

Oral Health Strategic Plan For Pennsylvania

NOVEMBER 2002



Commonwealth of Pennsylvania



DEPARTMENT OF HEALTH

HARRISBURG

ROBERT S. ZIMMERMAN, JR., MPH
SECRETARY OF HEALTH

November 27, 2002

Dear Fellow Pennsylvanians:

This Oral Health Strategic Plan for Pennsylvania was prepared in recognition of the important role oral health plays in the overall health of all Pennsylvanians. In the last few decades, public health measures such as community water fluoridation, oral health education, and improved access to more effective dental treatment has reduced oral disease in much of the population, resulting in an improved quality of life for many persons. However, The Surgeon General of the United States has spoken of "a silent epidemic" of oral disease which is affecting our most vulnerable citizens both nationally and here in Pennsylvania – poor children, the elderly, and members of racial and ethnic minority groups.

In the fall of 2000, I requested that the Department of Health's Bureau of Chronic Diseases and Injury Prevention prepare a comprehensive Oral Health Strategic Plan for Pennsylvania. An initial oral health assessment document, *The Status of Oral Health in Pennsylvania*, served as a catalyst for the strategic planning efforts, and is included as an attachment to the final *Oral Health Strategic Plan*. The *Status of Oral Health* report provided, for the first time, Pennsylvania specific information related to oral health and its essential relationship to physical health and well-being. The final *Oral Health Strategic Plan* was then created in collaboration with a diverse stakeholder group, and with technical assistance provided by an Oral Health Policy Academy convened by the National Governor's Association. This Plan addresses a wide range of oral health issues.

While the oral health of many Pennsylvanians is better than ever, not all Pennsylvanians have benefited from improved oral health disease prevention and treatment. I am hopeful that this strategic plan will spur activity to accomplish the goals of the Plan. I also encourage the adoption of the multi-disciplinary approach, utilized in the plan's formulation, to engage individuals and communities, organizations and institutions, and medical and dental care providers across our Commonwealth to achieve optimal oral health for all Pennsylvanians.

Sincerely,

A handwritten signature in cursive script that reads "Robert S. Zimmerman, Jr.".

Robert S. Zimmerman, Jr.

**PENNSYLVANIA DEPARTMENT OF HEALTH'S ORAL HEALTH
STAKEHOLDER GROUP**

Becky Aardweg	Health/Nutrition Coordinator Columbia Child Development Head Start
Joe Ambrosino, DMD, MPM, MS	Executive Director Southwest PA AHEC
Leslie Best	Director Division of Health Risk Reduction
Ivonne Bucher	Director Bureau of Family Health
Kenneth Chenosky	Public Health Program Assistant Administrator Division of Health Risk Reduction
Lisa A. Davis, MHA	Director Pennsylvania Office of Rural Health
Henry Fiumelli, MPA	Executive Director Pennsylvania Forum for Primary Health Care
Neil Gardner, DDS, MPH	Pennsylvania State Public Health Dentist Division of Health Risk Reduction
Joan Gluch, PhD, RDH	Director, Community Health Dental Care Systems University of Pennsylvania Dental School
Dauvey Hoffman	Special Assistant to the Deputy Secretary Pennsylvania Department of Aging
Lowware Holliman	Children's Health Insurance Program Pennsylvania Department of Insurance
Michael Huff, RN	Director Bureau of Community Health Systems
Joanne Hunt	Director Action Health Dental Clinic
Sister Mavis Jewell, RN, MS	Vice President, Mission Services Good Samaritan Medical Center

Camille Kostelac-Cherry, Esquire	Chief Executive Officer Pennsylvania Dental Association
Marjory K. Kreischer, RDH	Clinical Consultant Bradford County Dental Health Services
R. Ivan Lugo, DMD, MBA	Director, Dental Services City of Philadelphia Department of Public Health
Marina Matthew	Director Division of Health Professions Development
Joseph May	Director Bureau of Health Planning
Robert McGregor, MD	Director, Pediatric Residency St. Christopher's Hospital for Children
Robert S. Muscalus, DO	Physician General Pennsylvania Department of Health
Claude Padgett, DDS, MA, MBA	Vice President & National Dental Director United Concordia
Emilie M. Tierney	Director Bureau of Chronic Diseases and Injury Prevention
Coralee Weaver	Health Coordinator Capital Area Head Start
Paul Westerberg, DDS, MBA	Executive Dental Consultant Pennsylvania Department of Public Welfare
Robert Weyant, DMD, DrPH	Associate Professor University of Pittsburgh School of Dental Medicine
Ross Wezmar, DDS	Chairman, Medicaid Subcommittee American Academy of Pediatric Dentistry
Susan Wienand, RDH, MS	President PA Dental Hygienists' Association

DEFINITION OF TERMS USED IN THIS REPORT

ADOD: Academy of Dentistry for Persons with Disabilities
Aging: Department of Aging
AHEC: Area Health Education Center
ASTDD: Association of State and Territorial Dental Directors
BCDIP: Bureau of Chronic Diseases and Injury Prevention
BCH: Bureau of Community Health
BFH: Bureau of Family Health
BHP: Bureau of Health Planning
CDC: Centers for Disease Control and Prevention
CHDMR: Conference on Health Disparities and Mental Retardation
CHIP: Children's Health Insurance Program
CMS: Center for Medicaid and Medicare Services
CMHD: County and Municipal Health Departments
CNM: Certified Nurse Midwife
Dental Board: State Board of Dentistry
DEP: Department of Environmental Protection
DOE: Department of Education
DOH: Pennsylvania Department of Health
DOI: Department of Insurance
DOS: Department of State
DPW: Department of Public Welfare
Department: Pennsylvania Department of Health
FQHC: Federally Qualified Health Centers
Health Stats: Bureau of Health Statistics and Research
HRSA: Health Resources and Services Administration
IOD: Institute for Disabilities at Temple University
MCOs: Managed Care Organizations
OHNA: Pennsylvania Oral Health Needs Assessment
ORH: Office of Rural Health
PAAAP: Pennsylvania Chapter of the American Academy of Pediatrics
PA Forum: Pennsylvania Forum for Primary Healthcare
PDA: Pennsylvania Dental Association
PDHA: Pennsylvania Dental Hygienists' Association
Penndot: Pennsylvania Department of Transportation
PMS: Pennsylvania Medical Society
School Health: Division of School Health
SHIP: State Health Improvement Plan Partnerships
WFRS: CDC's Water Fluoridation Reporting System

EXECUTIVE SUMMARY

Until relatively recently, oral health was not considered a necessity to the overall health of people. Traditionally in the past, oral health related diseases were accepted by society as inevitable and a luxury to treat. Losing ones natural teeth was considered a normal part of the aging process. Many people who received medical insurance through their jobs did not receive any dental coverage, and this trend persists today, as there are now 2.5 times as many Americans without dental insurance as without medical insurance. In the last few decades due to increased public health measures such as community water fluoridation and oral health education, and due to better access to more effective dental treatments, oral diseases have been reduced in much of the population. More importantly, the belief that teeth can last a lifetime and that good oral health is essential to good overall health is beginning to become accepted among segments of American society. However, as the *Oral Health in America: A Report of the Surgeon General* makes clear, this latter concept is not now being accepted by much of the lower-income segments of society, where the loss of teeth is still seen as inevitable. Oral disease in America now is becoming a silent epidemic of low-income populations. In schoolchildren, 80 percent of the dental disease is now found in 20 percent of the kids, usually the poor kids.

This income-related oral health disparity can be further seen in the following Pennsylvania-specific material. Among Medicaid eligible low-income children in Pennsylvania, there is a severe lack of utilization of dental services. Between October 1999 and September 2000, of the 856,900 children under age 21 eligible for dental services under the Medical Assistance Program, only 182,337 (21 percent) of them received any dental service with 144,975 (17 percent) receiving any preventive dental service. In the *Pennsylvania Oral Health Needs Assessment* (OHNA) conducted for the Department of Health (the Department) from September 1998 through September 2000, children from disadvantaged economic backgrounds had the most dental disease and the most untreated dental disease. The most troubling finding from this study was the significant economic gradient that exists for dental caries. Children from the poorest families are two times more likely to have any dental caries experience (58 percent vs. 27 percent) and three times more likely to have any untreated dental caries (33 percent vs. 10 percent) than children from the wealthiest families. This strongly suggests that access to preventive and restorative dental care, as well as effective preventive oral health education, is lacking for these poor children and their families. Among adults surveyed in the 1999 Behavioral Risk Factor Surveillance Survey (BRFSS), there was shown increasing tooth loss and less access to oral health services associated with decreasing income and decreasing educational levels.

Other examples of oral health access disparities can be seen by the number of Dental Health Professional Shortage Areas (DHPSAs) in the state. As of September 2002, there were 67 DHPSAs designated in Pennsylvania, involving nearly 1,521,000 people. Forty-nine of these were special population DHPSAs, meaning that the problem was not in the number of dentists, but in the number of dentists per area willing to see low-income

patients, especially those on Medicaid. Many of these special population DHPSAs are also located in rural areas, along with the few geographic DHPSAs.

Up to now, the solutions to these DHPSA problems have mostly centered around establishing community clinics that will see low-income folks. There currently are 44 Federally Qualified Health Center (FQHC) dental sites in Pennsylvania and another 30 freestanding community clinics, many begun with the help of Challenge Grant funds from the Department. Most of these clinics now have long waiting lists indicating that there are not enough of them, and many areas don't have any such clinics. Finally, the staffing of these clinics, as well as the overall outlook for access to dentists, is not good as there are 1,000 more Pennsylvania dentists in the 40-50 age cohort than in the 30-40 cohort. Given this current distribution of dentists, without significant near-term change, expected retirement rates will exacerbate any access issues over the next 10-15 years. This developing workforce shortage could be a very serious issue in the near future.

