38%	339	56.50%
Is the insurance through...								
Your employer	30	22.56%	38	10.92%	9	8.26%	77	12.83%
Medicaid/Denti-Cal	42	31.58%	123	35.34%	35	32.11%	202	33.67%
Department of Veterans Affairs (VA)	1	0.75%	0	0.00%	2	1.83%	3	0.50%
Through your parents	3	2.26%	6	1.72%	4	3.67%	13	2.17%
Other	18	13.53%	33	9.48%	8	7.34%	59	9.83%
Language of survey								
English	130	97.74%	204	58.62%	93	85.32%	432	72.00%
Spanish	3	2.26%	144	41.38%	16	14.68%	168	28.00%

	White		Latino/Chicano		Other		Total	
	n	%	n	%	n	%	n	%
What is your gender?								
Male	37	27.82%	80	22.99%	27	24.77%	145	24.17%
Female	93	69.92%	251	72.13%	55	50.46%	404	67.33%
Age								
18-34	36	27.07%	166	47.70%	37	33.94%	240	40.00%
35-64	68	51.13%	168	48.28%	38	34.86%	278	46.33%
65 or older	24	18.05%	8	2.30%	7	6.42%	39	6.50%
Are you currently employed?								
Yes, Full-time	23	17.29%	74	21.26%	10	9.17%	109	18.17%
Yes, Part-time	18	13.53%	44	12.64%	17	15.60%	79	13.17%
No	44	33.08%	178	51.15%	41	37.61%	265	44.17%
Seasonal	3	2.26%	27	7.76%	0	0.00%	31	5.17%
Retired	35	26.32%	5	1.44%	8	7.34%	48	8.00%
Other	8	6.02%	8	2.30%	4	3.67%	20	3.33%
How confident are you filling out medical forms by yourself?								
Always confident	102	76.69%	214	61.49%	59	54.13%	378	63.00%
Sometimes Confident	23	17.29%	106	30.46%	17	15.60%	148	24.67%
Never Confident	4	3.01%	15	4.31%	2	1.83%	21	3.50%
Do you have a high school diploma/GED/ or equivalent degree?								
No	19	14.29%	132	37.93%	14	12.84%	170	28.33%
Yes	111	83.46%	208	59.77%	68	62.39%	388	64.67%
Do you receive WIC, SNAP, and/or CalFresh benefits?								
No	71	53.38%	179	51.44%	44	40.37%	295	49.17%
Yes	58	43.61%	164	47.13%	39	35.78%	266	44.33%

Appendix B: Results from Caregiver Survey by Race/Ethnicity, 2018

	White		Latino/Chicano		Other		Total	
	n	%	n	%	n	%	n	%
Language of survey								
English	30	93.75%	186	55.52%	35	89.74%	255	62.04%
Spanish	2	6.25%	147	43.88%	4	10.26%	154	37.47%
How old is your child?								
Less than 1 year	5	15.63%	54	16.12%	9	23.08%	69	16.79%
1	6	18.75%	67	20.00%	2	5.13%	77	18.73%
2	7	21.88%	69	20.60%	9	23.08%	85	20.68%
3	3	9.38%	63	18.81%	7	17.95%	74	18.00%
4	7	21.88%	43	12.84%	5	12.82%	56	13.63%
5	2	6.25%	30	8.96%	3	7.69%	35	8.52%
What is your child's gender?								
Male	15	46.88%	165	49.25%	16	41.03%	198	48.18%
Female	17	53.13%	164	48.96%	21	53.85%	204	49.64%
What is your relationship to the child?								
Mother	25	78.13%	301	89.85%	30	76.92%	359	87.35%
Father	5	15.63%	22	6.57%	8	20.51%	35	8.52%
Grandparent	1	3.13%	4	1.19%	0	0.00%	6	1.46%
Other caregiver	1	3.13%	5	1.49%	0	0.00%	6	1.46%
At what age did you first take your child to the dentist?								
Before turning 1	10	31.25%	48	14.33%	9	23.08%	69	16.79%
1	6	18.75%	99	29.55%	6	15.38%	112	27.25%
2	7	21.88%	44	13.13%	8	20.51%	59	14.36%
3	1	3.13%	20	5.97%	0	0.00%	21	5.11%
4	0	0.00%	6	1.79%	2	5.13%	8	1.95%
5	0	0.00%	1	0.30%	0	0.00%	1	0.24%

