

“Mommy, It Hurts to Chew”



The California Smile Survey An Oral Health Assessment of California’s Kindergarten and 3rd Grade Children

Dental Health Foundation

In Collaboration with:

*California Department of Health Services,
Office of Oral Health*

*California Department of Health Services,
Maternal, Child and Adolescent Health/Office
of Family Planning Branch*

California Department of Education

California Dental Association Foundation

Oral Health Access Council

California Dental Hygienists’ Association

California Primary Care Association

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Message from the Dental Health Foundation



Dave Perry, DDS

Kids can't study when they hurt. They can't sit still, they can't focus. They are victims of the single most widespread disease among children in California: **tooth decay**.

From February through June of 2005, the Dental Health Foundation coordinated screenings in 186 elementary schools throughout the State to monitor the oral health status of elementary school children in California. My colleagues and I, as well as registered dental hygienists, assistants and school nurses, looked in the mouths of over 21,000 children in kindergarten and third grade.

To be honest, we were shocked. While there are children in some high income schools that have never had a cavity, in other schools there are kids in debilitating, chronic pain in every classroom. Our study confirmed what the Surgeon General's Report on Oral Health in 2000 had made clear: poor and minority children suffer most from dental caries.

Almost three out of four low-income children in elementary school have had a cavity, as compared to about half who are not low income. And one out of three of those low-income children is sitting there in the classroom with untreated tooth decay.

As a pediatric dentist, I treat children in pain every day. Often they can't even tell you they are in pain – their teeth have hurt for so long, they think it's normal. They don't know that eating shouldn't hurt. But it does for them, so these kids often are not getting the nutrition they need to grow.

Severe tooth decay can make children sick. Kids with tooth decay are prone to repeated infections in their ears, their sinuses, and other parts of their bodies, because their infected teeth are continually pouring pathogens into their systems. And even their physicians can fail to notice where the infection ultimately is coming from.

Many parents think it is normal for some baby teeth to fall out long before the adult teeth push them out. Parents often let their infants and toddlers sleep with baby bottles in their mouths, often with juice or even soda in the bottle, leading to severe tooth decay.

Message from the Dental Health Foundation

Many parents think, “They’re just baby teeth. They’re going to fall out anyway. Why bother?” But these first teeth hold the space for the adult teeth emerging under them. If they are severely decayed, need to be pulled or fall out too soon, the permanent teeth can come in crooked and crowded, condemning the child to years of orthodontia or a life-time of twisted teeth.

We’ve got to do more for our kids. We know how to restore decayed teeth, but there will never be enough resources to pay for all that treatment. And restoring decayed teeth doesn’t stop the disease from re-occurring.

The much smarter way to go is to prevent tooth decay in the first place. There is no reason why any California child has to live in pain, malnutrition, and infection from severely decayed teeth when there are proven strategies for preventing decay. And that’s what we’re after: Wiping out tooth decay among this State’s kids.

I would really like you to take a look at this report. We’ll give you the facts, and we have some simple recommendations. We can not only give California kids happier, healthier lives, we can actually save millions in tax dollars at the same time by preventing tooth decay.



Dave Perry, DDS
Chair, Dental Health Foundation



“Mommy, It Hurts to Chew”

California Smile Survey

AN ORAL HEALTH ASSESSMENT OF CALIFORNIA’S KINDERGARTEN AND 3RD GRADE CHILDREN

EXECUTIVE SUMMARY

Here’s Daniel (let’s call him) last year: Won’t say much, always looking at the floor. Five years old, in kindergarten. Cries a lot. Misses a lot of school. Dark circles under his eyes, looks malnourished. Won’t engage in conversation, socially withdrawn, few friends.

Here’s Daniel this year: The class clown. Talks all the time. Lots of friends. Growing like a weed. Mom says she “can’t feed him enough.” Dark circles gone. Lots of smiles

The difference? His teeth don’t hurt anymore.

The name isn’t real, but the story is. Daniel’s teacher sent him to the school’s speech specialist because he hardly talked at all. The specialist noticed that Daniel seemed to have no front teeth. Cindy Muehleisen, coordinator of the San Diego County Children’s Dental Disease Prevention Program, happened to be conducting a screening at the school, and the speech specialist asked her to look at Daniel.

Muehleisen got him to open his mouth. His four bottom front teeth were okay. All the others were decayed. All of his top teeth had rotted to the gum line, or were no more than hollow shells. He was in constant pain.

Daniel’s mother was poor; she had other kids; she had no idea how to get Daniel

Key Points:

- *Tooth decay is a significant problem. By third grade it affects almost two-thirds of the children in California.*
- *28% - some 750,000 of elementary school children - have untreated tooth decay.*
- *4% - approximately 138,000 - need urgent dental care because of pain or infection.*
- *The oral health of California’s children is substantially worse than national objectives. Of 25 states surveyed, only Arkansas ranked below California in kids’ dental health.*

taken care of, or how to prevent her other children from having the same problem. It took Muehleisen six months to both line up the money to treat Daniel’s dental disease, and to get the mother and the school working together. “We had some education to do. We had to convince her that she needed to take care of her children’s teeth along with their bodies – and that she could do it. We had to convince her to keep the appointments, once we found care. Then we found that he had an abnormal heart rate. We got him a cardiovascular workup to find out why. The reason? The amount of ongoing infection that he had in his mouth. We got him into Children’s Hospital. He had all his teeth except the four lower front ones extracted. Then we worked with his mother on ways to feed a growing boy with

continued

EXECUTIVE SUMMARY

continued

few teeth. It was a lot of work, but it absolutely changed his life.”

Daniel’s story is not typical, but every element of it is typical of a problem that is hurting California school children. Dental disease – not obesity or asthma or childhood diabetes - is by far the number one health problem for our children, affecting as many as two-thirds of the State’s elementary school children by the time they reach third grade. More than 750,000 elementary school children have untreated tooth decay.

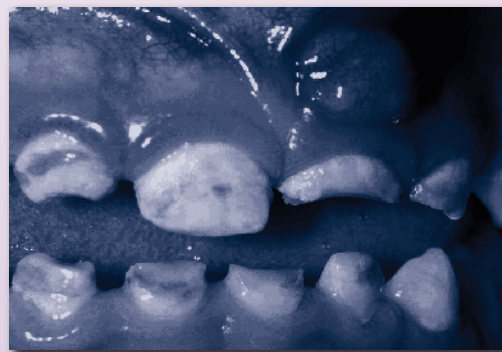
Daniel’s case shows why: Parents need to understand why oral health is important, and what they can do easily to prevent it. They need better access to dentists and dental insurance to get the children checked and to get their teeth sealed. Schools and pediatricians also need help in learning to notice dental problems and get them treated.

The survey

During the 2004-2005 school year we surveyed over 21,000 California children in kindergarten or third grade, in nearly 200 randomly-selected schools spread across the State. We found that, by the third grade, over 70% of the children have a history of tooth decay; at any given moment, more than a quarter of the children have untreated tooth decay; and some 4% of the kids are sitting in the classroom actually in pain, or suffering from an abscess.

The problem is worse for the poor, for Hispanics and other ethnic minorities, and for the uninsured. Barriers to dental care, including parents’ financial difficulties or a lack of dental insurance, can have a profound impact on children’s dental health. About one-third of low-income children have untreated decay compared to about one-fifth of higher income children.

