

The Children's Dental Health Project of Los Angeles County

The Oral Health Baseline Needs Assessment of Underprivileged Children



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TABLE OF CONTENTS

Executive Summary.....	6
Introduction.....	8
Methods.....	9
Results.....	13
Recommendations.....	25
Appendix.....	28

EXECUTIVE SUMMARY

The 2000 Surgeon General's Report concluded that oral health was essential to overall health and that for underprivileged children a "silent epidemic" existed; dental decay being "the single most common childhood disease, 5 times more common than asthma" and poor children having "12 times as many activity restricted days per year" due to dental illnesses. Mobilized by these facts First 5 LA, and the Annenberg, California Endowment and California Wellness Foundations came together in a joint effort to quantify the extent of oral health disease among underprivileged children in Los Angeles County and the capacity of the dental resources available to meet their needs. The University of Southern California (USC) and the University of California at Los Angeles (UCLA) Schools of Dentistry were enlisted to conduct the baseline assessment project.

The project recruited children from three age groups: 2-5 years old, 6-8 years old and 14-16 years old. To ensure that underprivileged children were adequately represented in the sample, sites included in the sampling frame were: Women, Infants and Children (WIC) centers and Head Start programs for preschoolers; and elementary and high schools where the majority of students were minority and poor for the school-age children.

The two calibrated dentists who served as examiners used an adapted version of the protocol developed by the Association of State and Territorial Dental Directors (ASTDD) to assess untreated dental caries, past caries experience, early childhood caries experience, sealants and treatment needs among Los Angeles children. Age-appropriate oral health education provided and written recommendations about clinical findings also were provided to each child's parents.

In order to measure the capacity of the available dental resources in Los Angeles County, all dental offices and clinics in the county with addresses listed in the yellow pages were compiled into one database and mailed a questionnaire. Additionally a community health worker/promotora contacted all community health centers with dental clinics in the county and completed a phone interview. Existing databases containing information about the capacity of the dental resources in Los Angeles County also were researched.

A total of 2,313 children were examined at 59 sites. Findings demonstrated clear evidence of high levels of dental caries among underprivileged children in Los Angeles County, with 44% having frank cavities and another 29% having only early evidence of dental caries

(white spot lesions). The highest prevalence of dental caries was found in white-Hispanic elementary school students (90%) followed by non-white Hispanics and Asians and then by blacks. Furthermore the study found that 21% of the children had no insurance, while nearly 6-in-10 were covered by public programs where access to care is often a concern (43% were covered by Denti-Cal 'Medicaid' and another 14% by Healthy Families). A total of 72% of all the children were classified as needing dental care (within 15 days) and another 9% needing immediate dental care (within 24 hours). Elementary school students were more likely to need immediate dental care (13% vs. 6%).

Additionally underprivileged children may lack age-appropriate preventive dental measures. Only 6% of the entire sample considered their main source of water to be tap water which is a significant free source of fluoride in Los Angeles County. About 14% of the sample used non-fluoridated toothpaste, with a higher percentage of 2-5 year olds not availing themselves of this form of fluoride.

The project identified 5,790 dental offices and clinics in Los Angeles County; ***about half of them were not serving children covered by Denti-Cal.*** The average waiting time for an appointment was 3.7 days for new child patients and 3.5 days for child patients of record in the participating offices/clinics. Only 44% of these

facilities treated children two years of age or younger. ***The majority of parents (86%) were not following the recommendations by the American Association of Pediatric Dentistry that the child should visit the dentist by his/her first birthday.***

The project investigators suggest that in order to advance the agenda to improve the oral health of underprivileged children in Los Angeles County, intervention strategies should include: partnering with Community Health Centers and other safety net facilities to establish dental homes in conjunction with medical homes; working to increase dentists' participation in Denti-Cal and Healthy Families programs and willingness to serve preschool children; training physicians and other primary care providers to assess the oral health of infants and toddlers, provide counseling and preventive services, and refer high risk children and children with obvious dental needs to dental homes for ongoing dental care; developing community oral health workers/promotores programs to help parents and other caregivers learn the facts about dental caries and how to prevent it; emphasizing the importance of drinking fluoridated tap water and brushing with fluoridated toothpaste in public relations campaigns; and integrate oral health programs into currently existing nutrition improvement and obesity reduction activities at the professional and community levels.

INTRODUCTION

The Children's Dental Health Project of Los Angeles County began as a result of the interest of a small group of individuals representing diverse organizations, including philanthropic foundations, academics, and various community clinic leaders, who determined that the oral health of underprivileged children in Los Angeles County was a critical issue that required broad-based attention. They agreed that it was important to tackle this issue and see if collaboratively they could affect a beneficial change to the current situation, which anecdotally appeared to be of epidemic proportions. As there was a necessity to quantify the extent of the oral health needs among underprivileged children and the capacity of the dental resources available in the county to meet their needs, four organizations who were involved in initial discussions agreed to support such an assessment. The University of Southern California (USC) and the University of California at Los Angeles (UCLA) Schools of Dentistry were enlisted to conduct the baseline assessment.

Another facet of this project focused on developing a coalition of community representatives who were

also interested in this issue and who could provide input, expertise and access to the population of interest. This group, which was named the Los Angeles Children's Oral Health Collaborative, has grown to over 150 representatives of government agencies, community organizations, health professionals and academic institutions.

The purpose of this report is to describe the methods and report the findings of the oral health baseline needs assessment of underprivileged children and the various features of the dental resources available across Los Angeles County to care for this population.

This is the most comprehensive county-specific oral health assessment of underprivileged children conducted in Los Angeles County.

The project:

- sampled children from three distinct age groups
- sampled from minority children (including Asians),
- recorded white spot lesions,
- used calibrated dentists for exams.

METHODS

The study recruited children from three age groups: 2-5 years old, 6-8 years old and 14-16 years old. The three age groups were selected to sample children in three stages of dental development: primary dentition (only primary teeth), mixed or transitional dentition (primary and permanent teeth) and permanent dentition (only permanent teeth). The sampling frame from which the population was drawn included all Women, Infants and Children (WIC) centers and Head Start programs (for 2-5 year old children); elementary schools (for 6-8 year old children); and high schools (for 14-16 year old children) in Los Angeles County. Two site inclusion criteria were used to identify clusters of disadvantage children: for preschool children, sites had to be either a WIC center or a Head Start program, at least 50% of students in the elementary and high schools needed to be from a minority racial or ethnic group with at least 62% receiving the reduced or free breakfast/lunch program. The sample sites were randomly selected in a proportional-to-size clustered random sample except for the Head Start programs where a simple random sample was used. Clustering of the sample was based on the three selected age groups with an aim of recruiting a minimum of 15 sites per group. Several additional schools that met the two site inclusion criteria were invited to participate in order to

increase the representation of Asian and Black children in the population sampled. The approval of USC's and UCLA's Institutional Review Boards and their equivalents for the involved sites were obtained and satisfied throughout the project.

Contacting the Study Sites:

Invitation letters were sent to all schools selected to be in the sample. The letters were followed by phone calls from the study's two clinical examiners. The examiners explained the project to the principal, vice principal or nurse and the benefits of the project to the students, the school and the community. Follow-up phone calls and school visits were usually needed to provide further explanation of the project to the school administrators and to the students. Help from the administration of the Los Angeles Unified School District was sought as well, and invitation letters were sent from the district level administration to the selected schools within their jurisdiction. With the intent of enrolling 50 students per school, approximately 60 invitation letters were sent to each school asking for them to be distributed to the children in 2 or 3 different classrooms corresponding to the age group of interest. If the school had less than 60 students from the targeted age group then all students from this age group in that school were invited.

