



SIERRA COUNTY
ORAL HEALTH PROGRAM

Oral Health Needs Assessment Update

**Sierra County
Public Health
Department**

June 2025



Sierra County Oral Health Needs Assessment Update
Sierra County Oral Health Program

Written by:

Melanie Del Carlo, MS, CHES – Public Health Educator,
Sierra County Oral Health Program
Olivia Feng, DDS, MPH – Oral Health Program Resident,
Sierra County Oral Health Program

Sierra County Health and Human Services Public Health Department
202 Front Street
Loyalton, CA 96118
(530) 993-6700

The 2024-2025 Sierra County Oral Health Needs Assessment was sponsored by the California Department of Public Health – Office of Oral Health.

Table of Contents

Acknowledgements	4
Methodology	5
Demographics	7
Oral Health Status	10
Dental Capacity	16
Data Gaps and Limitations	18
Next Steps	19
References	20
Appendix	21

Acknowledgements

Sierra County Oral Health Advisory Committee Members

Amy Walker, RDH

Candy Corcoran

Cara Bowling

Darren Vinson

Kellee Martinelli

Robin Jacquez, NP

California Department of Public Health – Office of Oral Health

Pang Vang, MPH

Sierra County Collaborators

Tina Slowan-Pomeroy, MS, PhD Candidate - Epidemiologist

Derrick Koch - Community Outreach Coordinator

Rhonda Grandi - Director of Public Health

Special thanks to the following agencies for disseminating the online Oral Health Community Survey or allowing for hardcopy survey distribution:

Sierra-Plumas Joint Unified School District

Sierra County Health & Human Services

Methodology

Process Overview

The previously established Oral Health Advisory Committee convened in March 2024 to provide input on the Sierra County Oral Health Needs Assessment Update. This update builds on the findings and priorities identified in the previous assessment. Regular committee meetings allowed members to contribute to all phases of the update process, ensuring continuity and alignment with the county's ongoing oral health efforts.

In partnership with the advisory committee, the Sierra County Local Oral Health Program (LOHP) developed a survey to deepen understanding of the county's oral health status. To provide a comprehensive picture, primary data was collected through surveys and a resource inventory, while secondary data was obtained from sources such as the U.S. Census.

Community Survey

Between August 21 and October 14, 2024, a total of 350 completed Oral Health Surveys were collected. The Local Oral Health Program (LOHP) collaborated with administrators from the Sierra-Plumas Joint Unified School District (SPJUSD) to distribute paper surveys through the back-to-school paperwork packets, which were sent home with all students from transitional kindergarten (TK) through 12th grade. Completed surveys were returned to SPJUSD and then transferred to the LOHP for data collection. The survey was available in both English and Spanish. Participation was voluntary, and no compensation was provided. All participants were informed of the survey's purpose, potential benefits, and any associated risks before completing the questionnaire.

Survey respondents were using the following inclusion criteria:

All respondents had to have a child enrolled in a SPJUSD school.

Outcome:

Sample size: 350 completed surveys, 350 met eligibility.

Sampling method:

Non-probability Convenience sampling.

The survey addressed the following topics:

- *Current oral health status and outcomes*

- *Dental care utilization and receipt of preventive services*
- *Dental coverage status*

Resource Inventory

In May 2025, all dental providers received an email copy of the resource inventory. The resource inventory was sent to the only dental provider currently in the county.

Resource inventory respondents were selected using the following inclusion criteria:

All respondents had to be employed at the surveyed facility.

All respondents had to be 18 years of age or older.

Outcome:

1 dental provider was surveyed (100% response rate)

The survey addressed the following topics:

- *General information, including the name, address, phone number, and hours of operation*
- *Demographics of patients served*
- *Insurance accepted, including Medi-Cal*
- *Services provided*

The purpose of the resource inventory was to update the information on the existing dental resources located in Sierra County and to identify potential gaps for oral health prevention, education, and treatment. All dental offices located in Sierra County were contacted via email to complete the survey instrument.

Additional Information

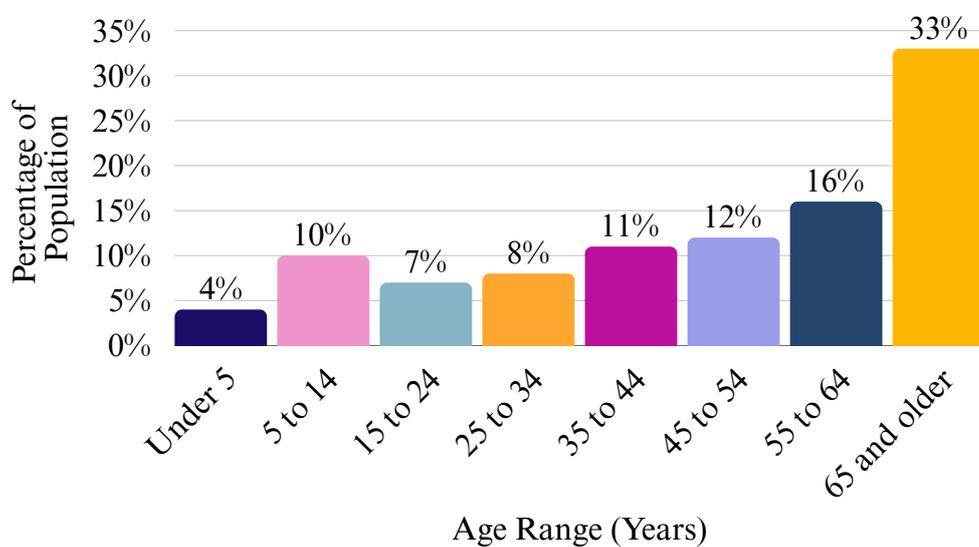
Although the data presented in this needs assessment is not representative of the entire county, it can provide a snapshot of the oral health status and highlight barriers that may impact all Sierra County residents.

Demographics

Age Distribution

Per the 2023 U.S. Census data, the age distribution for Sierra County residents is skewed toward the older population, with a median age of approximately 54 years old (US. Census Bureau, 2023a). Since 2020, the proportion of residents over the age of 65 has increased from 27% to 33%, indicating an aging population. Similar to 2020, as of 2023, nearly half of Sierra County residents are adults age 55 and older (US. Census Bureau, 2023a).