The Centers for Disease Control and Prevention (CDC) along with the independent Task Force on Community Preventive Services recently recommended two community-based oral health preventive efforts that are proven to be most effective in preventing tooth decay. These were community water fluoridation and school sealant preventive programs. (MMWR, August 17, 2001) (MMWR, November 30, 2001). Both of these efforts have a large beneficial oral health effect on low-income children, and both of these efforts are lagging behind the Healthy People 2010 (HP 2010) objectives in Pennsylvania. In Pennsylvania, only 53 percent of people receiving community water are currently receiving fluoridated water compared to a HP 2010 objective of 75 percent. As to sealants, only about 25 percent of Pennsylvania schoolchildren have them compared to a HP 2010 objective of 50 percent objective.

In the area of assessment of oral disease, there is a lack of local specific data which is needed to help guide the creation and evaluation of programs to address oral health problems and disparities. The school OHNA was a one-time effort that did not provide local or county-specific data. Efforts to provide ongoing surveillance to at least the county level for adults and especially schoolchildren are needed. Expanded use of the BRFSS for adults and standardizing the mandated school screening exams in Pennsylvania hold promise to accomplish these goals and meet these assessment needs.

Oral cancer is diagnosed too often and too late in many Pennsylvanians, especially among black males. Stronger preventive efforts related to the use of tobacco products and alcohol consumption, and earlier detection of existing disease is needed to minimize morbidity and mortality from this disease.

Stronger nutritional educational and control efforts are needed in schools and communities to fight the developing problems of type 2 diabetes and obesity in today's youth. Many of these negative nutritional practices by children and communities also lead to oral disease as well, so combating the increasing sugar intake should lead to improvements in oral health.

It is very important that all segments of society come to realize the benefits of good oral health, and that steps are taken to bring this about. To address the importance of oral health for everyone and the problems that exist in Pennsylvania, the Department has begun an ongoing oral health strategic planning process. This report is part of that process, and is intended to be a catalyst for further development and implementation of action steps to improve oral health in Pennsylvania in general with special attention to disparate areas and populations.

INTRODUCTION

Beginning in the summer of 2000, the Department began a strategic oral health planning process directed by the State Public Health Dentist and the Oral Health Program. The initial objective was to determine the oral health status of Pennsylvanians, and to compare this result with national trends. The Healthy People 2010 National Oral Health Objectives also provided guidance as to what areas to assess, and provided targets for goals and comparison. The extensive and reliable data from the school OHNA became available early in the fall of 2000, and helped greatly in this assessment effort. The first phase of this strategic planning effort ended in May 2001 with the creation of a broad draft oral health assessment document, which included some preliminary recommendations. That document in an updated form, *Status of Oral Health in Pennsylvania, May 2002*, is included as an Attachment to this final Strategic Planning Report. Most of the data cited in this Report can be found with references in that Attachment, and any specific data included in this Report not included in the Attachment will be cited here directly.

After the creation of the *Status of Oral Health in Pennsylvania* document, an Oral Health Stakeholders Group was convened with the intent of studying this draft document to make revisions and recommendations for action steps to be included in the final *Oral Health Strategic Plan for Pennsylvania*. The stakeholders group consisted initially of members from state and local government, community groups, safety net clinic personnel, the state Primary Care Association, all three dental schools in the state, the Pennsylvania Dental Association, and dentists in private practice. This group was later expanded further by adding members from the State Children's Health Insurance Program (CHIP), Pennsylvania Office of Rural Health, Area Health Education Committees (AHEC), a member from a dental insurance company, and a member from the State Department of Aging. A listing of the stakeholders is included in this document.

As an added benefit to this already initiated planning process, Pennsylvania applied and was invited to attend the third Oral Health Policy Academy convened by the National Governors Association. This Policy Academy met in Jackson, Mississippi, from October 28-31, 2001, with five other states also in attendance. This Academy fostered discussion with dental public health planning experts, as well as group interactions with other states undergoing similar efforts. The Stakeholders group developed some preliminary recommendations to be taken to Jackson to serve as the basis of Pennsylvania's planning efforts. A Pennsylvania NGA team that was a subset of the Oral Health Stakeholders Group attended this Academy. At the Policy Academy, it was decided to group our future strategic planning efforts into the following six major issue areas:

- Assessment/Monitoring of Oral Disease at the Local and State Level
- Financial Barriers to Oral Health Care
- Prevention of Oral Diseases
- Oral Health Workforce

Special Populations Fluoridation

After the NGA Academy, emphasis shifted to finalizing the *Oral Health Strategic Plan for Pennsylvania* by the end of Summer 2002. A format for the report was decided upon that would include a summary of each issue followed by an extensive planning table of recommendations/action steps. As mentioned above, the *Status of Oral Health in Pennsylvania* assessment document would be used as an attachment to justify most of the data quoted in the final plan. Oral Health Program staff, with the help of the Pennsylvania NGA attendees, put together the preliminary action steps; then the Oral Health Stakeholders Group examined and made further recommendations concerning the priority of the recommendations, as well as who should take responsibility to carry out each action step. It was decided by the group that the *Oral Health Strategic Plan for Pennsylvania* would reflect all ideas from the process even if the immediate capacity to carry out some of these recommendations is not apparent. The ideas will all be presented in the plan for any and all interested parties to consider and act upon in the future.

The recommendations that can seemingly be implemented initially are indicated as “short term” in the planning table. Those recommendations listed as “long term” will likely require more time, as well as efforts by parties outside the Department to implement. The Department hopes that the non-government members of the Oral Health Stakeholders Group, as well as other interested parties in oral health, will work with the Department toward the attainment of many of these recommendations. Doing so will result in better oral health for all segments of Pennsylvania society.

ASSESSMENT

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Assessment is a key component of public health efforts to address oral health. Assessment of the nature and magnitude of oral health problems includes the collection, analysis, interpretation, and dissemination of data that provides ways for state and local communities to measure the extent of a problem within specified populations; monitor trends over time; allocate resources for prevention and treatment; development of policy; and evaluation of policy and program results. For these reasons, the development and implementation of a comprehensive oral health assessment/surveillance system is a critical requirement of any oral health planning effort.

There has been a severe lack of oral health epidemiological data at the local level in most states to help with such planning and evaluation efforts. To help address this problem in Pennsylvania schoolchildren, the Department of Health (DOH) conducted an Oral Health Needs Assessment (OHNA) from September 1998 through September 2000. This study provided baseline data for comparison with the Healthy People 2010 oral health objectives for school children on both a statewide basis, as well as baseline data for the six health districts and for Philadelphia and Pittsburgh. This study found useful and significant data on caries and untreated caries levels, which were especially high in the Northwest District among 6 to 8 year olds. It also indicated a clear trend of increasing oral disease and untreated oral disease with decreasing family income. This study was not designed to provide a broad range of oral health data down to the county or school district level, which is desirable for efficient resource planning and use. Also, it was a one-time study with no current plans to duplicate, so it will provide baseline data but cannot be used for evaluation purposes. Finally, this assessment was only conducted on school children, and as such is inadequate to answer many questions related to populations outside of this specific group. Future assessment means will have to be found for ongoing evaluation of school children and to evaluate the non-school population.

To accurately assess the oral health of the school population on an ongoing basis at the county or school district level, the most promising potential mechanism may be a more standardized version of the current mandated school-screening exam. Pennsylvania currently mandates that schoolchildren receive a dental screening in grades K or 1, 3, and 7. These screenings can be done in school or by the child's family dentist. Ideally, both screening mechanisms should report oral disease burden found in the children to the Division of School Health; however, currently only a crude disease measure is available for mainly the in-school screened children. Minimal oral disease data is currently collected and reliably reported from those children screened by their family dentist. Also, the data that is collected is suspect because the reporting is not reliable or standardized. The annual collection of statistically accurate dental disease data, possibly including socio-economic information, collected both from in-school exams and from family dentist exams would provide a reliable, ongoing assessment of children's dental health at the school district level. At the least, the in-school exam information should be reported separately from any family dental exams to help interpret and evaluate the process. A very meaningful additional data option to collect from the schools would

include the reporting of treatment completion rates per school district, which would show not only where disease is present but also where no effective action is being taken to deal with these problems. The currently available data related to the present school-screening exam may be found in Appendix D and E of the *Status of Oral Health in Pennsylvania* report. Several recommendations for more meaningful and reliable ongoing oral health assessment in this age group are contained in the following workplan.

There is a need for accurate, regional utilization data in the Medical Assistance program, which has traditionally had a very low utilization rate. Similar data is currently lacking for the CHIP program. Since dental disease is proven to be more common in children from poorer families, methods to survey the local utilization rate and to assess the cause for any low results are needed so that programs to get care to these poorer children can be implemented and later evaluated.

There is also a need for data to measure other populations. For adults, the current Behavioral Risk Factor Surveillance Survey (BRFSS) measures three oral health measures broken down by race, income, gender, and education. These measures are:

- Adults who have visited a dentist in the last year
- Adults who had 0-5 permanent teeth removed
- Adults who had all permanent teeth removed

More measures are needed related to identifying barriers to access by population groups, including attitudinal data about oral health beliefs. Such surveys also need to be expanded to include the measuring of such data broken down to the county level.

Early childhood caries is common especially among certain low-income groups. These serious oral health problems are preventable, but again, we must first measure the problem to know where to act and whether our actions are helpful. The Headstart programs are an excellent area for evaluation of this problem, as Headstart deals with the population at highest risk. Dental exams are required in Headstart, and standardizing the exam and reporting requirements should provide the needed data for this area.

The oral health of the elderly residing in nursing homes is often overlooked. It is essential for proper nutrition that residents in nursing homes can masticate food adequately and comfortably. There is no Pennsylvania-specific data for this population, so it is difficult to know the magnitude of the problem. Gathering of data from any existing sources, as well as through the implementation of surveys, is needed.

The Pennsylvania Department of Environmental Protection (DEP) currently monitors the fluoridation of community water systems. The day-to-day quality of each fluoridation effort, however, is not monitored in a manner that provides any public access to the information. The CDC has recently begun the Water Fluoridation Reporting System (WFRS), which keeps a record of the number of fluoridated systems and the ongoing quality of each effort. Pennsylvania should consider participating in this ongoing quality monitoring effort so that the public will have web-based access to this information. The public could then use this information to answer questions related to what systems are already fluoridated, as well as to help assure that continuing fluoridation efforts are truly

adequate in their communities. Children's oral health depends on adequate ongoing fluoridation.

