



**EVALUATION REPORT:
HEALTHY SMILES PROGRAM**

March 2005-June 2008

**PLUMAS COUNTY PUBLIC HEALTH AGENCY
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EXECUTIVE SUMMARY

Between March 2003 and June 2008, with funding from First 5 Plumas, First 5 Sierra, The California Endowment, and the Sierra Health Foundation, Plumas County Public Health Agency staff brought together local dentists, their staffs, hygienists, and a number of concerned volunteers to provide screenings, varnishes, sealants and treatment to 1,904 children 0-12 years of age in Plumas and Sierra Counties.

The Healthy Smiles Project was overseen by the Plumas Sierra Oral Health Coalition, a group of community leaders, educators, dentists and other dental professionals, early childhood specialists, public health advocates, and others who share a concern about the lack of access to oral health services, especially for children, in these adjoining rural Northeastern California counties.

In June 2008, funding from The California Endowment, First 5 Plumas, and First 5 Sierra ended. However, funding from the Sierra Health Foundation's *brightSMILES* program will keep several components of the project functioning, and additional funds are being sought to reinstate other important components.

The project included:

- Oral health screenings and referrals for further treatment by local dentists in elementary schools, pre-schools, and child care centers in both counties;
- Application of fluoride varnishes and sealants by local hygienists;
- Case management to families who needed assistance finding or paying for additional treatment and for applying for Healthy Smiles or Denti-Cal insurance programs;
- Financial assistance for treatment costs for children 0-5 years old;
- Professional training opportunities for dentists, staff, and hygienists;
- Parent and family education; and
- Public outreach to increase awareness of the importance of good oral health practices from birth.

Healthy Smiles staff included a director, coordinator, and case manager. Two school nurses were contracted to provide scheduling coordination and case management assistance in the schools. Fourteen local dentists volunteered time and staff for screenings. Seven local dental hygienists provided expertise in varnish and sealant applications. Five dentists provided specialized treatment that required conscious sedation or hospital-based dentistry, often at reduced cost. One dentist provided *pro-bono* restorative treatment to 10-15 children annually. When local resources could not meet a child's needs, help was found outside the area, primarily in Reno, Paradise, Nevada City or Chico. Family Resource Centers and other community-based organizations received small contracts to provide outreach and education materials and case management assistance.

Major Results:

- 1,904 children 0-12 received oral health screenings
- 2,563 sealants were provided to children ages 6-12
- 1,672 children received fluoride varnishes
- 553 families received case management services
- 570 families received assistance in applying for insurance
- 87.5% of the dentists in the two counties participated
- 3,308 individual educational contacts were made by the staff
- 300-400 hundred individual pieces of oral health information were distributed each year

Results for School Children 6-12 Years Old

Over three school years, 1455 children in grades 1, 2, 5 and 6 were screened in nine elementary schools. It is significant that even though the total enrollment in all schools combined fell 12.3%, the number of screenings rose each year and overall by 25.4%. The report provides results for both individual schools and all schools combined.

The report looks at the total elementary school enrollments, which declined each year, provides estimates of the total enrollments in the targeted classes, and compares them to the number of children who were screened and received varnishes. Also reported is the number of sealants applied each year. Records were kept of the number of sealants applied rather than the number of children who received them, so sealant data is discussed in numbers rather than in terms of percentages of children served. The number of sealants applied increased overall by 24.4% even though it fluctuated up and down in individual schools.

The report also looks at the number of sealants applied per students screened, which fell from Year 1 to Year 2 and rose again in Year 3, but not to Year 1 levels. This overall drop in the need for sealants was somewhat anticipated and would seem to indicate that the preventive treatments were having a positive effect. However, staff noted that there were several dentists involved in the screenings, and they tended to differ in the number of sealants they ordered.

Results for Children 0-5 Years Old

Program goals were to provide varnish applications to 250 children 0-5 years of age annually. Overall, screenings were conducted at 25 childcare and WIC sites. However, due to difficulties posed by geography, time, and scheduling, the number of sites reached and children screened fell significantly in the last two years. Over the three years, 449 children 0-5 years old were screened, primarily in Head Start, State Preschool, and childcare centers in the two counties. Of those screened, 397 received fluoride varnishes. Sealants were not applied to this age group.

The screening for children 0-5 included an assessment of the amount of decay found. For all children screened over the three-year period, 66.9% had “No Decay” at the time of screening, 1.7% had “Early Decay,” 9.3% had “Moderate Decay,” and 6.1% had “Urgent Decay.” There were significant differences in the amounts of decay present in the two counties, with Sierra County children having 13.7% more children with “No Decay,” and less than half the percentage with

“Urgent Decay.” This difference is being attributed to the fact that for many years the town of Loyalton in Sierra County had fluoridated water.

Funded Treatment and Case Management Results

Case management activities included helping 526 families find and access appropriate oral health care, paying for urgently-needed treatment for 27 children (limited to hardship cases among children 0-5), and providing assistance with insurance enrollment in Healthy Smiles and Denti-Cal to 570 families. Most case management was provided by Family Resource Centers and other agencies that provide a broad range of family services.

Healthy Smiles staff provided case management for all of the urgent-need cases among children 0-5. Over 85% of the children in urgent need of treatment were referred for hospital dentistry or conscious sedation, services that are very scarce in the area, and five cases (18.5%) were referred out of county because adequate care was not available in the area.

Outreach and Education Results

Extensive education and awareness outreach was provided by Healthy Smiles staff through a variety of community venues. The Family Resource Centers also provided a valuable means of disseminating information. Overall, 3,308 individual contacts were made by the staff and community partners distributed 300-400 individual pieces of information each year.

Three training seminars were held for dental and medical professionals, child care providers, and others interested in children’s oral health. While these provided many people with a much broader understanding of the issues (86.5% of participants indicated learning the key messages), this component was seen as less important to the project than the direct services to children.

Participants Survey Results

In April 2008, a short survey was conducted to determine Healthy Smiles participants’ and Coalition members’ attitudes towards the project’s success and how well each component was implemented, and to discover how participants perceived the importance of each component. The survey also asked whether participants’ own knowledge and awareness of children’s oral health had increased, and provided an opportunity to provide written input on a number of issues that Coalition members felt were still critical.

A total of 42 surveys were distributed via a combination of email and mail to people who were involved in the provision of services, including project staff, school and child care personnel, dentists and staff, hygienists, First 5 staff, and other Coalition members or partners. Fifteen, or 35.7%, of the surveys were returned.

A majority of respondents (72%) thought the Healthy Smiles project was implemented well, with one rating it as poorly implemented. Over 60% of respondents felt the project was successful, and no one rated it unsuccessful. The most successful components were the school-based services. Overwhelmingly, credit was given to the involvement of the school nurses for the success of this component. Services to the 0-5 age group were perceived as somewhat less successful. Comments

from both staff and childcare providers mentioned the difficulties involved in scheduling and coordination as reasons for the lower success rating.

It is clear that providing services to all children remains a very high priority for the majority of the respondents. However, services for children 0-5 years of age are perceived as slightly more important, even though the success and implementation ratings were lower. It is also apparent the professional trainings component was perceived as significantly less important than the others.

With the exception of two of the participating dentists, everyone who responded to the survey indicated that their knowledge and awareness of children's oral health issues had increased. The top areas of increase were 1) caries is a transmittable disease, 2) how to examine and work with young children, and 3) when a child should first see a dentist.

System Changes and Results

It is evident in participants' responses to those survey questions that required written answers that they care deeply about children's oral health and the Healthy Smiles program, and that they will continue to work and advocate for more improvements. Much of the system change discussion below is based on two conversations held with the Coalition and their written survey answers.

The Healthy Smiles project led to several system changes. A major outcome was that area dentists, who have had no forum in which to discuss the topics of childhood dentistry, began to network as an unintended result of the professional training that were offered once per year. Several of them commented that this was the first time they had been provided a chance to talk with one another. They are now also talking with the medical community to encourage increased oral health activities in general exams of children and pregnant woman.

Another result was a clearer understanding of the limited access to oral health services, especially for young children, both in terms of services provided and in the need for adequate insurance coverage for more people. With \$10,000 annually to help pay for extensive dental treatment for children 0-5 years old, Healthy Smiles helped 27 families with dental bills. However, there were no treatment funds for children 6-12 years old. Family Resource Centers were able to offer case management to these families to find an appropriate dentist for the care needed and to help them enroll in insurance programs, but they were not able to help with treatment payment or support for transportation, lodging, and so forth. One solution that has developed in the Coalition is to add advocacy at the state and federal level to their list of new strategies, primarily around access issues.

While it was evident locally from the earliest stages of this project, it was difficult at first to convince funders that it was essential to contract with school districts for increased school nurse time to help coordinate the Healthy Smiles school interventions. As originally suspected, this component proved to be of paramount important to the project's success in the schools. The nurses were able to provide important outreach to families, coordinate with dental offices, and keep the teachers informed and cooperative. The lesson is clear for any projects that involve systems change: without the direct influence of institutional policy and organizational changes within and across major partners, increased system integration will continue to require paid people in these "linchpin" positions who do the challenging work of coordination.

The case management aspects of the Healthy Smiles project also served to integrate the community-based organizations (primarily Family Resource Centers) more closely with the Health Department, schools, dental offices, and child care providers. FRCs typically provide education, outreach, case management, and insurance enrollment services to families, but they are not usually involved specifically in oral health outreach and dental offices. As a result of Healthy Smiles, FRC staff members now understand the critical role oral health plays in families' well-being and include help with dental care in their family services.

There are few dental and medical providers in Plumas and Sierra Counties who accept government insurance because the payments are low and the paperwork is burdensome. One of the unmet objectives of the Healthy Smiles project was to find a way to assist dental offices with billing government insurance programs so more would be willing to accept them. However, as the Coalition members, staff, and public health professionals wrestled with this problem, it became obvious that it is an issue that can only be solved at the system level. The need still exists, but the solution lies in a concerted and coordinated, county-wide, system level effort to increase insurance enrollment and usage, thereby increasing the numbers of people receiving services, and increasing the overall amounts that local providers will realize from these insurance programs.

Next Steps

Participants in the Healthy Smiles Project and the Plumas Sierra Oral Health Coalition will be invited to maintain and enhance their goals as part of a larger systems effort to increase community access to healthcare. Oral Health partners will be part of a Health Access coalition comprised of key local decision and policy makers who have the capacity, institutional interest and responsibility to affect the community's access to healthcare. The shared vision of the group is to achieve local systems reform through integrated planning, policies, and programs that improve equity and access to healthcare for Plumas County residents.

Plumas County Public Health Agency, a Coalition member, has created a dedicated Health Access program to build and maintain the Health Access coalition. The Health Access program will increase the knowledge, expertise and capability of the coalition members through training, network building, and education geared towards access and prevention.

By January 2009, the Health Access coalition expects the formation of a steering committee with representation from each community sector to arrive at a set of strategies to improve access to healthcare and to increase the utilization of preventative and primary health services. Lessons learned from the Healthy Smiles Project and its partners will be incorporated to develop a pilot project that exemplifies how the health system can more efficiently and effectively provide and sustain services across the local healthcare system.

INTRODUCTION, HISTORY AND BACKGROUND

This report will describe the results of the Healthy Smiles Program, an effort from March 2005 through June 2008 (and ongoing) to improve oral health care for children 0-12 years old in Plumas and Sierra Counties in California. This project was funded by the California Endowment, First 5 Plumas, First 5 Sierra, and the Sierra Health Foundation (beginning 2007) and implemented by the Plumas County Public Health Agency in Quincy, California and served both Plumas and Sierra Counties.

Project strategies included oral health screenings, fluoride varnish and sealant applications in schools and childcare settings, case management when indicated, financial assistance or coordination of *pro bono* services for follow-up treatment when necessary, professional training, parent education, and public outreach.