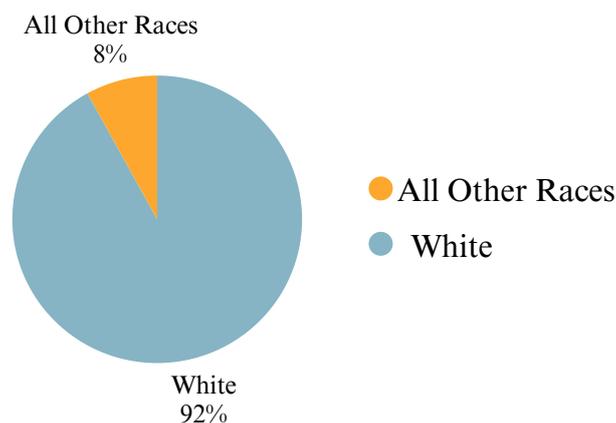
Figure 1. Distribution of Sierra County Residents by Age (2023)



Racial/Ethnic Distribution

Figure 2 illustrates that approximately 92% of Sierra County residents identify as White and 8% identify as other races, including Hispanic, American Indian/Alaskan Native, Asian, Native Hawaiian, Pacific Islander, Black, and two or more races (US. Census Bureau, 2023a).

Figure 2. Distribution of Sierra County Residents by Race (2023)



Socioeconomic Status

Figures 3 and 4 depict socioeconomic trends in Sierra County compared to the state of California and the nation as a whole. Figure 3 indicates that the median income level in Sierra County is around \$68,000 as of 2023, lower than the medians in California and the United States (U.S. Census Bureau, 2023b). Shown in Figure 4, the percentage of residents (all ages) living in poverty has been trending upwards in Sierra County from 2020 to 2023, in contrast to the downward trends seen in California and nationwide. As of 2023, the percentage of residents living in poverty in Sierra County was about 12.6%, surpassing that of the state and country (U.S. Census Bureau, 2023b).

Figure 3. Median Income Level (2023) in the United States, California, and Sierra County

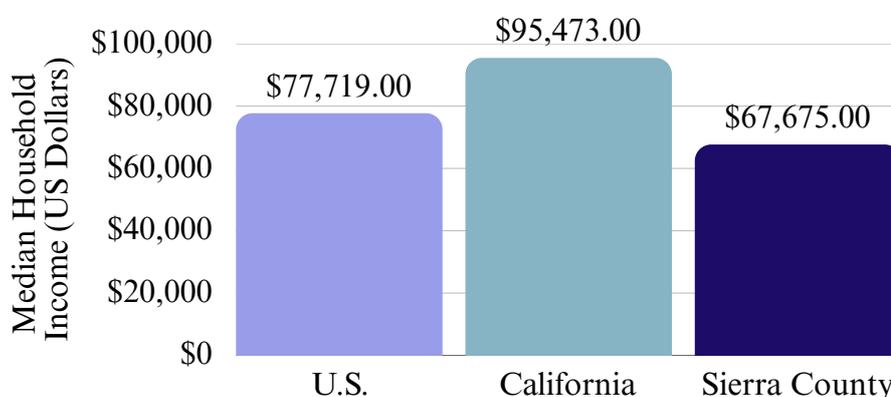
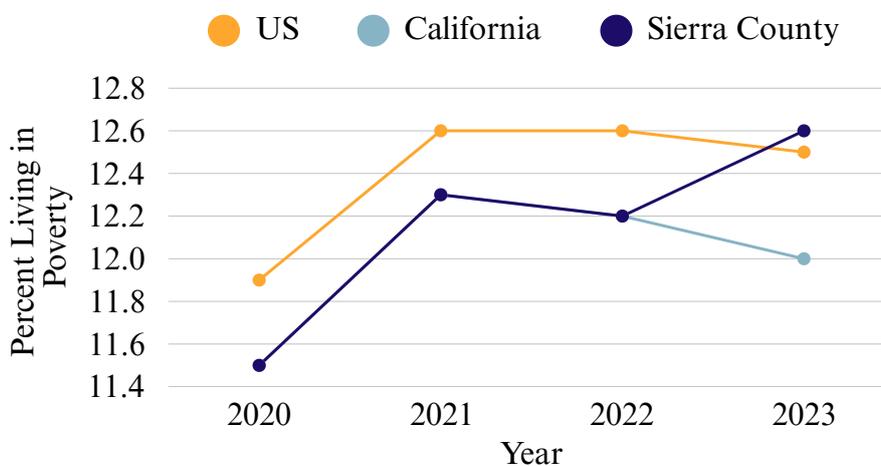


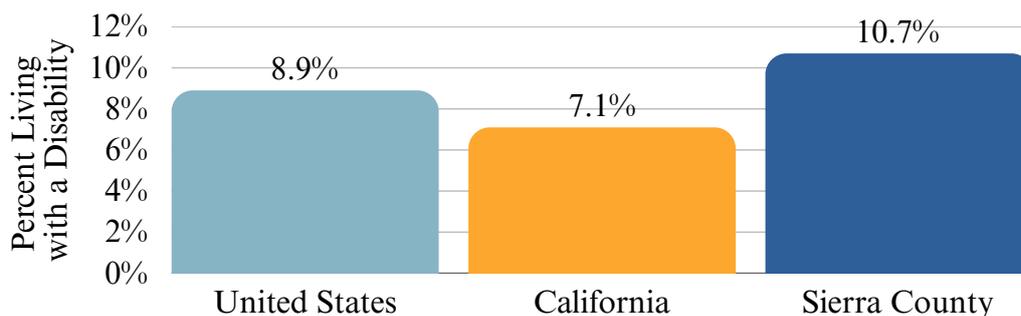
Figure 4. Trend in Percent Living in Poverty from 2020 to 2023 in the United States, California, and Sierra County



Persons with Disabilities

Figure 5 compares the percentage of persons under 65 years old who were living with a disability from 2018-2022 in the United States, California, and Sierra County. The proportion of persons living with a disability in Sierra County was nearly 11%, greater than the proportions in California and nationwide (U.S. Census Bureau, 2023c).