The recommendations in the following workplan table are intended to improve state and local ability to plan, implement, and evaluate efforts to better the oral health of all Pennsylvanians.

ASSESSMENT PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
Goal 1. Develop an ongoing oral health population based surveillance system to address the oral health of Pennsylvanians.						
1. Identify and prioritize oral health status indicators desired to be assessed (minimum data set) and frequency of collection per different population groups. Identify uses for data as part of the prioritization process.	Short	BCDIP, Health stats	School Health, DOE, PDA, CDC, ASTDD Aging	Document process.	With schoolchildren, decide between basic screening survey and Decayed-Missing-Filled-Teeth (DMFT) type survey or others. Decide interval if not yearly.	
2. Surveillance system shall include the development and maintenance of “oral data clearinghouse” to make collected data easily and readily available to the public. This data should be available on the Web, and when possible, should be collected via web submission (i.e. school data)	Longer	BCDIP	Health stats, Stakeholder group	Existence of local oral health data for public acquisition, ideally through web access.	Collect data, compile and make available through Health Stats and through the web.	
3. Identify and assess existing oral health data sources for desired information on specific populations, such as income, race, age, etc. (See Objective 6 on school screenings). It is	Short	BCDIP	Health stats, School health, DEP, DPW, BHP, CDC, ASTDD, Others	Discovery and retrieval of what oral health data is currently available.	Identify areas of data desired (See Obj 1). Note what is and is not available. The data will be used to assess health status and ID trends in oral health such as high prevalence rates of	

ASSESSMENT PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
desirable to collect and aggregate data into local areas such as county/municipality/school district.					disease.	
4. Identify and develop surveillance systems for desired population items not currently assessed for oral health status where desirable and practical to do so.	Long	BCDIP	CDC, Health stats, ASTDD, SHIP	For a given population by area, desired oral health data is available.	<p>See Objective 6 concerning mandated school screenings. An alternative to this for school children would be to conduct periodic sample screenings similar to the OHNA of 1998-2000.</p> <p>Prioritize missing data and devise surveys to collect it, ideally at local level.</p> <p>Add BRFSS questions related to dental insurance coverage.</p> <p>Assess oral health status when people enroll in MA through a questionnaire similar to the BRFSS that they receive on enrollment in the program.</p> <p>Collect MA and CHIP utilization data on a regional basis.</p> <p>Assess the major causes of low utilization for oral health services in specific pops (MA/racial/ethnic populations) through surveys and social marketing techniques.</p>	

ASSESSMENT PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
					Collect data on oral cancer screens performed routinely.	
5. Use data to identify policy and program needs.	Long	DOH	Oral health stakeholders, Other govt. branches	Measurable improvements in oral health disparities.	Prioritize most pressing problems and disparities. Formulate policies and programs to address problems and disparities.	
6. Standardize the required school forms for mandatory screening exams in K or 1, 3 and 7, and centralize and require the reporting of this screening data from both school exams and private sector performed screens. Keep reporting by grades separate. (Check the ASTDD Basic Screening survey as a model to use. Must also collect socio-economic data to be meaningful.)	Short	BCDIP and School Health	DOE, PDA, Schools	100% of all mandatory oral health exams will have uniform recording requirements and will be submitted to a centralized data collection system.	Review states funded by CDC to implement similar objectives and identify applicable project suitable for PA. Devise training materials for school dentists and private dentists based on model. Create simplified reporting tools (mail-in cards) for the private sector dentist to report results to the school and the state. Simplified reporting of data from the schools to the state, i.e. Website reporting. Public relations campaign among school and private dentists to “sell” the need for the program. Each family dentist must report all school exams that he does to be statistically meaningful.	

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<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
					Implement pilot projects in selected urban/rural public/private school districts. Follow-up mechanism to track completion of required dental work.	
7. Advocate for related changes to the Public School Code, which allow improvement of the dental screening process.	Long	BCDIP BCH	PDA	Law changes help ensure successful assessment through this school screening program.	Expand exam requirement to grade 10 or 11 as well. Create incentives for proper reporting, including incentives to increase school dental hygienist programs (see Prevention).	

FINANCIAL BARRIERS

FINANCIAL BARRIERS

As a nation, expenditures for dental services in the United States reached \$53.8 billion in 1998, which is only 4.7 percent of the 1.1 trillion spent on all health care in that year. That expenditure only includes costs associated with care delivered by dentists in practice settings. The per capita dental care expenditures (1995 dollars) are currently at the level they were in the early 1980's. The American Dental Association estimated that \$174.12 was spent per capita in 1995 for dental services, and the Centers for Medicare & Medicaid Services estimated the same year per capita consumer expenditures for dental services at \$164. (Oral Health in America: A Report of the Surgeon General). With these current expenditures, both national and Pennsylvania statistics clearly show that oral health status and access to oral health services is heavily related to income, with poorer and less educated persons suffering the most adverse oral health consequences. In the 1999 Pennsylvania BRFSS data, 10.2 percent of adults surveyed had lost all their teeth (31.2 percent if over 65). That number changed to 23.6 percent for adults making less than \$15,000, and 31.5 percent for adults with less than a high school education. 10.8 percent of adults surveyed in Pennsylvania with a high school education had lost all their teeth compared to 3.9 percent of adults surveyed in Pennsylvania with a college education. For poor children, the school OHNA showed the disturbing trend of children from disadvantaged economic backgrounds with the most dental disease and the most untreated dental disease. The most troubling finding from this study was the significant economic gradient that seemed to exist for dental caries. Children from the poorest families are two times more likely to have any dental caries experience (58 percent vs. 27 percent) and three times more likely to have any untreated dental caries (33 percent vs. 10 percent) than children from the wealthiest families. This strongly suggests that access to preventive and restorative dental care, as well as effective preventive oral health education, is lacking for these poor children and their families. Finally, among Medicaid children, only 21 percent have seen a dentist for any reason in the last 12 months compared to 87 percent of children overall in the state (OHNA).

There are segments of the population with little or no useful dental care access, which may be the direct result of financial barriers. The most deleterious aspect of this situation is that people in the most need for dental care all too often are unable to obtain treatment, which inevitably leads to more serious problems. Of particular concern in oral health care, many of these individuals are children. According to the Surgeon General's Oral Health Report (p.229), dental care in the United States is mainly financed through private sources, either as out-of-pocket payments made directly to the dentist or through employment-based dental insurance benefits. Since 1960, these two payment sources have financed over 93 percent of all dental expenditures. Out of pocket payments for dental care is over 3 times that for physician services, and only 4 percent of dental care costs are financed publicly compared to 32.2 percent for medical care. Insurance has been shown to be a major determinant of dental utilization with 70.4 percent of individuals with private dental insurance reporting seeing a dentist in the past year, compared to 50.8 percent of those without dental insurance. These figures tend to show that the costs associated with the delivery of dental care and the increasing payment of those costs by private dental insurance suggest the use of the dental care network is

driven to a significant degree by an availability of insurance coverage that is acceptable to the dental profession.

Financial barriers are most evident for those groups that cannot afford to purchase dental insurance individually, or their employers do not offer such coverage as a benefit. Many employers, who do offer medical insurance benefits to their workers, will not offer dental insurance. This perpetuates the undesirable idea that dental care is a luxury and not essential for good health. Also, many employed people without dental insurance often have incomes that are too high to qualify for any of the public programs, such as Medical Assistance (MA), but their income is too low to afford dental care, especially for an entire family. Even those who do qualify for MA often have a very hard time finding a dentist willing to participate in the program because of traditionally low reimbursement levels and administrative difficulties, as well as the fact that some adults may not even have dental coverage under their MA insurance. Also, the number of dentists in practice in Pennsylvania and the United States is decreasing, a trend which will continue in the near future, and a trend that will also exacerbate affording dental care. Although financial barriers alone are likely not the only problems for these populations which lead to poor oral health, financial considerations are a significant issue for which planning efforts can have a direct impact.

Beginning with the goal of ensuring affordable access to oral health services for all Pennsylvanians, a number of actions can be undertaken towards meeting it. Determining the average annual cost to provide oral health care to populations not currently able to afford dental care is the first step. It is also important to explore options to actually provide the access to dental care for these at-risk groups. Such options should include new funding sources, dealing with transportation issues, and using case management techniques where necessary in order to assure the availability of education and care to needy groups.

Keeping the cost of care relatively affordable, which makes care available for more people, represents the second major goal in addressing this issue. Supply and demand factors do have financial implications, and an adequate oral health workforce is necessary for affordable care to exist for all. Examining the dental workforce, advocating for an adequate supply of dental providers, and encouraging increased efficiencies among existing providers are all objectives that can enhance completion of this second goal.

Several other steps that can help people afford dental can be advocated. Emphasizing thoughtful changes in the existing MA program to increase provider participation is an action that is both timely and prudent. Also, employers need to be educated about the importance of dental health and dental insurance benefits, so that adequate dental benefits are provided more often on a par with the more traditional medical coverage benefits. Finally, where private sector dental care is not going to be feasible or available, safety net dental clinics must be available for all who need them.

In pursuit of the solutions to reducing or eliminating financial barriers to oral health care, it will be important to involve the appropriate partners from both the private and public

sectors. There may also be a need to effect changes in public policies to achieve desired results. The following action steps are suggested.