	White		Latino/Chicano		Other		Total	
	n	%	n	%	n	%	n	%
Never been	8	25.00%	108	32.24%	13	33.33%	129	31.39%
When did you begin to brush your child's teeth?								
When the first tooth showed	27	84.38%	249	74.33%	30	76.92%	309	75.18%
When they were 2-3 years of age	3	9.38%	52	15.52%	6	15.38%	61	14.84%
After 3 years of age	0	0.00%	1	0.30%	0	0.00%	1	0.24%
How often are your child's teeth brushed?								
A few times a week or less	2	6.25%	36	10.75%	4	10.26%	42	10.22%
Once a day	14	43.75%	104	31.04%	12	30.77%	132	32.12%
Twice or more a day	14	43.75%	175	52.24%	22	56.41%	212	51.58%
How often are your child's teeth flossed?								
A few times a week or less	20	62.50%	131	39.10%	20	51.28%	172	41.85%
Once a day	6	18.75%	91	27.16%	6	15.38%	104	25.30%
Twice or more a day	1	3.13%	35	10.45%	5	12.82%	42	10.22%
Is your child covered by dental insurance?								
No	2	6.25%	24	7.16%	1	2.56%	27	6.57%
Yes	29	90.63%	279	83.28%	31	79.49%	342	83.21%
I don't know	1	3.13%	28	8.36%	6	15.38%	35	8.52%
Is your child covered by Denti-Cal, Medi-Cal, and/or Medicaid?								
No	4	12.50%	31	9.25%	5	12.82%	40	9.73%
Yes	26	81.25%	291	86.87%	31	79.49%	351	85.40%
I don't know	2	6.25%	10	2.99%	3	7.69%	16	3.89%
Do you take your child for a dental check-up (routine visit) at least once a year?								
No	5	15.63%	83	24.78%	11	28.21%	99	24.09%
Yes	26	81.25%	230	68.66%	26	66.67%	285	69.34%
I don't know	1	3.13%	10	2.99%	0	0.00%	11	2.68%

	White		Latino/Chicano		Other		Total	
	n	%	n	%	n	%	n	%
Have you had trouble seeing a dentist for your child?								
No	29	90.63%	292	87.16%	33	84.62%	357	86.86%
Yes	2	6.25%	18	5.37%	3	7.69%	23	5.60%
I don't know	1	3.13%	16	4.78%	0	0.00%	17	4.14%
Has your child ever needed a filling or been diagnosed with tooth decay?								
No	24	75.00%	239	71.34%	29	74.36%	295	71.78%
Yes	6	18.75%	69	20.60%	9	23.08%	84	20.44%
I don't know	1	3.13%	19	5.67%	0	0.00%	20	4.87%
Do you purchase fluoridated toothpaste for your child?								
No	9	28.13%	96	28.66%	13	33.33%	119	28.95%
Yes	19	59.38%	190	56.72%	22	56.41%	233	56.69%
I don't know	4	12.50%	45	13.43%	3	7.69%	52	12.65%
If you are the child's mother did you go to the dentist at least once during the first trimester of your pregnancy?								
No	9	36.00%	92	30.56%	14	46.67%	116	32.31%
Yes	16	64.00%	206	68.44%	15	50.00%	239	66.57%
I don't know	0	0.00%	3	1.00%	0	0.00%	3	0.84%
When your child was an infant did you practice gum health (e.g. wipe down gums) before you put them down to sleep for the night?								
Never	6	18.75%	68	20.30%	11	28.21%	85	20.68%
Sometimes	14	43.75%	152	45.37%	16	41.03%	185	45.01%
Regularly	9	28.13%	105	31.34%	11	28.21%	126	30.66%