Figure 5. 2018-2022 Health Data for Persons with a Disability



Educational Attainment

Figures 6 and 7 compare educational attainment in Sierra County to that in California and nationwide. As of 2023, approximately 93% of adults aged 25 years and older had a high school diploma or GED equivalent in Sierra County, compared to around 84% in California and 89% in the country (U.S. Census Bureau, 2023c). As depicted in Figure 7, Sierra County residents had lower rates of bachelor’s degree attainment at around 24% compared to state and country rates, at 36% and 34%, respectively (U.S. Census Bureau, 2023c).

Figure 6. High School Graduate: Adults (25 and older) in 2018-2022

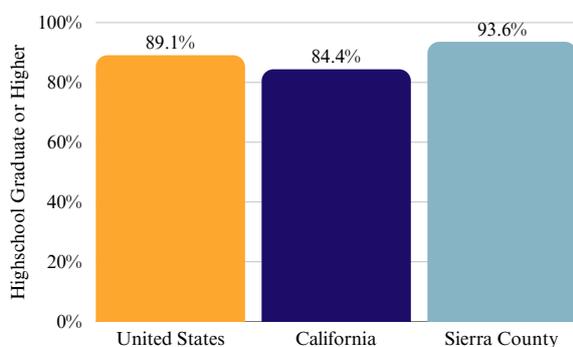
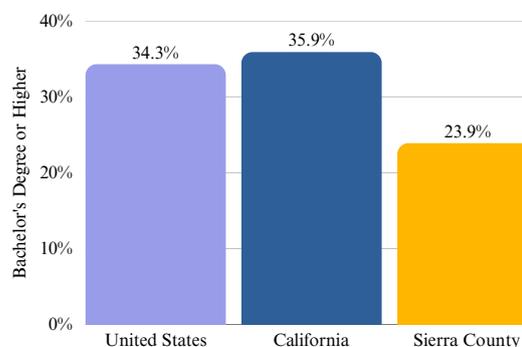


Figure 7. Bachelor’s Degree Attainment: Adults (25 and older) 2018-2022



Summary of Sierra County Demographics

Sierra County represents an aging population, with the proportion of residents aged 65

and older, increasing to a third of the population (U.S. Census Bureau, 2023a). Median income level in the county is lower than that of California and the United States, and poverty levels are surpassing both the state and the nation (U.S. Census Bureau, 2023b). In regard to educational attainment, nearly 94% of Sierra County adults received a high school diploma, but only 24% completed a bachelor's degree (U.S. Census Bureau, 2023c).

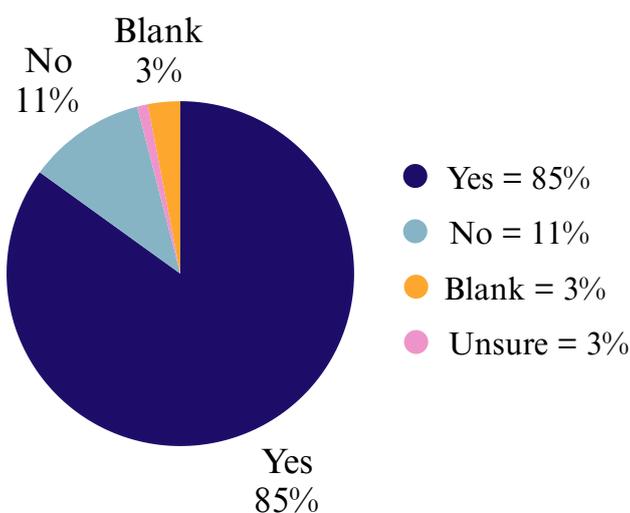
Educational attainment and socioeconomic status are related to health status, as lower health literacy and decreased ability to afford healthcare correlate with worse health outcomes. An aging population also represents fewer residents in the workforce, as well as a larger proportion of residents at greater risk for chronic disease and adverse health outcomes. This updated demographic data highlights the need for interventions in healthcare access and the distribution of resources.

Oral Health Status

Oral Healthcare Appointment Utilization

According to 2024 school survey data, 85% of students had at least one oral healthcare appointment in the last 12 months. Of the remaining 15%, 11% reported no healthcare appointment in the previous year, 1% were unsure, and 3% did not respond. These utilization rates are depicted in Figure 8.

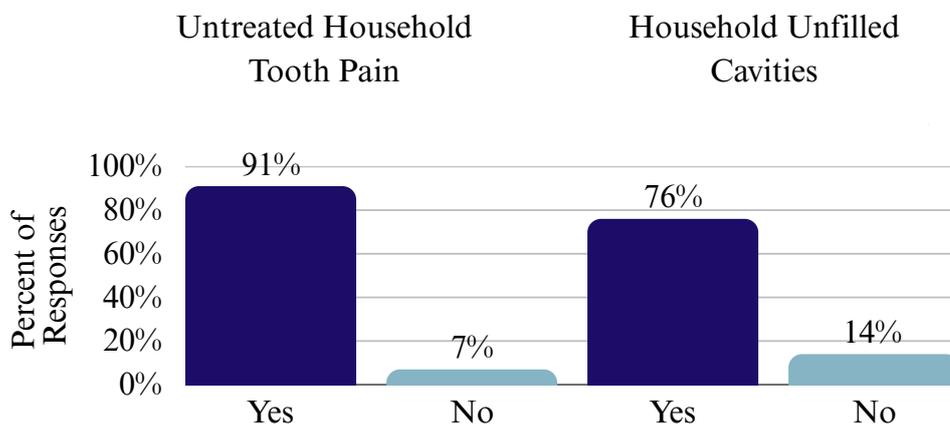
Figure 8. Oral Healthcare Appointments in the Past 12 Months



Untreated Dental Problems

Figure 9 depicts household data on self-reported untreated tooth pain and unfilled cavities in Sierra County children. As of 2024, 7% of county residents reported untreated tooth pain in their household, and 14% reported unfilled dental cavities.