The results of neglect



Neglecting the oral health of our children creates a cascade of problems. They include:

- **Pain:** Decay can hurt a lot, and hurt constantly. This is the child a teacher told us about who came back to the classroom after his first visit to the dentist to exclaim, “Dentists are great. One little shot in your mouth, and your teeth don’t hurt anymore!” He was 9 years old, and didn’t know that teeth are not supposed to hurt. He didn’t know that you are supposed to be able to chew on both sides of your mouth. He had never experienced that before.

continued

- **Infection:** Infected teeth are reservoirs of pathogens that flood the rest of the body, leaving the child prone to many other childhood infections, including ear infections, sinus infections, and infected abrasions from the bumps and scrapes of childhood. This is the child we know of who was in a children's hospital with a kidney infection. After every round of antibiotics, the infection returned. The physicians could not find the source of the recurring infection, until someone noticed his rotten teeth. An abscess was draining infectious pathogens straight into his mouth.
- **Nutrition problems:** Chronically painful and infected teeth make chewing and swallowing an uncomfortable and difficult chore. Children with dental disease often are not getting the nutrition they need to grow. This is the 18-month-old girl we noticed at a high school daycare center who could not speak, and could barely walk without falling. Her young single mother typically kept her baby in a stroller or a bed, day and night, with a bottle filled with a cola drink or juice. All four of the child's front teeth were decayed, and the child did not eat much, simply because it hurt to eat.
- **Tooth loss:** Chronic childhood dental disease makes children's "baby" teeth fall out before the adult teeth are ready to take their place. Imagine the little

four-year-old girl we treated the other day who needed four teeth pulled and two crowns, because of "bottle rot." Parents often think the loss of baby teeth will not matter. But one job of a baby tooth is to hold the space for the erupting adult tooth. Without the baby teeth to hold the space, the adult teeth can come in every which way, resulting not just in crooked teeth, but impacted teeth, and over-crowded teeth that are themselves more susceptible to dental caries and gum disease all through life. So a child with rampant tooth decay faces either years of expensive and inconvenient orthodontia or a lifetime of crooked, missing, disease-prone teeth. Crooked and missing teeth, in turn, can exacerbate employment problems and social problems later in life. Think how much harder it can be to get a job or a date if you have crooked or missing teeth. What starts out as a medical/dental problem becomes a social, educational, and economic problem.

- **Sleep deprivation:** Children with chronically painful teeth have trouble getting a good night's sleep. That child in the classroom who seems perpetually jet-lagged may have a toothache.

- **Attention deficit:** Children with infected and painful teeth have a hard time relaxing, sitting still, and paying attention in class. Imagine the one Southern California school we visited – half affluent, half poor – where 40 percent of the kids had visible, untreated tooth decay. You could see it just by opening their mouths. Two six-year-olds in the same classroom had already lost their adult molars, rotted to the gum line. Imagine what the chronic pain is doing to these children’s education.
- **Slower social development:** Ugly teeth, and difficulty in talking without pain, can greatly exacerbate the natural shyness of childhood. This is the child whose front teeth are missing during those crucial early years, so that when he tries to talk, his tongue has no place to lodge against the back of his teeth. He can’t form his words right, and tends to retreat into silence.
- **Missed school days:** Children with infected and painful teeth miss more school days than other children, again disrupting their educational and social development – and costing the school districts money. It has been estimated that school children age five to 17 miss nearly 2 million school days in a single year nation-wide due to dental health problems.

Cost to the taxpayer

Besides our natural compassion for the children, we need compassion for ourselves as taxpayers. Many of these problems result in direct costs to the taxpayer – money that could be saved by a little inexpensive prevention. Infections elsewhere in the body resulting from dental infections often show up as costs billed to Medi-Cal for visits to the doctor and for antibiotics. Missed school days cost local school districts State reimbursement funds, making it harder for them to support their full educational programs. The employment and social problems of adults with crooked and missing teeth show up as taxpayer costs in multiple ways.

When a child with rampant tooth decay finally gets to the dentist’s chair, the dentist will need the services of an anesthesiologist – no child with that many painful problems can lay still for that long under local anesthetics. With the added costs of an extra technician and a nurse for the recovery period, that one day can cost \$10,000. Extreme cases like Daniel’s must be taken to a children’s hospital, and the cost rises to \$25,000. For the cost of treating a few kids with serious dental disease, you could run a prevention and education program covering whole schools or school districts. According to Jared Fine, DDS, MPH, Dental Health Administrator for Alameda County, “Over the long haul, we could save taxpayer dollars by preventing dental problems in the first place.”

Cost to the economy

California's economy, one of the most robust in the world, needs a workforce that is healthy and well-educated. That starts in childhood, in the pre-school and school years. Dental health is not a mere cosmetic problem, nor a problem that will disappear with the baby teeth. It is an integral part of the health of both the body and the mind. Oral health matters.

A preventable epidemic

Dental disease is infectious, it's progressive, it's transmissible – and it is largely (and cost-effectively) preventable.

If you teach children good habits early, no child ever needs to suffer from dental disease. Once children are in school and parents detect tooth decay, it's too late – good oral health habits must start from the day children are born.

By the time children are in kindergarten more than 50 percent already have dental decay, 19 percent have rampant decay and 28 percent have untreated decay.

Taking dental disease seriously

Dental disease is an epidemic among California kids, and needs to be treated as such. Monitoring children's oral health, taking steps to prevent disease, treating problems early, and raising public awareness are keys to a healthier tomorrow.

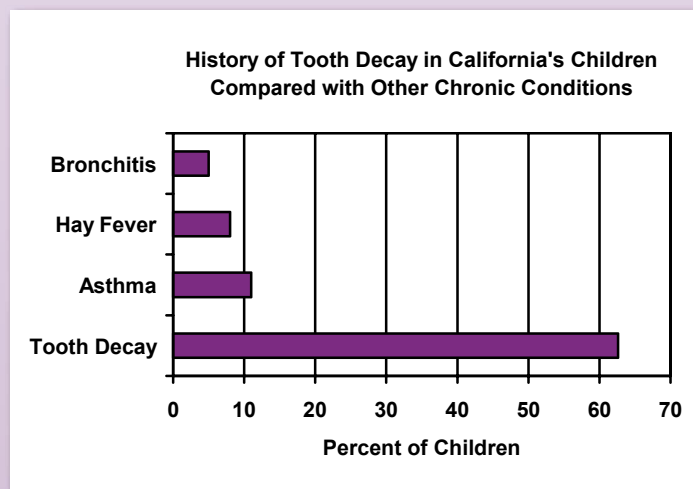
KEY FINDINGS

- *Dental disease is the hidden epidemic of California's school children.*
- *Kids with severe decay are often in pain, can't concentrate, miss school days, and get poor grades.*
- *Poor children and children of color are much more likely to have tooth decay and suffer the consequences of untreated disease.*
- *Many California children are strangers to the dentist's chair.*
- *Most other states surveyed do better than California against this epidemic.*
- *Treatment is good. Prevention is better. Early prevention is best.*

INTRODUCTION

Tooth decay is the number one health problem for California's kids. Right now, more than one-quarter of the children sitting in the State's elementary classrooms have untreated decay – and 4% of them (some 138,000) are in pain, or have an untreated infection. If you have ever had a toothache, you know what that is like. These kids have problems like painful abscesses, and difficulty speaking, chewing and swallowing. Children with dental problems have trouble concentrating, miss school more often, and can be slowed in their social development. That not only hurts our children, it hurts all of us.

Dental disease in California is an epidemic, five times more common in children than asthma. And it is an epidemic that is almost entirely (and inexpensively) preventable.