	White		Latino/Chicano		Other		Total	
	n	%	n	%	n	%	n	%
Does your child drink tap water at home?								
Never	19	59.38%	188	56.12%	13	33.33%	222	54.01%
Sometimes	6	18.75%	75	22.39%	16	41.03%	99	24.09%
Regularly	7	21.88%	63	18.81%	7	17.95%	77	18.73%
How often did your child get juice or other sugary drinks in their bottle?								
Never	18	56.25%	113	33.73%	9	23.08%	142	34.55%
Sometimes	12	37.50%	193	57.61%	22	56.41%	229	55.72%
Regularly	2	6.25%	26	7.76%	6	15.38%	34	8.27%
How often did you put your child to sleep at night with a bottle, sippy cup, and/or pacifier in their mouth?								
Never	16	50.00%	158	47.16%	13	33.33%	191	46.47%
Sometimes	13	40.63%	116	34.63%	14	35.90%	143	34.79%
Regularly	3	9.38%	58	17.31%	11	28.21%	72	17.52%
How often did you put your child to sleep at night without brushing and/or wiping their teeth/gums after they had any liquid other than water (e.g. breastmilk, formula, juice, etc.)?								
Never	12	37.50%	108	32.24%	12	30.77%	134	32.60%
Sometimes	17	53.13%	189	56.42%	24	61.54%	231	56.20%
Regularly	3	9.38%	35	10.45%	1	2.56%	39	9.49%
What is your gender?								
Female	25	78.13%	309	92.24%	28	71.79%	366	89.05%
Male	6	18.75%	22	6.57%	10	25.64%	38	9.25%
What is your age?								
18-34	27	84.38%	247	73.73%	31	79.49%	308	74.94%
35-64	5	15.63%	84	25.07%	7	17.95%	96	23.36%
65 or older								

	White		Latino/Chicano		Other		Total	
	n	%	n	%	n	%	n	%
no answer								
Have you completed a high school degree, GED or equivalent?								
No	5	15.63%	120	35.82%	6	15.38%	132	32.12%
Yes	27	84.38%	208	62.09%	32	82.05%	268	65.21%
Do you receive WIC, SNAP, or CalFresh benefits?								
No	5	15.63%	47	14.03%	7	17.95%	59	14.36%
Yes	27	84.38%	285	85.07%	32	82.05%	346	84.18%

Source: Caregiver Survey, 2018

Appendix C: California Health Interview Survey Dental related health measures by County and Region

	CA	SJV	Madera
In general, would you say your health is excellent, very good, good, fair or poor? (Adults, AskCHIS 2015-16)			
Excellent	18.2%	14.5%	11.2%
Very Good	29.6%	25.4%	33.8%
Good	30.8%	33.5%	30.5%
Fair	17.1%	21.0%	19.1%*
Poor	4.4%	5.6%	5.4%*
During the past 12 months, was there any time when (CHILD) needed dental care, including checkups, but didn't get it? (AskCHIS 2015)			
Needed dental care	5.0%	4.7%*	3.9%*
Did not need dental care	95.0%	95.3%*	96.1%*
How would you describe the condition of your teeth: excellent, very good, good, fair, or poor? (AskCHIS 2016)			
Excellent	12.1%	10.3%	11.6%*
Very Good	25.5%	21.7%	30.1%*
Good	33.1%	33.0%	28.5%*
Fair	18.3%	20.6%	14.8%*
Poor	8.9%	11.9%	9.5%*
Has no Natural Teeth	2.1%	2.5%	5.4%*
Do you now have any type of insurance that pays for part or all of (CHILD) dental care? (AskCHIS 2016)			
Has dental insurance	91.3%	93.6%*	96.7%*
Doesn't have dental insurance	8.7%	6.4%*	3.3%*
Do you now have any type of insurance that pays for part or all of your dental care? (AskCHIS 2016)			
Yes	61.3%	59.3%	60.3%*
No	38.7%	40.7%	39.7%*
Reason for last dental visit - Was it for a routine checkup or cleaning, or was it for a specific problem? (AskCHIS 2016)			
Routine Checkup or Cleaning	69.1%	62.8%	51.8%
Specific Problem	25.7%	31.1%	24.6%*
Both	5.1%	6.1%	23.6%*
During the past 12 months, did (CHILD) have to visit a hospital emergency because of a dental problem? or During the past 12 months, did (CHILD) have to visit an urgent care clinic because of a dental problem? (AskCHIS 2015-16)			
Yes	1.4%	1.8%*	--
No	98.6%	98.2%*	100%*
When (CHILD NAME/AGE/SEX) goes to sleep or takes a nap, does {he/she} sleep with a bottle in {his/her} mouth? (AskCHIS 2015-16)			
Child sleeps with a bottle in mouth	4.9%	5.0%*	31.7%*
Child does not sleep with a bottle in mouth	95.1%	95.0%*	68.3%*