GEOGRAPHICAL BACKGROUND

Plumas and Sierra Counties are contiguous, sparsely populated, mountainous communities in Northeastern California with elevations ranging from 1,800 feet to 8,372 feet. In 2000, just 24,379 people lived in these counties (only 3,550, or about 14.4%, in Sierra County) within an area of 3,553 square miles (an average of 6.7 people per square mile).

Residents live primarily in very small, geographically isolated communities with a population of 6,000 or less. In 2000, there were 2,420 children 0-12 years old in Plumas County and 637 children in that age range in Sierra County. The population in both counties is less ethnically diverse than the state as a whole; however, Plumas has an indigenous Native American Maidu community primarily in Greenville, and both counties have growing Hispanic communities primarily in Chester and Portola in Plumas County and Loyalton in Sierra County. In 2000, the service community and schools lacked the capacity to provide culturally and linguistically appropriate services to the Hispanic population.

Most residents must drive at least one to two hours (in good weather) to reach a metropolitan area with comprehensive medical, dental, shopping, and other services. The major traffic routes are two-lane highways with elevations and curves that become quite difficult to travel with the advent of winter's ice and snow. Winter driving conditions, which can occur from November through March, often extend driving times by double or triple, or preclude driving completely for hours or even days at a time.

HISTORICAL BACKGROUND

In the late 1990s, a loosely organized group of concerned professionals and several health department staff in Plumas County, California, met to identify and discuss the unmet needs in the area of children's oral health. The issues they discussed included:

- poor oral health practices
- tooth decay and related conditions
- lack of awareness among parents and families, oral health practitioners, and the medical community

- lack of local program to address oral health education for those groups
- few local treatment options for low-income families
- lack of local capacity for sedating children for oral treatment
- lack of public transportation options for families
- inadequate insurance coverage (at that time 30% of Plumas and Sierra County children ages 2-11 years lacked any dental insurance).

In late 1999, as a result of Proposition 10, the California Children and Families Commission was established, and each California county received funds to establish a local Commission (these later came to be known as First 5 Commissions). One mandate of the California Children and Families Commission was that counties work toward systems integration to provide non-duplicated services that are accessible and family-friendly.

In Fall 2000, the Children and Families Commissions of Lassen, Plumas, Sierra and Modoc counties, with financial support from the California Children and Families Commission, convened a two-day Oral Health Summit attended by concerned local service providers (dental, medical, public health, children’s services, schools, etc.) with presentations and input from experts in rural services, children’s oral health, government insurance plans, and potential funding. After extensive discussion, this group identified the following gaps and barriers to oral health care for children in this very rural, Northeastern section of California:

- lack of pediatric dentists or dentists with expertise to work with children
- lack of facilities for pediatric dentistry and sedation
- lack of services for families covered by Denti-Cal and Healthy Families insurances
- difficulties of billing government insurance and low payments under those programs
- lack of transportation to services
- underutilization of fluoride
- lack of knowledge among parents
- limited prevention and intervention programs.

As a result of the Oral Health Summit, Children’s Oral Health became a top priority for the Children and Families Commissions in the four counties, and the Executive Directors began to explore various ways to develop a regional project. Lassen County, with an already active Oral Health Task Force, led the way by developing and testing various methods of service delivery for screenings, sealants, and fluoride varnishes, as well as in providing training opportunities for oral health professionals.

For several months attempts were made to create a Lassen, Plumas and Sierra County project; however, it eventually became clear that the geographical distances and differing needs presented obstacles to the three-county collaboration. While Lassen moved forward with their project, the Plumas and Sierra First 5 Commissions joined forces with the Plumas Oral Health Coalition, which became the Plumas-Sierra Oral Health Coalition in 2003 (the Coalition).

DESCRIPTION OF (Then) EXISTING SERVICE GAPS AND NEEDS

Poor oral health in low-income children, inadequate access to dental care, and oral health disparities among ethnic populations were the primary conditions the Project was designed to address. These

conditions were and still are common in geographically isolated and rural areas that have little or no access to pediatric dentistry, general dentists who are not trained or comfortable treating young children, a lack of education and awareness of preventive oral health practices, and few local options for families with no insurance or Denti-Cal or Healthy Families insurance.

The oral health needs of Plumas and Sierra Counties were typical of rural California counties in 2003. Plumas County had 14 private practice dentists, and Sierra County had one. None of these was a pediatric dentist, and only one had pediatric experience. Four dental clinics accepted Denti-Cal and/or Healthy Families insurance. There was no capacity in either of the two counties to perform pediatric hospital dentistry or sedation. Children in need of oral surgery or sedation (conscious or unconscious) had to travel out of the counties for treatment. Preventive oral health programs for young children and their families were limited, primarily to Head Start participants. There was considerable need for additional oral health education, prevention, and treatment services. For low-income families, uninsured children, and Hispanic and Native American children, access to oral health services was an especially significant problem.

By summer of 2004, several steps had been taken toward improving children's oral health services. The Plumas County Children and Families Commission (now renamed First 5 Plumas) funded the Plumas District Hospital Dental Clinic to purchase toddler-sized oral surgery equipment and a mobile cart for supplies designed especially for young children. First 5 Sierra (now also renamed) funded a local rural health dental clinic to purchase a variety of equipment needed specifically for treating young children, and both Commissions provided oral health educational materials in their Kits for New Parents (materials supplied by First 5 California and augmented at the local level).

PLUMAS SIERRA ORAL HEALTH PROJECT DESCRIPTION

In 2004, the Coalition held extensive planning sessions and developed an approach using several strategies already being implemented in Lassen County, but that was redesigned to more specifically meet the needs in Plumas and Sierra Counties. Below is a general overview of the Project as it was originally designed.

STRATEGIES

1. Plumas Sierra Oral Health Coalition would be responsible for oversight and implementation of the Project and creation of systems, policies, and procedures that would result in sustainable services and positive, long-term outcomes for low income, uninsured children in Plumas and Sierra counties.
2. With funding from First 5 Plumas and Sierra, the Coalition established a Children's Oral Health Fund to help low-income families meet the costs of urgently-needed oral health care for children 0-5 years old.
3. The Coalition would establish a central billing system to aid dentists in billing government insurance programs (Denti-Cal and Healthy Families).
4. The Project would provide a school-based sealant program which would include: oral health education, assessment screenings, preventive treatment, and referral services for children in kindergarten through sixth grades at targeted schools and community sites. These services

would be culturally and linguistically appropriate to serve the needs of the Native American and Hispanic populations.

5. The Project would provide education, assessment screenings, prevention (fluoride varnishes), and referral services to children 0-5 years old at home, childcare settings, and community sites.
6. The Project would provide a comprehensive oral health case management system, including referral, treatment, and follow-up, with entities that provide education, medical, dental, and social services.
7. The Project would develop and implement a public oral health education campaign utilizing standardized messages and multimedia approaches, including appropriate materials for Native American and Hispanic populations. The campaign would take advantage of existing programs that already communicate effectively with children and families (resource centers, schools, social services, childcare agencies, etc.)
8. The Project would sponsor and coordinate children’s oral health trainings and information for dental and medical professionals.
9. The Project would also depend on substantial in-kind contributions of time and expertise from local dentists and their staffs, school personnel, and childcare providers.

OBJECTIVES

The Project plan included an extensive list of annual objectives, the most important of which were to:

- Provide dental screenings to 1,255 children ages 0-12
- Provide dental sealants to 475 children ages 6-12 and fluoride varnish applications to 250 children ages 0-5
- Provide case management services to 200 children and families
- Provide Denti-Cal and Healthy Families insurance enrollment application assistance
- Provide one training opportunity annually for dentists and other health professionals; with 60% of oral health care providers participating in at least one training.
- Conduct quarterly meetings of the Plumas-Sierra Oral Health Coalition; expand membership to include parents, school personnel, and family resource centers staff.
- Develop a feasibility plan for a centralized billing system.

EXPECTED OUTCOMES

Among the most important outcomes that were expected from the Project were:

- Increased access to oral health prevention and treatment services for low-income, uninsured children, especially Native American and Hispanic children
- Greater understanding among parents and community members of the importance of oral health care and the prevention of dental disease for young children
- Increased knowledge, skills and resources among oral health care providers to care for young children, including children with special needs and/or disabilities
- A coordinated system of services to ensure the long-term, positive oral health status of high-risk, low-income and uninsured children and families.

FUNDING

With funding from First 5 Plumas and Sierra to fund much of the project for children 0-5, the Coalition applied to The California Endowment for funding for additional services for that group, as well as to provide services to children 6-12 years old. The California Endowment agreed to provide funding, and the three-year Project was implemented in March 2005. Total funding amounts for the three-year project were:

- First 5 Plumas \$150,000
- First 5 Sierra \$100,000
- The California Endowment \$590,000

STAFF

The responsibility for initial implementation of the Project went to the Plumas County Public Health Agency. Staff consisted of a .25 FTE Project Director, a fulltime Project Coordinator, .25 FTE Fiscal Technician, and a fulltime Case Manager. The Project also provided funds for two contracted .25 FTE School Nurses (one in each county), a Dental Consultant, and Dental Hygienists. Through the course of the Project, the Project Director, Coordinator, and Case Manager also became contracted positions.

SCREENING, FLUORIDE VARNISH, AND SEALANT APPLICATION RESULTS

Objectives:

- Provide dental screenings to 1,225 children ages 0-12 annually
- Provide dental sealants to 475 children ages 6-12 annually
- Provide fluoride varnish applications to 250 children ages 0-5 annually

Overall Results:

Total 0-5 Year Olds Served	2005-06	2006-07	2007-08	Totals
Number of Children Screened	189	164	96	449
Number of Children Varnished	149	157	91	397

Total 6-12 Year Olds Served				
Number of Children Screened	417	515	523	1455
Number of Children Varnished	365	431	479	1275
Number of Teeth Sealants	749	882	932	2563

Total All Children Served				
Number of Children Screened	606	679	619	1904
Number of Children Varnished	514	588	570	1672
Number of Teeth Sealants	749	882	932	2563

- 1,904 children 0-12 received oral health screenings (did not meet annual goal)
- 2,563 sealants were provided to children ages 6-12 (far exceeded annual goal)
- 1,672 children received fluoride varnishes (did not meet annual goal for 0-5 year olds, but exceeded annual goal for 0-12 year olds)

Over the period of three school years, including 2005-06, 2006-07, and 2007-08, 1455 oral health screenings, 1275 fluoride varnishes, and 2563 sealants were provided (with positive parental permission) to students in grades 1, 2, 5 and 6 at all five Plumas County public elementary schools, including Pioneer/Quincy, C. Roy Carmichael, Greenville, Taylorsville, and Chester, two Plumas County private schools (Plumas Christian and Lake Almanor Christian) and the two Sierra County public elementary schools in Downieville and Loyalton.

Over the three-year project, 449 children 0-5 years old were screened and 397 varnishes were applied at three Head Start Centers, two State Preschools, five WIC sites, 13 private child care sites, and one Native American outreach center. Approximately 10 additional 0-5 year olds were screened at the Downieville School. Typically children in this age group are not candidates for sealants, so preventive treatment included only screenings and varnishes.

Records were kept throughout the project on the numbers of children who were screened and who received fluoride varnish treatments and sealants. In the All Schools Chart below, and later in the Individual School Charts, the numbers of students 6-12 years old who received services are presented as both a percentage of the schools' total enrollment (obtained from the California Department of Education) and as a percentage of the target population (children in grades 1, 2, 5,

and 6), which was estimated to be 57% of the total number of children in grades kindergarten through sixth (four of seven classes). Due to the inconsistent enrollments of preschools and childcare sites, and the inclusion of families in the WIC programs, it was not possible to determine an overall population figure for the group of children 0-5 years old, therefore those figures are presented as numbers only.