Too many of California's children simply cannot get proper dental care. Of the 21,000 children the Dental Health Foundation assessed during the past school year, 17% of the kindergartners and

more than 5% of the 3rd graders had never been to the dentist. And it makes a difference: Forty-two percent of children that had not been to the dentist in the last year had untreated decay – nearly double the percentage of kids that had been to the dentist. A report card issued last December by the advocacy group Children Now gave California a “C-” for dental insurance and access. We can do better.

Parents' financial difficulties, including a lack of dental insurance, can have a profound impact on children's dental health, often leaving children who have the highest risk for dental disease with the fewest resources to get care. About one-third of low income children have untreated decay compared to about one-fifth of higher income children. Nearly 40% of children with no insurance had untreated decay compared with 21% of children with private insurance.

We found that Latino children have the highest risk for dental health problems. Seventy-two percent of Latino children surveyed had experienced decay, 30% needed treatment, and fully 26% had rampant decay (caries on seven or more teeth) – nearly twice the rates of non-Hispanic white children surveyed.

California children have more dental problems than children in most other states – and the State has fallen far short of the nationwide “Healthy People 2010” objectives for oral disease prevention and treatment.

INTRODUCTION

And prevention is the key: By the time California children are in kindergarten more than half of them have already experienced dental decay, 28% have untreated decay, and 19% have rampant decay. We cannot stop this epidemic just by treating these problems after they occur. We have to prevent them. We have to monitor all our kids' dental health needs from an early age. We have to increase the use of sealants, which can prevent cavities and greatly reduce dental treatment costs, especially among high-risk children. Sealants applied to permanent molars can avert tooth decay for an average of 5 to 7 years, but currently only 28% of third grade children in California have received sealants.

It's a big problem, but it is a problem that we can solve. And solving it through prevention will not only be kinder to the children, and improve their school attendance, their grades, and their physical and social development, it will end up being far less expensive.

We hope that by recognizing and understanding the oral health needs of California's children, we will be able to contribute to policies that will ensure all children receive the oral health care they need. The answers to effective policies to protect children's oral health lie in a few sound principles outlined in the 2000 *Oral Health in America: A Report of the Surgeon General*.

Some of the approaches to promote oral health include:

- *Change perceptions regarding oral health and disease so that oral health becomes an accepted component of general health.*
- *Build an effective oral health infrastructure that meets the oral health needs of all Americans and integrates oral health effectively into overall health.*
- *Remove known barriers between people and oral health services.*
- *Use public-private partnerships to improve the oral health of those who still suffer disproportionately from oral diseases.*

This needs assessment demonstrates that we still face many barriers to improving the oral health of California's children. We are seeing more dental disease among children, and we have fewer dentists in the State than we need to provide essential preventive and restorative services. In order to reverse these trends, we need to mobilize resources, including both public and private oral health care providers.

METHODS

During the 2004-2005 school year, we randomly selected 204 elementary schools throughout California for oral health screenings. Ninety-one percent of the schools (186) agreed to the screenings. Trained dental examiners completed 21,399 screenings using the diagnostic criteria developed and published by the Association of State and Territorial Dental Directors (Basic Screening Surveys: An Approach to Monitoring Community Oral Health, www.astdd.org). They collected five indicators for each child screened – decayed teeth, filled teeth, presence of dental sealants, history of rampant decay (decay experience on 7 or more teeth), and treatment urgency. In addition, parents were asked to complete an optional questionnaire that asked about dental insurance, time since last dental visit, trouble accessing dental care, participation in the free or reduced price lunch program (FRL), and race. Since the questionnaire was optional, results may not be representative of the State as a whole.



A combination of passive and positive consent was used. One-hundred-thirty-seven schools used passive consent - which means that all children were screened unless their parent specifically stated that they did not want their child

screened. The other 49 schools used positive consent - in these schools only those children that returned a positive consent form were screened.

We used Epi Info Version 3.3.2 for both data entry and data analysis. Epi Info is a public access software program developed, distributed and supported by the U.S. Centers for Disease Control and Prevention. Data obtained through the oral health screening have been adjusted to account for both the sampling scheme and non-response.

RESULTS

The California Smile Survey screened 10,949 kindergarten and 10,450 3rd grade children (55% of the students enrolled in these grades in the participating schools). Half of the children screened were male, 53% were Hispanic, 27% were non-Hispanic white, 8% were Asian, and 7% were African-American. More than 43% of the children screened were from homes

where parents speak a language other than English.

To make this complex information easier to understand, we are presenting the results in six key findings, with the data in both graphic and text format.

The six key findings are:

#1: An epidemic of dental disease is compromising the health and quality of life of California's children. More than half of kindergartners and more than 7 out of 10 3rd graders have experienced tooth decay, and more than a quarter of them have untreated decay. Left untreated, tooth decay often has serious consequences, including needless pain and suffering, difficulty speaking and chewing and lost days in school.

#2: Kids with severely decayed teeth are often in pain, can't concentrate, miss school and get poor grades. More than 40,000 kindergartners and third graders have serious problems from dental disease – abscesses, inflammation and pain.

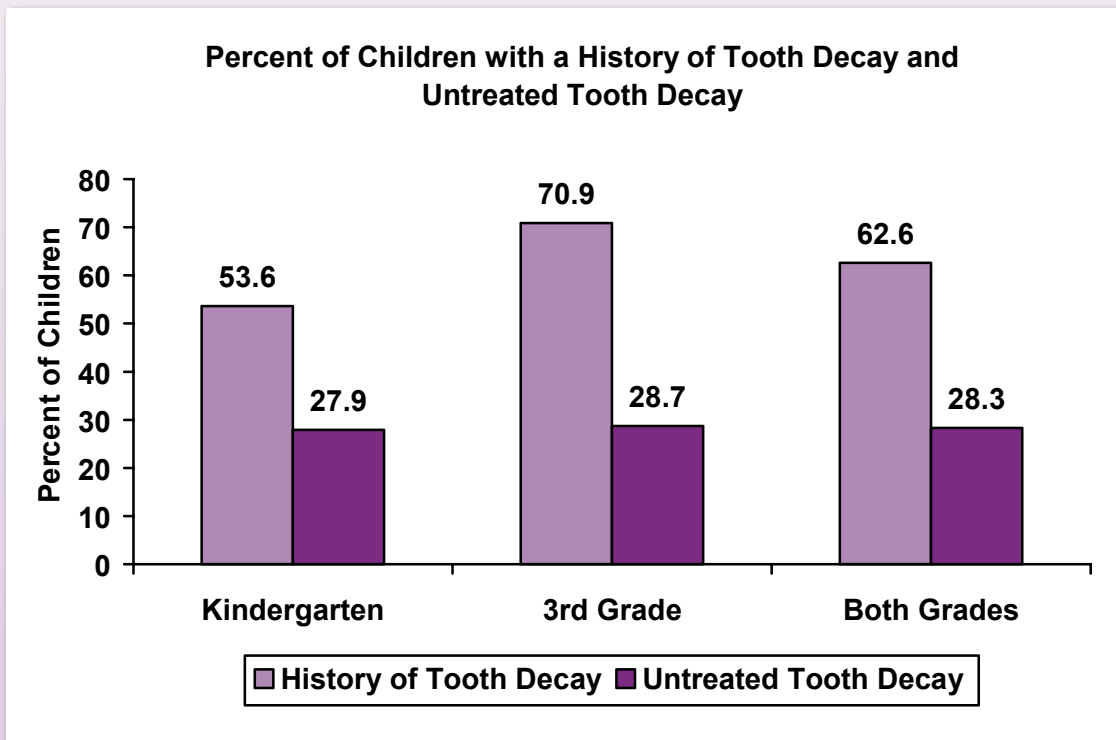
#3: Poor children and children of color are much more likely to have tooth decay and suffer the consequences of untreated disease.