	CA	SJV	Madera
About how long has it been since your child last visited a dentist or dental clinic? Include dental hygienists and all types of dental specialists. (AskCHIS 2013-16)			
Never been to dentist	15.9%	18.5%	17.9%*
6 months ago or less	69.4%	65.5%	61.3%
More than 6 months up to 1 year ago	11.0%	12.1%	18.1%*
More than 1 year up to 2 years ago	2.7%	3.3%*	3.6%*
More than 2 years up to 5 years ago	0.9%*	0.6%*	--
More than 5 years ago	0.1%*	--	--
About how long has it been since you visited a dentist or dental clinic (Adult)? Include hygienists and all types of dental specialists? (AskCHIS 2016)			
Never been to dentist	2.4%	4.0%	3.4%*
6 months ago or less	54.5%	46.5%	54.8%
More than 6 months up to 1 year ago	15.8%	17.6%	12.4%*
More than 1 year up to 2 years ago	9.8%	12.2%	13.5%*
More than 2 years up to 5 years ago	9.7%	10.2%	7.3%*
More than 5 years ago	7.8%	9.6%	8.6%*
How long has it been since you last visited a dentist, hygienist or orthodontist (Teen)? (AskCHIS 2014)			
Never been to dentist	1.8%*	2.2%*	--
6 months ago or less	76.2%	74.4%	82.7%*
More than 6 months up to 1 year ago	12.9%	10.5%*	4.8%*
More than 1 year up to 2 years ago	5.6%	3.2%*	6.1%*
More than 2 years up to 5 years ago	1.6%*	6.7%*	6.3%*
More than 5 years ago	1.9%	3.0%*	--
Adults who smoked 100 or more cigarettes in their life were asked about current smoking habits. Adults who smoked fewer than 100 cigarettes or don't currently smoke are considered non-smokers. (Current Smoking Status 2015-16)			
Current smoker	12.4%	15.7%	17.7%*
Not a current smoke	87.6%	84.3%	82.3%

*statistically unstable

--AskCHIS unable to compute

Source: California Health Interview Survey

Appendix D: California health interview survey dental related health measures by race/ethnicity

