

Health Trust Evaluation Brief

Improving Oral Health in Silicon Valley

Introduction

Good oral health is a fundamental building block for children's overall health and well-being. Most oral health diseases can be prevented through good dental hygiene, routine preventive dental care and fluoridation. As a Silicon Valley nonprofit foundation, The Health Trust has invested more than \$7.5 million over the past 12 years in oral health services, with a focus on educating families about oral health hygiene, creating access to routine dental care and advocating for water fluoridation. The following provides an overview of the importance of good oral health, The Health Trust's efforts to date and a blueprint for future success.

Poor oral health affects children's physical, mental and emotional well-being.

- ❑ A lack of good oral health most commonly leads to tooth decay, an infectious disease in which bacteria dissolve the enamel surface of a tooth. Untreated, the bacteria may penetrate tooth structure and progress into the soft pulp tissue.¹
- ❑ Periodontal (gum) disease is an infection caused by bacteria under the gum tissue that begins to destroy the gums and bone. Teeth become loose, chewing becomes difficult and teeth have to be extracted. Gum disease may also lead to damage elsewhere in the body. Research studies have found associations between oral health infection and diabetes, heart disease, stroke and pre-term, low-weight births.²

- ❑ Tooth decay can be painful and lead to loss of teeth and dental function. Pain from untreated dental disease can lead to eating, sleeping, speaking and learning problems in children which in turn can affect social interaction, school performance and quality of life.³



An oral health practitioner examines a young child's mouth at a health fair in Santa Clara County.

Minorities and low income children are the most likely to suffer from poor oral health.

According to The Health Trust Dental Needs Assessment survey of Santa Clara County conducted in 2001⁴

- ❑ One in three kindergartners and third graders had untreated tooth decay.
- ❑ Asian and Hispanic kindergartners were disproportionately affected by tooth decay, with three in five having tooth decay compared to one in five among White kindergartners.
- ❑ Children from low-income families experienced tooth decay at greater rates with 74% of kindergartners eligible for Free or Reduced-Price Meal Program having had tooth decay compared to 37% among those not eligible.

According to the Centers for Disease Control and Prevention (2009), pain from untreated dental disease can lead to eating, sleeping, speaking and learning problems in children which in turn can affect school performance and quality of life.

The Health Trust has improved the oral health of Silicon Valley children through oral health education, enrollment in health insurance, direct provision of dental services and advocacy in support of fluoridation.

- ❑ Despite increases in oral health coverage through Denti-Cal, 15% of the Santa Clara County's children over age two have never been to a dentist.⁵ (Statewide, 15% of 2-11 year olds have never been to a dentist.⁶)
- ❑ Most children (87%) ages 2 to 17 have dental insurance, but only 72% of children at less than 100% of the federal poverty level (defined as a family of four earning less than \$22,050) have insurance.⁷
- ❑ According to The Health Trust Needs Assessment, 51% of children from poor families enter kindergarten with untreated cavities. By the time they reach third grade, 72% have a history of tooth decay.⁸

The Health Trust's Impact on Oral Health

For the past 12 years, The Health Trust has improved the oral health of Silicon Valley children through a number of avenues including oral health education, enrollment in health insurance, direct provision of dental services and advocacy in support of fluoridation.

Prevention Through Oral Health Education

The Health Trust provides oral health outreach and education through promotoras who are community laypersons trained on introductory concepts around oral health. Promotoras conduct outreach in neighborhoods and recruit families to host home meetings where the oral health education is delivered to small groups of children and adults. The objectives of this outreach and education include: (1) Increased awareness and knowledge of good oral health habits, (2) Improved daily oral health habits, and (3) Increased utilization of routine preventative oral health services. Emphasis is placed on four principles of oral health: proper brushing, daily flossing, balanced diet and seeing the dentist on a regular basis.

Program Participants:

- ❑ A total of 5,030 individuals (adults and children) received oral health education in homes from 2005 through 2008.
- ❑ All of the oral health education home meetings were conducted in Spanish with Latino families.



Promotoras demonstrate the effects of tooth decay using large models of the mouth.