#4: Many California children are strangers to the dentist's chair.

#5: Most other states surveyed fared better than California against this epidemic.

#6: Treatment is good. Prevention is better. Early prevention is best.

KEY FINDING #1: DENTAL DISEASE IS THE HIDDEN EPIDEMIC OF CALIFORNIA'S SCHOOL CHILDREN. MORE THAN HALF OF KINDERGARTNERS AND MORE THAN 7 OUT OF 10 3RD GRADERS HAVE EXPERIENCED TOOTH DECAY, AND MORE THAN A QUARTER OF THEM HAVE UNTREATED DECAY. LEFT UNTREATED, TOOTH DECAY OFTEN HAS SERIOUS CONSEQUENCES, INCLUDING NEEDLESS PAIN AND SUFFERING, DIFFICULTY SPEAKING AND CHEWING AND LOST DAYS IN SCHOOL.



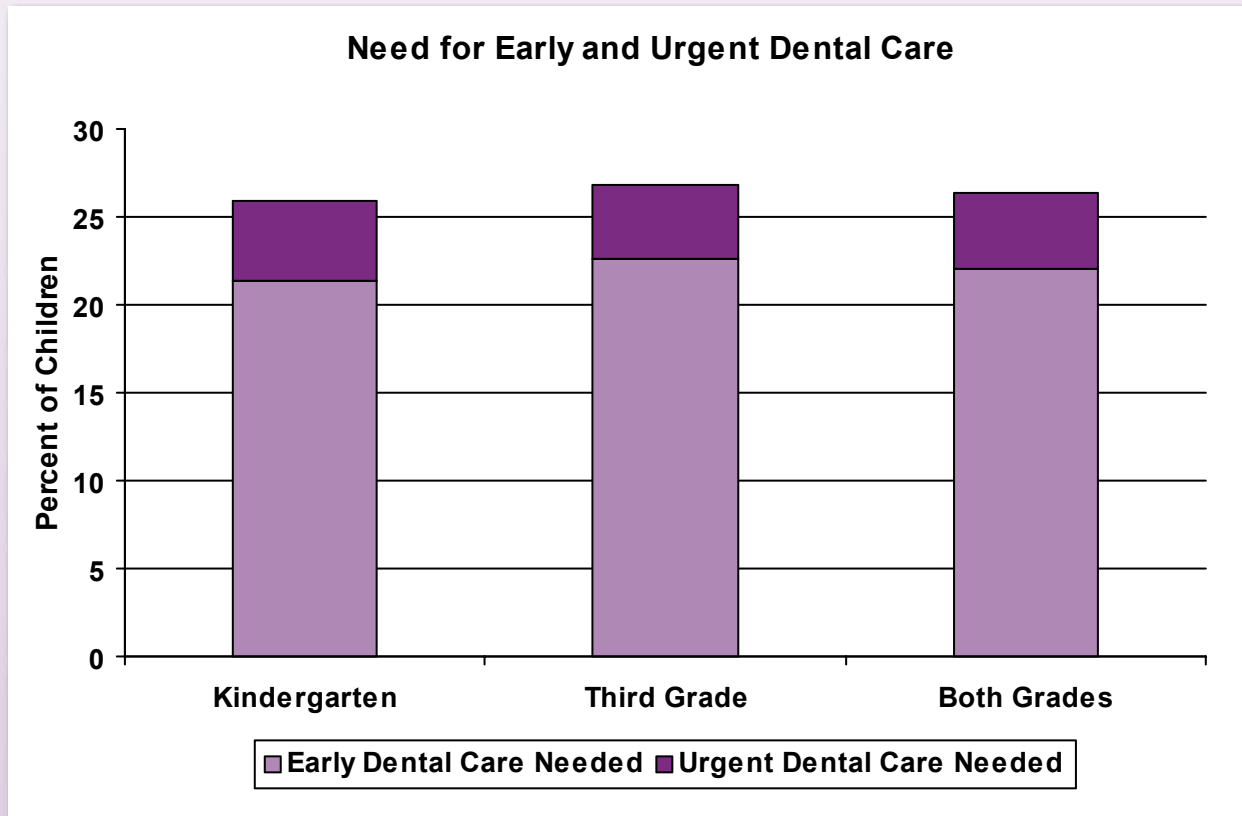
Fifty-four percent of the kindergartners and 71% of the 3rd grade children screened had a history of tooth decay; which means that they had at least one tooth that was either decayed or had been filled because of tooth decay.

The proportion of children with untreated tooth decay was consistent across grades with more than 1 out of every 4 children having untreated decay. Untreated tooth decay hurts, and it introduces infection into

the body, but it does more than that. Left untreated, tooth decay often has serious consequences, including needless pain and suffering, difficulty chewing (which compromises children's nutrition and can slow their development), difficulty speaking (which can slow their intellectual and social development), and lost days in school. ¹

¹ National Center for Education in Maternal and Child Health. Oral health and learning: when children's oral health suffers, so does their ability to learn, <http://www.mchoralhealth.org/PDFs/Learningfactsheet.pdf>.

KEY FINDING #2: KIDS WITH SEVERELY DECAYED TEETH ARE OFTEN IN PAIN, CAN'T CONCENTRATE, MISS SCHOOL DAYS AND GET POOR GRADES. MORE THAN 40,000 CALIFORNIA KINDERGARTNERS AND THIRD GRADERS HAVE SERIOUS PROBLEMS FROM DENTAL DISEASE – ABSCESSSES, INFLAMMATION AND PAIN.