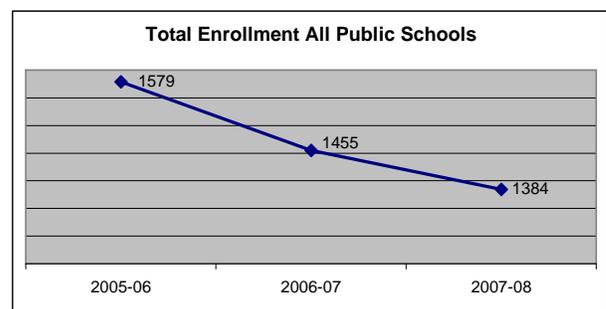
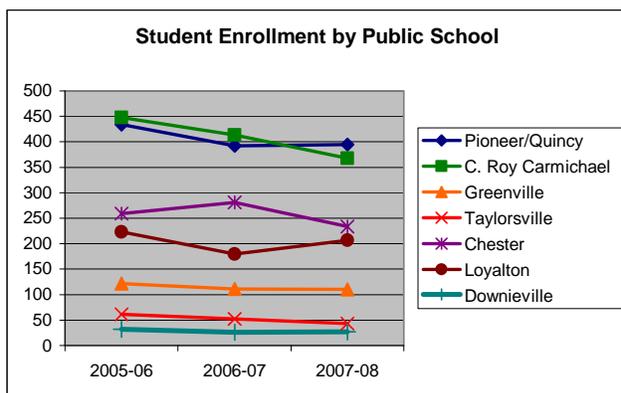
In general, the numbers of school children who received screening and fluoride varnish treatment will be discussed primarily as a percentage of the target population of children in grades 1, 2, 5, and 6. However, because in many cases a child received more than one sealant, the number of sealants applied generally exceeds the number of children screened. Therefore, sealants are shown in the charts as a number only and not a percentage of the populations. The sealants are discussed as the average number of sealants per child at each school per year.

This discussion will focus first on the overall results in all schools, followed by a brief discussion of the results in each of the individual schools and of the results in the group of children 0-5 years of age.

School-based Screening, Varnish and Sealant program

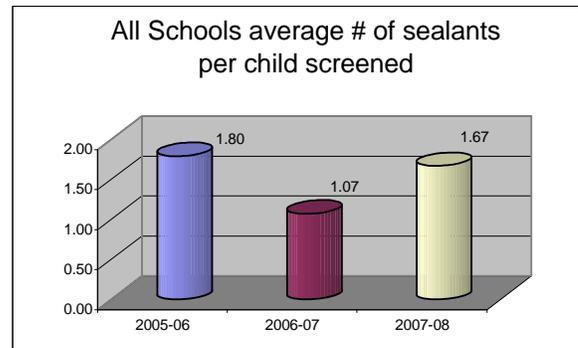
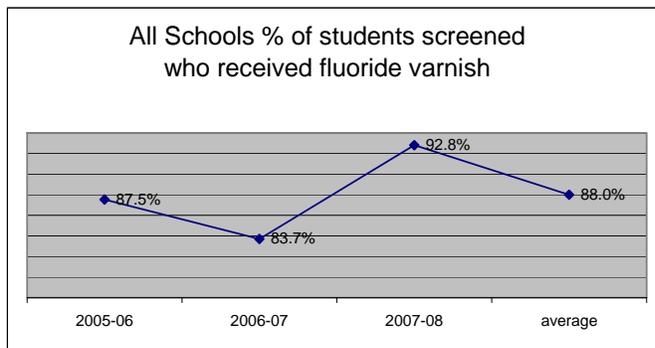
Over the three years of the project, total enrollment in the public schools declined at an overall rate of 12.3% (see Student Enrollment by School Chart below). The smallest decline, 7.2%, was at Loyalton, and the largest, 29.5%, was at Taylorsville. Only two schools, Chester and Loyalton, showed slight increases in enrollment in Year 2 (Chester) and Year 3 (Loyalton), but both had decreased enrollments overall.

ALL SCHOOLS	2005-2006		2006-2007		2007-2008		Total	change
All Schools total enrollment	1579		1455		1384			-12.3%
Number of Children Screened	417	26.4%	515	35.4%	523	37.8%	1455	25.4%
Number of Children Varnished	365	23.1%	431	29.6%	479	34.6%	1275	31.2%
Number of Teeth Sealants	749		882		932		2563	24.4%
All Schools estimated enrollment in targeted classes	900		829		789			-12.3%
Number of Children Screened	417	46.3%	515	62.1%	523	66.3%	1455	25.4%
Number of Children Varnished	365	40.6%	431	52.0%	479	60.7%	1275	31.2%



The total enrollment in all schools combined fell from 1579 students in 2005-06 to 1384 students in 2007-08, an overall decline of 12.3%. These declining enrollment figures set the stage for a discussion of the numbers of students in grades 1, 2, 5 and 6 who were screened and received fluoride varnish and/or sealants. It is assumed for the purposes of this report that the enrollment in the target population classes declined at the same rate as the total enrollment.

Overall, the results are what would be expected. The number of students screened in 2005-06, when the program was new and parents were less likely to give positive permission, was 417, or 45.9% of the estimated total number of students enrolled in the targeted four grades. In spite of declining total school enrollment, the number as well as the percentage of students screened in Years 2 and 3 increased, to 515 children (62.1% of students in targeted grades) in 2006-07, and to 523 children (66.3% of students in targeted grades) in 2007-08. In total 1,455 children 6-12 years old were screened during the three-year project.



The numbers and percentages of children in the targeted grades who received fluoride varnishes followed the same pattern of increasing each year, despite declining enrollment, with 365 (40.6%) in 2005-06, 431 (52%) in 2006-07, and 479 (60.7%) in 2007-08. However, the percentage of children who were screened and received fluoride varnishes did not follow the same pattern; from 87.5% in Year 1, it fell to 83.7% in Year 2, and hit a high of 92.8% in Year 3, with an average of 88%.

Unlike the drop in the number of fluoride varnish applications in Year 2, the number of sealants applied increased each year overall, even though it fluctuated up and down in individual schools. In 2005-06, a total of 749 sealants were applied; this increased to 882 in 2006-07, and to 932 in 2007-08, for an overall increase of 24.4%.

The average number of sealants applied per child fell from 1.80 in Year 1 to 1.07 in Year 2, but rose to 1.67 in Year 3. This overall drop in the need for sealants was somewhat anticipated and would seem to indicate that the preventive treatments were having a positive effect. However, staff noted that there were several dentists involved in the screenings, and they tended to differ in the number of sealants they ordered.

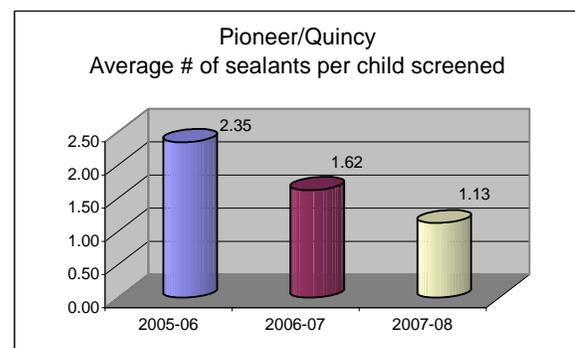
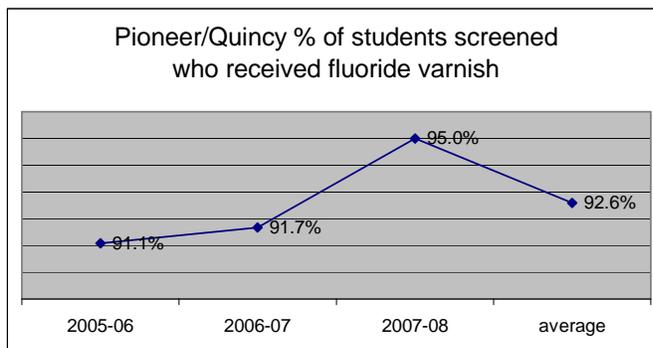
A significant exception to this overall drop in the number of sealants is seen in the Sierra County schools (Loyalton and Downieville), where the number of sealants applied rose dramatically in Year 3, due primarily to increased parental understanding, trust and awareness. This anomaly will be discussed in more detail within the analyses of the individual schools.

Results for Plumas County Schools

Pioneer/Quincy Elementary School:

During the project period, Quincy and Pioneer elementary schools, both located in the town of Quincy, were combined, with shifting of classes and the inclusion of seventh grade students enrolled at the school. However, the enrollment figures used in this report reflect only those children in kindergarten through sixth grade, and no seventh grade students were served.

PIONEER/QUINCY	2005-2006		2006-2007		2007-2008		Total	change
Pioneer/Quincy total enrollment (k-6 only)	434		392		395			-9.0%
Number of Children Screened	101	23.3%	156	39.8%	120	37.0%	377	18.8%
Number of Children Varnished	92	21.2%	143	36.5%	114	34.9%	349	23.9%
Number of Teeth Sealants	237		253		192		682	-19.0%
Pioneer/Quincy estimated enrollment in targeted classes	247		223		225			-9.0%
Number of Children Screened	101	40.8%	156	69.8%	146	64.8%	403	44.6%
Number of Children Varnished	92	37.2%	143	64.0%	114	50.6%	349	23.9%

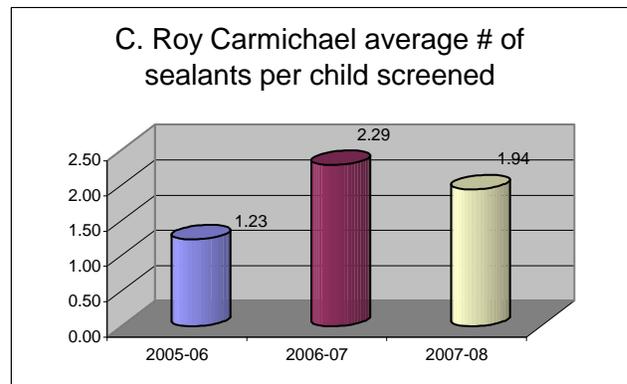
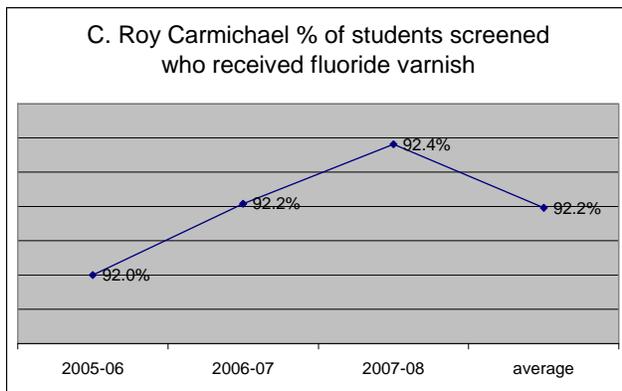


PQ School generally fits the overall pattern of results. The total number of students enrolled fell from Year 1 (434) to Year 2 (392), but unlike most schools, it rose just slightly in Year 3 (395), for an overall decline of 9%. The percentages of children in the targeted classes who were screened increased dramatically from Year 1 (40.8%) to Year 2 (69.8%), but fell slightly to 64.8% in Year 3.

The percentage of the total number of students in targeted grades who received fluoride varnishes followed the same pattern, rising from a low of 37.2% in Year 1 to 64% in Year 2, and dropping slightly to 61.3% in Year 3. The percentage of those who were screened that received fluoride varnishes stayed constant the first two years (91.1% and 91.7%) but jumped to 95% in the third year, with an average of 92.6% over the three years. Unlike most schools, the number of teeth that required sealants rose in Year 2, but fell in Year 3 for an overall drop of 19.7%, compared to an overall rise in all schools of 24.4%. The average number of sealants applied per child screened also dropped significantly, from 2.35 in Year 1 to 1.62 in Year 2 and to 1.13 in Year 3.