Invitations were limited generally to 2nd and 3rd graders in elementary schools and 9th and 10th graders in high schools. WIC centers were invited through the agency that operates the majority of the WIC centers in Los Angeles County. Head Start programs were invited through Los Angeles Office of Education or agencies that operate the selected programs.

Contacting the parents:

An invitation letter was sent to the parents through their children or given to them when they visited the school to pick-up or drop off their children. Parents were expected to sign and indicate whether they would permit a clinical oral health examination of their child and/or the release of his/her academic records for the last two years, and then return the letter to the school where it was subsequently collected by the research team. Academic records were requested only for elementary and high school students.

In the WIC centers parents were invited to participate during their visits to the center if they were accompanied by their 2-5 year old children. The exam team set up a booth outside the WIC center on a day suggested by the administration to be a busy day for the center (usually at the beginning of month) and invited parents to participate as they arrived and entered the center. Consenting

parents completed the questionnaire at that time. No prior arrangements with the parents were made that predated their visits to the WIC centers.

The parents were also given a questionnaire that asked them about their child's and family's health and social circumstances, including access to care, oral health behaviors and attitudes toward oral health. The invitation letters and questionnaires were available in four languages: English, Spanish, Vietnamese and Chinese. Bilingual dental students were invited to serve as volunteers for the project and they translated at the sites as needed.

In several schools with minimal response rates from parents, we had to postpone the scheduled site visits and engage administrators and teachers in developing solutions (such as inviting the examiners and teachers to speak about the project in parents' meetings or directly to the students in their classrooms).

Calibration: Two general dentists appointed as faculty at the USC School of Dentistry conducted the clinical oral health examination of the children after having successfully completed several calibration sessions. During the calibration sessions the two examiners independently examined the same children and recorded their findings without consultation. Subsequent

discussion and comparison of each examiner's findings to the gold standard examiner, a fully qualified USC pediatric dentistry faculty member resolved discrepancies, produced a high level of concordance of examiners' findings.

Clinical Oral Health Examinations:

The clinical exam was conducted following an adapted version of the protocol developed by the Association of State and Territorial Dental Directors (ASTDD) for basic screening surveys (*See below for exam components*). Each examiner used 2.5x magnifying loupes with a light-emitting diode (LED). The examiners used the USC School of Dentistry established protocols for safety and asepsis including the use of disposable masks, gloves, gowns and mirrors. Gauze, tongue blades and/or toothpicks were used when needed to clear debris from teeth and facilitate visibility. The interaction started with the examiner asking questions concerning trauma or pain involving the face or the mouth followed by an intraoral exam of the soft tissues, all visible surfaces of all teeth and the occlusion.

The Clinical Oral Health Exam

Components: The clinical examiners looked for untreated caries, past caries experience, early childhood caries experience, sealants, and treatment needs. The examiners also listed other findings such as periodontal diseases,

orthodontic problems or any pathological concerns in the comments section. The clinical findings were recorded either by the examiner or by a staff member and then verified by the examiner.

Confidentially was maintained by examining the children in private rooms in the school or by holding the interactions some distance and facing away from others in order to allow private discussions about the children's concerns and the clinical findings.

Oral Health Education and Consultation:

Oral health education was provided in the classroom to the Head Start and elementary school children before or after the clinical exam by the examiners or the assistants. In the WIC centers and high schools, oral health education was offered on a one-to-one basis by the examiners. Oral health education included age appropriate information on the infectious nature of dental caries, oral health hygiene, prevention (sealants and fluoride varnish, and healthy food choices including the caries preventive nature of xylitol). Pictures of plaque, decay and gingivitis were all used during the presentations. For the high school students health issues related to oral sex and mouth piercings were included in the oral health education. Individual oral health problems were pointed out to

the children (and their parents when available) and opportunity was provided to ask questions. Examiners provided written general recommendations related to the clinical findings for each child, which were sent or given to the parents. Children who were found to need dental care were referred to free or low- cost dental clinics.

Children were provided free bags of oral hygiene supplies, and oral health prevention and hygiene brochures. The parents were sent \$20 gift certificates from a major grocery store as compensation for the time it took to complete the questionnaire and for consenting to the participation of their child.

Capacity Survey of Dental Offices/Clinics:

All dental offices and clinics in Los Angeles County with addresses listed in the yellow pages of any of the 88 incorporated cities and unincorporated areas of Los Angeles County were compiled into one database. A questionnaire about selected characteristics related to their capacity to provide dental care for children was mailed to all dental offices/clinics in the database. Additionally a community health worker (CHC)/promotora contacted all the community health centers with dental clinics identified in Los Angeles County. The CHC/promotora asked a representative from each of these clinics to complete a short questionnaire over the phone. Two datasets from the State of California and Los Angeles County Departments of Health were used as additional resources to identify Denti-Cal providers (Medicaid) in the county.

RESULTS

The Children’s Dental Health Project of Los Angeles County recruited 779 2-5 years old, 798 6-8 years old, and 736 14-16 years old for a total 2,313 subjects. The children were recruited from 59 sites (7 WIC centers, 10 Head Start programs, 21 elementary schools and 21 high schools). Almost half of the children screened were males (47%); 15% were Asians, 17% were blacks and 65% were Hispanics. The Hispanic children were divided in two categories: white Hispanics and ‘other’ or ‘non-white’ Hispanics depending on whether the parents - after identifying the ethnicity of their child as Hispanic - identified the race

of their child in a following question as a “white” child or not (Chart 1). A little over 80% of the children lived in homes with household family incomes of less than \$35,000 (Chart 2). Both parents of approximately one-third of the children had less than a high school education. Overall 4% were children of a single-parent or guardian, with 8% of black children living in a single-parent home. About 43% of the children lived in a home where English is not spoken at all (Chart 3), 10% were born outside of the United States, and 83% were beneficiaries of free or reduced-cost breakfast/lunch programs.

Chart 1: Distribution of Participating Children by Gender and Race:

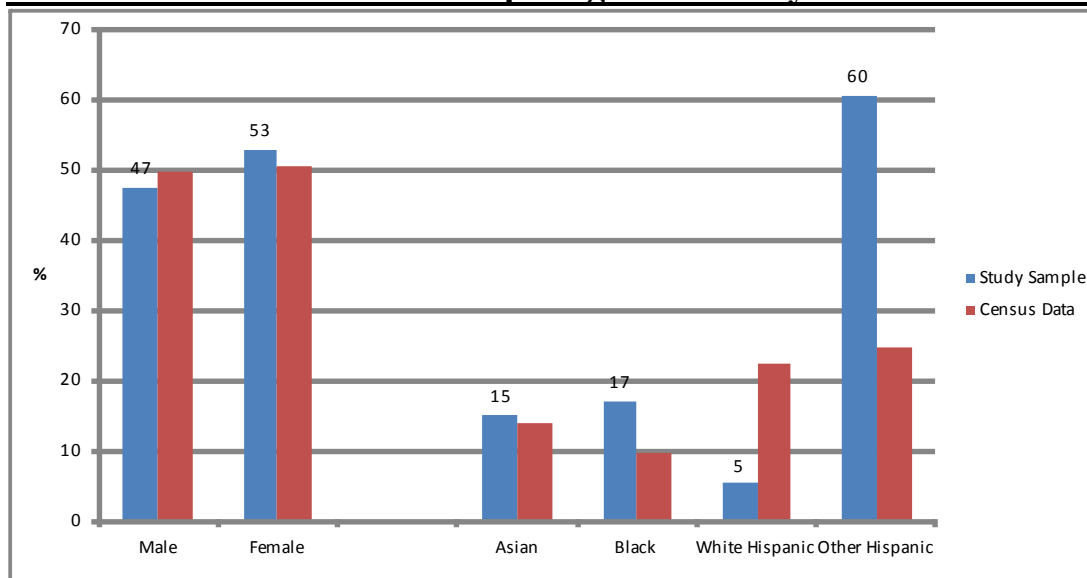


Chart 2: Annual Household Income by Race and Group for Participating Children.