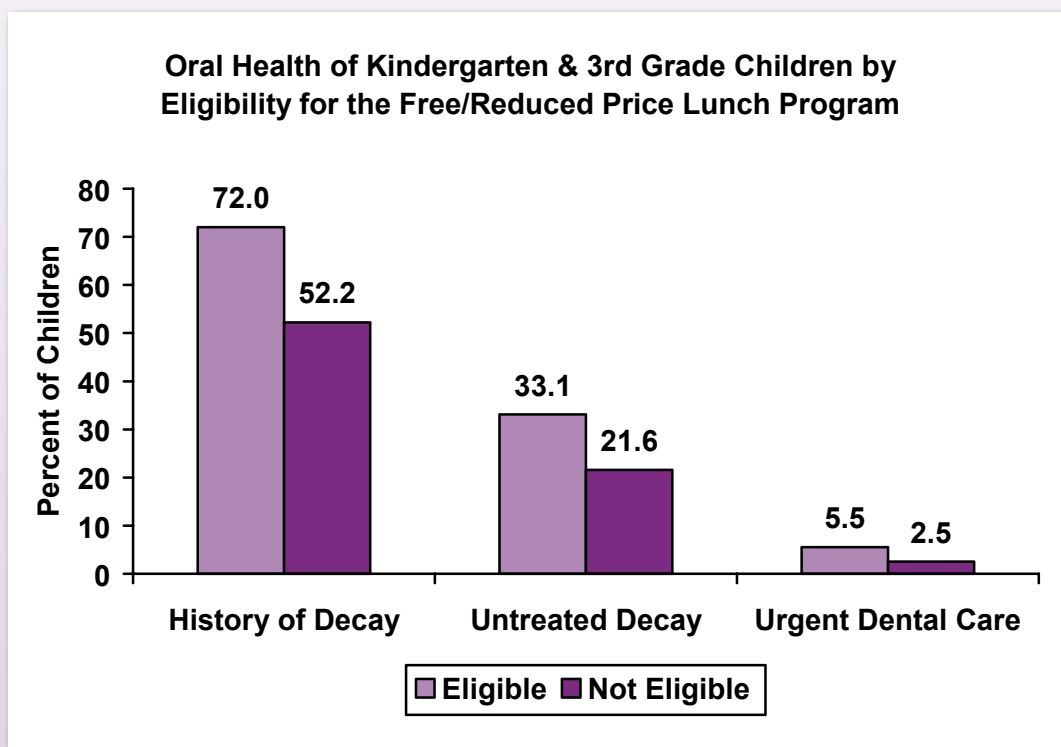


Twenty-six percent of the children screened had a need for dental care – 22% needed non-urgent or early dental care, while an additional **4% needed urgent dental care** because of pain or infection. In 2004-2005 there were more than 1 million kindergarten and 3rd grade children in California. If 4% are in urgent need of dental care, this means that more than 40,000 kindergarten and 3rd grade children are in the classroom in pain or with an oral infection. That's just those two grades.

If this percentage is extrapolated to all elementary school children in California, **more than 138,000 children may need urgent dental care because of pain or infection.**

For the California Smile Survey we did not do complete diagnostic dental examinations. We did dental screenings - "Say 'Ah,'" a look inside with a dental mirror, a set of questions, no x-rays, none of the more advanced diagnostic tools. So we probably missed some problems. It is reasonable to assume that these numbers actually **underestimate the proportion of children needing dental care.**

KEY FINDING #3: POOR CHILDREN AND CHILDREN OF COLOR ARE MUCH MORE LIKELY TO HAVE TOOTH DECAY AND SUFFER THE CONSEQUENCES OF UNTREATED DISEASE.

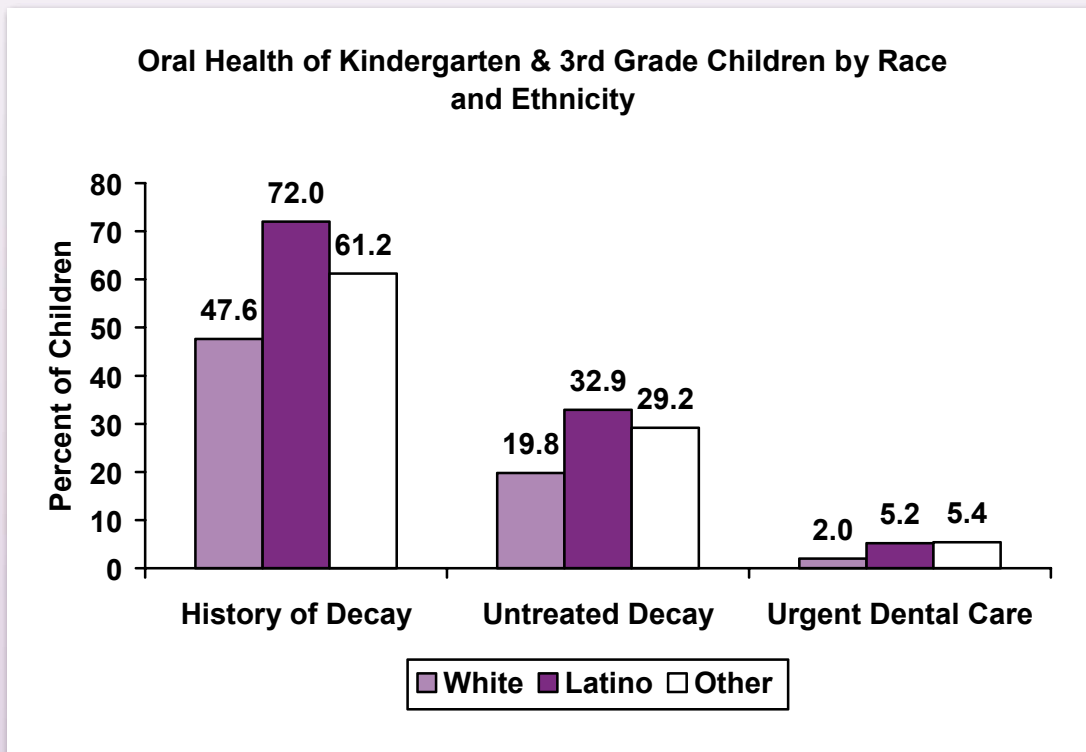


Eligibility for the free and/or reduced price lunch (FRL) program is often used as an indicator of overall socioeconomic status. To be eligible for the FRL program during the 2004-2005 school year, annual family income for a family of four could not exceed \$34,873.¹ We asked parents to tell us whether their child participated in the FRL program. Children who participate in the FRL program, compared to those who do not participate, have a higher prevalence of decay experience (72% vs. 52%), untreated decay (33% vs. 22%), and urgent dental care needs (5.5% vs. 2.5%).

Children who participate in the FRL program, compared to those who do not participate, are less likely to have private dental insurance (18% vs. 53%), less likely to have visited the dentist in the last year (69% vs. 77%) and less likely to have parents that speak English at home (45% vs. 66%).

¹ U.S. Department of Agriculture, Child Nutrition Programs, School Lunch Program, Income Eligibility Guidelines SY 2004-2005, <http://www.fns.usda.gov/cnd/governance/notices/iegs/IEGs04-05.pdf>.

KEY FINDING #3 (CONT.): POOR CHILDREN AND CHILDREN OF COLOR ARE MUCH MORE LIKELY TO HAVE TOOTH DECAY AND SUFFER THE CONSEQUENCES OF UNTREATED DISEASE.



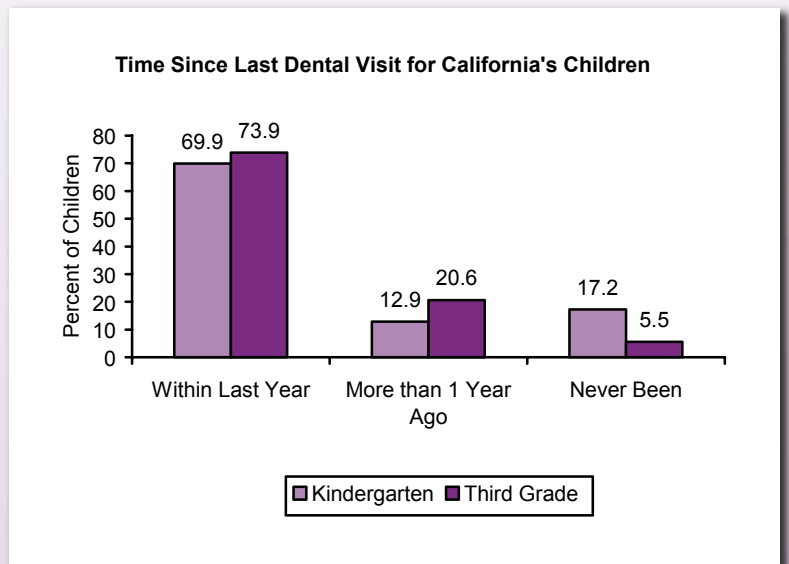
The Latino and other minority children we screened had more decay experience, more untreated tooth decay, and more urgent dental care needs than non-Latino white children. In addition to having more tooth decay, Latino children were less likely to have private dental insurance. Twenty percent of the Latino children had private dental insurance compared to 39% of other minority and 59% of white children. Oral health disparities between racial/ethnic groups in California are further affected by socioeconomic status. Sixty-five percent of the Latino children participated in the FRL program compared to 45% of other minority and 21% of white children.