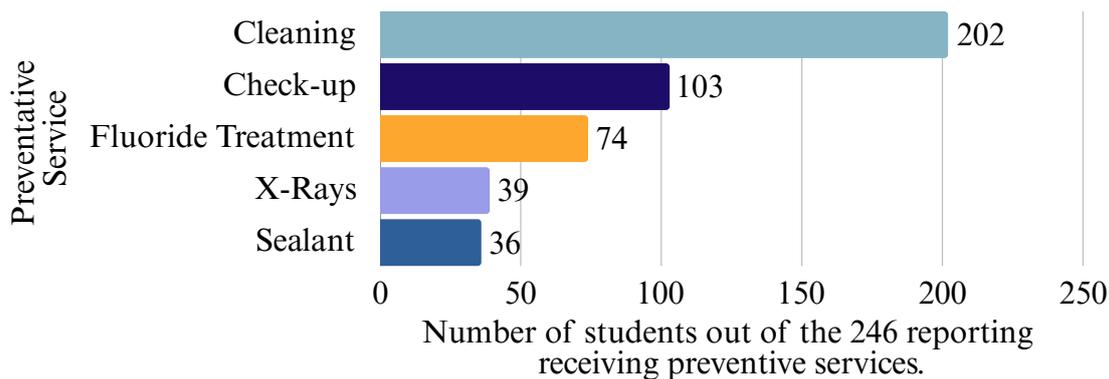
Figure 9. Self-Reported Untreated Tooth Pain and Unfilled Cavities



Oral Health Preventive Service Utilization

According to Figure 10, the most frequently used preventive service among school-going youth in Sierra County was cleanings, with 200 out of 246 respondents utilizing this service. Other services were utilized less, with dental x-rays and sealants obtained the least.

Figure 10. Most Commonly Received Preventive Services



Self-reported Condition of Teeth and Dental Problems

Survey responses regarding parents’ self-reports of the condition of their children’s teeth revealed that around 92% of parents described their children’s teeth as good to excellent. Of the remaining 8%, 7% reported their children’s dental health as fair and 1% as poor, as depicted in Figure 11.

Household data regarding dental problems in the last 12 months was also gathered from school surveys. As depicted in Figure 12, toothaches and dental cavities were reported in 5% and 12% of households, respectively. Additionally, 3% of residents reported bleeding gums in their household.

Figure 11. Self-reported Condition of Teeth

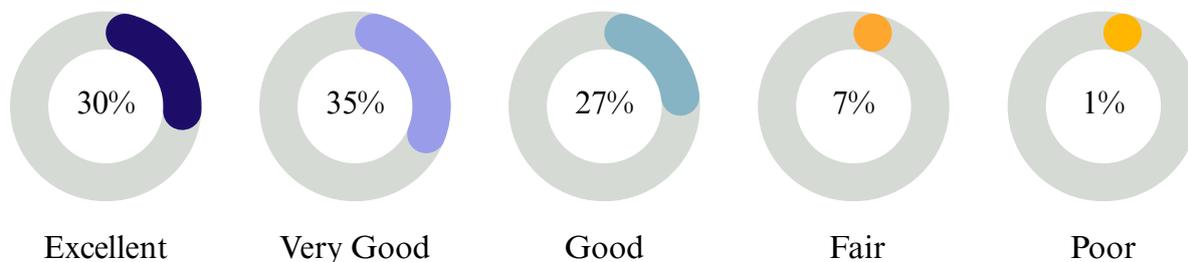
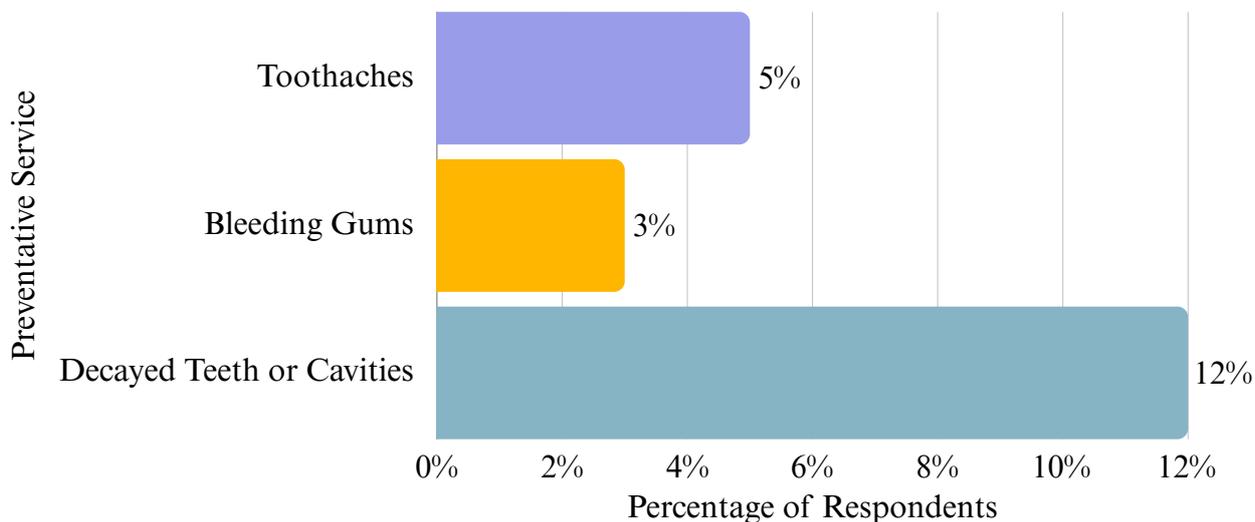


Figure 12. Toothaches, Bleeding Gums, Decayed Teeth, or Cavities in the Last 12 Months



Insurance Coverage

Sierra County residents have a variety of payment methods for dental services, as depicted in Figure 12. As of 2024, half of the residents have private dental insurance, and 33% of the residents are Medi-Cal beneficiaries. Additionally, about 8% of the population is uninsured.

Dental visit utilization varies depending on insurance type, with the lowest utilization in the groups that were unsure of their insurance type, at 55%, and groups that had private insurance and out-of-pocket payment combined, at 60%. Other insurance types that had under 90% dental visit utilization in the past 12 months included Medi-Cal dental insurance only, at 83%, and out-of-pocket payment only, at 86%. Details are depicted in Figure 13.