C. Roy Carmichael Elementary School

C. ROY CARMICHAEL	2005-2006		2006-2007		2007-2008		Total	change
C. Roy Carmichael total enrollment	448		413		368			-17.9%
Number of Children Screened	100	22.3%	77	18.6%	107	29.1%	284	7.0%
Number of Children Varnished	92	20.5%	71	17.2%	97	26.4%	260	5.4%
Number of Teeth Sealants	123		176		208	56.5%	507	69.1%
C. Roy Carmichael estimated enrollment in targeted classes	255		235		210			-17.9%
Number of Children Screened	100	39.2%	77	32.7%	107	51.0%	284	7.0%
Number of Children Varnished	92	36.0%	71	30.2%	97	46.2%	260	5.4%

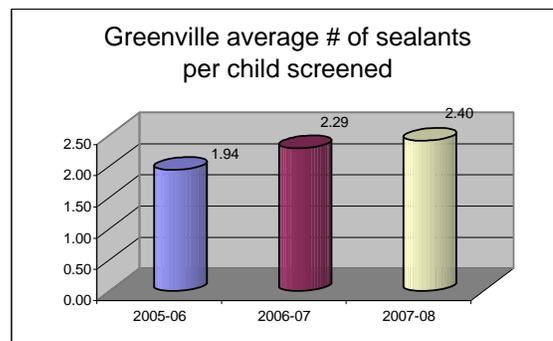
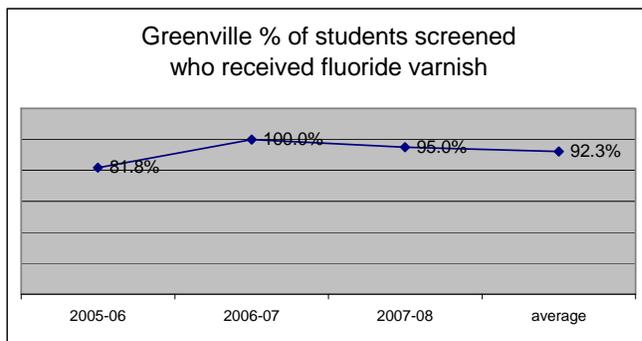


CRC results differ from the overall trends in some significant ways. The total enrollment declined by 17.9%, somewhat higher than the average of 12.3%. While the number of children screened rose only by 7% overall, the percentage of students screened fell from 39.2% of the target population in Year 1 to 32.7% in Year 2, but rose significantly to 51% in Year 3.

The percentage of the total number of students enrolled in the targeted grades who received fluoride varnishes followed the same pattern (36%, 30.2%, and 46.2%), and the percentage of those students screened who received varnishes was steady between at between 92% and 92.4%, somewhat above the average overall figure of 88%. The number of teeth that required sealants rose dramatically each year, with an overall rise of 69.1%. The number of teeth sealed per child screened rose from 1.23 in Year 1 to 2.29 in Year 2, then fell to 1.94 in Year 3, a relatively common pattern among the schools.

Greenville Elementary School

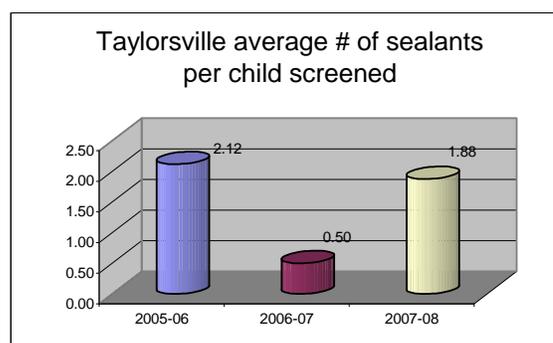
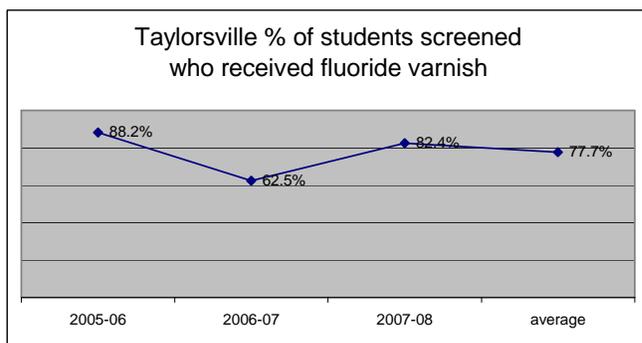
GREENVILLE	2005-2006		2006-2007		2007-2008		Total	change
Greenville total enrollment	122		111		110			-9.8%
Number of Children Screened	33	27.0%	19	17.1%	42	38.2%	94	27.3%
Number of Children Varnished	27	22.1%	19	17.1%	39	35.5%	85	44.4%
Number of Teeth Sealants	64		47		101		212	57.8%
Greenville estimated enrollment in targeted classes	70		63		63			-9.8%
Number of Children Screened	33	47.5%	19	30.0%	42	67.0%	94	27.3%
Number of Children Varnished	27	38.8%	19	30.0%	39	62.2%	85	44.4%



Greenville’s total enrollment declined by only 9.8%, significantly below the average 12.3%. Here, too, the number of children in the target population who were screened dropped in Year 2, but increased in Year 3 for an overall increase of 27.3%. The percentage of those screened who received varnishes ranged from 81.8% in Year 1 to 100% in Year 2 and 95% in Year 3, for an average of 92.3%, well above the average of 88%. The number of sealants applied per child screened (1.94) was about average (1.80) the first year, but at 2.29 was more than double the average (1.07) in Year 2, and at 2.40 was still significantly higher than the average of 1.67.

Taylorville Elementary School

TAYLORSVILLE	2005-2006		2006-2007		2007-2008		Total	change
Taylorville total enrollment	61		52		43			-29.5%
Number of Children Screened	17	27.9%	16	30.8%	16	37.2%	49	-5.9%
Number of Children Varnished	15	24.6%	10	19.2%	13	30.2%	38	-13.3%
Number of Teeth Sealants	36		8		30		74	-16.7%
Taylorville estimated enrollment in targeted classes	35		30		25			-29.5%
Number of Children Screened	15	43.1%	16	54.0%	16	65.3%	47	6.7%
Number of Children Varnished	15	43.1%	10	33.7%	13	53.0%	38	-13.3%



Taylorville Elementary, an extremely small, rural school, saw a very high enrollment percentage decline of 29.5%, although this represents a net loss of just 9 children. The percentage of the target population screened was somewhat below average the first two years (43.1% and 54% respectively, with the averages being 46.3% and 62.1%), but at 65.3% was nearly average (66.3%) in Year 3. The percentage of children who were screened and received fluoride varnish fell from 88.2% in Year 1 to

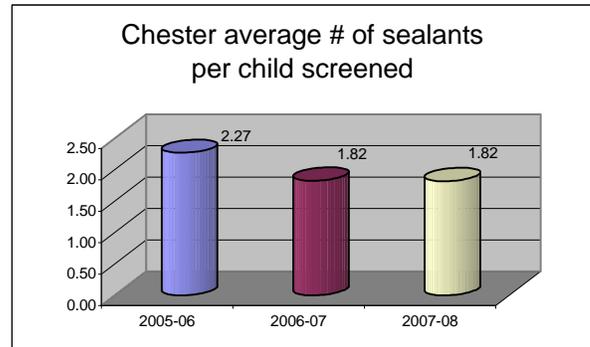
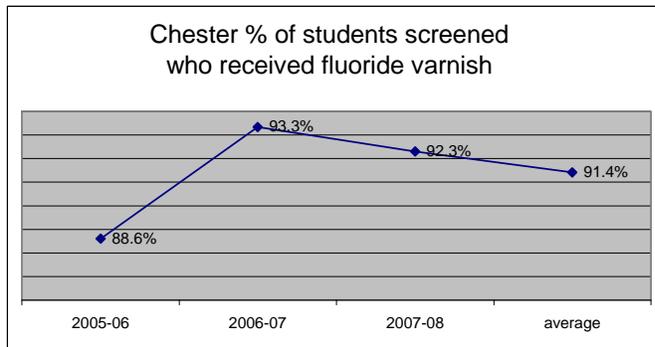
62.5% in Year 2 and rose again to 82.4% in Year 3, for an average of 77.7%, significantly below the 88% overall average.

The number of teeth sealed per screened child was above the overall average in Year 1, with 2.12 compared to 1.80. However, it was less than half the average in Year 2 (.50 compared to 1.07), but slightly above average Year 3 (1.88 compared to 1.67).

Chester Elementary School

CHESTER	2005-2006		2006-2007		2007-2008		Total	change
Chester total enrollment	259		281		234			-9.7%
Number of Children Screened	79	30.5%	90	32.0%	82	35.0%	251	3.8%
Number of Children Varnished	70	27.0%	84	29.9%	75	32.1%	229	7.1%
Number of Teeth Sealants	179		164		149		492	-16.8%
Chester estimated enrollment in targeted classes	148		160		133			-9.7%
Number of Children Screened	79	53.5%	90	56.2%	82	61.5%	251	3.8%
Number of Children Varnished	70	47.4%	84	52.4%	75	56.2%	229	7.1%

Chester is another school whose enrollment decline of 9.7% was well under the average of 12.3%. Here the number of children screened, the percentage of the total enrollment, and the percentage of the targeted classes screened remained relatively constant, but still rose slightly each year.



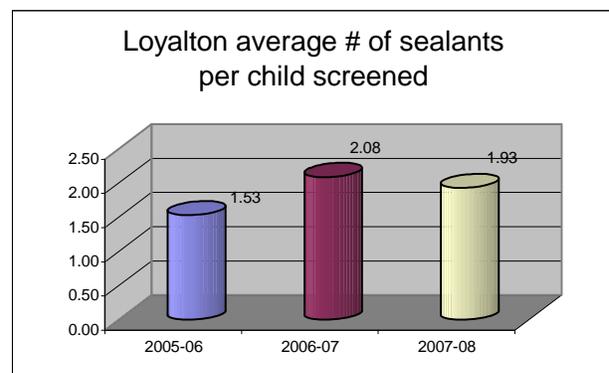
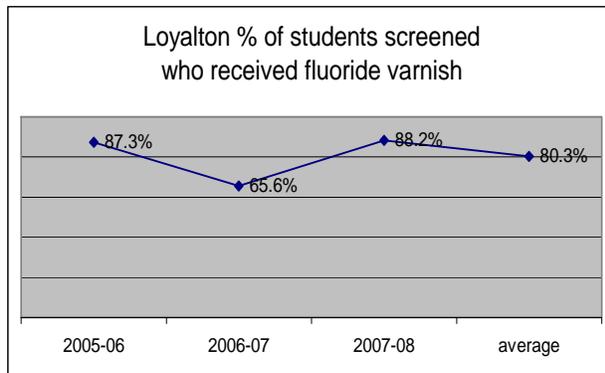
The percentage of children screened who received fluoride varnish treatment increased from 88.6% in Year 1 to 93.3% in Year 2 and declined slightly to 92.3% in Year 3, for an average of 91.4%, somewhat higher than the 88% average.

In Chester, the number of sealants applied dropped from Year 1 to Year 2, from 2.27 to 1.82, but remained constant at 1.82 for Year 3. During all three years, the average number of sealants per child screened significantly exceeded the averages.