The Health Trust evaluation results indicate teaching oral health in a home setting is beneficial and effective.⁹

- ❑ **Oral health education filled a gap in health knowledge:** A substantial portion of the participants (77%) reported that the oral health session was the first time they received oral health information. When asked an open-ended question about what they remember most about the oral health home meeting, the most frequently cited topic was learning about brushing. Many of the participants provided specific details about brushing, such as the importance of brushing the tongue and palate, frequency of brushing, and what type of toothbrush to buy.
- ❑ **Oral health education reinforced the importance of brushing:** A key message of the oral health education is the importance of each child having his or her own toothbrush.¹⁰ In a survey conducted after the education sessions, 100% of the evaluation participants reported that each of their children had his or her own toothbrush, the majority of participants (73%) reported that their children brushed their teeth two times a day and 74% of the participants indicated that their children's frequency of brushing increased.



Oral health education reinforces the importance of brushing and flossing among children and adults.

Flossing habits are more difficult to impact but education does help:

Less than half of the evaluation participants reported that their children floss at least once a day. Nearly one out of every four participants reported that their children never floss. Although flossing is not as much of a daily habit as brushing, 56% of the participants reported that they flossed more often after the oral health education meeting.

Oral health education reinforced the importance of healthy eating: Families were taught about the importance of healthy nutrition and the negative impact of candy and other sweets on oral health. When asked if their children were eating more, less or the same amount of candy and sweets since the oral health education meeting, more than half of participants (51%) reported less frequent eating of candy/sweets. More than half of the evaluation participants (53%) reported that their children’s frequency of fruit and vegetable consumption increased after the oral health session.

Promotoras viewed as effective oral health educators: Nearly all of the evaluation participants (99%) indicated

that the health educator could answer all of their questions, and 90% of the participants rated the effectiveness of the health educator as Excellent, the highest ranking on a five point scale.



Home-Based Promotora Model favored: When asked what they liked about the approach to oral health education, evaluation participants responses fell into the following broad categories: (1) the hands-on and informal teaching approach and home venue; (2) receiving specific oral health information; (3) learning how to brush and floss better; (4) receiving free toothbrushes and floss.

Prevention Through Insurance Enrollment

In addition to direct oral health education, The Health Trust provides access to health care for uninsured children in Santa Clara County by enrolling them in available public programs¹¹ that comprehensively cover health, dental and vision care. Thousands of Santa Clara County children from low-income families are provided access to preventive oral health care through insurance enrollment services provided by The Health Trust.

According to the Centers for Disease Control (2007), water fluoridation reduces tooth decay 18%-40% in children and adults, and is “one of the ten greatest public health achievements of the 20th Century.” Yet San Jose remains the largest city in the United States without fluoridated water.

Program Participants:




-  The Health Trust enrolled or re-enrolled 5,000 children in health insurance that provided them with dental coverage during FY2008.
-  The majority of Family Health Insurance clients were Spanish speakers (62%), followed by English speakers (21%) and Vietnamese speakers (17%).




With the assistance of The Health Trust, a father enrolls his son in the Healthy Kids insurance program.

The Link Between Coverage and Care

A recent study demonstrated that enrollment of children in health insurance contributes significantly to children having a usual source of dental care, receiving preventive dental visits, and receiving dental treatment, while dramatically reducing unmet need for dental care.¹² Comparing children with Healthy Kids, the County’s insurance program for low income children, to the same low income children without Healthy Kids, the study found:

-  Fully 87% of children with Healthy Kids had access to a usual source of dental care, compared to 42% of children without Healthy Kids
-  At least 61% of children with Healthy Kids had a preventive dental visit in the past six months, compared to 22% of children without Healthy Kids
-  Nearly 44% of children with Healthy

Kids had a dental treatment in the past six months, compared to only 16% of children without Healthy Kids

-  Only 11% of children with Healthy Kids had unmet need for care in the past six months, compared to a total 22% of children without Healthy Kids

