Dental Health Report
for
San Diego County

A Report of the Dental Health Coalition
Compiled in 2002
Executive Summary

Oral Health and Overall Health

Oral health has emerged as a topic of health discussions statewide, as well as nationally, with the release of a landmark publication by the Surgeon General “Oral Health in America”.

The Dental Health Coalition of San Diego County, a collaborative of 30 agencies and organizations committed to optimizing the oral health of San Diego County residents, has prepared this report in response to the local oral health crisis.

The Local Problem

San Diego County is in a dental health crisis. Dental health is not appreciated to the extent of physical health despite recent research that dental disease has a widespread physical impact.

San Diego County has no comprehensive countywide survey that documents children’s dental health, but local data sources indicate that dental disease is underestimated and remarkably prevalent. In a 1999 screening of 4,451 local 2nd-5th graders, 30% had untreated, visible cavities and 74% had active gum disease. In the 2000 needs assessment of South Bay Mexican-American preschool children, 59% had visible dental caries. Tooth decay is also the most common well-child exam diagnosis in the San Diego County Child Health and Disability Prevention (CHDP) Program.

According to the Surgeon General’s Report in 2000, 80% of untreated caries are experienced by 25% of children and uninsured children are 2.5 times less likely to receive dental care.

There are potentially 216,000 children without dental insurance in San Diego County. These children may be enrolled in private medical insurance that does not include dental coverage or are eligible for Medi-Cal (Denti-Cal) or Healthy Families but are not enrolled. In addition, some children do not qualify for state-sponsored insurance coverage and have no other insurance options. One’s access to dental care is also dependent upon a provider’s willingness to accept insurance. Not all private practice dentists accept Denti-Cal or Healthy Families which is, in part, due to low reimbursement rates. Of the community clinics that exist in San Diego County, fewer than one third have a dental facility. Of those that do provide dental services, the wait for an appointment is up to three months.

There are six Medical Service Study Area (MSSA) Dental Health Professional Shortage Areas that qualify for personnel placement through the National Health Services Corp. in San Diego County. In addition, there is one MSSA that qualifies as a Special Shortage Area.* A Special Shortage Area is defined, in part, by a special population experiencing significant barriers to obtaining dental care such as income, poverty or migrant status.

*Cuyamaca/La Jolla/Laguna/Palomar/Pine Valley/Warner Springs, Lakeside/Santee, Dulzura/Engineer Springs/Indian Springs/Jamacha/Jamul, Lemon Grove/Paradise Hills East, Golden Hills/Logan Heights, Pala/Pauma Valley/Valley Center (Special Shortage)
Availability of, transportation to, and financing for services do not address all barriers to obtaining preventive care or dental treatment. The realized access of services is also greatly dependent upon the behavior, beliefs and cultural norms of the population(s).

* Dental care is likely out-competed by needs for food and other perceived basic necessities.
* Some cultures or populations would not consider missing or discolored teeth aesthetically displeasing.
* It may often be less expensive to have decayed teeth removed rather than filled or crowned.
* The pain of dental disease may be considered a normal pain of childhood.
* There exists a perception that “baby teeth” will be replaced so there is no need to care for them.
* Some believe that dentures are simply a part of aging.
* Dental coverage is not included in most retirement packages.

**Action Plan**

The prevalence of dental disease among both children and adults in San Diego County continues to demand attention. Issues include: prevention, early detection and effective treatment. Each of these requires access to at-risk populations, providers and financial reimbursement for dental care.

A comprehensive, coordinated effort to address dental disease in San Diego County must include efforts to define and address each barrier to dental care. Various efforts may be needed in each community and for unique cultures and populations to change perceptions of dental health and preventive measures and to raise awareness of dental disease. There are no easy solutions. Efforts and approaches must be sustainable to achieve long-term and long-lasting improvements in the dental health of San Diego County residents.

**Actions**

* At-risk populations must be educated about dental disease, its impacts, consequences and prevention.

* At-risk populations must be given access to preventive measures such as sealants, fluoride supplements, varnishes and gels, and optimally fluoridated water.

* A dental home and regular dental visits for assessment, cleaning and oral hygiene instruction/education must be available to all.