Results for Sierra County Schools

Loyalton Elementary School

LOYALTON	2005-2006		2006-2007		2007-2008		change	
Loyalton total enrollment	223		180		207			-7.2%
Number of Children Screened	63	28.3%	90	50.0%	110	53.1%	263	74.6%
Number of Children Varnished	55	24.7%	59	32.8%	97	46.9%	211	76.4%
Number of Teeth Sealants	84		123		187		394	122.6%
Loyalton estimated enrollment in targeted classes	127		103		118			-7.2%
Number of Children Screened	63	49.6%	90	87.7%	110	93.2%	263	74.6%
Number of Children Varnished	55	43.3%	59	57.5%	97	82.2%	211	76.4%



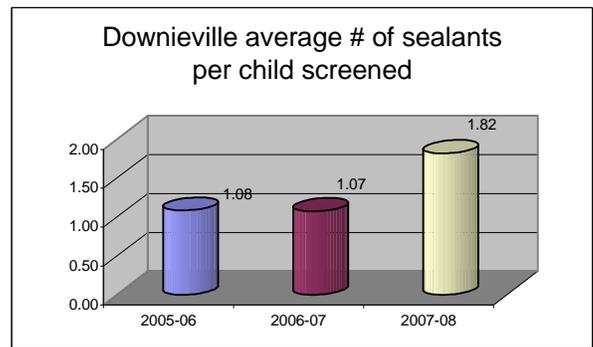
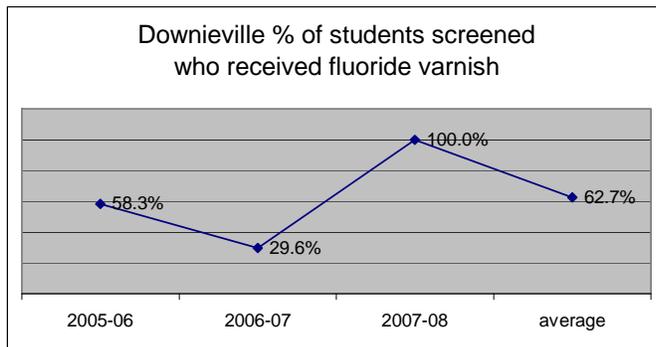
The results for both schools in Sierra County show some interesting differences that can be contributed in part to local circumstances. There was a change of school nurses just as the program was beginning in Year 1, and it took some time for the new nurse (who serves both schools) to become involved in the program. Another factor is that Loyalton has long been the only community in the two counties with a fluoridated water system. During the project period, the city updated its water system and the fluoride treatment was suspended. A political battle broke out over reinstating fluoridation, with strong public voices both for and against it, which may have influenced parents' decisions about granting permission for screening and treatment. This controversy was well-covered in local papers in both towns, and there is a high level of communication between the two communities.

Loyalton's enrollment decline of 7.2% was the smallest of the individual schools. The percentage of students enrolled in targeted classes who were screened was slightly above average for Year 1, but soared to nearly 30% higher than average in Years 2 and 3. However, the percentage of children in the targeted enrollment group who received fluoride varnishes did not reflect the larger numbers of children screened. At 87.3%, it was right at average (87.5%) in Year 1, but fell to 65.9% in Year 2 when the average was 83.7%, and at 88.2% in Year 3 was again at average (88%).

The number of teeth sealed per child screened was somewhat below average the first year at 1.53 (compared to the average of 1.80), but rose to nearly double the average in Year 2 (2.08 compared to 1.07), and was slightly above average in Year 3 (1.93 compared to 1.67).

Downieville Elementary School

DOWNIEVILLE	2005-2006		2006-2007		2007-2008		Total	change
Downieville total enrollment	32		26		27			-15.6%
Number of Children Screened	24	75.0%	27	103.8%	28	103.7%	79	16.7%
Number of Children Varnished	14	43.8%	8	30.8%	28	103.7%	50	100.0%
Number of Teeth Sealants	26		29		51		106	96.2%
Downieville estimated enrollment in targeted classes	18		15		15		48	-15.6%
Number of Children Screened	24	131.6%	27	182.2%	28	181.9%	79	16.7%
Number of Children Varnished	14	76.8%	8	54.0%	28	181.9%	50	100.0%



Like Taylorsville School in Plumas County, Downieville School is very small with low enrollment. The numbers for Downieville differ from the other schools in that some children 0-5 years old (about 10) were screened at the school rather than at child care sites, so the number screened and varnished at times exceed the school enrollment figures. (The All Schools data above includes this small number of 0-5 year olds.)

The records do not separate the age groups; therefore, it isn't possible to compare the Downieville percentage of enrollment figures for school-age students to the other schools' results. However, the recorded data still contains useful information concerning varnish and sealant rates. The percentage of children screened who received fluoride varnishes was low in Year 1 (58.3 % compared to the average 87.5%), dropped extremely low in Year 2 to 29.6% (average 83.7%), and jumped to 100% in Year 3, far above the average of 88%. A steady increase was seen in the number of sealants applied (from 26 to 29 to 51), while the number of sealants applied per child screened remained constant in Years 1 and 2 (1.08 and 1.07 respectively) and jumped to 1.82 in Year 3, above the average of 1.67.

Plumas Christian School and Lake Almanor Christian School

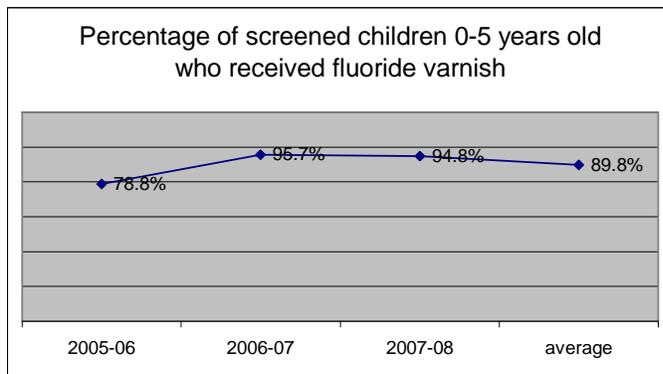
These two private schools were visited only once each, so there is no comparison data year to year or to the other schools in general. However, their data is included in the overall school data.

PLUMAS CHRISTIAN	2005-2006		2006-2007		2007-2008		Total
PC total enrollment			72				72
Number of Children Screened			40				40
Number of Children Varnished			37	92.5%			37
Number of Teeth Sealants			82				82
PC estimated enrollment in targeted classes			41				41
Number of Children Screened			40	97.5%			40
Number of Children Varnished			37	90.2%			37

LAKE ALMANOR CHRISTIAN	2005-2006		2006-2007		2007-2008		Total
LAC total enrollment					45		45
Number of Children Screened					18		18
Number of Children Varnished					16	88.9%	16
Number of Teeth Sealants					14		14
LAC estimated enrollment in targeted classes					26		26
Number of Children Screened					18	70.2%	18
Number of Children Varnished					16	62.4%	16

Screening and Varnish Results for Children 0-5 years old

CHILDCARE AND PRESCHOOLS	2005-2006		2006-2007		2007-2008		Total	change
Head Start and State Preschools								
Number of Children Screened	45		71		79		195	75.6%
Number of Children Varnished	42	93.3%	69	100.0%	79	100.0%	190	88.1%
Other Childcare Sites								
Number of Children Screened	144		93		17		254	-88.2%
Number of Children Varnished	107	74.3%	88	94.6%	12	70.6%	207	-88.8%
TOTAL 0-5 year olds not in school								
Number of Children Screened	189		164		96		449	-49.2%
Number of Children Varnished	149	78.8%	157	95.7%	91	94.8%	397	-38.9%



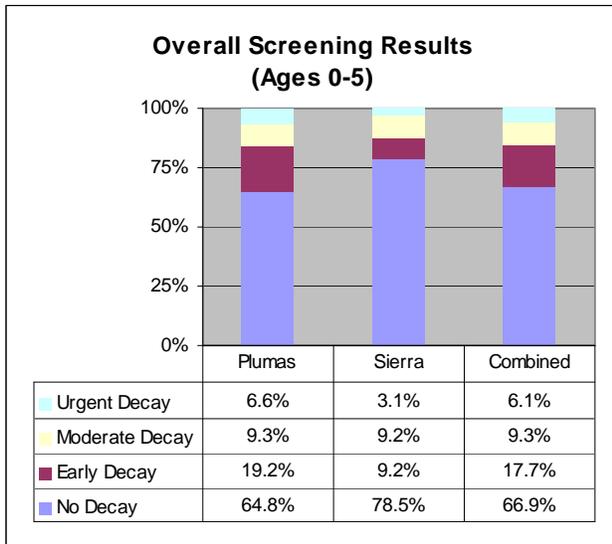
Screenings were conducted at least once during the three-year project at 25 child care and WIC sites throughout the two counties. Unfortunately, due to the difficulties of scheduling volunteer dentists and staff at so many sites, it was not possible to revisit every private child care and WIC in Years 2 and 3. The child care sites are very widely dispersed geographically, and it was not feasible to transport the young children to a central screening site. This resulted in drastically lower numbers of children served during the last two years.

In the first year, 78.8% of the 189 children screened received fluoride varnishes. This increased significantly to 95.7% of 154 children in Year 2, and stayed high at 94.8% of 83 children in Year 3. The overall average was 89.8% of the 449 children. While nearly every child was a candidate for fluoride varnish at each screening, it was not always possible to apply the varnish to every child, due usually to lack of parental permission (a result of either lack of knowledge and awareness or concerns about fluoride treatments), or, on very rare occasions, children who were non-cooperative.

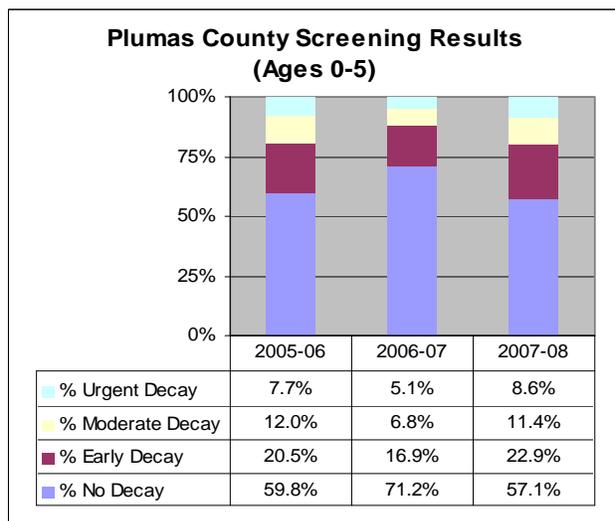
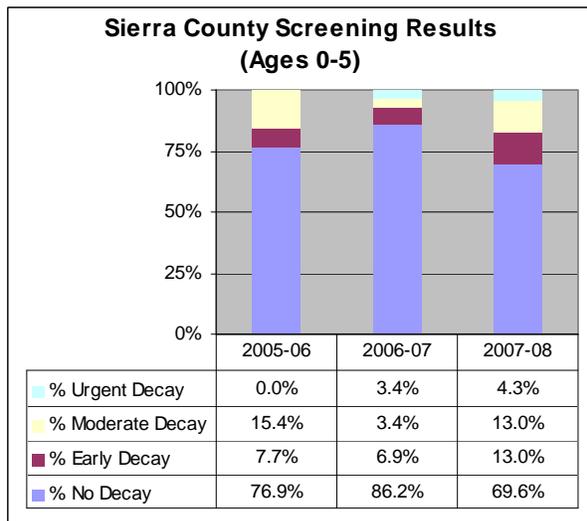
Overall Results of Screenings Ages 0-5

The chart below shows the results of the screenings of children 0-5 years of age over all three years for each county and for the counties combined. In general, there were fewer children in Plumas County who had “No Decay” when screened (64.8%) than in Sierra County (78.5%). In the “Early Decay” category, Plumas had a higher rate (19.2%) compared to Sierra’s 9.2%. “Moderate Decay” was essentially equal (Plumas 9.3% and Sierra 9.2%), but again in the “Urgent Decay” category, Plumas had double the rate at 6.6% compared to Sierra’s 3.1%. For all 449 children screened over

the three-year period, 66.9% had “No Decay” at the time of screening, 17.7% had “Early Decay,” 9.3% had “Moderate Decay,” and 6.1% had “Urgent Decay.”