Figure 12. Dental Insurance Distribution

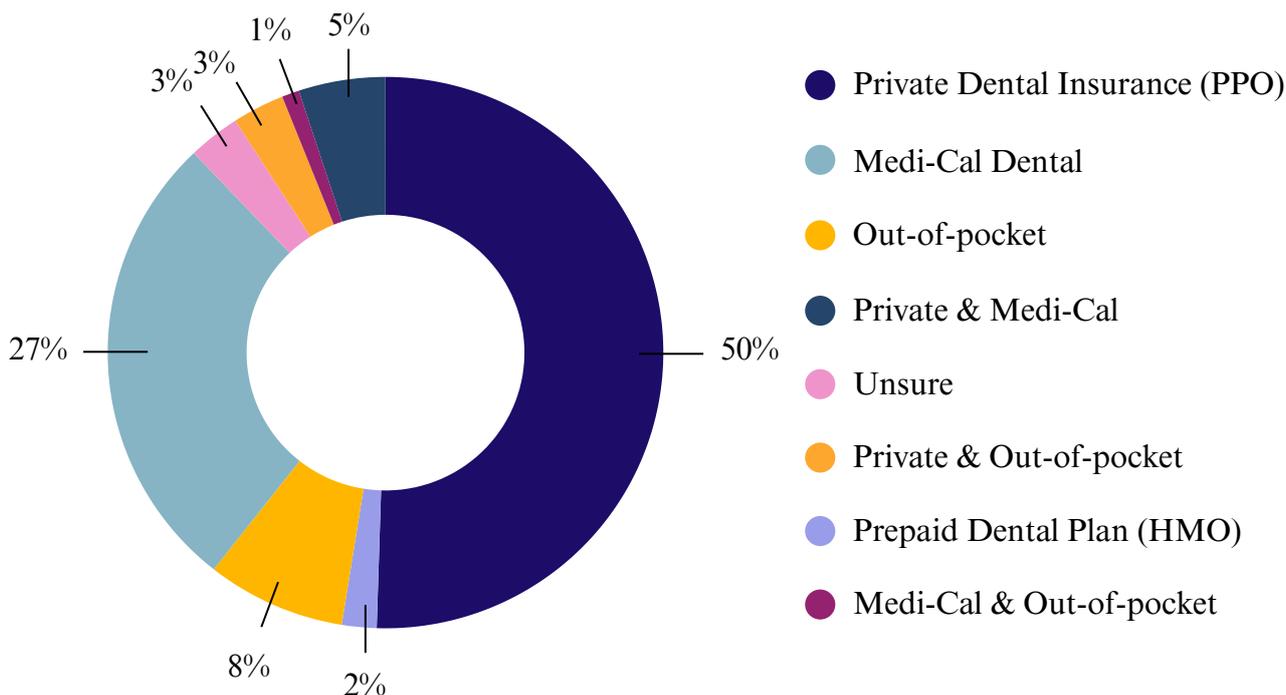
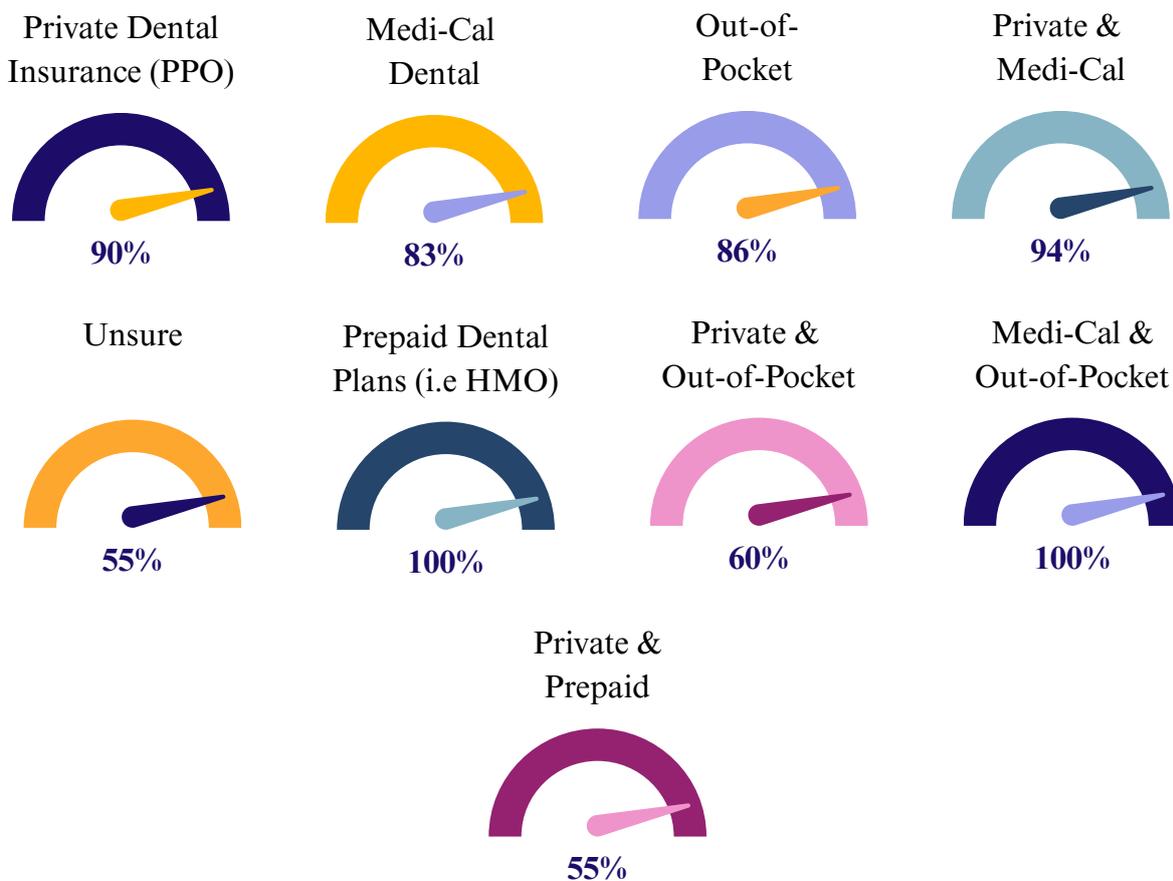