* Efforts must be taken to increase the number of practicing dental professionals in areas of the county that are historically under-served.

* Government-sponsored plans should be encouraged to maintain stability and reimburse at equitable rates. There must be incentives for providers to accept government sponsored insurance plans.

This is a call to action for all to join together to make a difference in the oral health of the residents of San Diego County. How will we bring an action to reality?

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Oral Health Report for San Diego County

A Report of the Dental Health Coalition

Compiled in 2002
Oral Health and Overall Health

“...oral health is essential to the general health and well being of all Americans and can be achieved by all Americans.”-Surgeon General

Oral health has emerged as a topic of health discussions statewide, as well as nationally, with the release of a landmark publication by the Surgeon General, “Oral Health in America”.¹

The Dental Health Coalition of San Diego County, a collaborative of 30 agencies and organizations committed to optimizing the oral health of San Diego county residents, has prepared this report in response to the local oral health crisis. This report includes; the concerns, national, state and local statistics, access to care, preventive measures, local assets and a plan for action.

Recent research supports the concept that oral health is an integral part of overall health and quality of life. Poor oral health has been linked to multiple health conditions including coronary heart disease, lung disease, diabetes, and poor pregnancy outcomes. The mechanisms by which oral health affects or is affected by these health conditions is only now beginning to be understood.

Heart Disease

There is a statistically significant increase in the odds of heart disease among patients with periodontal disease even while controlling for other risk factors and behaviors. Infection of oral tissue may potentially lead to the infection of blood vessel walls, interact with white blood cells or platelets that are integrated into a developing atherosclerotic plaque or stimulate the liver to produce pro-inflammatory or pro-coagulant factors.¹

Preterm Birth/Low Birth Weight

Several studies are now underway in the U.S. to investigate the relationship between oral health and poor pregnancy outcomes, specifically low birth weight. One proposed mechanism for this relationship is that oral bacteria produce toxins that cross the placenta and harm the fetus. The second is that a maternal immune response to oral infection may stimulate an anti-inflammatory response that interferes with fetal growth.¹

Nutrition

Studies have shown an association between dental health and growth. Children whose growth had previously been stunted, accelerated and reached the average after treatment of dental disease.² It should be of no surprise that the health of the teeth affects nutrition and growth. Without teeth or with tooth pain, it is difficult to chew crunchy foods such as some fruits and vegetables. People who have lost teeth may limit food choices to softer foods that are lower in fiber and often less nutritious.¹

Other nutrition health issues also are associated with dental health. Eroded enamel occurs as a result of bulimic behavior. Dental health may also be associated with obesity. Cavities are the result not only of high sugar foods, but also carbohydrates, foods high in acid content, and frequent snacking.
Psychosocial

In addition to the previously mentioned physical health conditions associated with dental disease, dental caries or cavities are aesthetically displeasing and may thereby affect self-esteem and social behavior. Psychosocial effects of poor dental health include the avoidance of social contact due to facial and oral appearance and associated isolating and depressing effects. People have reported avoiding situations such as laughing, smiling or conversing and feeling uncomfortable when eating in the presence of others. Psychosocial development is a crucial aspect of overall development of children. Exclusion or depression can have a tremendous impact on participation and success in school.

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Early Indicators of Overall Health

Oral health is a part of total health. More than 90% of all systemic diseases have oral manifestations. Unhealthy oral tissues may indicate nutritional deficiencies, infections or diseases including viral and fungal infections, chickenpox, tuberculosis, diabetes and primary HIV infection.
Effects of Treatment and Medication

Medication for and treatment of chronic physical and mental conditions affect the oral cavity. Oral complications are seen among patients treated for asthma, diabetes, mental health problems, as well as those treated with chemotherapy or radiation. Several pharmaceuticals are known to reduce saliva production. Adequate salivary secretions and healthy oral tissues are a barrier to pathogens and disruption of a healthy oral environment can allow these pathogens to invade the mouth and body.