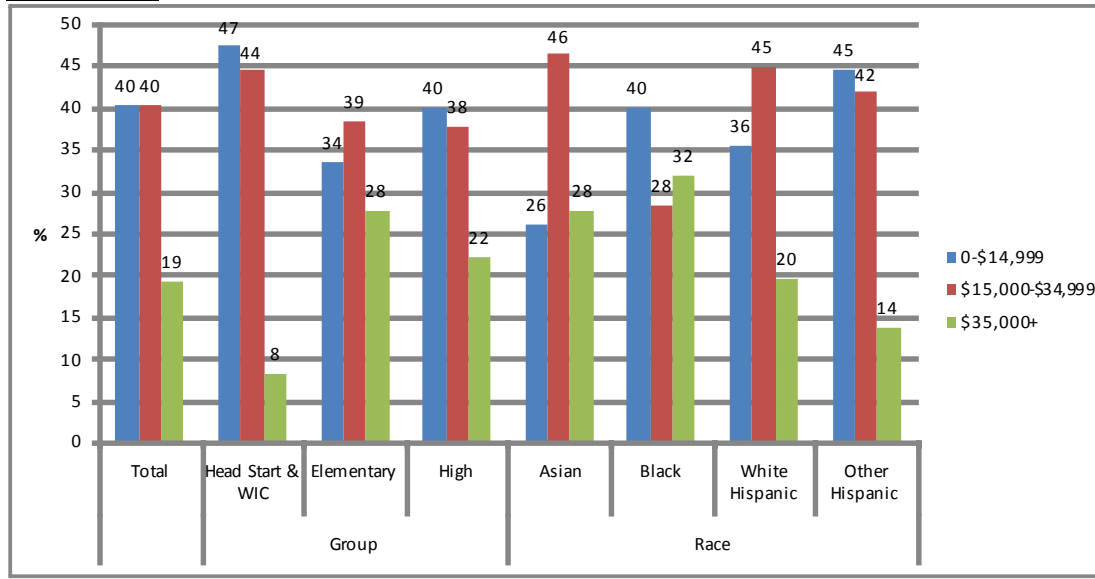
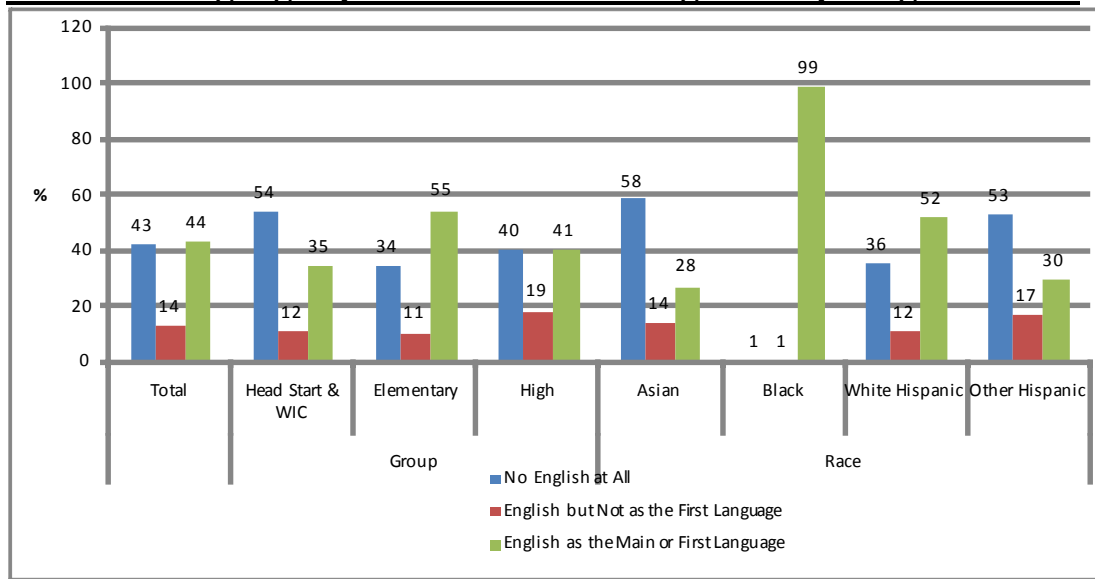


Chart 3: Language Spoken at Home among Participating Children.



KEY FINDING 1

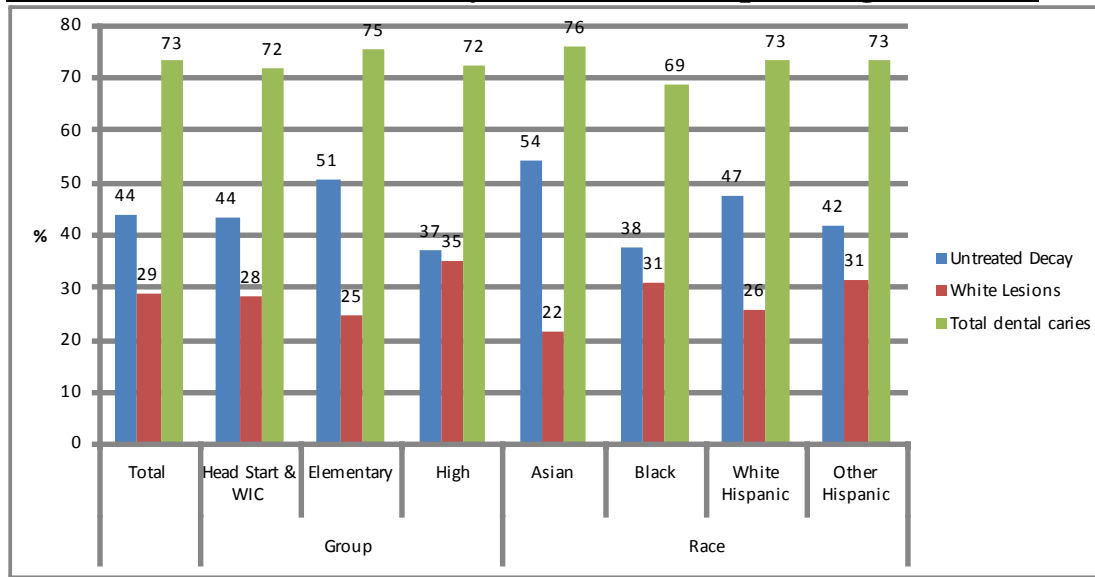
Dental Caries are highly prevalent among Underprivileged Children of Los Angeles County

Using a functional classification of caries that includes a discontinuity in the enamel (cavitation) or its preceding demineralization, observable as a white spot lesion, we found that 44% of children examined in our sample had untreated cavitated dental carious lesions, and an additional 29% had white spot lesions only. Thus 73% of the children in our sample exhibited untreated cavities or white spot lesions that often go to form cavities in high risk children. The highest prevalence of dental caries was among Asians (76%) followed by Hispanics (73%) and blacks (69%). The highest prevalence of white spot lesions only was among non-white Hispanics and blacks (31%) followed by white Hispanics (26%) and Asians (22%) (Chart 4).

Over 53% of the children had past caries experience as evidenced by existing fillings or crowns, and over 83% had caries experience (current untreated caries or existing fillings or crowns). The prevalence of early childhood caries experience in the 2-5 year old age group was 64%.