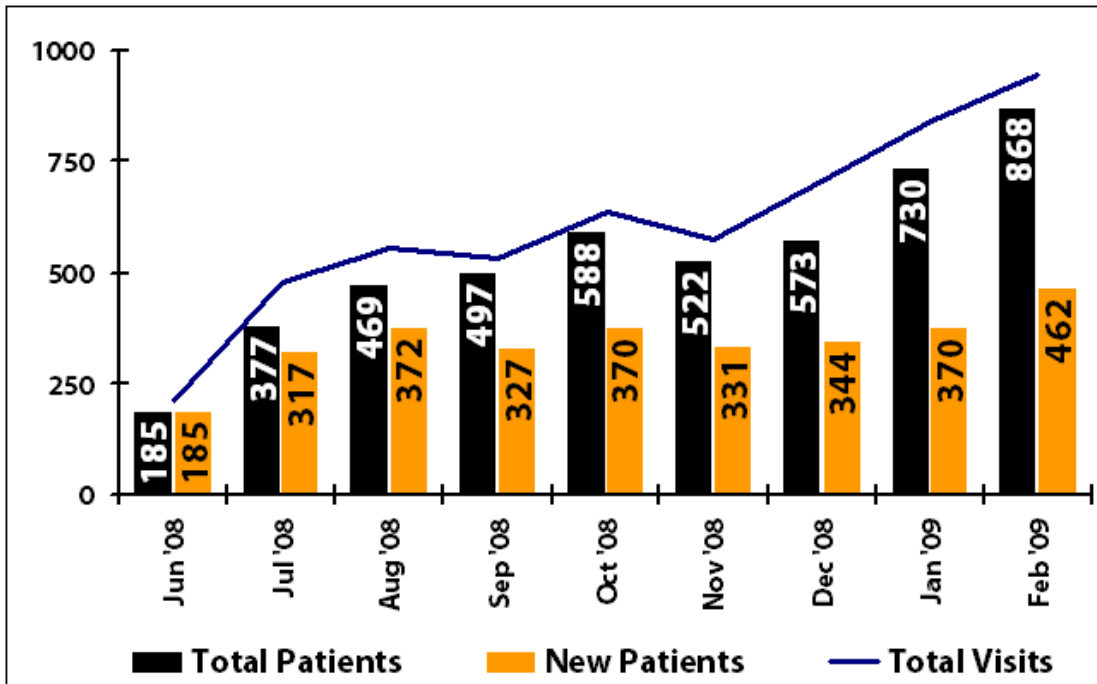
The Health Trust plays a vital role in improving the oral health of kids by helping more families enroll their children in Healthy Kids.

Access to Routine Dental Care through the Children’s Dental Center

In addition to providing education and insurance enrollment assistance, The Health Trust also partners to provide direct dental services in underserved communities in Silicon Valley. In partnership with Children’s Dental Group, The Health Trust opened the Children’s Dental Center in East San Jose in June of 2008. The Children’s Dental Center has an innovative approach to providing pediatric dentistry, designed to improve access to high quality dental care for underserved children. Foremost, the Center is unusually large in its size, occupying a 6,000-square-foot facility that contains 14 dental chairs. The Center uses a special “peak efficiency” model; when fully staffed, it can rely on this model to provide as many as 15,000 dental appointments each year.

The Children’s Dental Center also has a unique physical design and décor that includes movies and games, intended to be especially welcoming to children. The Center employs a full-time bilingual outreach coordinator to ensure access to children from bilingual and multilingual families.

Just one year in operation, the Children’s Dental Center has had success meeting the oral health needs in the community it serves.



Since opening in mid-June of 2008, the Children's Dental Center has greatly expanded the number of patients it serves each month, and now serves more than 3,000 unduplicated patients.

Patient Volume and Impact:

- Since opening, the total number of patient visits to the Children's Dental Center has increased, with new patients being added every month (see the graph above). As of February 2009, a total of 3,078 unduplicated patients have made a total of 5,477 visits since the center opened its doors in June 2008.
- Approximately 84% of all patients receive their oral health coverage through government programs, while the remaining 16% are covered through self pay on a sliding scale and private insurance.¹³
- Because of the Children's Dental Center, more than 3,000 children in Santa Clara County are now connected to a dental care home, many of whom had previously never seen a dentist.

upstream solution to the problem of tooth decay. According to the Centers for Disease Control, water fluoridation reduces tooth decay 18%-40% in children and adults, and is "one of the ten greatest public health achievements of the 20th Century." Yet San Jose remains the largest city in the United States without fluoridated water, and many of the surrounding cities in Santa Clara County lack optimal fluoridation levels as well. According to the Santa Clara County Public Health Department, over 445,500 children below 18 years of age could potentially benefit from water fluoridation.

Water fluoridation has proven to be a safe and effective way to prevent tooth

Prevention Through Fluoridation of Water in Santa Clara County

While The Health Trust has a longstanding history of providing education, insurance enrollment assistance and direct dental services, none of these comprise a truly



Water fluoridation reduces tooth decay 18% to 40% in children and adults (Centers for Disease Control, 2007).