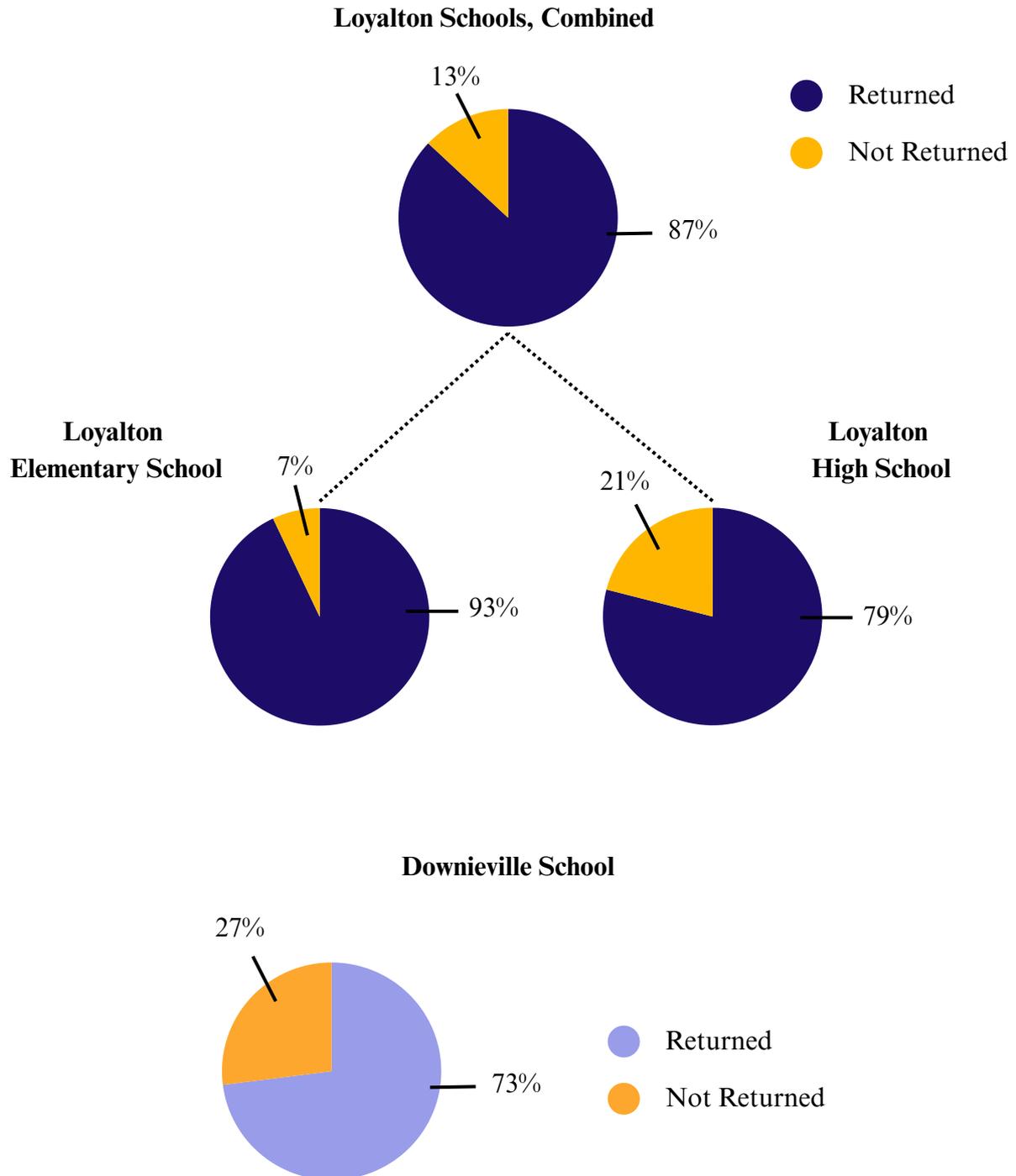
Figure 13. Dental Visits in the Past 12 Months by Insurance Type



Proportion of Students Represented in Surveys

Response rates were slightly higher in Loyaltan than in Downieville, with around 87% responses from students at Loyaltan Elementary and Loyaltan High combined compared to 73% responses from Downieville School.

Figure 14. Student Representation in Surveys



Tobacco Use

As of 2025, nearly 20% of 7th through 12th grade students reported having smoked, vaped, or chewed tobacco in their lifetime (Department of Substance Use Disorder [SUD], 2025). Depicted in Figures 15(a) and 15(b), the proportion of students who have smoked, vaped, or chewed tobacco in the last 30 days is less than that of those who have used tobacco in a lifetime, at approximately 15% compared to 20%. Figure 16 displays the ages at which students report they first used tobacco (SUD, 2025). The most common age for first use was 12 years of age or younger, and first use tapers off from 13 to 16 years old (SUD, 2025).

Figure 15. (a) Left: Smoked, vaped, or chewed tobacco in their lifetime
(b) Right: Smoked, vaped, or chewed tobacco in the last 30 days