If you are a California child, the poorer you are, the more likely it is that your teeth hurt all the time – and it is especially likely if you are Latino, or a member of some other racial or ethnic minority.

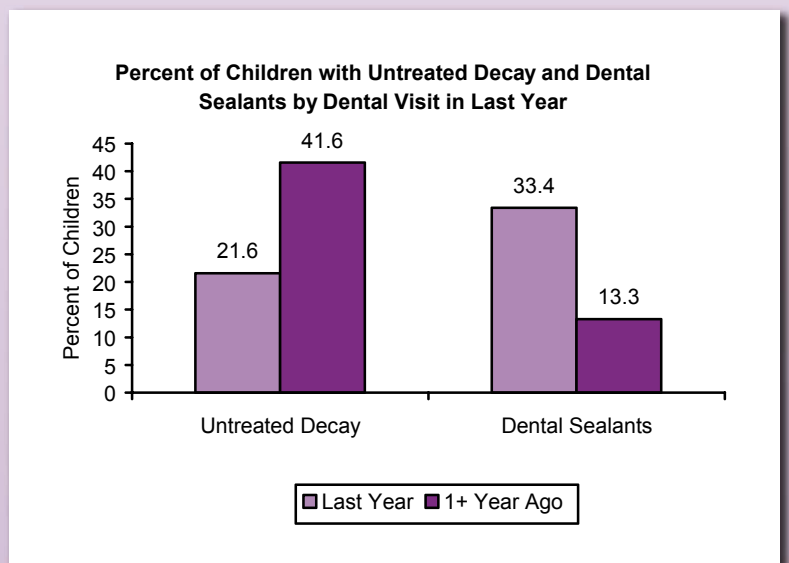


KEY FINDING #4: MANY CALIFORNIA CHILDREN ARE STRANGERS TO THE DENTIST'S CHAIR.

The American Academy of Pediatric Dentistry encourages parents and other care providers to help every child establish a dental home – a dentist that they visit on a regular basis - by 12 months of age. ¹ A dental home provides comprehensive oral health care, individualized preventive programs, and helps the mother (or other caregiver) understand issues of growth and development. Unfortunately, a large proportion (17%) of the kindergarten children screened had never been to a dentist; and a surprising 5.5% of the third grade children **had never been to a dentist.**



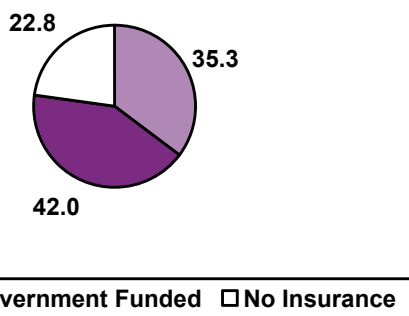
Of course, children who have not been to the dentist in the last year were more likely to have untreated decay and less likely to have dental sealants. Among the kindergarten and 3rd grade children, 42% of those who had not been to the dentist in the last year had untreated decay compared to 22% of those who had been to the dentist. The prevalence of sealants was more than twice as high among those 3rd graders who had been to the dentist in the last year, compared to those who had not been to the dentist (33% vs. 13%).



¹ American Academy of Pediatric Dentistry. Policy on the Dental Home. Accessed December 2004, www.aapd.org/media/Policies_Guidelines/P_DentalHome.pdf.

KEY FINDING #4 (CONT.): MANY CALIFORNIA CHILDREN ARE STRANGERS TO THE DENTIST'S CHAIR .

Parent Reported Dental Insurance Coverage



Why aren't these kids seeing dentists?

Dental insurance coverage is one big reason. Of the parents that provided information on dental insurance coverage, 35% reported

We asked parents if there was any time in the past year that they wanted dental care for their child but could not get it. Of the parents that responded, 16% said they had trouble accessing care. The primary reasons listed by parents for not being able to access dental care were "no insurance" and "could not afford it." Parents of children with no dental insurance coverage, or with government funded insurance, were more likely to report that they were unable to obtain needed dental care. Forty-two percent of those without insurance reported having trouble accessing dental care compared to 24% of those with government and 10% of those with private insurance.

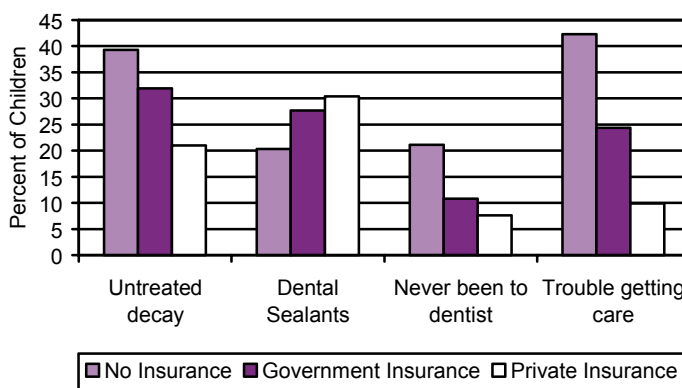
The use of dental sealants shows the same pattern: 3rd grade children with private

having private insurance, 42% reported some type of government funded insurance including Medi-Cal and Healthy Families while 23% reported having no dental insurance coverage for their child.

Children with no dental insurance or different types of insurance have different oral health status. Of the kindergarten and 3rd grade children without dental insurance, 39% had untreated decay compared to 32% of those with government insurance and 21% of those with private insurance.

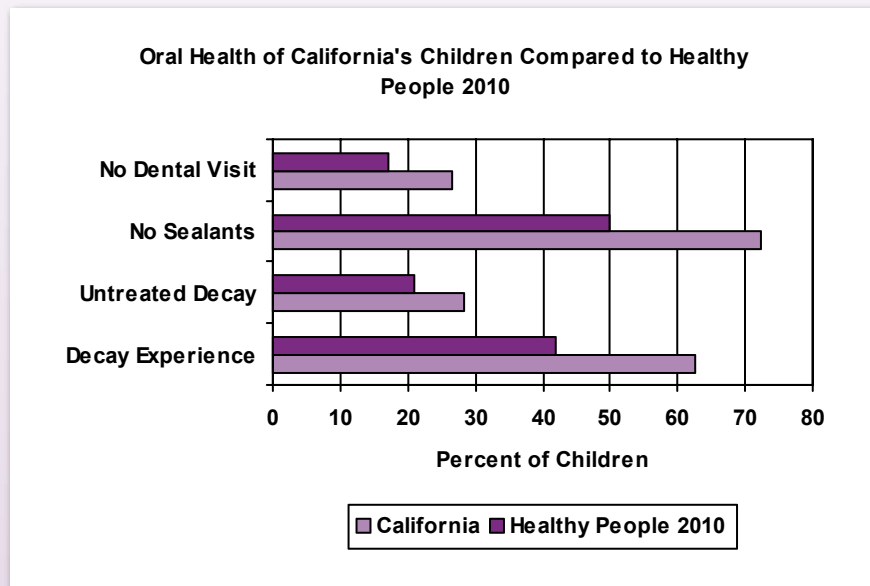
A higher percent of children with no insurance had never been to the dentist (21%) compared to children with either private or government funded insurance (11% and 8% respectively).