The Centers for Disease Control and Prevention (2007) estimates that the approximate cost of fluoridation is 50 cents per person per year. In Santa Clara County, the average cost of one filling is \$146, which would provide fluoridation for a family of four for approximately 73 years.

decay before it even begins. According to the Centers for Disease Control, the approximate cost of fluoridation is 50 cents a year per person. In Santa Clara County, the average cost of one filling is \$146, which would provide fluoridation for a family of four for approximately 73 years.¹⁴

The Health Trust supports Santa Clara County Supervisor and Board President Liz Kniss' goal of fluoridating Santa Clara County within the next five years and is working with the Santa Clara County Public Health Department and community members to develop a solution. Specific efforts toward promoting water fluoridation have included:

- Dissemination of information about the benefits of water fluoridation to stakeholders and the public (See <http://www.healthtrust.org/oralhealth>)
- Increasing awareness about the lack of water fluoridation in Santa Clara County and its impact on Health Equity, highlighted at the February 2009 Health Trust Health Equity Summit
- Supporting the work of technical experts through grants, including those at the California Dental Association, to research the options for fluoridation in Santa Clara County.
- Convening local leaders, community members and health experts in an effort to develop public policy solutions.

Conclusion

For the past 12 years The Health Trust has demonstrated a commitment to improving the oral health of all residents of Silicon Valley, especially for children, through education, insurance enrollment assistance, provision of dental services and support for fluoridation. The Health Trust plans to continue its work in all four avenues. It recognizes that to dramatically reduce tooth decay in Santa Clara County, fluoridated water is essential. Over the next several months, The Health Trust will continue to prioritize its advocacy work in this area in an effort to substantially improve the oral health of all Valley residents.



Footnotes:

- ¹ Santa Clara County Public Health Department (2009). Dental Health Fact Sheet, 2009. Retrieved March 20, 2009, from <http://www.sccphd.org>.
- ² Centers for Disease Control and Prevention (2009). Oral Health: Preventing Cavities, Gum Disease, and Tooth Loss. Chronic Disease Prevention and Health Promotion. Retrieved March 20, 2009 from <http://www.cdc.gov/nccdphp/publications/aag/doh.htm>.
- ³ *ibid.*
- ⁴ The Health Trust (2001). Oral Health Needs Assessment, 2001.
- ⁵ UCLA Center for Health Policy Research (2009). California Health Information Survey, 2007. Retrieved on March 18, 2009, from <http://www.chis.ucla.edu/>.
- ⁶ Children NOW (2009). California Report Card '09: Setting the Agenda for Children. Retrieved on April 27, 2009, from http://www.childrennow.org/publications/report_card.html.
- ⁷ *ibid.*
- ⁸ The Health Trust (2001). Oral Health Needs Assessment, 2001.
- ⁹ The Health Trust evaluation was conducted to assess the influence of the oral health home-based education on dental care utilization, oral health knowledge and oral health practices. In addition, data were collected on participants' perceptions about home-based health education, the quality of the education and the effectiveness of the health educator. The evaluation sample size was 168, which was 29% of the total number of adult participants in the home-based education.
- ¹⁰ The American Dental Association (2009) recommends each individual have their own toothbrush. See <http://www.ada.org/prof/resources/positions/statements/toothbrush> for more on toothbrush recommendations.
- ¹¹ Medical insurance is available through one of five programs: Medi-Cal, Healthy Families, Access for Infants and Mothers, Healthy Kids or Kaiser Child Health Plan. These programs receive funding from different sources (federal, state, county or private funding) but all provide similar health coverage. A Health Trust Family Health Insurance enrollment specialist works with the family to determine which overall program is appropriate based on the child's age, residency status, family size and family income level.
- ¹² Hughes, D., Howell, E., Trenholm, C., Hill, I., & Dubay, L. (2008). Three Independent Evaluations of Healthy Kids Programs Find Substantial Gains in Children's Dental Health Care: In Brief. May, 2008(2).
- ¹³ By comparison, only 50 to 65% of patients in CDG's southern California sites are covered through government programs. The higher percentage of children covered by government programs suggests that our Santa Clara County Healthy Kids Insurance program has been successful in its outreach efforts to help meet the oral health needs of underserved children.
- ¹⁴ Centers for Disease Control and Prevention (2007). Community Water Fluoridation: Cost Savings of Community Water Fluoridation. Retrieved April 27, 2009 from http://www.cdc.gov/Fluoridation/fact_sheets/cost.htm.