FINANCIAL BARRIERS PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
Goal 1. Insure affordable, accessible oral health services are available for all Pennsylvanians						
1. Determine average annual cost of providing oral health care per individual.	Short	Insurers, Stakeholders, DOI	Websites, CMS, HRSA	An acceptable value for the average annual cost of providing care is determined and available.	Use existing actuarial data to determine this number.	
2. Determine the cost to provide dental coverage for those not currently able to afford to utilize services.	Long	BCDIP	Insurers, Websites, CMS, HRSA	Assessment data shows this need	Use assessment and surveillance systems to make this determination.	
3. Determine effective methods for providing dental care to the at-risk populations that are not receiving care due to financial barriers	Long	BHP, BCDIP PDA	Dental Board, BCH	All who desire dental care can receive it without regard to financial barriers.	<p>Consider expanding MA and/or CHIP to cover dental care for poor adults without coverage.</p> <p>Advocate for wider dental coverage through private job-related insurance.</p> <p>Advocate for routine insurance coverage for the hospital costs of providing needed dental care to children under five.</p> <p>Expand safety net clinic abilities/funding to allow sliding scale to more uninsured, poor populations.</p>	

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<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
4. Assure accessible transportation to dental health care.	Long	SHIP, DPW, BCH, PennDOT	BCDIP	Patients can utilize dental services regardless of their lack of personal transportation.	Develop and publicize how to utilize local transportation aids.	
5. Use case management techniques where needed to facilitate getting care for very needy and difficult cases and groups.	Short	SHIP, DPW, BCH, MCOs	BCDIP	Difficult cases received the needed dental care. Improved school health dental status results.	Collect successful case management program models from both within PA and from other states. Develop assessment mechanisms for determining when case management is needed to get care completed. Work with local communities to set up case management models to do the job when identified. SHIP funding process to support case management at the local level.	
6. Ensure access to healthcare system so that oral health care is a priority as important as other types of healthcare.	Long	BCDIP, BHP, PDA	Health education institutions, Federal efforts	Links between all healthcare providers and funding sources allow oral health care to be received.	Promote the importance of good oral health to overall health. Insurance programs cover dental routinely. Safety net programs always include adequate dental services.	

FINANCIAL BARRIERS PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
Goal 2. Control financial barriers so care is affordable for more people (Also see Workforce issue).				Ongoing Assessment and Prevention.		
1. Advocate for increased workforce efficiencies. (See Workforce Issues)	Short	Dental Board, Dental schools,	PDA, PDHA	More affordable dental care for more folks over time.	<p>Review dental practice acts and develop recommendations for increased dental hygienist responsibilities.</p> <p>Advocate for increased usage of expanded function dental Assistance (EFDA) by the dental profession.</p> <p>Allow proven competent dentists to more easily receive licensure in PA through reciprocity or credentialing with all other states.</p>	
2. Advertise and advocate the current improvements in the existing MA dental program to increase provider participation.	short	DPW, PDA	BCDIP	Increased provider participation.	<p>Community and media actions to inform dental providers of current changes and improvements.</p> <p>Use of community partnerships and local health departments to encourage private sector participation.</p>	

PREVENTION

PREVENTION

When damage is done to the body because of oral disease, it is important to treat the disease as early and as quickly as possible to prevent increasing morbidity and to attempt to restore lost function to provide the maximum quality of life. Prevention of diseases of the oral cavity, however, is far preferable because no damage is done in the first place and no decline in quality of life takes place. Prevention of disease may also be less expensive. Meaningful, lasting oral health disease preventive habits are best taught and initiated early in life, and such educational efforts involve the family, the extended community, as well as the professional community. Groups with the current greatest oral disease burden, minorities and the poor, have also been those without easy access to the dental care system, which puts them at a great disadvantage. Teaching prevention in the home and in the community should be coupled with easy access to professional services, and where access to professional dental services is restricted, barriers to such access should be addressed. Such barriers and their solutions are discussed elsewhere in this report.

The most widespread and common oral cavity diseases, dental decay (caries) and periodontal disease, are some of the most preventable. Caries prevention requires adequate teeth cleaning daily and multiple daily, topical exposures to small amounts of fluoride throughout life, which makes the tooth surfaces more resistant to decay, especially the smooth surfaces. Such topical fluoride exposure is best provided through community water fluoridation and the daily use of fluoridated toothpaste. This fluoride daily exposure should be coupled, where indicated, by the timely placement of dental sealants in any deep grooves on the teeth to make them more readily cleansed, and this placement must be done before these grooves have a chance to decay. Low-income children who have limited access to the oral health system can receive the timely benefits of sealants through community school sealant programs targeted at schools with larger low-income populations. Fluoride exposure with maintained sealants provides a margin of safety against caries, but thorough daily removal of bacterial plaque is still needed to prevent caries over time. Furthermore, periodontal disease, which is the bacterial caused inflammation and eventual destruction of the bone supporting the roots of the teeth, can only be prevented by thorough periodic cleansing of all tooth surfaces. Efforts to teach proper oral hygiene are still strongly indicated.

Periodontal disease has been implicated as a contributing factor to several serious chronic conditions, and smoking is a major contributory factor to periodontal disease susceptibility. Cessation and prevention of the use of tobacco products therefore has a direct connection to oral health maintenance. Prevention and treatment of periodontal conditions is important not just to protect the function of the teeth, but because infections arising from the teeth and gums have also been implicated in increasing the incidence of heart attacks and strokes, and in making it more difficult to control diabetes. Other recent studies have implicated bacterial toxins arising from inflamed periodontal tissue as a possible contributing factor toward pre-term, low birth weight babies, whose first few years of life are usually more difficult with far more complications than full-term births.

Early childhood caries (ECC), formerly called milk bottle caries, is an area receiving much study recently. Many children put to sleep with a bottle of milk do not develop caries in the first few years of life, while others do develop such early decay. Therefore, the bottle by itself is not the only cause of ECC. Caries in the first few years of life requires that an infant be exposed to a certain type of Streptococcus bacteria, usually from the mother, be susceptible to the disease from an immunology and tooth point of view, and have the sugar substrate available for the bacteria to act on. Mothers with active dental caries in their own mouths are more likely to pass these bacteria to their infants. Therefore, mothers with good oral hygiene and healthy mouths are less likely to have children susceptible to ECC. Besides the correct bacteria being present, the infant must be exposed to sugars either for a prolonged period or frequently throughout the day and night. Finally, the sugar and bacteria must come together and be left in place on susceptible tooth surfaces for decay to form. This complex scenario suggests several intervention mechanisms that can prevent the ECC process.

There is a growing disparity among children in the amount of dental disease present and access to dental care based on income levels of the family and also on geographic location. Poorer children have significantly higher disease burden and lack access to care. For example, children under 21, who are eligible for Medicaid, experience a severe lack of utilization of dental services. Between October 1999 and September 2000, 856,900 children under age 21 were eligible for dental services under the Medical Assistance Program. Only 182,337 (21 percent) of them received any dental service with 144,975 (17 percent) receiving any preventive dental service. Some of this problem may be due to lack of access, or lack of a dental priority in this population may also account for this poor showing. Programs are needed to address both access and population education about the benefits of good oral health.

According to the Department of Health's Oral Health Needs Assessment, dental caries remain a significant condition among Pennsylvania's children. Caries (decay) rates show a steady increase with age and significant variation among health districts. Untreated dental caries remains a serious problem for many children. The percentage of Pennsylvania's 6-8 year olds with untreated decay was, on a statewide average, 6 percent (+3) higher than the Healthy People 2010 objectives; however, in the northwest district, the untreated decay percentage was significantly higher, possibly as much as 25 percent higher. In general, while there is a fair amount of variation and more analysis is planned and needed, the trend generally is for a higher rate of caries experience and untreated caries in the northern districts, Philadelphia and Pittsburgh, with lower rates seen in the southern districts (excluding Philadelphia and Pittsburgh). In the northwest district, especially among the 6-8 year olds, there are significantly higher rates of both caries and untreated caries. Statewide, the rate of children's annual dental visits was quite high (87 percent), but those children that did not visit the dentist had much higher rates of untreated dental disease than those children who had a dental visit in the previous 12 months (39 percent versus 18 percent respectively). Children from disadvantaged economic backgrounds had the most dental disease and the most untreated dental disease. This strongly suggests that access to preventive and restorative dental care, as well as effective preventive oral health education, is lacking for these children and their families.

Excessive exposure to refined sugars increases risk of caries in mouths without thorough oral hygiene. Excessive exposure to acidic soft drinks can also lead to direct acid dissolution of tooth structure. Besides increasing caries risk, excessive sugar consumption in school-age children displaces more nutritionally valuable foods. Excessive empty calories from soft drinks can contribute to the growing obesity problem among youth in America, who are then exposed to all the associated risks of obesity including type 2 diabetes, whose prevalence is increasing in recent years. Community efforts are indicated to bring more nutritionally balanced foods and eating habits to these children.

Chronic discomfort and chronic chewing inefficiency at any age can lead to nutritional disorders such as weight loss, failure to thrive, osteoporosis, and other conditions associated with poor nutritional intake and balance. It is difficult to eat correctly without functional teeth. This problem of inefficient mastication can affect health status, especially among the elderly. Efforts to improve and maintain the health of the elderly should certainly focus on oral health and ability to eat. Even well fitting dentures have only 30-40 percent the efficiency of well-functioning natural teeth, pointing to the importance and overall benefits of prevention of dental disease early and throughout life.

Oral cancer, when it occurs, results in a high mortality rate in this country because it is usually diagnosed too late. It is more common in males than females, and is especially common in black males, who have the highest death rate from this disease. Efforts are needed to discourage the practices that lead to this cancer, alcohol consumption and tobacco usage, as well as efforts to increase routine screenings for the disease by health professionals to attempt to get the diagnosis in the early, more treatable stages.

Achieving a desired level of prevention requires both periodic professional dental visits, and education of parents, children, and communities about the techniques and behaviors to be used to prevent oral cavity related diseases. Families need knowledge about how and when to use the dental health delivery system, take the responsibility for doing so, and have the access to do so. This education in the form of anticipatory guidance needs to be done early, be done often, be performed in a culturally effective manner, and be done in various settings. The successful implementation of the preventive strategies mentioned in this plan has an overwhelming potential to bring the benefits of a lifetime of good oral health to far more people in a more straightforward and cost-effective manner than a strictly curative treatment system would likely ever achieve.