Oral Health of California's Children by Dental Insurance



insurance had the highest prevalence of dental sealants (30%) while 28% of children with government funded insurance and only 20% of children with no insurance had dental sealants.

KEY FINDING #5: MOST OTHER STATES SURVEYED DO BETTER THAN CALIFORNIA AGAINST THIS EPIDEMIC.



Healthy People 2010 is a set of health objectives for the Nation to achieve over the first decade of this century. The objectives were developed through a broad consultation process, built on the best scientific knowledge, and designed to measure programs by their results over time. Communities can use *Healthy People 2010* objectives to measure how the health of their community compares to national objectives.¹

Healthy People 2010 includes oral health objectives for children aged 6-8 years:

- Reduce the proportion of children with tooth decay experience in either their primary or permanent teeth to 42 percent.

- Reduce the proportion of children with untreated tooth decay in primary or permanent teeth to 21 percent.
- Reduce the proportion of 3rd grade children who **do not** have dental sealants to 50%.
- Reduce the proportion of children aged 2 years and older who **do not** see a dentist at least once a year to 17 percent.

The graph shows clearly that **California must make significant improvements in the oral health of its children in the next 5 years** for the State to meet the *Healthy People 2010* goals.

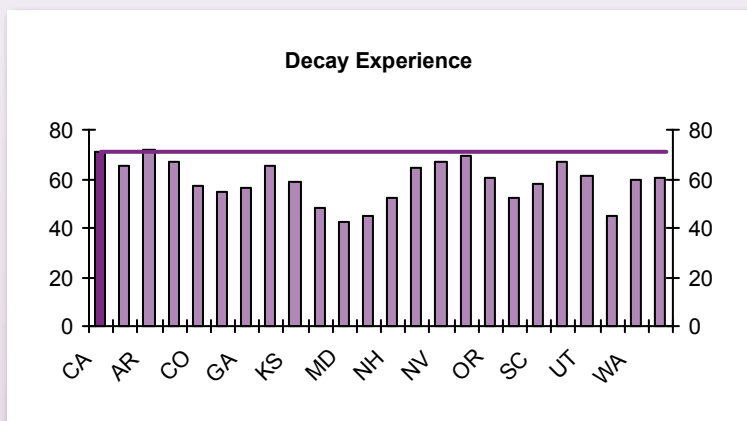
¹ *Healthy People* is managed by the Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services. Additional information on *Healthy People 2010* can be obtained at the Healthy People website, www.healthypeople.gov.

KEY FINDING #5 (CONT.): MOST OTHER STATES SURVEYED DO BETTER THAN CALIFORNIA AGAINST THIS EPIDEMIC.

Nor does California do as well as other states in children's oral health.

The National Oral Health Surveillance System (NOHSS) is a collaborative effort between CDC's Division of Oral Health and the Association of State and Territorial Dental Directors (ASTDD). NOHSS is designed to help public health programs monitor oral disease, use of the oral health care delivery system, and the status of community water fluoridation on both a State and national level.

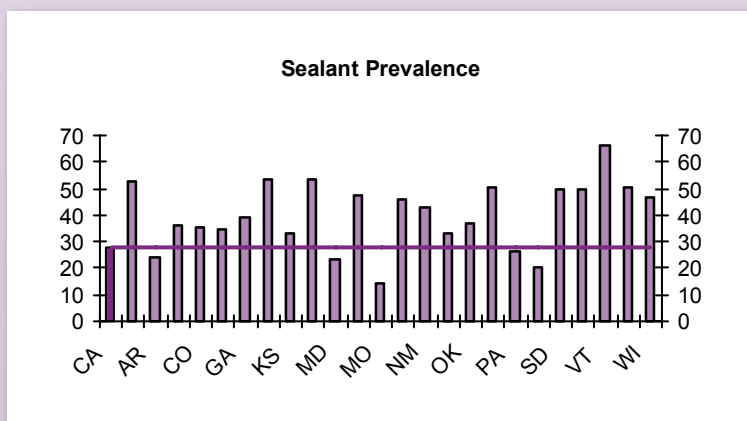
At present, NOHSS contains oral health data on 3rd grade children for 25 states. Among these 25 states, only Arkansas has a higher prevalence of decay experience than California.



The prevalence of dental sealants is also quite low in California: 19 of the 25 states have a higher percentage of 3rd grade children with sealants.

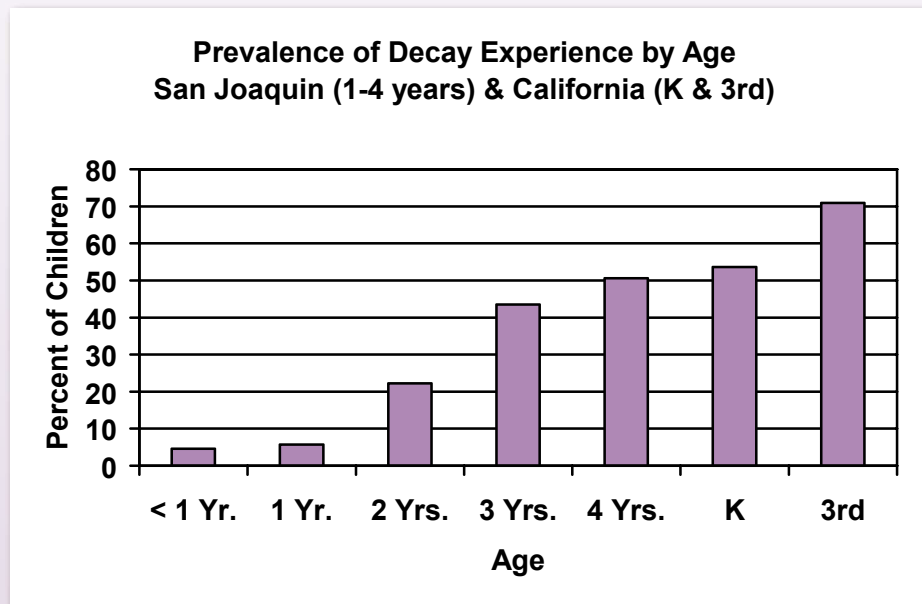
In terms of untreated decay, California falls close to the middle – ranking 10th highest in the proportion of third grade children with untreated tooth decay.

Arkansas has the highest prevalence of untreated decay (42%), while Vermont has the lowest prevalence (16%).



More Information is available through the National Oral Health Surveillance System (NOHSS), www.cdc.gov/nohss.

KEY FINDING #6: Treatment is good. Prevention is better. Early prevention is best.



If we want to eradicate dental disease in California children, we have to get them started right with early prevention efforts.

While we were looking at 3rd graders and kindergartners, Healthy Smiles San Joaquin (funded by the San Joaquin County First 5 Commission) was looking at preschoolers, and the picture was not encouraging. They gathered data on the oral health of very young high-risk children. Look at the graph: More than 20% of 2-year-olds in San Joaquin County already have decayed teeth - and the percentage with a history of decay rises with age. If we hope to prevent disease, we have to start before the age at which most of the population already has the disease. The medical and dental professions must focus dental disease prevention efforts on children less than 2 years of age because **“two is too late and five is way too late.”**

The American Academy of Pediatric Dentistry recommends several strategies, focused on the mother (or the primary caregiver) and the infant.¹ Mothers need to learn about:

- The use of fluoride in water and toothpaste
- Oral hygiene, starting in infancy
- Proper diet, focused especially on limiting exposure to sugars in all forms, and never leaving the bottle in the baby’s mouth past a limited feeding time
- Treatment of decay
- How cavity-causing bacteria get transmitted from mother to child and child to child
- Xylitol chewing gum and lozenges.