The high prevalence of dental caries places a burden on the parents and their children as 5% of parents reported that they (themselves) missed work or school because of their child's dental problems (with an average of 2.5 days per year). A total of 4% of the parents reported that their children missed school because of dental problems (with an average of 2.1 missed days per child).

Chart 4: Prevalence Caries by Race and Group among Children.



KEY FINDINGS 2:

Underprivileged Los Angeles Children Face Limited Access to Dental Care

Our project was able to acquire information directly from the clinical sites of only 403 dental offices/clinics and 64 community clinics (of the approximately 5,790 dental offices/clinics In Los Angeles County). In the dental offices/clinics that responded to our survey, almost 40% accepted children with Denti-Cal; 37% accepted children with Healthy Families; and 22% accepted children with Healthy Kids.

Fifty-three percent of the patients served by these offices/clinics had private dental plans coverage on average. Patients with Denti-Cal averaged 14% of patients on average, with only about half (7%) being children. According to information provided by parents, for every 5 children examined by our team, 3 were beneficiaries of some type of government-funded dental benefit program, 1 had private dental insurance, and 1 child had no dental insurance at all. Of those covered by government-funded insurance, 43% were covered by Denti-Cal (Chart 5). Of those whose insurance was Denti-Cal, parents reported that 15% of the children could not get needed dental care in the last year because the dentist did not accept their insurance, indicating a need to expand the

number of Dent-Cal providers for children in Los Angeles County.

This conclusion is consistent with the clinical examination findings of this study indicating that almost three-quarters of the children (72%) needed early dental care (recommended within 15 days) and another 9% needed immediate dental care (recommended within 24 hours). Elementary school students were more likely to be in need of immediate dental care compared to others (13% vs. 6%).

Parents reported that 16% of their children had experienced a toothache in the last six months; and that 18% of their children needed dental care in the last year that was not accessible. Those who failed to access the dental care system reported the following reasons: affordability (40%), not knowing where to go (10%), not a serious problem (11%), too hard to get an appointment (6%), and not being able to skip work (5%). Not surprisingly, 9% of parents reported visiting the emergency room or their child's medical doctor after failing to access dental care, with higher rates reported for elementary school students (13%) or Asian children (19%). In spite of these indicators of

significant need, only 3% of all children, 7% of 2-5 year olds and <1% of high school students were identified and being referred by school nurses for their last dental visit.

Overall 1-in-10 children had never been to a dentist. For 2-5 year olds, the ratio was reported to be 1-in-5 (Chart 6).

Most children visited dental practices close to their homes. About half the children visited a dentist located within 4 miles, while 14% traveled 15 miles or more to visit their dentist (Chart 7). Black children were more likely to have traveled 10 miles or more for their last dental visit (32%) more than all other races or ethnicities combined (nearly 23%). According to the parents, 15% of their children's dentists speak the language spoken in the home of the child "somewhat" and 5% of dentists do not speak the home language of the child at all.

In our sample of offices/clinics, only 13% of these facilities had Hispanic dentists, while 55% had white dentists. Black dentists were working in only 15 facilities (4%), and Asian dentists were working in 40% of them. About 29% of the patients served by the participating offices/clinics were Hispanics, 54% were white, 11% blacks and 17% Asians. These results show that the distributions of dentists in the County

do not correspond to the racial/ethnic distribution of its population, indicating a profound disparity that may in part contribute to access to dental care problems in the County.

In our sample of offices/clinics, on average 72 visits were scheduled weekly, with an average of 44 hours being spent weekly by dentists treating patients. These participating facilities indicated that they accepted an average of 13 new child patients monthly with an approximate waiting time for an appointment of 3.7 days (range 0-60 days) for new child patients and 3.5 days (range 0-40 days) for child patients who were already patients of record in the participating clinic. Eight new children were accepted by non-Denti-Cal providers monthly versus 18 for Denti-Cal providers who treated children. Only 6% of the offices/clinics were not scheduling any new child patients, most of which (95%) were non-providers of Denti-Cal services to children.

According to the parent-reported data, the average age of the child at the first dental visit was 3.5 years with the majority of parents (86%) were not following the recommendations by the American Association of Pediatric Dentistry that the child should visit the dentist by his/her first birthday. The average youngest age at which children were seen in the participating offices/clinics was 4.1 years for non-

Denti-Cal providers and 2.4 years for Denti-Cal providers. Similarly parents reported earlier first dental visits when their child was covered by Denti-Cal compared to when their child was not (3.2 vs. 3.7 years.). Only 44% of the offices/clinics treated children two years of age or younger. Not surprisingly parents reported that only 37% of their children visited the dentist at or before age 2. In the participating offices/clinics, about 4% of the population served were children aged 0 to 3, 6% were aged 4 to 5, 11% were between 6 and 13, and 13% were between 14 and 18 years of age. About 67% of the population served by responding dental offices and clinics were adults. Consistent with

this patient profile is the low affiliation (10%) of pediatric dentists with the offices/clinics in our sample.

The complexity of accessing dental care in Los Angeles County for disadvantage children is underscored by the observation that only 64 free or low- cost community health centers with dental clinics were identified in Los Angeles County at the time of the study. The average waiting time for an appointment in these clinics was 34 days (range 0-135 days); and only 38% of these clinics treated children 2 years of age or younger. Recently the funding of these clinics has been negatively affected by the depressed economic climate.

Chart 5: Dental Insurance by Race and Group among Children.

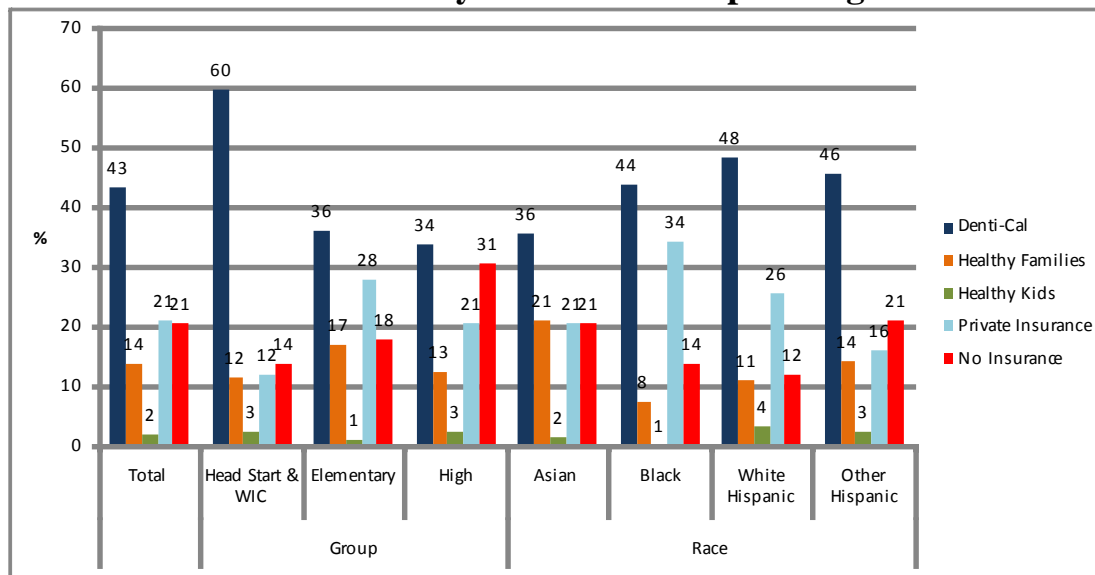


Chart 6: Frequency of Dental Visits by Race and Group among Children.