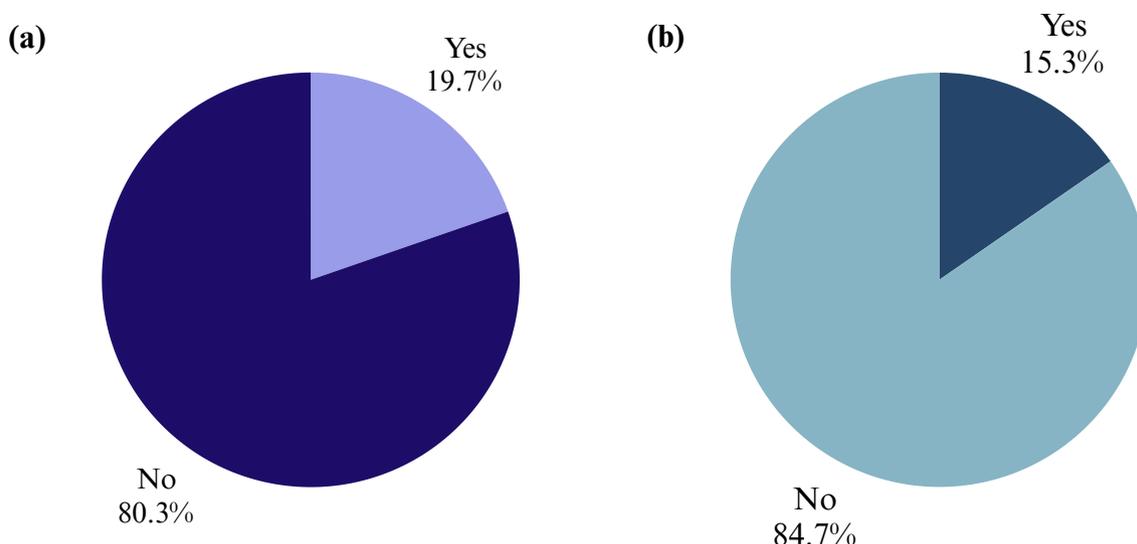
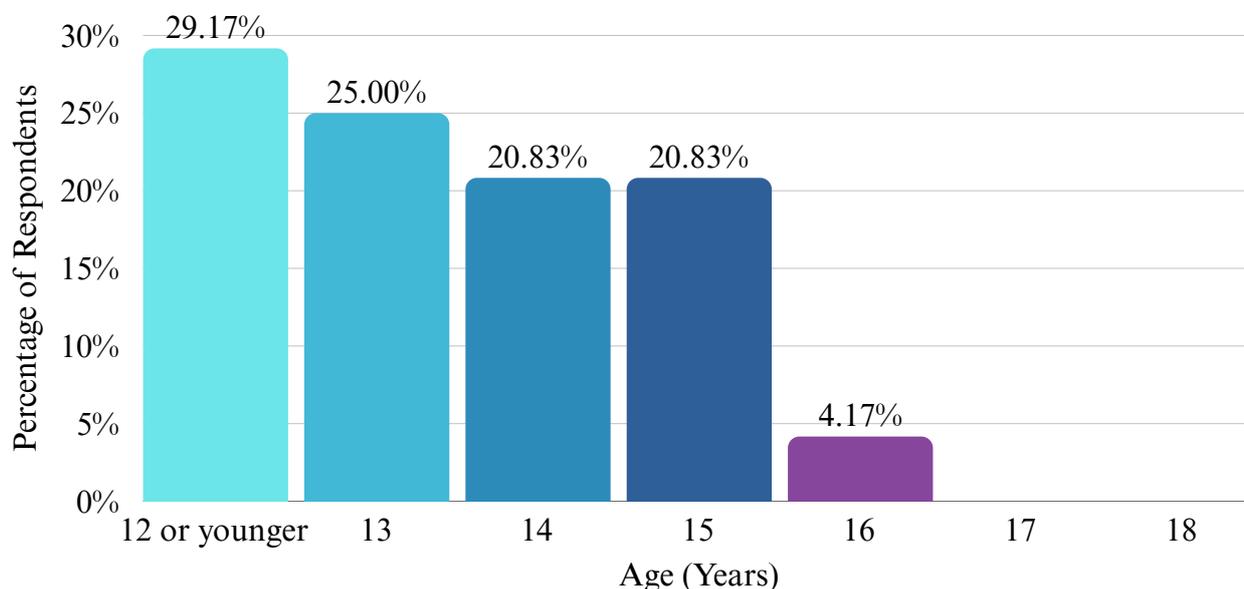


Figure 16. Age at first use of tobacco (smoked, vaped, chewed)



Summary of Oral Health Status

The updated 2024 oral health data displays promising results regarding self-reported dental problems. However, it is important to note that residents may not always be aware of dental cavities, so unfilled cavities may be under-reported.

Per the dental service utilization data, sealants and radiographs have been received the least out of all services. Sealants are an essential point of intervention as they prevent 80% of cavities over two years in back teeth, where 90% of cavities occur (Centers for Disease Control and Prevention [CDC], 2024). Additionally, radiographs are an essential diagnostic service as they detect cavities between the teeth and under existing fillings, diseases in bone, gum disease, and some types of tumors (American Dental Association [ADA], 2011).

Tobacco use rates have declined since the 2018 surveys, but the age of first tobacco use is significant. Nearly one-third of students who have or are currently using tobacco products reported first use at an age of 12 years or younger (SUD, 2025). Age of first use declines as students get older, tapering off at 16 years (SUD, 2025). This highlights a critical age range for tobacco education and cessation resource dissemination.

These findings reflect areas of intervention for future surveys and programs. Data from dental providers of completed services and professionally diagnosed dental diseases can provide less biased data on the prevalence of dental caries and other oral diseases. Future programs can work to include dental sealants to increase the utilization of this invaluable dental service in preventing disease among Sierra County children. Dental and other allied health professionals have the opportunity to play a crucial role in tobacco education for the child to adolescent population in Sierra County.

Dental Capacity

Sierra County currently has one dental provider to serve its residents. The Western Sierra Medical Clinic includes a dental clinic that serves county residents on Medi-Cal, private dental insurance, and private pay. The existing medical and dental resources are listed in Table 1. This clinic provides full scope dental services, excluding certain specialty services, including endodontics, crowns, bridges, implants, and orthodontics, as well as certain preventive and adjunctive services, including panoramic radiographs, nitrous oxide, and tobacco cessation services.

A comprehensive breakdown of services provided by Western Sierra is displayed in Table 2. It is important to note that the county is served by one fewer dental provider since the 2018 Needs Assessment, as Lee Walker Dentistry, accepting private insurance and private pay patients, is no longer serving patients.