	Total	Latino	White	African American	American-Indian/Alaska Native	Asian	Native Hawaiian/Pacific Islander	Two or More Races
In general, would you say your health is excellent, very good, good, fair or poor? (Adults, AskCHIS 2015-16)								
Excellent	11.2%	9.6%*	11.4%*	--	--	--	--	35.1%*
Very Good	33.8%	34.4%*	34.4%	44.0%*	--	--	--	--
Good	30.5%	26.0%	34.7%	43.1%*	57.9%*	--	--	31.3%*
Fair	19.1%*	23.4%*	15.5%*	--	--	--	--	--
Poor	5.4%*	6.7%*	4.0%*	--	--	--	--	--
During the past 12 months, was there any time when (CHILD) needed dental care, including checkups, but didn't get it? (AskCHIS 2015)								
Needed dental care	3.9%*	4.8%*	--	--	--	--	--	--
Did not need dental care	96.1%*	95.2%*	100%*	--	--	100%*	--	--
How would you describe the condition of your teeth: excellent, very good, good, fair, or poor? (AskCHIS 2016)								
Excellent	11.6%*	6.7%*	18.8%*	--	--	--	--	--
Very Good	30.1%*	42.5%*	19.3%*	--	--	--	--	--
Good	28.5%*	29.1%*	25.5%	74.7%*	100%*	--	--	--
Fair	14.8%*	14.5%*	17.4%*	--	--	--	--	--
Poor	9.5%*	7.2%*	7.1%*	16.9%*	--	--	--	82.2%*
Has no Natural Teeth	5.4%*	--	11.9%*	--	--	--	--	--
Do you now have any type of insurance that pays for part or all of (CHILD) dental care? (AskCHIS 2016)								
Yes	96.7%*	95.3%*	94.8%*	--	--	100%*	--	--
No	3.3%*	4.7%*	--	--	--	--	--	--
Do you now have any type of insurance that pays for part or all of your dental care? (AskCHIS 2016)								
Yes	60.3%*	62.4%*	58.3%	91.6%*	100%*	--	--	17.8%*
No	39.7%*	37.6%*	41.7%	--	--	100%*	--	82.2%*

	Total	Latino	White	African American	American-Indian/Alaska Native	Asian	Native Hawaiian/Pacific Islander	Two or More Races
Reason for last dental visit - Was it for a routine checkup or cleaning, or was it for a specific problem? (AskCHIS 2016)								
Routine Checkup or Cleaning	51.8%	38.2%*	69.2%	60.4%*	100%*	--	--	17.8%*
Specific Problem	24.6%*	21.8%*	25.1%	--	--	--	--	82.2%*
Both	23.6%*	40.0%*	5.7%*	39.6%*	--	--	--	--
During the past 12 months, did (CHILD) have to visit a hospital emergency because of a dental problem? or During the past 12 months, did (CHILD) have to visit an urgent care clinic because of a dental problem? (AskCHIS 2015-16)								
Yes	--	--	--	--	--	--	--	--
No	100%*	100%*	100%*	--	--	100%*	--	--
When (CHILD NAME/AGE/SEX) goes to sleep or takes a nap, does {he/she} sleep with a bottle in {his/her} mouth? (AskCHIS 2015-16)								
Child sleeps with a bottle in mouth	31.7%*	8.9%*	--	--	--	100%*	--	--
Child does not sleep with a bottle in mouth	68.3%*	91.1%*	--	--	--	--	--	--
About how long has it been since your child last visited a dentist or dental clinic? Include dental hygienists and all types of dental specialists. (AskCHIS 2013-16)								
Never been to dentist	17.9%*	11.3%*	--	--	--	33.3%*	--	--
6 months ago or less	61.3%	67.8%	67.4%*	--	--	--	--	--
More than 6 months up to 1 year ago	18.1%*	17.4%*	24.2%*	--	--	--	--	--
More than 1 year up to 2 years ago	3.6%*	4.7%*	--	--	--	--	--	--
More than 2 years up to 5 years ago	--	--	--	--	--	--	--	--
More than 5 years ago	--	--	--	--	--	--	--	--