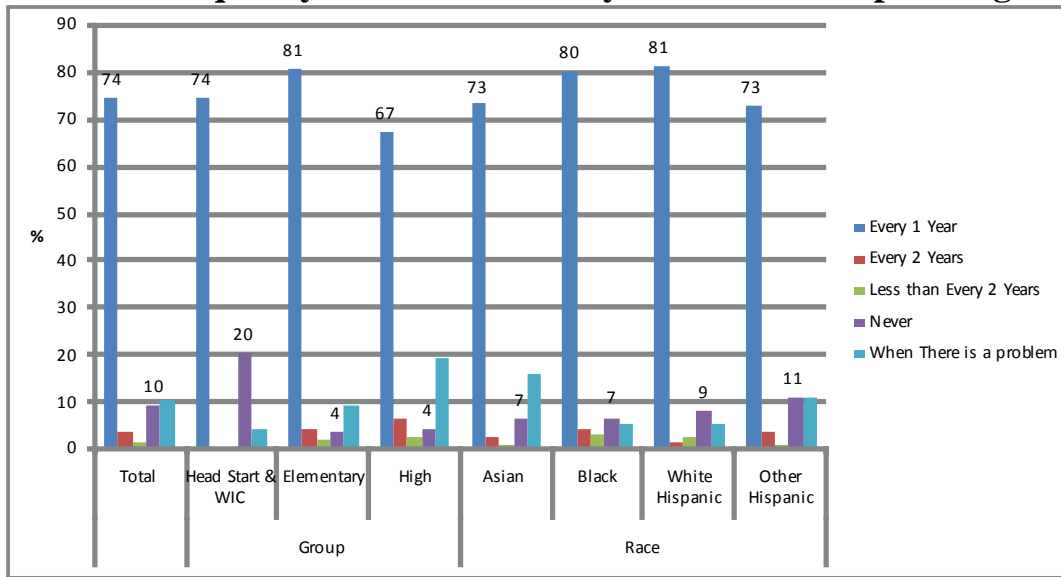
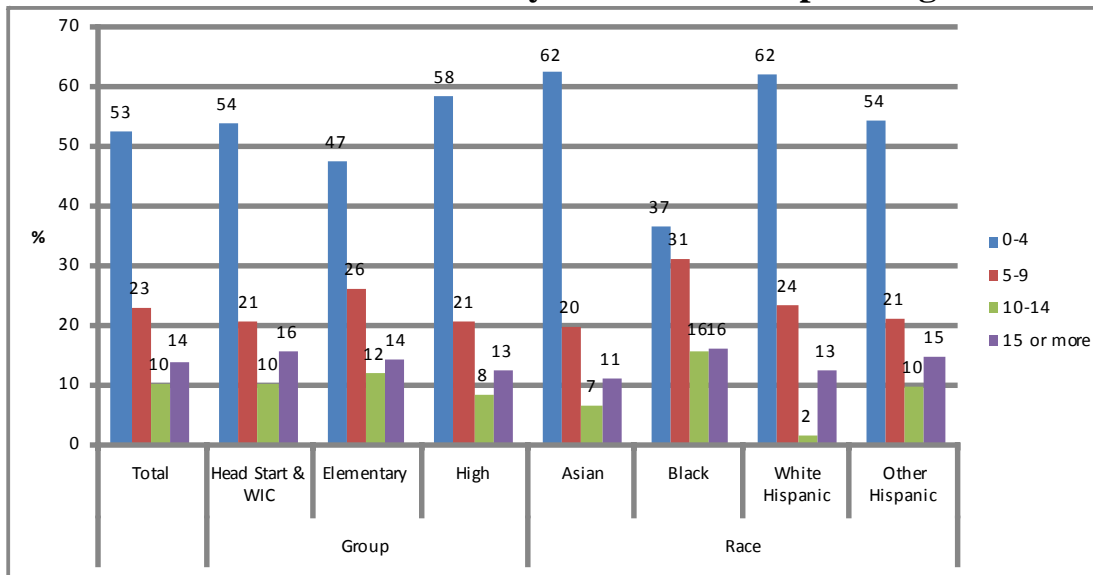


Chart 7: Miles to Dental Office by Race and Group among Children.



KEY FINDING 3

Underprivileged Los Angeles Children Lack Age-Appropriate Dental Preventive Measures (Fluorides, Sealants and Education)

Only 6% of the entire sample considered their main source of water to be tap water which is a major free source of fluoride in Los Angeles County (Chart 8). About 14% of the sample used non-fluoridated toothpaste with a higher percentage (19%) in the age group 2-5 years old not availing themselves of this form of fluoride. From a racial/ethnicity perspective, the highest percentage of utilizers of non-fluoridated toothpaste were Asian children (18%), however the Asian children had the highest usage of tap water as their major source of drinking water (11%). Further evidence of the lack of accepted preventive measures is that only 34% of the elementary and high school children had sealants (Chart 9) in comparison to the Healthy People 2010 goals of 50% for these age groups.

Given that 57% of the parents thought that their children's oral health was good or very good, it would not be a surprise to learn that knowledge and awareness of the significance of oral health and related oral health issues

among the parents of underprivileged children is not optimal. One example of this is the finding that almost 9% of 2-5 year old children sleep with something in their mouths: 50% of those children sleep with a bottle of milk and 21% sleep with a bottle of juice. Another finding is that almost 16% of the children 2-5 years old brush their teeth less than once a day, 11% of them brush a few times a month or less. When asked whether they agreed with the statement, "moms can give the germs that cause cavities to their children" 48% of the parents did not know or disagreed with the statement. About a quarter of them did not know or disagreed with the statement that fluoridated drinking water protects teeth or that fluoride is a harmless way to protect teeth.

Whereas participating dental offices/clinics spent on average 14% of their treatment efforts in preventive care (i.e. fluoride, sealants, etc.), they spent 26% of their treatment time devoted to operative dentistry (i.e. fillings) and 14% to prosthodontics (i.e. crowns, dentures, etc.).

Chart 8: Type of Water Children Drink by Group and Race.