The charts below show the results for the individual counties for each year. In both counties the “No Decay” rates were highest in the second year. Throughout the project, the Sierra “No Decay” rates were higher than Plumas rates by 13%-17%. This may be due to the fact that the small town of Loyalton in Sierra County, where most of the population resides, had fluoridated water for over 40 years until just prior to the start of the Healthy Smiles program when the city rebuilt its water system and did not reinstate the fluoridation system. In 2007-08, after more than two years without fluoride in the water, the “No Decay” rate fell 16.6 percentage points, and both “Early Decay” and “Moderate Decay” increased substantially. In Year 1 in Sierra County, there was no “Urgent Decay,” but this figure increased over the second two years. Plumas County results follow the same pattern, with “No Decay” rates highest in Year 2. As a result, rates were lower in the other three categories.



FUNDED TREATMENT AND CASE MANAGEMENT RESULTS

Objectives:

- Provide case management to the families of 200 children annually
- Assist 200 eligible children to enroll in Healthy Families and Denti-Cal insurance annually

Results:

	2005-06	2006-07	2007-08	TOTALS
Oral Health Referral Case Management	157	215	154	526
Oral Health Treatment Fund Case Management	6	13	8	27
Insurance Application Assistance	87	249	234	570

- 553 families received case management services
- 570 families received assistance in applying for Healthy Families or Denti-Cal insurance

Funded Treatment and Case Management results for children 0-5 years old

In addition to screenings and varnish application, Healthy Smiles services for children 0-5 years of age included case management by staff and limited funds (\$10,000 per year) for restorative treatment for children in extreme need of immediate and extensive dental work. Over the three-year period, 27 children 0-5 years of age received funded treatment (either total or partial payment of service charges depending on each situation).

The chart below shows that 85.2% of the children in extreme need were referred for hospital dentistry or conscious sedation, services that are very scarce in the area, and five cases (18.5%) were referred out of county because adequate care was not available in the area.

Only one case was managed primarily because of a lack of insurance, although this was a factor in many of the cases. Just three of the children, or 11.1%, were referred for behavioral concerns, three children had special needs, and three were undocumented. One case involved an uncooperative parent.

Funded Treatment for Children 0-5 Years of Age																			
	Total treatment expenditures	# of children served	Referred to				Other Factors				Age				Ethnicity				
			hospital dentistry	conscious sedation	uninsured	behavioral concerns	out of county referral	special needs	undocumented	parental attitude	0-2	3	4	5	Hispanic	Native American	Pacific Islands	African American	Caucasian
2005-06	\$9,398.65	6	5	1	0	0	3	0	3	0	0	5	1	0	5	0	0	1	0
2006-07	\$9,643.52	13	2	9	1	1	1	3	0	1	1	6	3	1	4	0	1	0	8
2007-08	\$8,818.27	8	3	3	0	2	1	0	0	0	0	6	2	2	0	0	0	0	8
TOTALS	\$27,860.44	27	10	13	1	3	5	3	3	1	1	17	6	3	9	0	1	1	16

These figures clearly indicate that a lack of access to appropriate specialized services, in this case pediatric dentistry, is a significant problem for families with young children. Other factors, such as behavioral problems (parents or children), undocumented children, insurance issues, and children who have special needs, will continue to need case management on a one-to-one basis; however, improving access to services, especially for very young children and their families, would help reduce or eliminate the need for extensive case management.

The majority (85.2%) of children who received funded treatment were three or four years old, with just one under three years and three over four years. Given the much smaller number of children 0-2 in child care settings (where the screenings took place), the fact that most of the screenings were conducted in preschools with older children, and that it takes a few years for a child’s teeth to come in and become so decayed as to become an extreme case, it is understandable that the youngest population was not identified for case management. It is also understandable that only a small number were five years old, since the screening took place during the school year prior to when children would enter kindergarten, so most of the older ones would be turning five through the summer and into their first few months of kindergarten.

Most of the children were Caucasian, followed by Hispanic, with only one each of Pacific Islanders and African American. These numbers are very reflective of the community as a whole, with the exception that no Native Americans received case management services. This may be because an Indian Health Dental Clinic serves the communities of Greenville and Taylorsville, where the majority of Native Americans reside, and because the Roundhouse Council, a community resource center that serves the Native American population, has been a trusted provider of case management services for many years.

Family Resource Center Case Management and Insurance Enrollment Assistance

In addition to the efforts of the Healthy Smiles case management work, Family Resource Centers throughout both counties were funded to assist families in applying for Healthy Families and Denti-Cal insurance programs and in accessing needed oral health services. In general, the FRCs only referred cases to the Healthy Smiles staff that involved help with payment for treatment. The chart below shows that after a slow start the first year with 87 families assisted in applying for health and dental insurance, the program exceeded its goal of 200 enrollments in the second and third years, with 249 and 234 respectively. The overall goal of 200 case managed families per year that involved oral health referrals was met only in the second year; however, over 75% of that goal was reached in the other years.

	2005-06	2006-07	2007-08
Insurance Application Assistance	87	249	234
Oral Health Referral Case Management	157	215	154

OUTREACH AND EDUCATION RESULTS

Professional Training Objective:

- Provide one training opportunity annually for dentists and other health professionals; 60% of oral health care providers will participate in at least one training.

Results:

- A professional training was scheduled each year; however, the first one was cancelled due to low turnout. Two trainings were provided in the third year. Turnout improved in subsequent years, but was still an issue and participation in the trainings fell well below the targeted 60% of all oral health professionals in the area.
- 87.5% of dentists in the two counties participated in the Healthy Smiles project either by direct participation or by attending the trainings. It wasn't possible to determine the percentage of their staff who participated or were impacted.

The professional training component of the Healthy Smiles program proved to be one of the most difficult to implement, yet it also had some very positive outcomes. In the first year, Dr. Francisco Ramos-Gomez, DDS, was scheduled to present in June to local health service providers, but in spite of over 250 flyers distributed regionally, only six local people responded and the presentation was cancelled. Many of the local dentists and their staff had attended a training by Dr. Gomez a few years earlier, and the efforts to bring people to the area for a large training did not work well and were abandoned for subsequent trainings.

Efforts for the presentation during the second year in February had somewhat better results. Dr. A. Jeffrey Wood, DDS, made three presentations, one for medical professionals (oral health assessment as part of a well-child examination), which was attended by 10 medical care providers; one for dental professionals (“*Doctor, there’s an infant in the waiting room!*”), attended by 30 dental care providers and others, and one for child care providers (assessing children’s oral health), attended by eight care providers and two Child Protective Services providers. A total of 50 people attended these trainings.

Two provider trainings were scheduled and completed in 2007-2008. The first was for child care providers, home visitors, preschool staff and others who work with young children and the parents of young children in December 2007. A total of 35 local child service providers attended a training conducted by Dr. Sean Buehler, DDS, and Jeanie Huber, RDHAP, titled *Early Childhood Caries - How to Screen, What to Look For, & When They Should Be Reported*.

The second, for local dentists and their staffs, was held in January 2008. More than 40 local dentists, staff, and others attended the training by Dr. Jamie Johnson, DDS, entitled *How to Treat Your Child Like a Mommy Dentist—Treating Young Children in Your Dental Practice*. Twelve professionals enrolled for Continuing Education Units. Of nine evaluation sheets returned, all responded that the content and trainer met or exceeded their expectations.

A survey of Healthy Smiles participants and Coalition members showed that professional trainings were seen as the least important component of the project by the dental professionals as well as the other participants. It was clear that there is not a perceived need to organize professional training

locally. The primary value of the trainings, however, was in providing a forum for dental professionals to meet locally. In this rural area there is no active dental association that meets regularly to allow such a forum, and few dentists had previously gotten a chance to network with their colleagues. As it turned out, the role the professional training opportunities played in this critical system change was perhaps more important than its intended training outcomes.

Child, Parent, and Public Education and Outreach

Objective:

- Parents will demonstrate an increased knowledge about the oral health needs of their children and active use of oral health prevention strategies among 60% of parents who participate in the program.

Results:

- In addition to the total of 3,308 individual contacts made by the staff (see chart below), partners such as WIC, the New Born House Calls program, and the FRCs reported distribution of 300-400 individual pieces of information (brochures, etc.) each year.

	Event or Activity	Date	Attendance or # reached	child awareness activities	parent education/information	parent pre-post test or survey	provider outreach/education	Hispanic/Native American
2005-2006	Kindergarten Round-up	May	58		x	x		
	News article/childcare providers	February	100					
	WIC outreach presentations	various	75		x	x		
	2 news articles in 5 local papers	February	public		x			
	3 articles in newsletter Eng. & Sp.	various	250		x			
	2 radio PSAs re: hygiene, dental visits	various	public					
2006-2007	Kindergarten Round-up	Spring	120	x	x			
	Oral Health Basket donated to raffle		n/a					
	Safety brushes/messages in New Parent Kits	ongoing	75					
	Plumas-Sierra County Fair	May	1101	x	x	x		
	2 articles in Plumas County Employee newsletter		85					
	Advocacy/support for continued fluoridation in Loyalton		n/a					
	Information at WIC sites, FRCs	ongoing	108		x			
	Attended <i>Proyecto Salud</i> Forum - Hispanic outreach		n/a		x	x	x	
	Presentation at FR College Child Development class	October	24		x		x	
	Advocacy for Cavity-free Halloween	October	250	x				
Sierra Pacific Employees Picnic	October	50	x	x				
Attendance/presentations at other agencies	ongoing	5-15 ea.				x		
2007-2008	Kindergarten Round-up	May	354		x	x		
	Information at WIC sites, FRCs	ongoing	104		x	x		
	Play Group presentation		16	x	x	x		
	Oral Health supplies/info to Roundhouse summer camp	summer	25	x	x	x	x	
	Children's Fair	May	250	x	x	x		x
	Sierra Pacific Employees Picnic	October	65	x	x			
	Octoberfest	October	65	x	x			
	Open House at schools	Spring	42	x	x			
	Outreach through Raising a Reader	Spring	91					
	Total estimated individual outreach contacts			3308				

Staff used a wide variety of outreach avenues to deliver childhood oral health messages to children, parents, care providers, and the general public, which are listed in the chart above. Outreach venues included the annual Kindergarten Round-ups in each community, health fairs, children's events, company picnics, and community fairs. The Family Resource Centers also included oral health information in their case-management and general family education work and made it available to all visitors. Most of these efforts focused on child, parent, family, and public education and awareness.

During the first year, a parent survey was developed to assess knowledge, awareness and behavior. The knowledge and awareness questions were based on the primary messages of the educational components of program, i.e.:

- Cavity-causing germs can be shared on cups, toothbrushes, kissing, and food.
- Eating a healthy diet and chewing sugarless gum with xylitol can help prevent tooth decay.
- Babies are born without germs in their mouths that cause cavities.
- I help my child brush his-her teeth.

However, staff found that parents and child care providers didn't respond well to the tool as the pre-post testing purpose it was designed to serve, and they were therefore reluctant to utilize it in that way. Instead, they found it valuable as a teaching tool and found that the majority of parents and providers did not understand that decay is a contagious and preventable disease. Unfortunately, though, without results data there is no way to determine the extent to which educational outreach activities increased parent and provider knowledge and awareness or whether it changed behavior.

HEALTHY SMILES PARTICIPANTS SURVEY RESULTS

Near the end of the three-year Healthy Smiles project, members of the Plumas Sierra Oral Health Coalition, most of whom had participated in the project in some way, were interested in conducting a survey of participants as one means of measuring how well the project was carried out. With input from the Coalition members, the evaluator created a short survey to look at participants' attitudes towards the project's success, how well each component was implemented, and how participants perceived the importance of each component. The survey also asked whether participants' own knowledge and awareness of children's oral health had increased, and provided an opportunity to provide written input on a number of issues that Coalition members felt were still critical.