PREVENTION PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
Goal 1. Educate and promote the techniques and benefits of good oral health for all Pennsylvanians						
1. Community based dental (mainly decay and periodontal disease) preventive education aimed especially at lower income children and their families. Includes education on how and when to use professional dental services.	Short	BCDIP, BCH, CMHD, School nurses, DPW	SHIP, PDA, Dental Schools, PDHA, Aging	<p>All children and parents understand how to prevent most dental disease.</p> <p>Assess utilization of preventive services.</p> <p>Direct care workers in community based living arrangements are competent in the provision of oral health care.</p>	<p>Establish/utilize school dental education programs/curriculums using other state models as guides.</p> <p>Identify useful preventive programs and techniques for specific population groups. Use “social marketing” techniques to learn how communities get their health messages and how to implement messages in that community effectively (See Assessment).</p> <p>Develop a prescription for good dental health, in a similar model to that of the Physician General’s prescription for good medical health. The public’s awareness over time of the 6 or 7 major points in this prescription can then be measured by survey.</p> <p>Train health district and county/municipal health department personnel, SHIP partnerships, and other community persons to educate about oral disease prevention through community efforts.</p>	

PREVENTION PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
					<p>Encourage all caregivers, ombudsmen, case managers, and other advocate groups to teach low-income patients how to access and utilize the oral health care system and how to file complaints when necessary (Act 68).</p> <p>Educate caregivers of childcare settings, (OCYF and ECELS) as well as residents of community based and long term care settings to provide daily oral hygiene.</p>	
2. Early intervention and education about nutrition and oral health with children to reduce factors related to dental disease.	Short	BCDIP, BCH, PDA, PDHA	Schools, SHIP	Increased level of nutritious foods in schools.	Community pressure to end junk food sales in grade school and to promote nutritious meals and snacks.	
3. Early intervention and education for oral health/nutrition to reduce risk factor for disease and malnutrition/dehydration in older persons.	Short	Aging, BCDIP, BCH, PDHA SHIP	PDA	<p>Less older patients with poor oral health and poor masticatory (chewing) efficiency.</p> <p>Direct care workers in community based living arrangements are knowledgeable in oral health.</p>	<p>Teaching nursing home caregivers and other community caregivers about the need for continuing good oral health and hygiene in the frail elderly and the need for efficiency in mastication to maintain health.</p> <p>Follow-up medical and dental care consultation to provide such masticatory efficiency and good oral health.</p>	

PREVENTION PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
Goal 2. Education about the prevention and treatment of periodontal disease and its relation to other systemic problems.						
1. Increase awareness of the relationship between periodontal disease and preterm births.	Long	BCDIP PDA, Medical and dental schools, Medical societies, PDHA, Dental hygiene schools, CMHD	SHIP	Periodontal exams and needed treatments become a routine part of the prenatal process.	Create an up to date information package/course targeted at health care providers who have contact with expectant and new parents. Disseminate this info through community partnerships, other community contacts, and professional schools. Consider media campaign targeted at population groups with high rates of preterm births.	
2. Increase awareness of medical and dental providers and the public on the possible relationships between periodontal disease and diabetes, heart disease, strokes, and pneumonia	long	BCDIP PDA, Medical and dental schools, Medical Societies, Aging, PDHA, dental hygiene programs		Medical and dental providers are routinely advising about the need for good periodontal health as an adjunct to good overall health.	Create an up to date information package/course on these relationships targeted at various healthcare providers and the public. Disseminate this info through community partnerships, other community contacts, and professional schools. Consider media campaign targeted at population groups with high risks for these conditions.	

PREVENTION PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
Goal 3. Establish school based and school linked sealant programs at schools with high-risk populations to supplement the fluoridation preventive efforts.						
1. Identify PA and other state successful sealant programs to model; identify funding sources; and start programs in low-income schools.	Short	BCDIP, SHIP	Dental education institutions, PDA, CMHD, FQHCs, DOE	Successful implementation of pilot programs in PA.	<p>ID low-income schools through 50% or greater of students on free or reduced school lunch program.</p> <p>Grants to begin pilot programs in second grade.</p> <p>Education of parents about the benefits of and need for timely placement of sealants.</p> <p>In school sealant programs, evaluation of sealant retention during the mandated third grade screening exams.</p>	
2. Expansion of pilot programs and maintenance of existing programs.	Short	Schools, PDA, SHIP, CMHD, FQHCs, DOE AHEC, PDHA	BCDIP	<p>Meet HP 2010 sealant objectives.</p> <p>Elimination of the disparities in sealant usage between children of different family income levels.</p>	<p>Wider distribution of successful school based and school link sealant programs among low-income schools.</p> <p>Work with MA and CHIP so programs are able to bill for sealant services, allowing continued sealant program operations after any grant period.</p>	

PREVENTION PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
Goal 4. Prevention and early treatment of Early Childhood Caries.						
1. Collect or develop appropriate training materials for anticipatory oral health guidance in various settings, such as PCP offices, prenatal settings, WIC, others.	Short	BCDIP PMS, PAAAP	BCH, BFH, PDA	Acceptable materials available and used as needed.	Survey other venues for materials. Use Bright Futures in Oral Health and ECELS curriculum as main source guide. Customize as needed for various settings, audiences, and provider types.	
2. Involve medical community in the anticipatory guidance of new and expectant parents.	Short	PMS, Medical schools, Primary care providers, Residency programs, AHEC, Allied health professions, CNM, CMHD	BCDIP, BCH, PDA, PDHA	All medical providers routinely giving anticipatory guidance to appropriate patients.	With help from Medical training programs, establish training routine for medical providers. Develop curriculum for incorporation into PCP residency programs/CME. Establish community programs to incorporate appropriate anticipatory oral health guidance actions into medical providers' routines. Investigate the using of fluoride varnishes in physician offices for high-risk children. Use Resource referrals available thru Healthy Babies/Healthy Kids and existing Baby Bottle Tooth Decay	

PREVENTION PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
					Prevention Program.	
3. Involve other community groups in anticipatory Guidance of new parents	Short	BCDIP, BCH SHIP, PAAAP	BHP, BFH	Routine use of oral health anticipatory guidance in appropriate settings including CNM sites.	<p>Identify the groups that could be helpful.</p> <p>Establish or develop training for the various groups below.</p> <p>WIC to routinely inform parents of proper oral health care.</p> <p>Headstart and FSSR Family Centers to routinely inform parents of proper oral health care.</p> <p>SHIP partnerships to carry message to appropriate forums in their communities.</p> <p>Prenatal groups in hospitals.</p> <p>Community Health District activities.</p>	
Goal 5. Diagnosis of oral cancer at earlier stages in general and specifically in current disparate populations.				Health statistics show an increase in early diagnosis of oral cancer, meeting HP 2010 objectives.		
1. Routine oral cancer screening to be part of all oral exams by dentist. Also	Short	BCDIP, PDA, PDHA	Schools, Hospitals	Dentist/dental hygienist always perform an oral	Collaborate with PDA, PDHA, the dental schools, and other interest groups to put together programs to	

PREVENTION PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
routine counseling to cease, tobacco and smokeless tobacco use				cancer exam during all routine exams.	teach dentists why and how to routinely perform an oral cancer screen on all patients, but especially on those over 40, with special emphasis on black males over 40. Programs to include how to counsel patients against tobacco use, especially chewing tobacco usage and snuff, as well as information about cessation programs.	
2. Educate other healthcare providers, especially medical providers, to look for oral cancers at routine medical encounters.	Longer	Medical societies, BCDIP	Medical and dental schools, Allied Health Educational institutions, PDA	Healthcare providers routinely perform an oral cancer exam during physicals and on high-risk patients during other encounters.	Development of programs to educate medical providers and other healthcare providers both how and why they should be doing a routine oral cancer screen for patients over age 40, with special efforts targeting black males. Counsel patients against tobacco use, especially chewing tobacco usage and snuff. Check with National Dental and Medical Associations for existing programs targeting disparate populations. Pitt oral cancer screening video for use by PCP.	

PREVENTION PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
3. Increase oral cancer screening opportunities in the community for high-risk groups.	Long	SHIP BCDIP, BCH, PA Forum	Dental and medical training institutions.	Number of community oral cancer screening events increases, especially for high risk populations.	Develop programs to educate communities, with special emphasis on the underserved and minorities (especially black males), about the benefit of early detection for oral cancer, and that they should receive an oral cancer screen as part of any routine dental or medical exam once over age 40. Consideration should be given to free community oral cancer screening clinics set up in various locations easily accessible to high-risk groups, such as community health centers which serve the underserved and minorities.	
Goal 6. Tobacco cessation and Control education.						
1. Prevention and cessation of chewing tobacco usage	Short	BCDIP, BCH, PDA, SHIP	Medical and dental training institutions, School districts	Minimal new smokers or chewers and cessation of the habit by current users.	Development and support of programs that dental professionals can use aimed at specific age groups teaching the dangers of tobacco use, including the cancer dangers and other disease dangers including the relationship between increased risk of periodontal disease and tobacco usage.	

PREVENTION PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
					Development of similar programs that can be used in community in general aimed at specific ages groups.	
2. Prevention and cessation of tobacco smoking	Short	BCDIP, BCH, PDA	Medical and dental training institutions, School districts		<p>Development and support of programs that dental professionals can use aimed at various ages including the various disease dangers caused or exacerbated by chewing tobacco.</p> <p>Development of similar programs that can be used in community in general aimed at various ages.</p>	
Goal 7. Prevention and detection of child abuse.						
1. Restart a Prevent Abuse and Neglect Through Dental Awareness (PANDA) program in PA.	Short	PDA, BCDIP, Dental schools, PDHA, DPW	SHIP	Dentists recognize and report child abuse.	<p>Learn about program from other success programs in other states.</p> <p>Use PDA and EPIC SCAN to create training programs to teach dental professionals the signs of child abuse and their reporting obligations.</p> <p>Through continuing education courses and/or in office presentations, teach dental professionals what they need to know.</p> <p>Other community efforts targeted at other community caregivers to teach</p>	

PREVENTION PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
					about signs of abuse and reporting in children.	
2. Make other community caregivers of children aware of signs of child abuse from an oral health perspective.	Long	PDA, BCDIP, Dental Schools, PDHA, PAAAP	SHIP (EPIC-SCAN)	Caregivers and teachers know the signs of abuse in the head and neck region.	Other community efforts targeted at other community caregivers to teach about signs of abuse and reporting in children.	