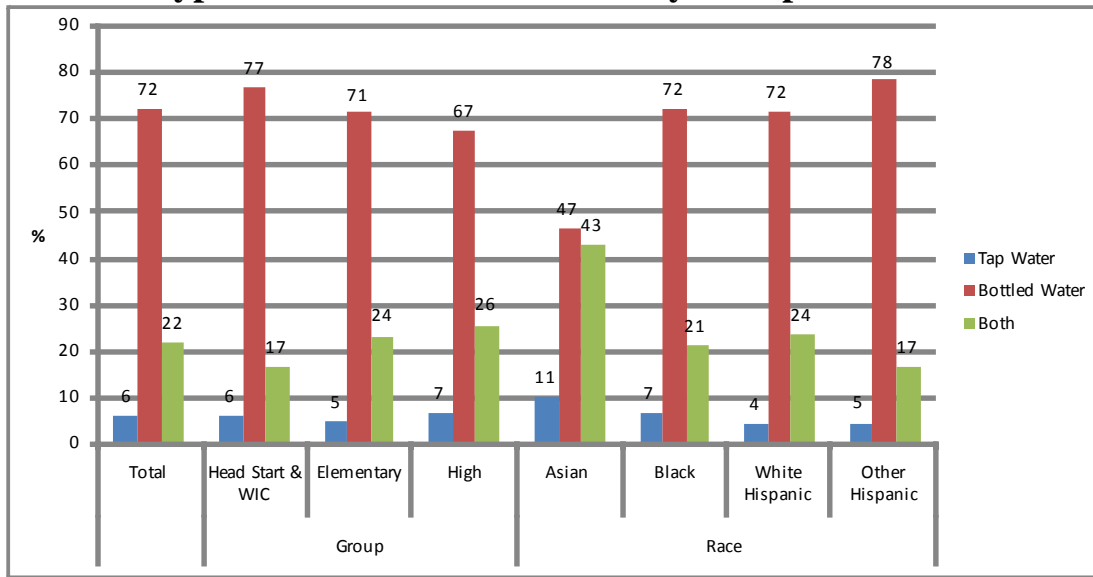
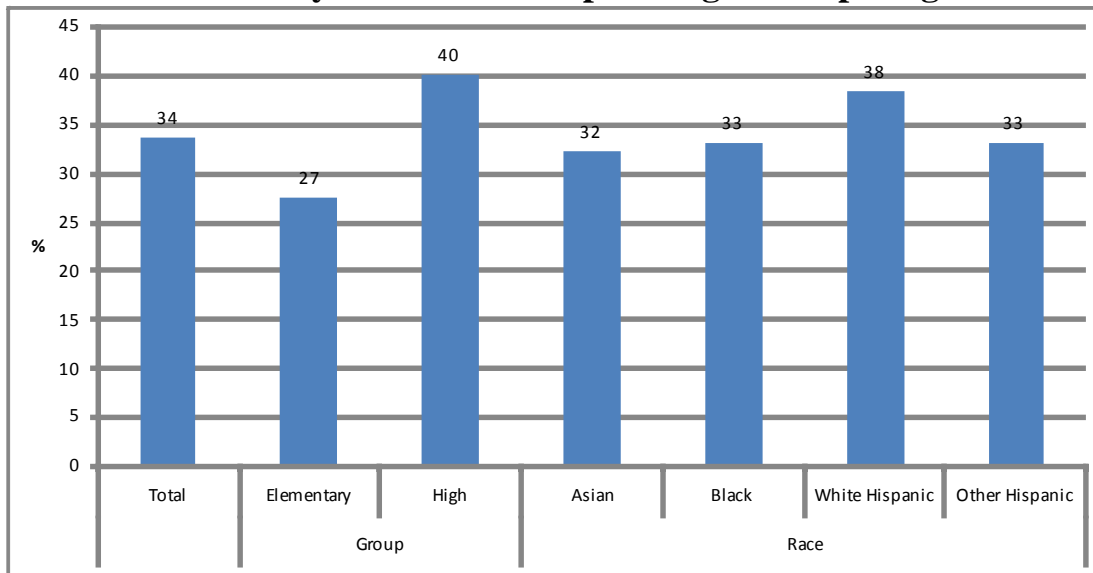


Chart 9: Sealants by Race and Group among Participating Children.



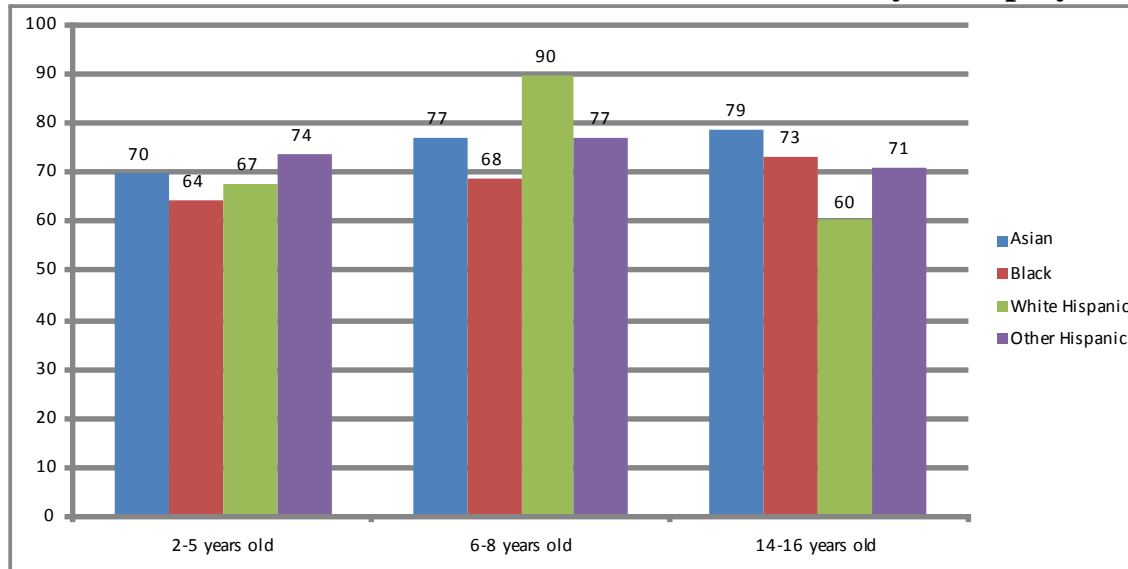
KEY FINDING 4

Health Disparities Exists among Underprivileged Children of Los Angeles County

The role of Race and Ethnicity:

- White-Hispanic elementary school students had a 90% prevalence of untreated dental caries more than all other races/ethnicities combined; Black elementary school students had a 68% prevalence of untreated dental caries less all other races/ethnicities combined. No statistical differences were found among preschoolers or high school students in terms of the prevalence of dental caries per race/ethnicity (Chart 10).

Chart 10: the Prevalence of Untreated Dental Caries* by Group by Race.



* Cavitated and non-cavitated (white spot) carious lesions.

Disparities by Income:

- Children living in a household with an annual income of less than \$35,000 demonstrate higher levels of untreated caries and dental needs and lower rates of previous dental care compared to children living in households where the annual income is \$35,000 or more:
 - untreated dental caries (75% vs. 67%),
 - immediate dental needs (12% vs. 5%),
 - and evidence of previous dental treatment (49% vs. 57%).

- Children who participate in free or reduced-cost breakfast/lunch program are more likely to have untreated dental caries than children who are not beneficiaries of this program (75% vs. 67%).

Disparities by parental Education and Language:

- Children in families where both parents did not graduate from high school are more likely to have untreated dental caries than children in families where both parents have high school diplomas or higher (77% vs. 70%).
- Children living in homes where English was not spoken at all are slightly more likely to have untreated dental caries than children who live in homes where English was the main or only language spoken (76% vs. 71%).

Disparities by Place of Birth:

- Children who were born outside the US are more likely to have untreated dental caries than children who were born inside the US (78% vs. 72%).

Pain and Inaccessible Dental Needs:

- Children who had a toothache during the last six months are more likely to have immediate dental needs than children who did not have toothache in the last six months (18% vs. 7%).
- Children whose parents were unable to access needed dental care during the last year are more likely to have an immediate dental need than children who were able to access needed dental care (19% vs. 6%).
- Those children with a recent toothache or inaccessible dental needs are also more likely to have untreated dental caries (82% vs. 71% and 82% vs. 70% respectively).

The role of Dental Insurance:

- Children with dental insurance are more likely to have past caries experience (existing crowns or filling) than children without dental insurance (54% vs. 47%).
- Children with Denti-Cal are more likely to have past caries experience (existing crowns or filling) than children without Denti-Cal (34% vs. 22% for 2-5 year olds, 72% vs. 61% for 6-8 year olds, 73% vs. 60% for 14-16 year olds).

The role of Oral Health Behaviors:

- High school children who do not brush their teeth at least once a day are more likely to have immediate dental needs than children who brush one time a day or more (11% vs. 5%).