National Statistics

* Tooth decay (dental caries) is the most common chronic childhood disease.¹
* Tooth decay is five times more common than asthma and seven times more common than hay fever.¹
* More than 51 million school hours are lost each year to dental-related illness.¹
* 164 million work hours are lost annually due to dental problems.¹
* Poor children experience almost 12 times more restricted-activity days due to dental disease and have twice as many cavities as their more affluent counterparts.¹
* Eighty percent of untreated caries are found in only 25% of children ages 5 to 17. These children are predominantly from low-income and other vulnerable populations.⁴
* For each child without medical insurance, there are at least 2.6 children without dental insurance.¹
* More than 150 million Americans, or 55% of the U.S. population, have no dental insurance.¹
State Statistics

* Two-thirds of the U.S. population has access to the benefits of community water fluoridation. In California, only one third has access.  

* Nationally, almost half (46%) of all six-to-eight year olds and 22% of 15 year olds have never had a cavity. In California however, only 27% of children age six to eight and 29% of 15-year-olds had never had a cavity. 

* Nationwide data indicate that 66% of children age five had visited a dentist in the past year. The California Oral Health Needs Assessment 1993-94 revealed that only 56% of preschool children had visited a dentist. 

* National data indicate that 24% of children age 15 have untreated caries. In California, almost twice that number (45%) have untreated caries. 

* Nationwide data indicate that 25% of children age six to eight years old have an untreated cavity. The California Oral Health Needs Assessment 1993-94 found that more than twice as many (an average of 55%) children had untreated cavities. Substantial disparities among race/ethnicity and untreated cavities were demonstrated in the aforementioned assessment. 

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<thead>
<tr>
<th>Rank</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>1st</td>
<td>80% African-American children had untreated cavities</td>
</tr>
<tr>
<td>2nd</td>
<td>71% Asian children had untreated cavities</td>
</tr>
<tr>
<td>3rd</td>
<td>66% Latino/Hispanic children had untreated cavities</td>
</tr>
<tr>
<td>4th</td>
<td>42% White children had untreated cavities</td>
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San Diego County Statistics

* A visual screening of 4,451 local 2nd-5th graders in 1999 revealed that 30% had untreated cavities and 74% had active gum disease. 

* Denti-Cal spends $60 million annually on dental care for San Diego County residents. 

* Tooth decay is the most common well-child diagnosis in the San Diego County Child Health and Disability Prevention (CHDP) Program. 

* The most frequent treatment paid for by the CHDP-Treatment Reimbursement Program is for dental disease. 

* In the needs assessment conducted among Mexican-American preschool children in the South Bay Region of the county in 2000, only 52% of the Medi-Cal and Denti-Cal eligible children had ever been to a dentist. The mean age for the first visit was older than three years and nearly 59% of preschool age children had dental caries.
Access to Care

Insurance

UCLA Center for Health Policy Research reported that in 2001, 11.5% of children ages 0 to 17 were uninsured.12 2000 Census results reveal 724,000 children ages 0 to 17 in San Diego County. Therefore, there are approximately 83,000 children without health insurance in San Diego County. For every child without medical insurance, there are 2.6 without dental insurance. This means there are an estimated 216,000 children without dental insurance in San Diego County. One reason for this is inadequate job-based health coverage. Even when employers provide medical coverage, they often do not provide dental coverage. When dental coverage is included, parents may be required to pay for coverage for their children. Employers with small companies or those with part-time staff may provide neither medical nor dental coverage. The 1999 California Oral Health Needs Assessment found that more than 25% of preschool age children, 28% of K-3rd graders and almost half of high school children lacked dental insurance.7

Access to dental care is also dependent upon a provider’s willingness to accept insurance. Approximately 90% of licensed dentists provide care in private offices that operate like small businesses. There is little incentive to accept Medi-Cal or Healthy Families patients. In California, only 40% of dentists were willing to accept Denali-Cal patients.14 A 1997 study found that nationwide, state Medicaid agencies spent less that 3% of the child health expenditures on dental health. California was the second lowest nationwide, with less than one percent of total expenditures for dental health (0.3%).1 According to the U.S. Department of Health and Human Services, 21% of expenditures should be dedicated to dental health. This translates to between $17 and $21 dollars per child per month.