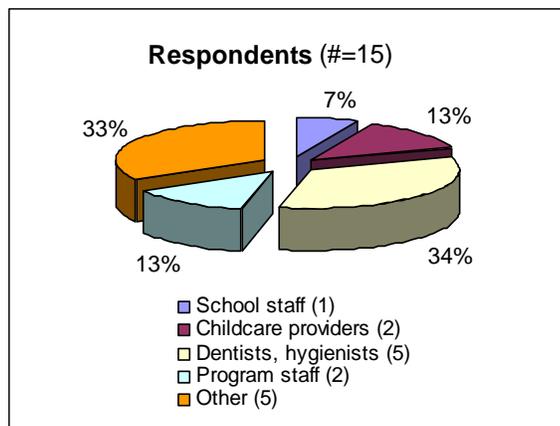
For the questions regarding project success, implementation and importance, project activities were separated into the following components:

- Screenings and Treatment:
 - Providing screenings and varnishes to children 0-5 years old in childcare settings
 - Providing screenings, varnishes and sealants to children 6-12 years old in schools
 - Providing limited follow-up treatment to children 0-5 years old
 - Providing case-management when appropriate

- Education, Training and Coordination:
 - Education sessions and materials for parents, guardians, and childcare providers
 - Providing training sessions for dentists, hygienists, and other professionals
 - Coordinating with childcare providers
 - Coordinating with school personnel

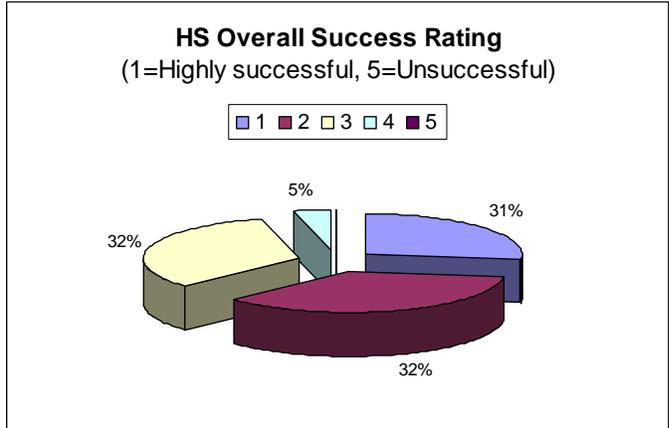
A total of 42 surveys were distributed via a combination of email and mail to people who were involved in the provision of services, including project staff, school and child care personnel, dentists and staff, hygienists, First 5 staff, and other Coalition members or partners. Fifteen, or 35.7%, of the surveys were returned.

The chart to the right shows a fairly wide diversity among the respondents. The largest group was the dental professionals, which included five dentists, staff, and hygienists. Two childcare providers and two program staff responded. The "Other" category consisted of five Coalition members whose programs were involved as a partner agency. Only one school staff person responded to the survey; however one other responded in a written (email) exchange without completing the survey. Those responses will be discussed with the survey respondents written comments at the end of the survey report.



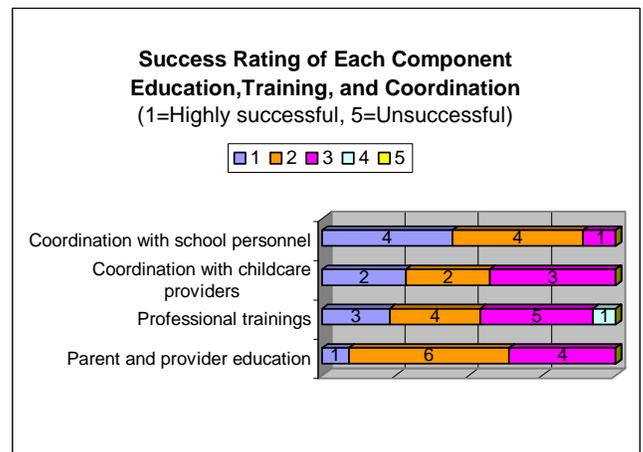
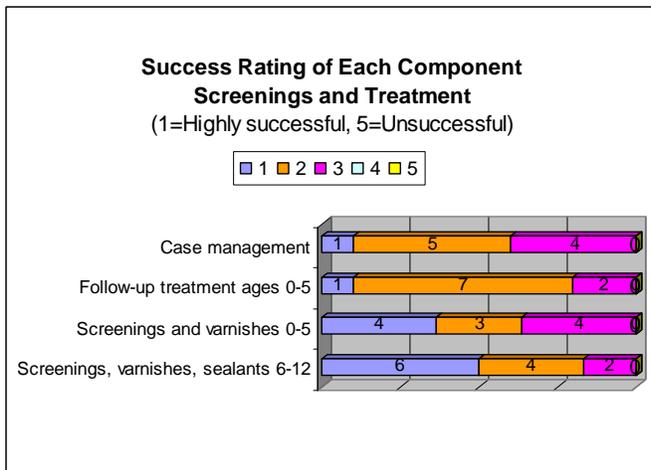
Project Success Ratings

On a scale of 1 to 5, with 1 being “Highly Successful” and 5 being “Unsuccessful,” 53% of respondents rated the overall success of the project at 1 or 2 (see chart below); 32% rated the overall success as 3; 5% rated it as 4; and no one responded with a 5.



The two charts below illustrate how the respondents rated the success of each of the individual project components. While only one respondent rated any component above a 3, (or on the “Unsuccessful” side), it is important to note that not all respondents answered every question, and they may have been reluctant to give a low rating. Those that did respond clearly felt the school-based program providing screenings, varnishes and sealants to children 6-12 years of age was the most successful component of the project, with 10 respondents (66.6%) giving a success rating of 1 or 2. This rating is complemented by 8 respondents (53.3%) also rating “Coordination with school personnel” as a 1 or 2. The significance of school personnel was also underscored in several written comments (to be discussed below).

Services to the 0-5 age group appeared somewhat less successful than the school component. They included screenings and varnishes, case management when indicated, limited follow-up treatment funding, coordination with childcare providers, and parent and provider education. Of these, the “Follow-up treatment” component had the highest success rating (53.3%), while “Coordination with childcare providers” received the lowest (26.6%). Comments from both staff and childcare providers mentioned the difficulties involved in scheduling and coordination.

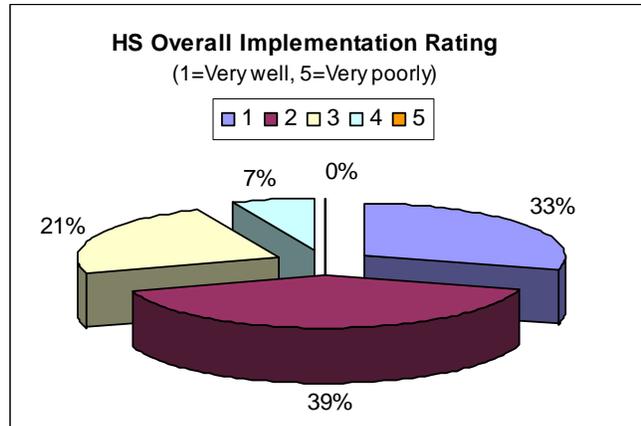


Case management included both being directly involved with arranging for follow-up treatment and funds, and generally assisting families in finding appropriate services or with insurance issues. Six respondents (40%) rated this component as a 1 or 2, and four (26.6%) rated it a 3. The final component, “Professional trainings,” was rated a 1 or 2 by 7 respondents (46.6%), a neutral 3 by 5 respondents (33.3%), and was the only component that received a 4 rating (one respondent, or

6.6%). Written comments describe a number of reasons that this component was perceived as being one of the least successful.

Project Implementation Ratings

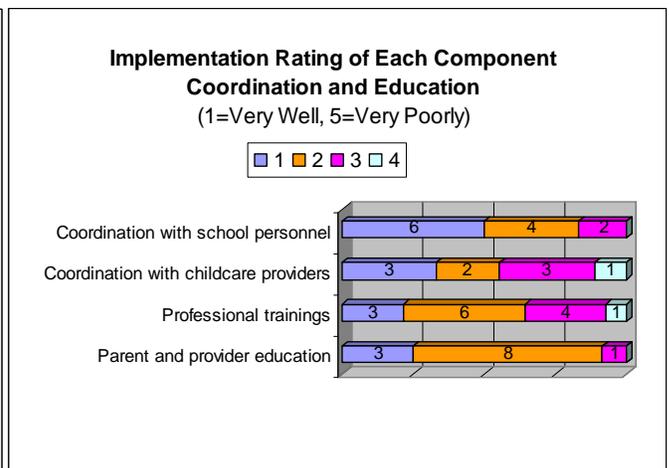
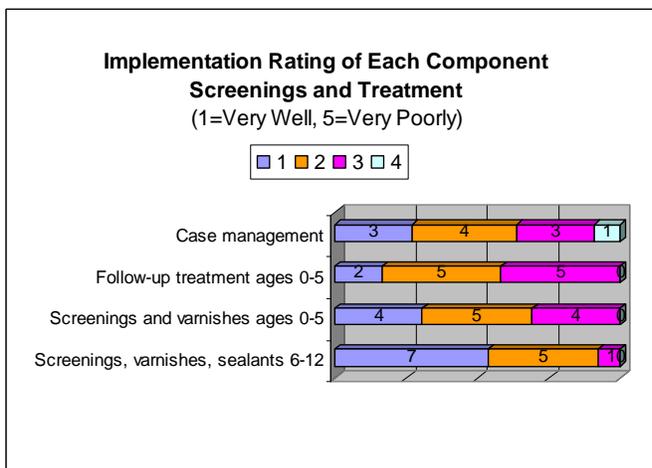
When asked their opinions about how well the project was implemented on a scale of 1 to 5, with 1 being “Very well” and 5 being “Very poorly,” a large majority of the respondents (72%) rated project implementation as 1 or 2. Another 21% rated it 3, and 7% (one respondent) rated implementation a 4. No one thought rated it a 5, or “Very poorly.”



In rating the implementation of each component (see charts below), only “Case management” was given a 4 rating, and by only one respondent. Once again, the component with the best implementation rating was the school-based “Screenings, varnishes and sealant” program, with 80% rating it a 1 or 2, followed by “Coordination with school personnel” with 66.6% rating it a 1 or 2. Parent and provider education was also rated as well-implemented, with 73.3% rating it a 1 or 2.

As with the success ratings above, services for the 0-5 year old population were not rated as well, with “Case management” and “Follow-up treatment” each receiving 1 or 2 ratings from 46.6% of respondents, and the “Screenings and varnishes” component doing somewhat better with 60% rating it a 1 or 2. Once again the problems of scheduling services at many sites is illustrated with 33.3% of the respondents rating implementation of the “Coordination with childcare providers” component a 1 or 2, 20% a 3, and 6.6% a 4.

Implementation of the “Professional training” component received ratings of 1 or 2 from 60% of the respondents; however, 26.6% rated it a 3, and it received one 4 rating (6.6%).



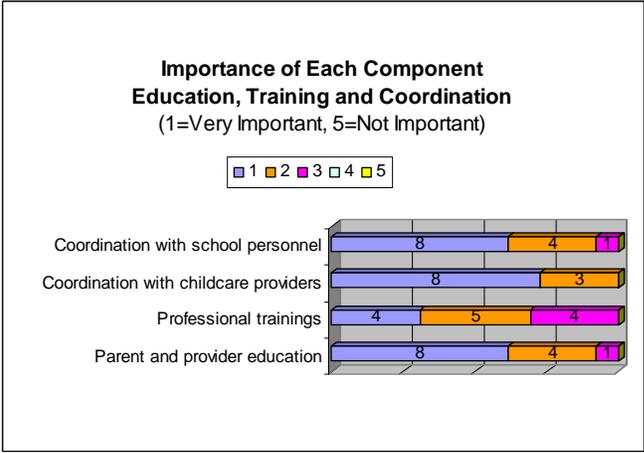
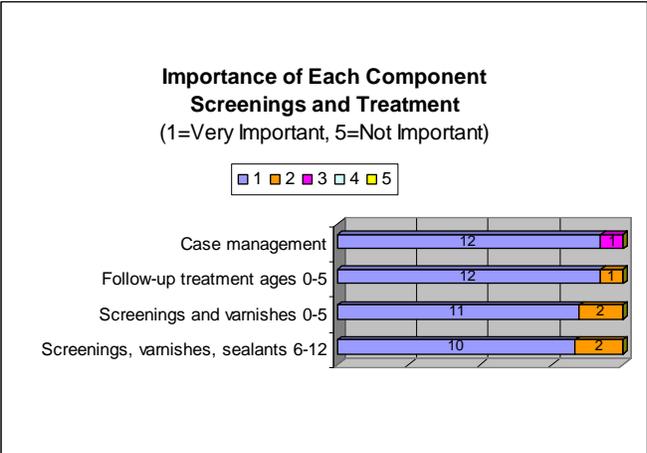
Ratings of Components by Importance

With reduced funding in the coming year and the need to find additional funding to sustain the program, Coalition members were very interested to survey participants on which components they felt were the most important. The survey asked two questions, the first structured like the two questions above asking about the importance of each component, and the second asking them to rate the components in order of their importance. So few responded to the second question that those results were deemed unusable.