Table 1. Sierra County Dental Provider Information

Organization	Type of Organization	Hours of Operation	Accepted Insurance Type	Number of Patients Served per Month	Average Wait Time	Accepting New Patients
Western Sierra Medical Clinic (Dental)	Federally Qualified Health Center (FQHC)	Second Thursday 9:00 am - 4:00 pm	Medi-Cal Dental, Private Dental, Private Pay	7-9	3 - 4 months	✗

Table 2. Dental Services Offered in Sierra County (Western Sierra Medical Clinic)

	Yes	No
Oral Health Assessment	✓	
Oral Cancer Screening	✓	
Oral Hygiene Instructions	✓	
Oral Health Education	✓	
Fluoride Varnish	✓	
Panoramic Radiographs		✗
Periodontal Care	✓	
Dental Sealants	✓	

	Yes	No
Dental Fillings	✓	
Crowns		✗
Bridges		✗
Endodontic Treatment		✗
Extractions	✓	
Implant Restorations		✗
Orthodontic Services		✗
Nitrous Oxide		✗
Referrals to Dental Specialists	✓	
Tobacco Cessation Services		✗

Dental Capacity Summary

Based on the data, Sierra County has limited access to professional dental health services, and access has been reduced since 2018 due to the closure of Lee Walker Dentistry. The singular dental clinic serving the county is also limited in its services provided, and referrals to dental specialty services take residents out of the county, often even to neighboring states. The lack of dental providers in the county places burdens on both residents and existing oral health professionals. Existing dental capacity is severely outweighed by dental needs, leading to long wait times for appointments.

Data Gaps and Limitations

This updated Needs Assessment builds on the original report by incorporating new primary and secondary data; however, several limitations should be acknowledged.

Targeted Population Scope

Primary data collection was intentionally focused on households with school-aged children, as this group represents the priority population of the Local Oral Health Program (LOHP). Surveys were distributed through the Sierra Plumas Joint Unified School District (SPJUSD) to ensure data was gathered directly from this key demographic. While appropriate for program goals, this approach limits household data to families with enrolled students, excluding insights from other segments of the community, such as childless adults, seniors, or those without school affiliations.

Sampling and Response Bias

The survey used a non-probability convenience sampling method and relied on the voluntary return of paper forms. This introduces the potential for selection bias, as individuals who choose to respond may differ from those who do not.

Self-Reported Data Limitations

All data collected through the survey were self-reported and are subject to recall bias, particularly in questions about dental visits and preventive care within the past 12 months. In addition, social desirability bias may have influenced how some respondents reported oral health behaviors.

Secondary Data Constraints

Due to the small population of Sierra County, available secondary data on oral health indicators is limited. Many state and federal datasets aggregate Sierra County with neighboring counties, which restricts access to detailed, county-specific information related to oral health outcomes and service utilization. However, county-specific demographic data was accessible and used to support the development of this needs assessment update.

Next Steps

Findings from this updated needs assessment will guide the LOHP's planning, priorities, and outreach. With new data on the oral health needs of school-aged children and their families, the LOHP is better equipped to tailor programming to the community. Through continued collaboration and education, the program aims to increase awareness, reduce disparities, and support informed oral health decisions for long-term well-being.

References

American Dental Association. (2011, September). *Dental radiographs benefits and safety*.

https://www.ada.org/-/media/project/ada-organization/ada/ada-org/files/resources/research/for_the_dental_patient_sept_2011.pdf

Centers for Disease Control and Prevention. (2024, May 15). *Dental sealant facts*.

<https://www.cdc.gov/oral-health/data-research/facts-stats/fast-facts-dental-sealants.html>

Department of Substance Use Disorder (SUD). (2025). *Sierra County 6th–12th Grade*

Alcohol and Other Drug (AOD) Perception of Harm School Survey [Unpublished manuscript]. Sierra County Behavioral Health Department.

U.S. Census Bureau. (2023a). *Annual estimates of resident population for counties in*

California: April 1, 2020 to July 1, 2024 (CO-EST2024-POP). U.S. Department of

Commerce. <https://www.census.gov/data/tables/time-series/demo/popest/2020s-counties-total.html>

U.S. Census Bureau. (2023b). *Quick facts Sierra County, California*. U.S.

Department of Commerce. https://www.census.gov/data-tools/demo/saipe/#/?s_state=06&s_county=06091&s_district=&s_geography=county.

U.S. Census Bureau. (2023c). *Small area income and poverty estimates (SAIPE)*. U.S.

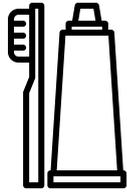
Department of Commerce. https://www.census.gov/data-tools/demo/saipe/#/?s_state=06&s_county=06091&s_district=&s_geography=county.

Appendix

Data Instruments

Below is the survey instrument used to gather primary data for the Sierra County Oral Health Needs Assessment Update:

- Adult Oral Health Community Survey



Sierra County

Oral Health Survey



This survey is used to gather information from Sierra County residents around their views and personal experiences regarding access to, education about, and care and resources for dental health within the county.

The information you give us will be treated in confidence and stored securely in a locked cabinet in the Public Health office; only employees of the Oral Health Program will have access to survey information. Any personally identifying information will be removed from the data before we conduct our analyses; you will not be identified personally by anything you say.

Your participation in this survey is voluntary, and you may stop taking the survey at any time. This assessment will take between 5 and 10 minutes to complete.

Thank you for taking the time to complete this survey, we value and appreciate your participation in this process.

If you have any questions about this survey, you may direct them to Melanie Del Carlo at (530) 993-2915, or by email at mdelcarlo@sierracounty.ca.gov.

1. How would you describe the condition of this child's teeth?

- Excellent
- Very Good
- Good
- Fair
- Poor

2. During the Past 12 Months, has this child had frequent or chronic difficulty with any of the following?

Toothaches – Yes or No

Bleeding Gums – Yes or No

Decayed teeth or cavities – Yes or No

3. During the Past 12 Months, did this child see a dentist or other oral health care provider for any kind of dental or oral health care?

- Yes
- No
- Unsure

IF YES, during the Past 12 Months, did this child see a dentist or other oral health care provider for PREVENTIVE dental care, such as check-ups, dental cleanings, dental sealants, or fluoride treatments?

- Yes
- No
- Unsure

IF YES, during the Past 12 Months, what PREVENTIVE dental service(s) did this child receive?

4. Do you have any kind of dental insurance that pays for some or all of your routine dental care?

- Private dental insurance (i.e. PPO)
- Medi-Cal Dental
- Prepaid dental plans (i.e. HMO)
- No, I pay out-of-pocket
- Unsure

5. Do you or a member of your household have untreated tooth pain?

- Yes
- No
- Unsure

IF YES, do you or any members of your household have cavities that are not filled?

- Yes
- No
- Unsure