Distribution of Dentists

There has been a steady decline in the dentist-to-population ratio across the nation. This decline is expected to continue as aging providers retire and fewer graduates are available to replace them. Dental school closures and the high cost of a dental education are likely to blame for this shortage.

Although the dentist-to-population ratio in San Diego is among the highest in the nation, dentists are not evenly distributed throughout the county. A recent study analyzed Medical Service Study Areas (MSSAs), the geographic areas designated as Health Professional Service Areas and dentist-to-population ratios in 1998.14 There are six MSSA Dental Health Professional Shortage Areas that qualify for personnel placement through the National Health Services Corp. in San Diego County. In addition, there is one MSSA that qualifies as a Special Shortage Area.* A Special Shortage Areas is defined, in part, by a special population experiencing significant barriers to obtaining dental care such as income, poverty or migrant status. These areas are primarily in the rural, eastern portion of San Diego County. In California, 16% of the population resides in rural areas while only 9% of dentists practice in rural areas.

(Low income dental care resources available in San Diego County are summarized in Figure 1.)

*Cuyamaca/Julian/Laguna/Palomar/Pine Valley/ Warner Springs, Lakeside/Santee, Dulzura/Engineer Springs/Indian Springs/Jamacha/ Jamul, Lemon Grove/Paradise Hills East, Golden Hills/Logan Heights, Pala/Pauma Valley/Valley Center (Special Shortage)
Figure 1. Low Income Dental Care Resources in San Diego County

Frequency of Dental Visits

Preventive dental care reduces the need for and decreases the number of acute and episodic dental visits. In a recent year-long study, however, fewer than one in five Medicaid-covered children received a single preventive dental visit. California placed in a tie with three other states for fewest Medicaid eligible children to have received dental services. Not surprisingly, California had the 4th highest cost per government-sponsored dental service client at $249, almost $100 over the U.S. average. The goal cited in Healthy People 2010 was to increase the percentage of children entering school with a prior dental visit to 90%. The California Oral Health Needs Assessment data indicate that overall, only 59% of Caucasian preschool-age children had a dental visit before entering school. In rural regions, the percentage was even less, at 48%.

Dental visits should begin early. The American Academy of Pediatric Dentists recommends the first dental exam by age one. Nationally, however, fewer than 1% of children receive this level of care.
Fluoride

Fluoride is a naturally occurring element and is the thirteenth most abundant element in the earth’s crust. Fluoride is an important component of dental health and dental disease prevention. Fluoride is incorporated in the enamel of teeth as they develop before eruption. After eruption, fluoride prevents decay by promoting re-mineralization of the enamel structure as it washes over the teeth in the form of varnishes, rinses, gels, toothpaste or fluoridated water. The preventive effect of fluoride is, therefore, of importance to people of all ages.

Community water fluoridation (i.e. the adjusting of the natural fluoride levels in water sources to optimal levels of 1-1.3 milligrams per liter) was recently named one of the ten greatest public health achievements of the 20th century. The cost effectiveness and safety of water fluoridation have been demonstrated in hundreds of studies during the last 50 years. The cost of this preventive practice ranges from only $0.50 to $1.00 per person per year. Despite the advantages, only 30% of the California state population is served by a fluoridated water source.

San Diego County is primarily a non-fluoridated community. However, there are several areas within the county with significantly higher naturally occurring fluoride levels and several more are planning to fluoridate in the near future. In areas with less than optimal levels, fluoridation supplementation is recommended.

Fluoride Supplementation Recommendations* in San Diego County

Fluoride Supplementation
and Concentration

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Supplementation at 6 Months (0-0.29 PPM)
Supplementation at 3 Years (0.3-0.59 PPM)
No Supplementation** (0.6-1.3 PPM)
Unknown Average
Not served by SDCWA

*Conforms to new ADA and AAP guidelines for fluoride supplementation
**.0006% of San Diego County population (1,870 ppl)