WORKFORCE

WORKFORCE

Regular visits to a medical professional can prevent many illnesses, or provide early detection and treatment of those ailments; similarly, regular examinations by a dentist can achieve the same successes related to oral health. In the area of oral health, disparities still remain which are caused by barriers to adequate education, prevention and treatment for oral health problems. Most of these disparities are found in lower income populations. These disparities in the dental health of Pennsylvanians are exacerbated by the lack of availability of dental care providers in many areas of the state, especially as it relates to low-income populations. Further, a growing potential shortage of dentists over the next ten years is very likely to further hurt provider availability, as older dentists retire and are not replaced by as many younger ones. Currently in Pennsylvania, there are about 1,000 more dentists in the 40 to 50 age group as are in the 30 to 40 age group. Given this current age distribution of dentists, without significant near-term change, expected retirement rates will certainly exacerbate any access issues over the next 10-15 years.

This future shortfall of dentists in the state and its impact on access to adequate oral health care will affect many socio-economic groups. Consequently, since solutions to such workforce issues have a long lead-in time, it is imperative to begin now to assess and track the oral health workforce in the Commonwealth in order to assure that a trained workforce of dentists, dental hygienists, and auxiliary personnel exist in adequate numbers and in an appropriately distributed pattern throughout the state in order to meet the varied oral health needs of the state's residents. Initially, it will be necessary to develop a database showing the status and location of the workforce in Pennsylvania. A survey of dentists and hygienists through the Department of State with the licensure renewal cycles can be developed to complete this database. The Department of State is currently engaged in similar efforts with regard to other health professionals, and the opportunity to survey oral health professionals is certainly an option to explore.

There are also a number of program options and alternatives to address the skills, supply and distribution of the oral health professionals throughout the state, such as providing incentives aimed at the dental training schools to increase the number of dental professionals that are produced in Pennsylvania and that stay in Pennsylvania. These should also be coupled with incentives for adequate faculty to be hired and retained. Dental schools are finding increasing difficulty in their ability to hire enough faculty. Therefore, any attempt to increase class sizes may be prevented by this faculty shortage issue. If indicated, educational resources and professional associations can be used to increase interest in oral health careers.

As access to the oral health system is affected because of an inadequate number of practitioners in certain areas willing and able to see certain populations, efforts to identify and designate such areas as federally designated dental health professional shortage areas (DHPSAs) will serve as a foundation to support the recruitment of practitioners who will see these populations. As of September 2002, there were 67 Dental Health Professional Shortage Areas (DHPSA) already designated in Pennsylvania, involving over 1,500,000

people. Forty-nine of these were special population DHPSAs, meaning not enough dentists were present in these areas willing to treat low-income populations.

There are varied methods available to recruit and retain dental health care providers to these shortage areas. Two successful ones have been the Pennsylvania Loan Repayment Program and the Community Challenge Grant Program. Continuing and expanding these program efforts should help increase the supply of dentists and other oral health professionals willing to see the disparate populations in these shortage areas. Additional opportunities might include creating financial benefits by offering tax incentives and more attractive Medicaid fees for those choosing to practice in shortage areas. Making use of the local pool of potential students for careers in dental care could foster a strong potential resource of dental professionals committed to underserved areas. Also, the educational institutions have the ability to develop community-based training in such underserved and rural areas. Finally, any unwarranted barriers that prevent non-Pennsylvania oral health professionals from easily getting licensed in this state should also be minimized.

There are several other issues that can contribute to improving dental providers' ability to practice effectively, and that impact on access to oral health care for disparate populations. Public insurance programs in general should pay fees attractive enough to allow dentists to see these patients. Also, the presence of managed care organizations in the public insurance oral health care arena (Medicaid and CHIP) requires that participating dentists have some protection from insolvency risks of these insurers, otherwise participation in these programs will be low. Public insurance plans should offer adequate coverage with adequate referral networks and specialty arrangements so that participating dentists can develop and carry out acceptable treatment plans compatible with accepted standards of care. Finally, the promotion of adequate strategies and training that allows more dentists with special skills to work on the more difficult patients should be enhanced. This would include cooperative efforts between medical and dental providers in the care of patients with complex medical needs.

Another workforce improvement area to increase access to care is to increase the efficiency of the existing dental workforce through increased availability of ancillary personnel. Pennsylvania currently ranks 11th best in the nation in dentists to population ratio, but only 37th for hygienists to population ratio and 39th in dental auxiliaries to population ratio. Training more expanded function dental assistants (EFDAs) and more dental hygienists, as well as increasing their scope of practice, could certainly increase productivity of the current dental workforce.

All these ideas point out several potential solutions to help remedy the lack of available dental care providers, and it is likely that one step will not solve the problem. However, each can make significant inroads toward improving access to care and in meeting the Healthy People 2010 goals.

WORKFORCE PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
Goal 1. Develop an oral health workforce in PA with adequate skills and in adequate number and distribution to meet the varied oral health needs of Pennsylvanians.				Patients who want care are able to obtain quality dental care in a timely and appropriate manner.		
1. Address dental reimbursement fees in public programs so more dentists enroll and stay enrolled.	Short	DPW, CHIP, Insurers		Adequate networks exist.	Make sure public insurance dental fees are competitive and stay competitive so that enough dentists participate in these programs to provide access to care for the beneficiaries. Target new graduates to recruit and retain practitioners.	
2. Identify and assess the oral health workforce in Pennsylvania, including minority percentages, various dental specialist needs, auxiliary personnel, and distribution issues. Assessment to project needs over next 10-15 years.	Long	BHP, ORH	DOS, PDA, PDHA	Completed database showing status of oral health workforce.	Biannual renewal survey of Dentists and Hygienists through the Department of State to determine status of oral health workforce in PA. L&I occupation info HRSA workforce Dept of Labor.	For Mar 2003

WORKFORCE PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
3. Evaluate the likelihood that the incoming supply of new oral health professionals to replace those who will be retiring may be inadequate.	Long	BHP, Dental schools, Federal government Manpower statistics, ORH AHEC	PDA, PDHA	Adequate dental workforce in PA.	<p>Provide incentives for increased training slots in various schools. Preference given to PA residents/rural residents and minority groups.</p> <p>Provide incentives to keep trained dental personnel in PA.</p> <p>Expansion of scope of practice for certain types of qualified personnel who may be available in areas where dentist workforce is limited.</p>	
4. Develop methods to increase interest in oral health care careers if indicated. Ideally, minorities should be represented in the oral health workforce in a manner equal to their presence in the overall population	Long	BHP, Dental training schools AHEC, PDA, PDHA		Adequate dental workforce exists and is representative of the population ethnic make-up.	<p>Governor's School for Healthcare to promote oral health careers, especially among minority groups.</p> <p>Pennsylvania Dental Association and dental hygienist association to increase interest in oral health professions.</p> <p>Use the AHECs and Bridging the Gaps programs to increase dental career interest.</p> <p>Develop and support mentoring programs to aid minority dental students to apply for oral health careers and to help them through the schooling process.</p>	On-going

WORKFORCE PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
5. Assess dental shortage areas in the state and designate areas identified as having a health professional shortage, which will allow areas to utilize state and federal programs to increase access to oral health services	Short	BHP	SHIP, PDA	An increase in the number of dental HPSAs designated in the Commonwealth to include all areas of true need.	<p>Develop dental assessment index to identify areas of greatest need for oral health.</p> <p>Identify the areas with which to work.</p> <p>Work with the areas to complete designation applications.</p> <p>Advocate with the Federal Government for a simplified, more encompassing DHPSA mechanism.</p>	<p>Completed</p> <p>On-going</p> <p>On-going</p>
6. Support those areas in the state designated as underserved areas with recruitment assistance.	Short	BHP	SHIP, BCDIP	Address retention as well as recruitment.	<p>Develop an internet site where health care providers in shortage areas may list dental health care opportunities.</p> <p>Provide loan repayment assistance for dentists and dental hygienists willing to serve in underserved areas.</p> <p>Provide funding for increasing access to dental health services to areas designated as health professional shortage areas (community challenge grants).</p> <p>Promote loan repayment and practice opportunities in shortage areas at schools of dentistry.</p>	<p>On-going</p> <p>On-going</p> <p>On-going</p>

WORKFORCE PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
					<p>Possibly allow foreign trained dentists special licensure if they practice in underserved areas and/or on underserved populations.</p> <p>Educate communities about best ways to qualify for DHPSA status.</p>	
7. Expand the PA Loan Re-Payment Program.	Long	BHP	BCDIP	DHPSAs are able to adequately recruit needed dental personnel.	<p>Pro-rate the loan repayment program to allow part time employment benefits in underserved areas.</p> <p>Increase payment amounts to make program more attractive.</p> <p>Improve marketing of loan repayment program to promote available practice sites in DHPSAs.</p>	
8. Address issues that affect dentists' decisions not to open a practice in more rural counties.	Long	BHP, Dental schools, PDA	AHEC, SHIP	Rural population have adequate dental access to meet their needs.	<p>Offer incentives to dentists to work in underserved areas (both urban and rural) through tax breaks, special direct payment programs, and possibly more attractive Medicaid fees. Such programs must be ongoing and updated to allow those who cannot afford private sector care to keep getting care offered as a result of these programs.</p> <p>Recruit local students for dental schools, hygiene schools, and assistant programs.</p>	

WORKFORCE PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
					Develop programs in dental related schools that provide community based training programs in rural and urban underserved areas.	
9. Protect dentists from insolvency risks of Medicaid Managed Care Companies so more dentists will be willing to participate in the program.	Short	DOI, Insurers	DPW	Dental networks under managed care are stable and adequate.	The state must guarantee that all legitimate fees owed to enrolled dentists are paid even for financially failed MCOs.	
10. Assure that dentists have adequate training and referral support, such as dental specialists in pedodontics, oral surgery, periodontics, and orthodontics, so that adequate treatment plans can be rendered in rural and managed care settings, especially for low-income populations.	Long	DPW, CHIP, Insurers, Dental schools	PDA, BHP, AHEC	Low-income patients and rural patients get the care they need.	Assure adequate networks and specialty arrangements are available for referrals to cover special needs cases throughout the state. (See Special Populations section) Offer benefits in public plans that allow dentists to practice up to acceptable standards of care.	
11. Ensure that dentists can treat patients who present with a cluster of medical complicating issues.	Long	PDA, Dental schools AHEC	PMS		Promote training programs that teach dentists to work on medically compromised patients with multiple conditions/needs. Encourage cooperation and efficiency between medical providers and dental providers on high medical needs patients.	