The results of the first question are shown in the charts below. It is apparent that one component, “Professional trainings,” was seen as significantly less important than the others, even though it received ratings of 1 and 2 from 60% of respondents.

It is clear that providing services to all children remains a very high priority for the majority of the respondents. Although responses to the earlier questions showed that the success and implementation of services for children 0-5 years of age did not go as well as those for school-aged children, they are still perceived as slightly more important. “Case management” and “Follow-up treatment ages 0-5” each were rated as “Very Important” by 80% of respondents, and “Screenings and varnishes 0-5” followed close behind with 73.3%. Still, “Screenings, varnishes, and sealants ages 6-12” was also rated “Very Important” by 66.6%.

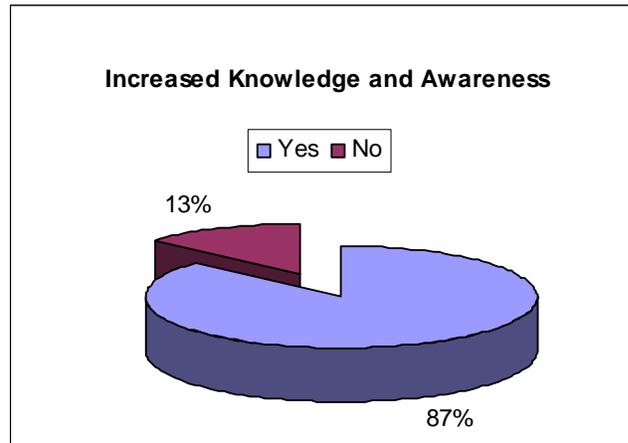
The respondents also illustrated that they understand the importance of coordination with the schools and childcare providers as well as parent and provider education, with 80% rating coordination with the schools as 1 or 2, 73.3% rating coordination with providers a 1 or 2, and 80% rating education as a 1 or 2.



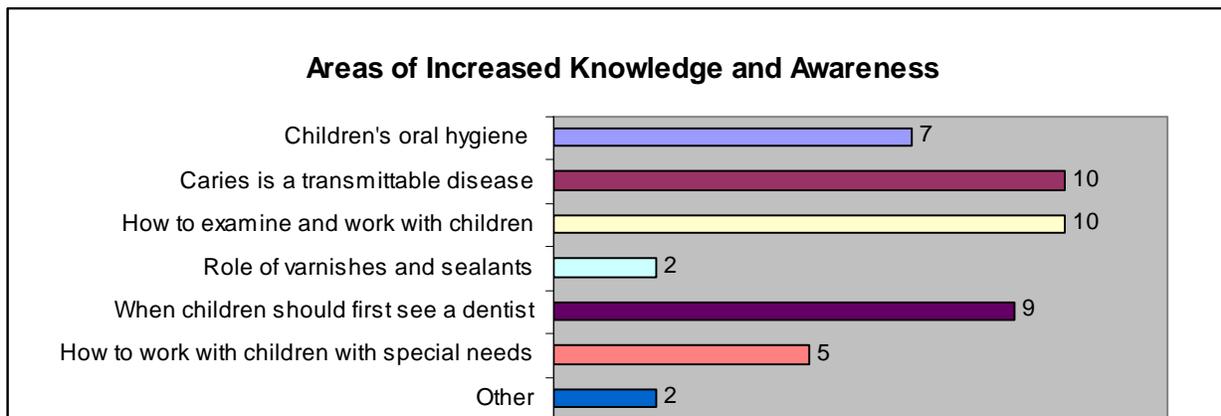
While these results do little to help the Coalition make the difficult decisions about what pieces can be cut back or eliminated from the program, they do serve to underscore the continued need for preventive oral health practices in these communities.

Increased Knowledge and Awareness

One of the project’s objectives was to increase knowledge and awareness of children’s oral health issues among professionals, service providers, childcare providers, children, parents, and the general public. Respondents were asked whether participation in the program had increased their knowledge and awareness in this area. All respondents answered this question. Only 2 respondents (13%) answered “no;” both were dentists.



The chart below shows the areas in which respondents increased their understanding. It is significant that among this group of people who work in public health, dentistry, family services provision, and childcare, nearly all learned something new. Especially important is that many participants learned two of the project’s most important messages, that caries is a transmittable disease (66.6%) and that a child should see a dentist before his or her first birthday (60%). Equally important is that 66.6% of participants learned how to examine children for evidence of decay and work with them to apply varnishes.



Written Comments

That members of the Plumas Sierra Oral Health Coalition care deeply about children’s oral health and the Healthy Smiles project is overwhelmingly evident in the time and attention they paid to writing their thoughts on a number of important topics, including:

- the crucial role of the schools and school nurses within the system of service providers
- the continued role of the Coalition in systems integration and advocacy efforts
- continued efforts to ensure that pregnant woman and parents of infants learn the importance of early oral health practices
- uninsured, underinsured, children and families;
- access to specialized care
- appropriate utilization of dentists’ and hygienists’ time and skills

- follow-up treatment when screening reveal problems requiring immediate and extensive restorative treatment.

Underlying every one of these topics is the strong commitment to project sustainability, not only in the sense of the need to secure continued funding, but in the depth of system-based concerns as well. Foremost of these concerns are those about the closely integrated relationship between Plumas County Public Health Agency (PCPHA) and the schools.

When the Healthy Smiles proposal was first put forth to The California Endowment, proponents defended the budget for school nurse time, knowing that contracts with the school districts for additional nurse time for project coordination would be the only way to succeed in the schools. This understanding was a result of a long-term relationship with school nurses, three of whom had been active members of the Coalition for a number of years. Their message was that the nurses are stretched so thin that without additional, dedicated hours, they would not be able to take on a project of this magnitude. The school nurse component has been temporarily cut from the current budget, but concerted efforts are being made to find funds to reinstate it as soon as possible, due in a large part to statements such as these:

- “You MUST keep the school nurse position. She has been the linchpin which held the program in the schools together!”
- “As the school nurse liaison between the program and the schools, I was kept busy not only with the initial planning, but as changes were necessary with schedules of hygienists, conflicts with school activities/facilities, and schedules of other agencies involved in the program. Having close contact with the schools through my employment in the school district is a major advantage in accomplishing this task. I see a serious gap in servicing this grant without this component.”
- “I feel for this project to succeed into the future, the school nurse and one staff member with dental knowledge are imperative.”

The lesson is clear for those projects that involved increased system integration: System integration requires people in these “linchpin” positions whose job is to do the challenging work of coordination. It is not realistic to expect people who already perform busy, full-time work to add hours more to their schedule. Administrators often protect their employees’ time as well as their budgets. In developing projects such as Healthy Smiles, it is important to plan this work time into the project and identify how it will be budgeted.

While the school nurse component of the program was planned from the beginning, some participants noted other instances of system integration that was not intentionally planned. “Many people’s lives were improved by this program, and it will have long term impacts,” wrote one participant. “I think a lot of inroads were made that can lead to even more benefits and systems integration for oral health care.” Another wrote, “It is a very important program to me, not only because I worked in it, but because I believe in it. This program impacts such a huge array of people in the community in such a positive manner.”

Continued system change was also suggested in possible solutions to continuing concerns. One of these is how to improve education and outreach to pregnant women and parents of infants, a population that proved very difficult to reach through the school and child care avenues. The

Coalition has identified the need to increase medical doctors' inclusion of oral health awareness among their patients. One respondent suggested a "cross-pollination" of sorts: "Dentists-to-doctors seems to me to be the best route. Facilitate a "mixer" event to get them together to talk about this topic." Another suggested, "A "Grand Rounds Presentation" training at (the hospitals), training WIC personnel, and make a presentation during pre-birth classes." And another wrote, "There is a big need for service providers to understand more about working with children and about the impact of poor dental health on the children's future."

In addition to sustainability and systems integration, it is evident that Coalition members recognize the need for advocacy on several fronts at the local, state, and federal levels, and the members has begun making plans to go forward in this arena. One wrote, "I'd like to see this group put effort into 1) a concerted push toward more local dental services for low-income children including hospital dentistry, and 2) political activity to affect MediCal and Healthy Families reimbursement rates at the state level." And another wrote, "Insurance and treatment issues are state and federal challenges that won't be solved at the local or family level. It isn't right to rely on the good heartedness of a few dentists. Advocacy is the best route for the Coalition."

The lack of access to appropriate and adequate health care of all kinds is always an issue in rural areas. This lack is due to high levels of uninsured or underinsured families as well as a dearth of specialized pediatric (or other) services. This was clearly illustrated in the fact that 85.2% of the children with extreme need were referred for hospital dentistry or conscious sedation, services that are very scarce in the area, and five cases (18.5%) were referred out of county because adequate care was not available in the area. People must travel a long way to see any kind of specialists, which brings in transportation issues as well. One participant wrote, "The bigger need and growing even bigger is the need for a dentist in Plumas County who can do oral sedations for children with advanced decay. Since the office in Paradise is now closed and Susanville will no longer take out of county children, families in Plumas County are in a real bind as far as where to go for services. Having to travel so far and not knowing who to call is a huge barrier for these families. Parents are overwhelmed with finding a provider and finding the time and money to get there."

Insurance enrollment efforts was an important component of the project, and was accomplished in large part by the many community based partners. Here again, advocacy was seen by many participants as the Coalition's best next steps. One wrote, "There is a problem at the state level. If the Coalition is willing and able to go that far, or join with other people who have, there may be hope." Another less hopeful respondent wrote, "With the State budget in such crisis, you won't see better insurance for children for the next several years."

Related to insurance issues is the persistently difficult problem of arranging dental treatment for children who are in great immediate need when the family is unable to pay for the services and there is no insurance or it is inadequate. It is always difficult to providing screenings and even preventive treatment when there is no way to fill the need for restorative treatment when it is discovered. In the Healthy Smiles program, a few dentists provided *pro bono* help for such children, but it is only a temporary solution. "I believe a few dentists are willing to help, but are scared to be overwhelmed," wrote one respondent. Many suggested the obvious need to continue strong efforts at both insurance enrollment and increasing parent education and family preventive practices. "We all need to pitch in!" wrote one participant.

On the very challenging topic of billing public insurance programs, a participant wrote, “Billing challenges are not a problem at the hospital clinics; they are reimbursed differently than a private dentist. Maybe there can be a public-private solution.”

A consistent challenge was finding hygienists who could help with the screenings just a few days here and there during the year. This particular problem was exacerbated by the fact that nearly all hygienists are self-employed and under contract with private dentists, making scheduling their time months in advance difficult. Traveling throughout the geographically large two-county area was also a disincentive. Most written comments centered on drawing from a pool of hygienists in each community and foregoing having just a few working for the program, and to provide them with incentives and encouragement.

Overall, Coalition members and project participants felt that Healthy Smiles has been an important and successful program that has provided critical services to children 0-12 years of age. It has also helped to illustrate the benefits of increased system integration and ensured that children’s oral health needs will continue to be included in system-wide efforts for further integration and change.