Mapping based on San Diego County Water Authority Member Agencies

Figure 2. Fluoride Supplementation Schedule in San Diego County

Oral Health is a Part of Total Health
Sealants

Dental sealants are a protective barrier painted on the biting surfaces of teeth after they are fully erupted and before decay ensues. Studies have demonstrated a reduction of pit-and-fissure caries by 53% to 70%, particularly in high-risk populations.¹ The preventive benefits of dental sealants are such that the Healthy People 2010 recommendation is for 50% of children ages 8 to 14 to receive sealants on their primary and secondary molars. Despite the recommendation, sealants are actually being used less in low-income children than in their higher income peers. Data from the California Oral Health Needs Assessment found that California reached a measure of dental prevention much below the National average.⁵

Dental Health Education

Dental health education includes oral hygiene instruction (OHI) such as proper brushing and flossing, as well as nutrition, and disease preventive behavior education. Dental health education does not, however, need to take place in a clinical setting. In fact, dental health education elicits creativity. From storytelling and crafts, to interactive games to eating tooth-healthy snacks, dental health education is an art.

Appropriate oral hygiene practices should be adopted early as children with dental disease are much more likely to become adults with dental disease. Dental health education can begin as early as prenatal care with education to address the risks of preterm birth associated with gum disease and the influence of maternal oral bacteria levels on the likelihood of cavities for the child as bacteria are passed via shared utensils etc. Soon-to-be parents are a captive audience for health messages relating to themselves and the care of their expected child. Children can receive dental health education in conjunction with their school lessons of nutrition, hygiene and total health. Health education needs do not, however, decrease with age. Health education programs can be and have been adapted for people of all ages, educational levels and cultures.

Social marketing and media techniques also comprise dental health education. Such methods can be used to increase awareness of the concept of oral health as an integral part of overall health.
Local efforts to improve dental health knowledge and access have been made. These efforts must continue and can be built upon for success.

**Anderson Center for Dental Care/Children’s Hospital**
Educates, advocates and provides access to care for individuals with developmental disabilities and Early Childhood Dental Disease.

**Community-Based Clinics**
Provide sliding scale fees for dental treatment and develop grant driven programs to provide education, screenings and sealants.

**San Diego Dental Health Coalition**
Established in 1994, brings together stakeholders, community organizations, government and individuals interested in studying the dental services, health education and preventive programs throughout the county.

**San Diego County Dental Hygienist’s Society**
A professional organization that collaborates to increase community education and preventive dental services.

**San Diego County Dental Society**
A professional organization that participates in community health and career fairs, assists in recruiting volunteers, coordinates school dental screenings and provides complaint resolution.

**East County Dental Health Task Force**
A strategic group that advocates to increase dental awareness of individuals in the community and for new treatment facilities in the under-served areas of East San Diego County including mobile services to rural communities.

**School-Based Smiles and Happy Smiles Programs**
Provide classroom education, fluoride rinse programs and access to dental sealants.

**Southwestern College Dental Hygiene Program**
Educates dental health specialists and provides no-cost preventive care services for uninsured adults and children.

**Share The Care/Dental Health Initiative of San Diego**
Coordinates a pro bono dental emergency access network for children ages 5-19 and provides technical support, training and materials to the community and professionals. Share The Care coordinates community based dental health collaboratives and is a data repository for the county.
The prevalence of dental disease among both children and adults in San Diego County demands attention. Issues include: prevention, early detection and effective treatment. Each of these requires access to at-risk populations, providers and financial reimbursement for dental care.

A comprehensive, coordinated effort to address dental disease in San Diego County must include efforts to define and address each barrier to dental care. A variety of efforts may be needed in each community and for unique cultures and populations to change perceptions of dental health and preventive measures and to raise awareness of dental disease.

There is no easy solution. Efforts and approaches must be sustainable to achieve long-term and long-lasting improvements in the dental health of San Diego County residents.

**Actions**

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*Government-sponsored plans should be encouraged to maintain stability and reimburse at equitable rates. There must be incentives for providers to accept government-sponsored insurance plans.*

This is a call to action for all to join together to make a difference in the oral health of the residents of San Diego County. The problems have been stated and the factors affecting the oral and overall health of San Diego County residents have been discussed. It is now time to move forward.

**How will we bring an action to reality?**

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References


8 Unpublished Data; Dental Health Initiative of San Diego/Share The Care, Project Smile Saver, 1999.


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