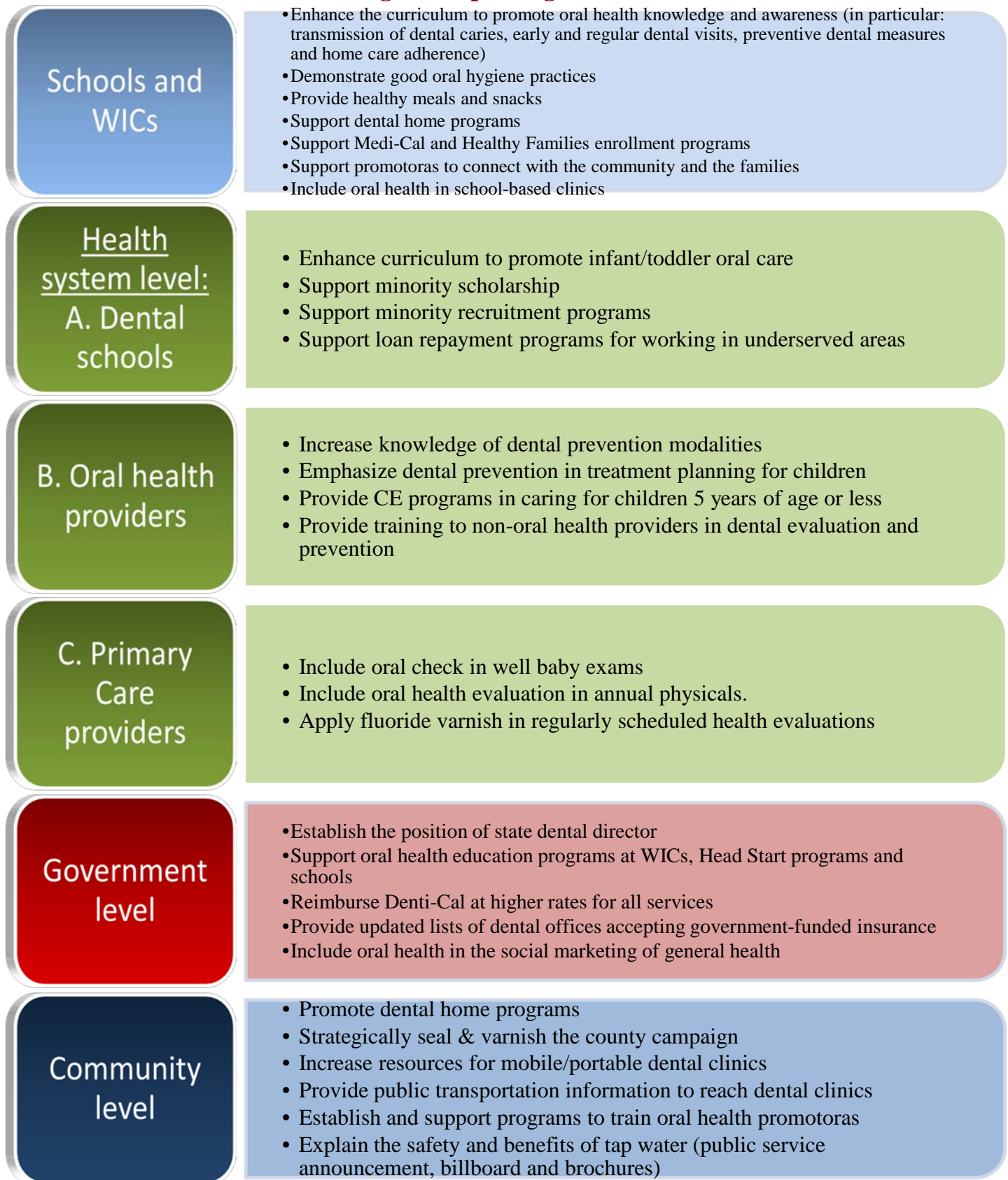
RECOMMENDATIONS

Based on the findings of this project, we propose a set of recommendations that focus on four areas:

- WIC and Head Start centers and schools
- Oral health care financing and delivery
- Community collaborations and interventions
- State activities

These recommendations should help increase access to oral health care among underprivileged children in Los Angeles County, in particular their access to preventive measures such as fluoride, sealants, oral health education, and early referral of high-risk children to ongoing care in dental homes. Increasing access to preventive dental care should help reduce the prevalence of dental caries among underprivileged children in the County. These recommendations also should contribute to the promotion of a more integrated and better trained oral health care system where medical and dental professionals cooperate to provide necessary oral health services to all children. At the same time these recommendations underscore the need to better educate parents and children who are at high-risk of dental caries and other dental problems and emphasize the relationship between oral health and general health. Figure 1 summarizes the proposed recommendations within the four areas.

Figure 1: The Project Recommendations to Reduce the Prevalence of Dental Caries among Underprivileged Children



The project investigators recognize that prioritization of the previous recommendations is needed given the economic exigencies that currently exist in our society. Rather than waiting for better times we suggest five discrete actions that we believe will move the effort forward to improve the oral health of underprivileged children in the county and thereby reduce their pain, suffering and dysfunction due to oral disease. These recommendations are based on well-established models of increasing access, promoting prevention and maximizing resources throughout the county:

- ✓ **DENTAL HOME:** Partnering with community health centers to establish dental homes in conjunction with medical homes that will serve the oral health needs of underprivileged children
- ✓ **INVOLVEMENT OF DENTISTS:** Working to increase dentists' participation in Denti-Cal and Healthy Families programs and willingness to serve preschool children
- ✓ **INVOLVEMENT OF PRIMARY CARE PROVIDERS:** Training medical doctors and nurse practitioners to assess the oral health of infants and toddlers, provide counseling and preventive services, and refer high risk children and children with obvious dental needs to dental homes for ongoing dental care
- ✓ **INVOLVEMENT OF COMMUNITY HEALTH WORKERS/PROMOTORES:** Developing community oral health promotores programs in order to establish culturally-sensitive liaisons with the community. Promotores should educate parents and caregivers about oral disease, how to prevent it, and how to access the dental offices and clinics for treatment.
- ✓ **WATER FLUORIDATION AND OTHER SOURCES OF FLUORIDE:** Explaining the safety and benefits of fluoride in general and water fluoridation in particular through public relations campaigns that involve culturally-sensitive public service announcements, billboards and brochures
- ✓ **ORAL HEALTH AND NUTRITION:** Integrating oral health **pro**grams into currently existing nutrition improvement and obesity reduction activities at the professional and community levels