	Total	Latino	White	African American	American-Indian/Alaska Native	Asian	Native Hawaiian/Pacific Islander	Two or More Races
About how long has it been since you visited a dentist or dental clinic (Adult)? Include hygienists and all types of dental specialists? (AskCHIS 2016)								
Never been to dentist	3.4%*	3.9%*	1.4%*	25.3%*	--	--	--	--
6 months ago or less	54.8%	63.0%*	46.1%	49.5%*	100%*	--	--	40.3%*
More than 6 months up to 1 year ago	12.4%*	16.6%*	8.9%*	--	--	--	--	--
More than 1 year up to 2 years ago	13.5%*	8.4%*	21.2%*	--	--	--	--	--
More than 2 years up to 5 years ago	7.3%*	3.0%*	11.4%*	16.9%*	--	--	--	--
More than 5 years ago	8.6%*	5.3%*	11.1%*	--	--	--	--	47.5%*
How long has it been since you last visited a dentist, hygienist or orthodontist (Teen)? (AskCHIS 2014)								
Never been to dentist	--	--	--	--	--	--	--	--
6 months ago or less	82.7%*	87.1%*	100%*	--	--	--	--	74.1%*
More than 6 months up to 1 year ago	4.8%*	6.5%*	--	--	--	--	--	--
More than 1 year up to 2 years ago	6.1%*	--	--	--	100%*	--	--	--
More than 2 years up to 5 years ago	6.3%*	6.4%*	--	--	--	--	--	--
More than 5 years ago	--	--	--	--	--	--	--	--
Adults who smoked 100 or more cigarettes in their life were asked about current smoking habits. Adults who smoked fewer than 100 cigarettes or don't currently smoke are considered non-smokers. (Current Smoking Status 2015-16)								
Current smoker	17.7%	6.7%*	29.7%	39.7%*	--	--	--	--
Not a current smoke	82.3%	93.3%*	70.3%	60.3%	81.5%*	--	--	92.4%*

*Statistically unstable

-- AskCHIS unable to compute

Appendix E: Receipt of dental visit during pregnancy among California women with a recent live birth by county and region, Maternal and Infant Health

	%	California 95% CI	SJV %	95% CI	Madera %	95% CI
Total	43.0	(41.6-44.4)	32.7	(30.4-35.1)	38.5	(30.9-46.1)
Age						
15-19	34.0	(27.6-40.4)	31.4	(22.2-40.7)	36.5	(15.2-57.9)
20-34	41.5	(39.9-43.1)	31.7	(29.1-34.3)	40.2	(31.1-49.3)
35 or more	50.1	(47.0-53.3)	39.6	(33.0-46.2)	30.3	(16.4-44.1)
Race/Ethnicity						
API	47.5	(43.3-51.7)	28.2	(19.5-36.8)	-	
Black	34.0	(30.7-37.4)	24.3	(18.3-30.3)	-	
Latina	36.0	(34.0-38.0)	29.7	(26.7-32.7)	38.3	(29.0-47.6)
White	52.4	(49.9-54.9)	42.4	(37.5-47.4)	40.8	(27.2-54.4)
Prenatal Health Insurance						
Medi-Cal	33.7	(31.8-35.5)	26.7	(24.0-29.4)	37.2	(28.4-46.0)
Private	54.0	(51.9-56.2)	47.9	(43.3-52.5)	43.7	(28.6-58.8)
Family Income						
0-100% FPL	33.2	(30.9-35.4)	26.1	(22.8-29.4)	36.5	(26.0-47.1)
101-200% FPL	33.0	(30.0-36.0)	26.3	(21.9-30.7)	40.9	(25.1-56.6)
>200% FPL	58.4	(56.2-60.7)	52.5	(47.1-57.8)	37.8	(20.7-54.9)
Education						
High school GED or less	33.1	(30.8-35.4)	26.4	(22.9-29.8)	33.7	(24.5-43.0)
Some college	39.6	(37.1-42.1)	32	(28.2-35.8)	35.2	(22.5-47.8)
College graduate	55.8	(53.4-58.3)	49.4	(43.4-55.3)	55	(31.5-78.5)

Assessment (MIHA) Survey, 2015-2016

*Estimate should be interpreted with caution due to low statistical reliability (RSE is between 30% ad 50%).