WORKFORCE PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
12. To allow efficient practices, increase the availability of well-trained dental auxiliary personnel, especially in rural areas.	Short	PDA, PDHA Dental hygiene program, Dental schools, Dental Board.	BHP, BCDIP	Increased productivity by dentists so they are able to see underserved patients.	Examine EFDA training program requirements for efficiency and private dentist training preceptorships so that this training can lead to more trained EFDAs. This should increased access to dental care. Consider encouraging certified dental assistant training requirement as entry requirement for dental hygiene or EFDA programs. Examine innovative programs in other states that expand the productivity of dental professionals.	
13. Successful programs within the state and in other states that provide an increased level of dental access should be examine to see why they work, and to determine if these are models that can be replicated for other populations.	Long	BCDIP, PDA	DPW	Programs are discovered and utilized.	Research literature for successful programs that can be emulated elsewhere.	
14. Adequate dental faculty at all levels of dental education.	Long	Dental Board, PDA, Dental schools	AHEC	Adequate faculty exist in dental related schools.	Incentive to schools to help attract adequate faculty. Consider capitation paid by state for dental students or dental student increases over baseline to allow adequate faculty and faculty reimbursement.	

WORKFORCE PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
					<p>Allow foreign dental grads and other state licensed dentists to be able to stay in school environment as faculty without a PA dental licensure requirement. In other words, do away with current 4-year limit on faculty license.</p> <p>Utilizing community practicing dentists to provide some on the job training in lieu of formal dental faculty.</p>	
15. Utilize dental resources in an area efficiently so more difficult dental patients requiring dental specialty care can be adequately seen.	Long	Dental schools, PDA, PDHA	AHEC, DPW, Insurers	Adequate access for all.	<p>Enable dentists in networks to use specialty care only for cases they cannot handle.</p> <p>Educating the local dentist to be comfortable in providing basic preventive dental services for challenged individuals could reduce downstream need for treatment.</p>	

SPECIAL POPULATIONS

SPECIAL POPULATIONS

The National Institute of Dental and Craniofacial Research's Centers for Research to Reduce Health Disparities talks about special populations under Oral Health Disparities and Special Populations (<http://www.nidr.nih.gov/research/extramural/behavior.asp>) as those populations whose health is compromised and includes the racially, ethnically and culturally diverse populations of the United States, recent immigrants, those who are medically or physically challenged or compromised, and can include individuals at all levels of socioeconomic status. While this very broad definition includes several disparate populations, for the purposes of this planning effort, we will primarily define special populations as individuals who are at increased risk for oral health problems because of underlying mental, medical or physical conditions. Other special barriers to care such as age factors, communication factors, and geographic factors will be dealt with to some degree. Finally, purely socio-economic disparities will be dealt with under other issues such as workforce, financial barriers and prevention.

Much of the oral health problems that affect special populations may come from the lack of access to regular dental care providers, either because the special population groups face financial and/or educational barriers, or because the usual dental providers feel inadequate to treat some of these populations. Most dental training programs do not include a strong component that focuses on dental care for persons with special needs, which points to at least some possible solutions. Other effective solutions may consist of special delivery system arrangements set up to deal with some specific special populations, such as special surgical centers for the physically/mentally handicapped, or easy access to translators in the community to help with communications difficulties.

Pennsylvania will need to assess and determine the special populations most at risk in the Commonwealth in order to effectively address their needs in the immediate future. Again, children and persons with physical and/or mental disabilities are likely to be the primary special population group targeted in the short term in this plan. Longer term planning will be expanded to include other identified groups using the broader definition.

As the process of needs assessment and setting priorities is begun, soliciting the cooperation of the organizations that work with the special populations should be sought. Public and private entities, individual and institutional providers, and educators will have important roles in addressing the oral health of special populations. Some of the goals, objectives, and actions necessary to begin this work are described in this section.

SPECIAL POPULATIONS PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
Goal 1. To assure that special populations receive appropriate oral health care that is compatible with their medical status and mental and social needs to promote the best possible quality of life possible.						
1. Establish a statewide network of facilities with available resources and professional expertise to provide general dental services, including using sedation/general anesthesia routinely if needed, for special populations on a safe and efficient basis. Make certain it is easily accessible to the public.	Long	DPW, DOI BHP, BFH, BCDIP	SHIP, Advocacy groups, BFH Helplines	Persons with need for delivery of dental services inpatient or from an ambulatory surgical facilities will have such a facility available within a maximum of 90 min. travel time from their place of residence.	<p>Collaboration with IOD and others to compile an exhaustive PA specific database of existing/potential facilities capable of providing special patient unit/amb surg center dental services.</p> <p>Build coalition partnerships to support existing facilities and to help expand to underserved areas.</p> <p>Work with Health insurers, HMOs, communities, governmental agencies at all levels, and training facilities to help make this network a reality.</p> <p>A database of special facilities is maintained and easily accessed.</p>	
2. Increase the proportion of children and adults with unique maxillo-facial health care needs who receive timely and quality treatment for these unique needs.	Long	BFH DPW CHIP, Insurers in general	BCDIP, PDA, BCH	People with unique maxillo- facial health care needs receive timely and quality treatment for these needs.	Increase the infrastructure and provider distribution to provide timely and quality special maxillo-facial reconstructive services to all Pennsylvanians affected by congenital and traumatic disabling conditions.	

SPECIAL POPULATIONS PLANNING TABLE						
Goals Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
				Monitor any increase usage resulting from any fee increases.	Increase the reimbursement level for cleft palate procedures done through the Cleft palate program to be consistent with the MA levels.	
3. Increase the proportion of Pennsylvanians with special health care conditions/needs and special behavioral conditions that receive routine oral health care.	Short	BFH, DPW, SCHIP	BCDIP, PDA, BCH	There are minimal reports from screenings, from families, and from providers of Pennsylvanians with unique health care conditions and special behavioral conditions not receiving routine oral health care.	<p>Increase the reimbursement levels in public programs for routine and preventive dental services provided to special populations to be adequate to attract and allow providers to provide needed services.</p> <p>Increase the reimbursement level for preventive dental services in the cleft palate program fee schedule to be consistent with the MA levels.</p> <p>Consider tax incentives for providers that serve special, underserved populations.</p> <p>Teach community organizations and SHIP partnerships to recognize the oral health needs and access requirements of these special needs populations in general and specifically in their areas.</p> <p>Advocate that communities plan a service delivery system that provides/bundles social, medical, human services and dental services to this population in an efficient</p>	

SPECIAL POPULATIONS PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
					<p>manner, such as in one location and at the same visit when possible.</p> <p>Consider using state health centers for coordination and/or provision of services to special populations where needed. Mobile dental vans could possibly be used in certain circumstances.</p>	
4. Individuals with Limited English Proficiency (LEP) will be able to access care that is culturally sensitive, understandable to them, and that assures that they will understand what is required from them to ensure good oral health.	Long	SHIP, Community organizations	BCH, BFH, DPW	Any citizen needing assistance for LEP interpretation assistance will be able to have such available related to accessing of oral health services.	Cataloging of available interpretive services within the community and coordination with oral health providers to access and supply those services as needed.	
5. Individuals with auditory disabilities will be able to access care while having their disability adequately accommodated.	Long	SHIP, Community organizations	BCH, BFH, DPW	Any citizen needing “signing” interpretation assistance will be able to have such available related to accessing of oral health services.	Cataloging of available interpretive services within the community and coordination with oral health providers to access and supply those services as needed.	

SPECIAL POPULATIONS PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
6. Individuals challenged by physical (structural) barriers will be accommodated and be able to adequately access oral health care.	Long	SHIP, PDA	BCH, Dental Board.	Compliance with provisions of the American with Disabilities Act.	Assess for common related problems and give guidance to help solve.	
7. Identify successful practices where case management is used to get care for complicated, special populations.	Short	DPW (MCOs) BCH, SHIP	BCDIP	Difficult cases are completed.	<p>Develop assessment mechanisms for determining when case management is needed to get care completed.</p> <p>Work with local health agencies to develop case manager capabilities. The clinical providers themselves are not to be considered the actual case managers.</p> <p>Use successful screening techniques to assign patients efficiently to providers that have the ability to treat their needs, such as using specialists only for the more difficult cases while using general dentists for the more routine cases.</p>	
8. State agencies, providers, community partners and minority organizations should work together to assure the availability of culturally and linguistically competent programs to address the health status of minority Pennsylvanians.	Long	SHIP, Dental training schools, CMHD	DPW, BFH	All people can understand and receive the quality oral health care they needed.	<p>In all government contracts, state this objective as a requirement and make financially feasible.</p> <p>Provide a database of best practices that communities can follow to achieve.</p>	

SPECIAL POPULATIONS PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
9. The WIC Program will continue to include dental health as part of nutrition risk assessment and provide nutrition educational and oral health education with referrals to dental health professionals as appropriate.	Short	BFH	BCH, BCDIP	WIC staff follows up with participants at successive visits on the status of the dental problems and referral.	The WIC State Agency will continue to provide WIC clinic staff with pertinent dental health information as it becomes available.	
10. Utilize the existing Bridging the Gaps program to familiarize dental students with the provision of dental care to children with special needs.	Long	BFH	Dental schools, BCDIP, BCH	Acceptance by these dental students of children with special needs in their practice once they graduate.	Introduce the Bridging the Gaps program to the regional Community Systems Development Directors in Philadelphia and Pittsburgh.	
Goal 2. To promote teaching of the necessary clinical skills to acquaint dental and other health care providers with the oral health care needs and recommended treatment modalities for persons with special needs, and to recommend that the training of family, caregiver staff and the dental care provider include sensitivity training.						
1. Introduce formal curriculum in PA Schools of Dentistry, Dental Hygiene, and Dental Assisting that instructs undergraduate and graduate dentists, dental hygienists, and dental assistants in clinical	Long	Dental school, PDA, BCDIP, DPW	IOD	All PA dental schools, hygiene, and dental assisting schools will have established formal curriculum that	Approach PA Dental Schools with assistance of PDA and Academy of Dentistry for Persons with Disabilities (ADPD) requesting inclusion in undergraduate curriculum of meaningful instruction (didactic and clinical) on special population dental service.	