¹ American Academy of Pediatric Dentistry. Clinical Guideline on Infant Oral Health. Accessed December 2004, www.aapd.org/media/Policies_Guidelines/G_InfantOralHealthCare.pdf

For high-risk children, dental decay prevention strategies should be an integral part of health care messages given by pediatricians, nurses, health department staff, teachers, health educators, and day-care providers.

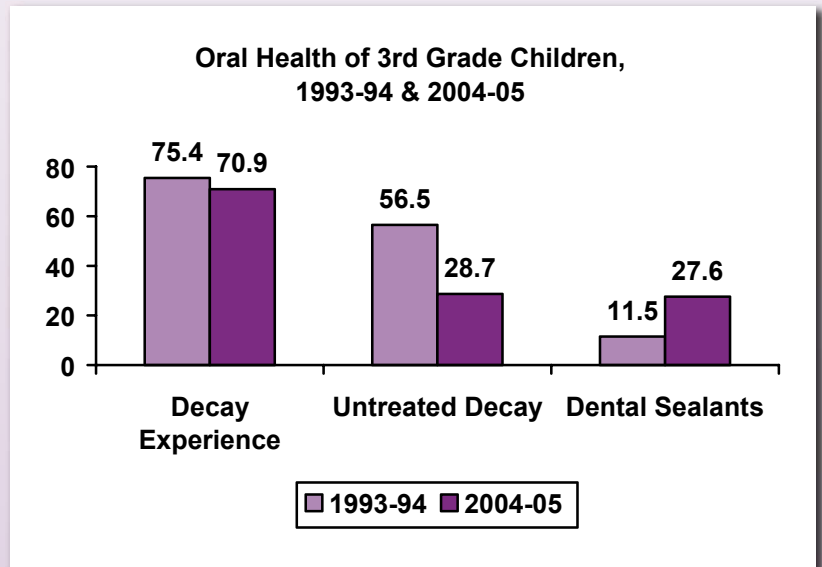
1993-1994 Compared to 2004-2005

This is the second time we have looked at the oral health status and treatment needs of children in California. The first time we did it, during the 1993-94 school year, we found a staggering level of untreated disease - about 50% of kindergarten and 3rd grade children had untreated tooth decay. In this survey the numbers look a lot better at first - only 28% had untreated tooth decay. But differing sampling strategies may account for some of the difference.

For the 1993-94 survey, we randomly selected 65 elementary schools and 32 participated - a 49% participation rate. We looked at the schools that chose to participate, and found that they were different from the non-participating schools in one significant way: More of their children were eligible for the free and/or reduced price school lunch program (62% vs. 51%). So the 1993-94 survey over-sampled low-income children. Since low-income children have more dental disease, our 1993-94 survey probably over-estimated the prevalence of decay experience and untreated decay.

For the 2004-05 survey, we attempted to address the non-participation issue by replacing schools that refused to participate.

Of the 204 schools we randomly selected, 186 participated (a 91% participation rate). Even using this replacement strategy, the 2004-05 survey slightly over-sampled lower income schools. In the 186 participating schools, 64% of students were eligible for the school lunch program compared to a statewide average of 57%.



Yet the difference in sampling strategies does not at all seem to account for the large differences in the data. It does appear that there have been significant improvements in the oral health of California's children over the last decade. The percentage of 3rd grade children with untreated decay decreased from 57% to 29% while the percentage with dental sealants increased from 12% to 28%.

The progress we have made in a single decade is a good sign that this problem can be solved. With the right application of money, time, and focused attention, we can rid California of childhood dental disease.

Recommendations

Dental disease affects more school-age children than any other chronic health condition. It is essential to develop a broad-based approach for reducing the impact of this disease on children, their families and public programs. Strategies should parallel those used for other health conditions, such as asthma, diabetes and obesity.

1) Develop a Comprehensive Oral Health Surveillance System

Issues: California currently lacks any mechanism to regularly and systematically collect data on the oral health status of individuals or the availability of oral health services. Decision makers must have current and reliable information to establish relevant policies and programs and evaluate their success. California needs a system to regularly assess oral health status and services.

Actions: Such a system would require:

- Local (county) assessments of the oral health status, needs and available resources for care for children in preschool through high school to be conducted every five years.
- Statewide assessments of oral health status of pre-school and school-aged children to be conducted every five years

2) Eliminate Barriers to Care

Issues: People fail to receive good oral health care for a number of reasons including: a lack of resources (insurance or money) available for care; limited appreciation for the importance of oral health and little information about publicly funded programs. In addition, reimbursement rates for providers through California's public dental insurance programs are significantly lower than most states and insufficient to attract any significant participation by most private providers.

Actions:

- Support the inclusion of dental coverage to at least the level of coverage provided in Medi-Cal in any legislation addressing children's health insurance coverage.
- Expand programs to inform Medi-Cal, Healthy Families and Children's Health Initiative enrollees about their dental benefits and the importance of early and periodic dental visits to prevent oral disease.
- Provide financial incentives to medical and dental professionals to provide early preventive care, including counseling, risk assessment and preventive dental procedures. Increase payments for preventive services to providers who receive training on early childhood oral health.

3) Prevent Disease

Issues: Dental decay is largely preventable if appropriate preventive measures are taken at an early age. These measures include early care by a dentist. Proven preventive dental services such as dental sealants, fluoride varnishes, and the fluoridation of community water supplies are effective but are also under utilized. Funding for research aimed at preventing or eliminating the disease is limited.



Actions:

- Every child to have a dental examination and necessary treatment by kindergarten
- Require all dental insurance and managed care plans to provide coverage for dental sealants and other scientifically proven preventive measures.
- Increase to at least 25% the number of preschool children served by existing programs that receive fluoride varnish applications and other preventive services.
- Increase funding for State prevention programs to add more schools, more grades, special education programs, and to provide more resources for local preventive programs and expansion of preschool preventive activities.
- Fund dental sealant programs and other preventive services in existing school-based/ school-linked programs, and develop new preventive programs at community clinics and migrant health centers.
- Conduct a sealant promotion campaign directed at both the public and dental professionals.
- Increase financial support for capital, operations, and maintenance costs of community water fluoridation.
- Build the science base by encouraging more research aimed at prevention and elimination of the disease.

Recommendations

4) Establish an Integrated Public Health Infrastructure

Issues: California lacks a sufficient public health infrastructure to meet the oral health needs of its residents, including an adequate dental workforce focused on serving the public.

Actions:

- Require California to create and maintain a State dental director position. Provide adequate authority and resources to enable the director to advance policies and programs that improve oral health status while integrating oral health into overall health.
- Grow the public dental health workforce. Develop pathways and incentives to encourage the practice of public health dentistry and to encourage dental practice in under served areas of the State and to under served populations.



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About the Dental Health Foundation

The Dental Health Foundation works through community partnerships to promote oral health for all by:

- Providing leadership in advocacy, education, and public policy development*
- Promoting community-based prevention strategies*
- Encouraging the integration of oral health and total health*
- Improving access to and the quality of oral health services*

The foundation works to bring the latest findings in dental research to the general public, educators, and health practitioners; thereby bridging the gap between scientific knowledge and its application at the community level.



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