APPENDIX

Figure 2: The Protocol of the Clinical Oral Examinations

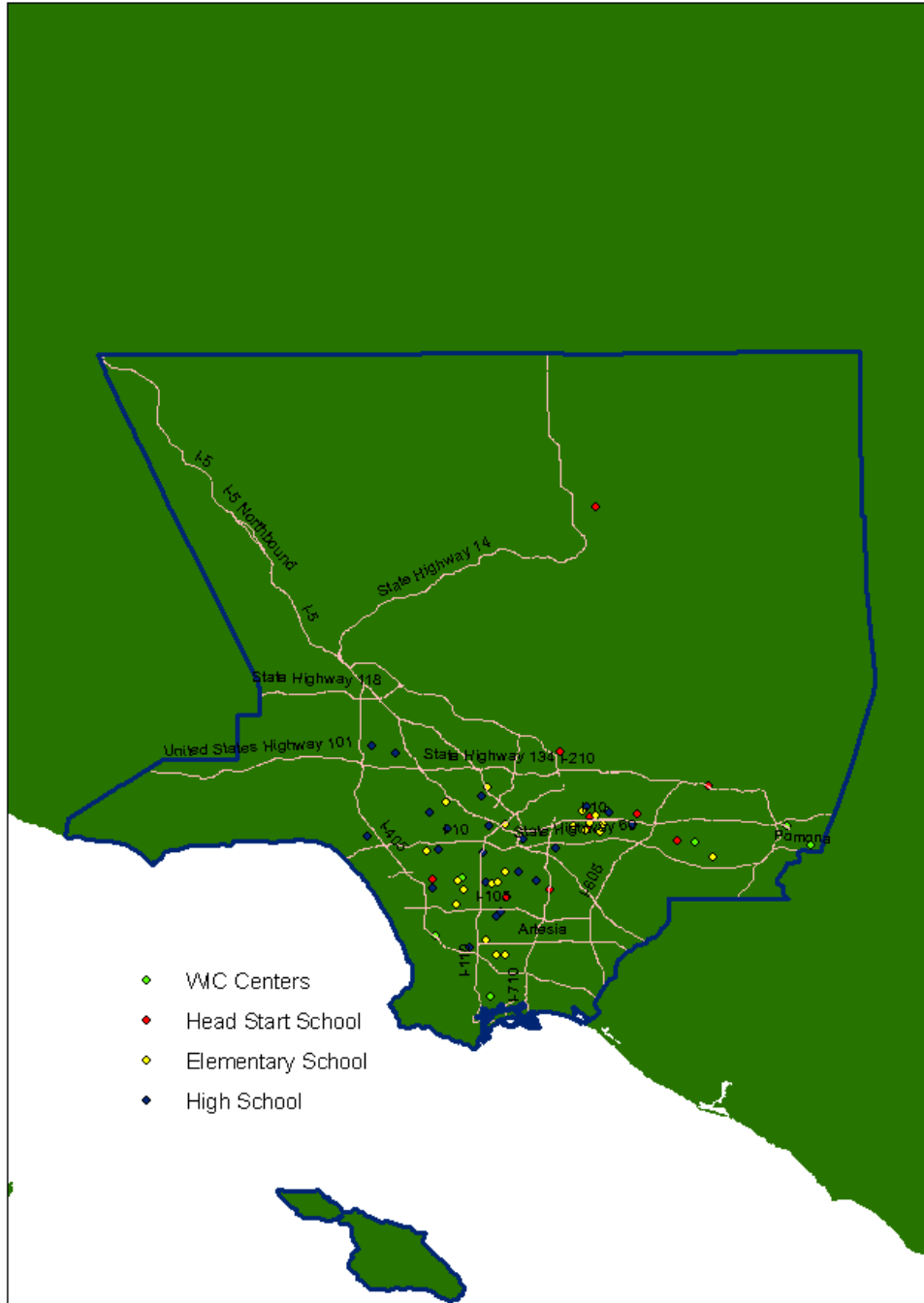
<p>Untreated Caries</p>	<ul style="list-style-type: none"> • <i>positive for white spot lesions*</i> only - when there is at least one white spot lesion anywhere in the mouth of the child with no evidence of any cavitated carious lesion(s)** • <i>positive for caries***</i> - when there is at least one cavitated carious lesion** anywhere in the mouth of the child regardless of whether the child has white spot lesion(s)* or not • <i>negative</i> - neither white spot* nor cavitated lesion(s)** present
<p>Past Caries Experience</p>	<ul style="list-style-type: none"> • <i>positive</i> - when there is at least one crown or one filling or one temporary filling anywhere in the mouth of the child regardless of whether the child has white spot* or cavitated** lesion(s) present • <i>negative</i> - no crown(s), filling(s) or temporary filling(s) present
<p>Early Childhood Caries Experience (The index is confined to the six upper anterior deciduous teeth in 2-5 year old children)</p>	<ul style="list-style-type: none"> • <i>positive for white spot lesions* only</i> - when there is at least one white spot lesion with no evidence of any cavitated carious lesion(s)** , filling(s), crown(s) or any missing teeth due to caries • <i>positive for caries experience</i> - when there is at least one cavitated carious lesion**, a filling, a crown or a missing tooth due to caries regardless of whether the child has white spot lesion(s)* or not • <i>negative</i> - no evidence of white spot* or cavitated lesion(s)** , crown(s), filling(s) or missing tooth (teeth) due to caries
<p>Sealants (The index is for elementary and high school students)</p>	<ul style="list-style-type: none"> • <i>positive</i> - when there is an evidence of fully- or partially-retained sealants on one or more molars • <i>negative</i> - no evidence of sealant(s) present
<p>Treatment Needs</p>	<ul style="list-style-type: none"> • <i>Immediate Dental Care</i> - within 24 hours when there is pain, infection or swelling, extensively large carious dental lesions, advanced periodontal conditions with significant accumulation of calculus, or suspicious soft tissue lesions • <i>Early Dental Care</i> - within 15 days for the presence of dental carious lesions* that did not appear to be an immediate threat to the health of the child, the presence of mild gingivitis and/or mild to moderate accumulation of calculus • <i>Routine Dental Care</i> - within six months when only preventive care is needed

* White spot lesions: Early sign of new and reversible enamel carious lesion (demineralized enamel).

** Cavitated carious lesions are defined as having at least ½ mm of enamel discontinuity with brown to dark-brown discoloration of the walls of the cavity.

*** Wherever the words 'dental caries' are mentioned in the text, it refers to this category of lesions (cavitated and non-cavitated or white spot lesions together) unless otherwise specified.

**Map1: Map of the Recruitment Sites of Children in Los Angeles County
(Oral health baseline needs assessment)**



Map2: Map of the Dental Offices/Clinics in Los Angeles County



Map3: Map of the Community Health Centers with Dental Clinics in Los Angeles County



List of the Recruitment Sites of Children in Los Angeles County (Oral Health Baseline Needs Assessment)

Our thanks also to all the principals, managers, teachers and nurses who assisted us in arranging for the examination of the children at their respective sites:

WIC Centers

Amar WIC Center
Fairplex WIC Center
Hawthorne WIC Center
Rosemead WIC Center
South Pomona WIC Center
Western WIC Center
Wilmington WIC Center

Head Start Programs

Head Start – Azusa
Head Start - Bell Gardens
Head Start – Bitely
Head Start - Cactus School
Head Start - Chapel of Peace
Head Start - Jordan Downs
Head Start – LeGore
Head Start – Marshal
Head Start - Scott Center
Head Start – Temple

Elementary Schools

Ambler Avenue Elementary
Annalee Avenue Elementary
Baldwin Hills Elementary
Broadacres Avenue Elementary
Castelar Street Elementary
Century Park Elementary
Dewey Avenue Elementary
Emerson (Ralph Waldo) Elementary
Glenfeliz Boulevard Elementary
La Salle Avenue Elementary
Lillian Street Elementary
Martha Baldwin Elementary
McKinley Elementary
Monterey Vista Elementary
Parmelee Avenue Elementary
Rice (Eldridge) Elementary
Selma Avenue Elementary
Seventy-Fourth Street Elementary
Willard (Frances E.) Elementary
Ynez Elementary
Yorbita Elementary

High Schools

Animo Jackie Robinson High
Bell Senior High
Belmont Senior High
Centennial High
El Monte High
Fairfax Senior High
Gardena Senior High
Huntington Park Senior High
Inglewood High
James A. Garfield Senior High
John C. Fremont Senior High
John Marshall Senior High
King/Drew Medical Magnet High
Los Angeles Senior High
Rosemead High
San Gabriel High
Susan Miller Dorsey Senior High
Theodore Roosevelt Senior High
Ulysses S. Grant Senior High
University Senior High
Van Nuys Senior High

“The Silent Epidemic of Dental
Disease in Los Angeles County
is Not Silent Anymore”

Dr. Tim Collin

Dental Director for the Los Angeles County Department of Health Services

06/23/09