SPECIAL POPULATIONS PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
techniques appropriate for treatment of persons with special needs.				instructs students in appropriate clinical techniques involved in delivering dental services to special populations.	<p>Work to make such training required as part of school certification process.</p> <p>Establishment of more graduate residency programs in PA training dental providers in treatment of severe handicapped and special populations.</p> <p>Engage schools to teach their students about proper communications and cultural sensitivity with all groups to allow proper health care to be delivered.</p>	
2. Increase availability and desirability of Continuing Dental Education courses to instruct practicing dentists on appropriate techniques of service delivery to special populations. (This must be accompanied by meaningful incentives to attend.)	Long	DPW, PDA, Dental schools, DPW	IOD	Increased access to oral health care for special populations. Number of CE courses developed and number of participants attending.	<p>Review curriculum development by IOD for expansion into dental schools.</p> <p>Approach PDA and PA dental schools to explore sponsorship and implementation issues.</p>	
3. Increase integration between other health care providers and dentists treating special populations to provide optimum awareness on the part of each practitioner as to the health	long	PDA, BCDIP, Dental schools, Dental Board, Medical schools,		Standardized protocols for an interdisciplinary approach to integrate oral health and other health care needs	Approach PMS, PDA, and IOD for cooperative sponsorship in developing the protocols for closer integration of health care provider interaction related to oral health in case management specific to special populations.	

SPECIAL POPULATIONS PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
needs of the special population patient relating to oral and non-oral physical health care.		Medical societies, IOD		of special populations to be available for use by all Commonwealth- licensed practitioners of medicine and dentistry in a form suitable for use as an Office reference tool.	Enlist help of community and advocacy groups to promote the use of such integrated protocols.	

FLUORIDATION

FLUORIDATION

Constant topical exposure to low dosages of fluoride has been shown to be one of the most effective measures in reducing the incidence of dental caries, and this set of conditions is best accomplished through community water fluoridation (MMWR, August 17, 2001). A recently released report by the Task Force on Community Preventive Services has strongly recommended community water fluoridation as one of two community based oral health preventive efforts that are proven to be most effective in preventing tooth decay (MMWR, November 30, 2001).

There is little doubt that widespread use of fluoride has been a major factor in the overall decline in recent decades in the prevalence and severity of dental caries in the United States and other economically developed countries. Fifty years of evidence has shown that drinking optimally fluoridated water throughout life has a strong preventive effect on dental caries, as well as having no significant negative health consequences. Teeth exposed to fluoride have about a 40 percent reduction in overall caries rate, and the caries that do form in children are 90 percent in the grooves and fissures of the teeth, which can be further protected with dental sealants. The reduction in smooth surface caries provided by fluoride exposure, coupled with good oral hygiene and timely placement of sealants, can virtually prevent caries. Without fluoride exposure, it is much more likely that caries will form between the teeth, resulting in a restoration on the tooth or the eventual loss of the tooth if no restoration is done. In the elderly where gingival recession becomes common, fluoride exposure helps prevent root caries as well. Community water fluoridation benefits everyone despite socio-economic or racial status, and at an extremely low lifetime cost. It has been called one of the 10 great achievements in public health.

The positive effect of water fluoridation is further demonstrated in the results from the *Pennsylvania Oral Health Needs Assessment*, which reported that water fluoridation was associated with a 22 percent reduction in caries rates among children and a 28 percent lower rate of untreated decay according to parental survey data as to whether the child was exposed to fluoridated water.

Exposure to optimum fluoride daily can also be achieved in areas without fluoridated community water supplies (well water or non-fluoridated systems) through the use of prescription supplements and topical exposures. While all ages can benefit from certain topical exposures such as fluoridated toothpaste usage, prescription fluoride supplements from age 6 months through about age 18 are needed to attempt to duplicate the effect of community water fluoridation in non-fluoridated areas. This avenue is more expensive, requires far more family cooperation and dedication, and may not be as effective. It is, however, the only current systemic alternative in communities without community water or in communities that choose not to fluoridate.

Despite the overwhelming body of scientific evidence regarding the safety and efficacy of fluoride protection in the maintenance of optimal dental health, much remains to be done in the Commonwealth. There are over 12 million people in Pennsylvania, of which

over 10 million get their water from community water systems. Of those using community water sources, only 5.5 million are drinking fluoridated water. This translates into 52.9 percent of those with community water systems and only 44.8 percent of Pennsylvanians overall drinking fluoridated water. In addition, there are 2,199 community water systems in the state; however, only 191 (8.68 percent) of them are fluoridated. While it is fortunate that these fluoridated systems serve a large portion of the population, there remain 141 systems serving over 5,000 customers each that are not fluoridated. (*Status of Oral Health in Pennsylvania*, Pages 31 and 32).

The need to expand the efforts to foster fluoridation of community water systems in Pennsylvania is supported by Healthy People 2010. Specifically, Healthy People 2010 Target 21-9 calls for an increase in the proportion of the population served by community water systems with optimally fluoridated water. The target rate is 75 percent compared to the current Pennsylvania rate of 52.9 percent, which documents a substantial need to improve water fluoridation in the State. Pennsylvania will be participating in listing the fluoride status of its water systems on the web-based CDC sponsored Water Fluoridation Reporting System (WFRS), but Pennsylvania should also consider participating in the monthly fluoridation quality monitoring part of WFRS.

The long-term benefits of fluoride protection is a well-established aspect of optimal dental care. Community water fluoridation is an efficacious and cost-effective method to provide this valuable protection to the largest number of Pennsylvania's citizens. In light of this perspective, the following goals and objectives merit serious consideration.

FLUORIDATION PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
Goal 1. To provide the oral health protective benefits of water fluoridation to all larger community water systems.				Healthy People fluoridation objectives are met.		
1. Develop a Department of Health position paper that supports fluoridation of larger community water systems, and opposing any legislation allowing removal of existing fluoridation.	Short	BCDIP	DEP, PDA	Increasing Community Water Fluoridation to HP 2010 objectives or higher.	<p>Establish a collaborative partnership at local, state, federal, and national levels to advocate for fluoridation of all CWS.</p> <p>Develop a state clearinghouse for fluoridation materials, which include the sociopolitical, legal, medical, dental, scientific, and engineering aspects of community water fluoridation.</p> <p>Eliminate misconceptions of water fluoridation in order to increase the public's acceptance of water fluoridation.</p>	
2. Develop a state clearinghouse for materials and an advisory "How to" manual for effective fluoridation campaigns based on successful campaigns elsewhere.	Short	BCDIP	PDA, SHIP, Commun. groups	Effective manual is available.	<p>Gather data on successful fluoridation efforts and compile into a manual that local community groups could customize as their guide to a successful fl campaign.</p> <p>Effectively translate fluoridation information into language for all racial and ethnic groups.</p>	

FLUORIDATION PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
3. Support statewide and/or community based efforts to increase the proportion of the PA population served by community systems with optimally fluoridated water.	Long	BCDIP, PDA, SHIP	BCH	Meet <i>Healthy People 2010</i> fluoridation objectives.	<p>Using DEP data, develop and maintain a database of community water systems fluoridation status and associated populations. From this data, develop a community water systems priority list with large non-fluoridated populations to target the grassroots efforts.</p> <p>Use the clearinghouse manual and other technical assistance to mount campaigns in these larger, priority non-fl communities.</p> <p>If a private water company serves a community, investigate the requirement if any for that private company to offer fluoridation if the community expressed such a desire.</p>	
4. Identify and/or provide funding opportunities to enable non-fluoridated community water system to convert to a fluoridated system.	Short	DEP, BCDIP	PDA	Grant awards shall be based on size of population to be served.	<p>Identify public and private sources of funds to fluoridate.</p> <p>Support legislation to fund community water fluoridation.</p>	

FLUORIDATION PLANNING TABLE						
<u>Goals</u> Objectives	Short/long term	Lead	Support	Outcomes or Measures of Success	Action Plans	Status
5. Develop and implement a plan of action to maintain efficacy of water fluoridation as a proven public health measure.	Long	DEP, BCDIP	PDA	State participation in the quality maintenance aspects of WFRS. Quality standards are met.	State work group to develop a strategic plan to implement a state policy for the maintenance and tracking of the quality of the fluoridation effort by fluoridated communities. Consider participating in CDC's WFRS database for this quality control effort.	
Goal 2. To provide clear guidance for the individual and community program use of the various topical and dietary fluoride supplements.						
1. Revise community recommendations related to fluoride supplement, fluoride rinse, and other FI use recommendations.	short	BCDIP, BCH	PDA, Dental schools, School districts	Supplements are appropriately used in PA schools and communities.	Study latest research and national recommendations. Rewrite the school dental manual specific for PA public schools. Write recommendations for community usage of fluoride supplements in high-risk pre-school organizations such as Headstart and WIC, including use of dietary supplements as well fluoridated toothpaste and brushing. Investigate and make available how homeowners in different parts of the state can get their water tested for fluoride levels.	