Appendix F: Medi-Cal Dental Insurance Statistics, 2016

MEASURE: Annual Dental Visit (D0100 - D1999)

	White	Hispanic	Asian	Black	Alaskan Native or American Indian	Native Hawaiian or Pacific Islander	Other	Invalid / Unknown
Age <1	0.0%	1.7%	0.0%	0.0%	0.0%	0.0%	0.0%	
Age 1-2	16.9%	32.7%						21.8%
Age 3-5	41.8%	63.1%		37.7%			37.5%	48.5%
Age 6-9	48.8%	71.3%	60.0%	59.1%	51.4%		76.7%	61.4%
Age 10-14	45.6%	63.5%	42.4%	47.7%	44.6%	43.8%		48.3%
Age 15-18	40.3%	51.2%	54.9%	38.8%	36.8%	48.4%	43.2%	37.1%
Age 19-20	22.0%	33.6%						
Age 21-34	19.6%	24.7%	34.4%	21.3%	25.2%	25.2%	19.5%	18.9%
Age 35-44	24.1%	26.0%	28.8%	24.7%	43.4%		23.6%	22.2%
Age 45-64	23.2%	26.8%	30.6%	30.9%	25.0%	27.6%	28.6%	23.8%
Age 65-74	21.0%	24.5%						22.5%
Age 75+	22.5%	24.5%						22.4%

Source: Dental Utilization Measures and Sealant by County, Ethnicity, & Age Calendar Year 2013 to 2016

MEASURE: Preventive Services (D1000 - D1999)

	White	Hispanic	Asian	Black	Alaskan Native or American Indian	Native Hawaiian or Pacific Islander	Other	Invalid / Unknown
Age <1	0.0%	1.7%	0.0%	0.0%	0.0%	0.0%	0.0%	
Age 1-2	16.7%	32.0%						21.3%
Age 3-5	40.0%	61.8%		37.7%			37.5%	46.0%
Age 6-9	47.2%	69.5%	56.9%	54.7%	48.6%		76.7%	58.8%
Age 10-14	42.4%	60.6%	42.4%	43.6%	44.6%	39.6%		44.8%
Age 15-18	34.9%	46.1%	45.1%	32.1%	34.2%	45.2%	43.2%	30.4%
Age 19-20	18.5%	28.3%						
Age 21-34	11.2%	16.4%	21.4%	12.9%	24.3%	20.4%	13.6%	11.6%
Age 35-44	12.9%	16.8%	18.8%	12.4%	35.8%			13.9%
Age 45-64	11.6%	16.3%	19.7%	12.6%	21.8%	12.6%	16.0%	12.0%
Age 65-74	9.0%	12.7%						12.5%
Age 75+	11.4%	11.7%	0.0%					9.0%

Source: Dental Utilization Measures and Sealant by County, Ethnicity, & Age Calendar Year 2013 to 2016

MEASURE: Dental Exams (D0120, D0145, D0150)

	White	Hispanic	Asian	Black	Alaskan Native or American Indian	Native Hawaiian or Pacific Islander	Other	Invalid / Unknown
Age <1	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Age 1-2		4.1%	0.0%	0.0%	0.0%	0.0%	0.0%	4.4%
Age 3-5	40.8%	61.7%		36.4%			37.5%	47.5%
Age 6-9	46.6%	69.1%	58.5%	51.8%	48.6%		76.7%	59.0%
Age 10-14	42.5%	60.3%	42.4%	42.4%	44.6%	39.6%		45.1%
Age 15-18	36.3%	46.9%	49.0%	35.1%	34.2%	45.2%	43.2%	32.2%
Age 19-20		29.8%		24.6%				
Age 21-34	14.1%	16.9%	23.7%	14.7%	25.2%	19.4%	15.3%	12.8%
Age 35-44	17.1%	17.9%	18.8%	15.6%	37.7%		15.3%	16.6%
Age 45-64	14.7%	16.9%	21.1%	20.3%	20.2%	19.5%	22.7%	16.0%
Age 65-74	10.7%	16.6%						13.5%
Age 75+	13.2%	15.9%						13.3%

Source: Dental Utilization Measures and Sealant by County, Ethnicity, & Age Calendar Year 2013 to 2016

MEASURE: Restorative Services (D2000 - D2999)

	White	Hispanic	Asian	Black	Alaskan Native or American Indian	Native Hawaiian or Pacific Islander	Other	Invalid / Unknown
Age <1	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Age 1-2		5.4%	0.0%		0.0%	0.0%		
Age 3-5	12.2%	23.4%		15.6%				18.0%
Age 6-9	19.5%	29.3%	18.5%	22.6%				21.9%
Age 10-14	15.0%	23.0%		15.7%				16.2%
Age 15-18	16.2%	20.5%		19.4%				10.7%
Age 19-20		12.0%			0.0%			
Age 21-34	6.8%	9.7%	13.0%	6.3%		11.7%		6.5%
Age 35-44	7.5%	10.0%		8.1%	0.0%			9.4%
Age 45-64	5.9%	8.6%	11.6%	6.9%				6.6%
Age 65-74	3.1%	4.9%	0.0%		0.0%			
Age 75+	2.8%	3.9%	0.0%	0.0%	0.0%	0.0%		

Source: Dental Utilization Measures and Sealant by County, Ethnicity, & Age Calendar Year 2013 to 2016

MEASURE: Dental Treatment (D2000-D9999)

	White	Hispanic	Asian	Black	Alaskan Native or American Indian	Native Hawaiian or Pacific Islander	Other	Invalid / Unknown
Age <1	0.0%		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Age 1-2			0.0%		0.0%	0.0%		2.9%
Age 3-5	13.8%	25.3%		18.2%				19.1%
Age 6-9	26.6%	42.9%	20.0%	32.8%			43.3%	30.4%
Age 10-14	22.6%	36.3%	25.8%	26.2%		37.5%		26.1%
Age 15-18	21.6%	29.8%	23.5%	26.9%		35.5%		18.4%
Age 19-20		17.4%						8.9%
Age 21-34	11.3%	15.0%	17.6%	12.5%		15.5%	10.2%	10.9%
Age 35-44	15.4%	16.5%	18.8%	15.1%				13.9%
Age 45-64	15.6%	16.7%	21.8%	20.6%		18.4%	13.4%	14.6%
Age 65-74	15.7%	15.3%						13.9%
Age 75+	15.7%	17.5%						13.8%

Source: Dental Utilization Measures and Sealant by County, Ethnicity, & Age Calendar Year 2013 to 2016

MEASURE: Caries or Fluoride Treatment (D2000 - D2999 or D1203 - D1208, D1310, D1330, D1351)

	White	Hispanic	Asian	Black	Alaskan Native or American Indian	Native Hawaiian or Pacific Islander	Other	Invalid / Unknown
Age <1	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Age 1-2	10.6%	17.1%			0.0%			13.4%
Age 3-5	30.9%	45.0%		32.5%			32.5%	38.1%
Age 6-9	38.3%	56.5%	49.2%	47.4%			66.7%	49.7%
Age 10-14	34.0%	45.6%	36.4%	36.0%		31.3%		34.5%
Age 15-18	28.4%	35.2%	31.4%	27.6%		38.7%	32.4%	21.8%
Age 19-20	13.7%	21.5%			0.0%			
Age 21-34	8.6%	12.6%	16.8%	6.9%		14.6%	9.3%	9.0%
Age 35-44	9.3%	12.9%	13.8%	12.9%	0.0%			11.4%
Age 45-64	7.4%	11.0%	13.6%	8.9%			11.8%	8.5%
Age 65-74	5.4%	7.4%			0.0%			8.3%
Age 75+	5.6%	7.2%	0.0%					5.7%

Source: Dental Utilization Measures and Sealant by County, Ethnicity, & Age Calendar Year 2013 to 2016