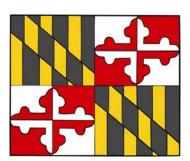
The Burden of Oral Diseases in Maryland

May 2010





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Primary Author

Daphene Altema-Johnson MBA, MPH, Office of Oral Health

Any questions should be directed to the author listed above.

Content Contributors

Harry Goodman, DMD, MPH, Director - Office of Oral Health Michael Manz, DDS, DrPH, University of Michigan, ASTDD Consultant

Report Production

Office of Oral Health

Jim Bolton

Teresa Burke, BS

Stacy Costello MPH, CHES

Teresa Robertson

Njeri Thuku, MA

Data Resources

Centers for Disease Control and Prevention

Children's Dental Health Project

Maryland Center for Cancer Surveillance and Control

Maryland Center for Genetics and Children with Special Health Care Needs

Maryland Center for Maternal and Child Health

Maryland Dental Action Coalition (MDAC)

Maryland Department of the Environment

Maryland Information Resources Management Administration-Information Systems

Division

Maryland Office of Health Policy and Planning (BRFSS)

Maryland Oral Health Association (MOHA)

Maryland State Board of Dental Examiners

National Maternal and Child Oral Health Resource Center

The Parents' Place of Maryland

University of Maryland Dental School



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Executive Summary

The World Health Organization Constitution describes "health" as a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity. This definition can apply to oral health as well. The health of your mouth can be a "warning sign" or indicator of what is happening in other parts of your body. For example, diseases such as HIV/AIDS, cancer, diabetes, and osteoporosis can all have effects, signs, and symptoms in the mouth. Therefore, making sure your teeth, gums, jaws, palate, tongue and other supporting structures are in good health is imperative in reducing your risk of oral diseases as well as improving your overall health.

This report provides an overview of the burden of oral diseases in Maryland. It presents some of the most current data on oral health status for children and adults, oral cancer, tobacco use, preventive care, access to care, disparities, education and training, and some of the policy mandates that help shape dental practice, health quality, prevention and access to care in Maryland. This report also highlights the gap that exists in rural areas as well as the disparities that are very prominent within our population as it pertains to "access to care."

Some findings worth highlighting:

- ❖ 29.7% of 3rd graders have untreated tooth decay with a substantially higher prevalence in Hispanics (42%).
- ❖ 92.6% of the Maryland population is served by fluoridated water.
- ❖ 44.42% of oral cancer disease in Maryland was diagnosed at the regional stage.
- ❖ Whites have a higher incidence (9.41/100,000 vs. 7.6/100,000) of oral cancer diseases while Blacks have a higher mortality rate (3.7/100,000 vs. 2.6/100,000).
- ❖ In 2008, 39.3% of pregnant women reported visiting the dentist in the past year. However, 74.4% of Hispanics and 67.1% of Blacks did not visit the dentist during their pregnancy.



OVERVIEW

TABLE 1. Healthy People 2010 Indicator (HP 2010 objective number)	US Target	MD Status	National	
Untreated Caries – Tooth Decay (21-2)			l	
Kindergarten ¹		32.6%		
Third Grade ¹	21%	29.7%	26%	
Adults with no tooth loss (21-3) ²	42%	56.9%	56%	
Edentulous (toothless) older adults, aged 65-74 (21-4) ²	20%	9.9%	14.7%	
Edentulous (toothless) older adults, aged 75+ (21-4) ²		15.6%		
Oral and pharyngeal cancer death rates, (3-6) ⁶	2.7%	2.8%	2.6%	
Oral and pharyngeal cancers detected at earliest stages (21-6) ⁶	50%	28.08%	31.9%	
Oral cancer screening within the past 12 months ⁶	20%	40%	13%	
Dental Sealants (21-8)				
Kindergarten ¹		7.5%		
Third Grade ¹	50%	42.4%	28%	
Population served by fluoridated water systems (21-9) (of those with community water supply) ⁴	75%	92.6%	68%	
Dental Visits within past 12 months (21-10)				
Adults ²		72.6%		
Low-income children and adolescents receiving preventive dental care during past 12 months, aged 0-18 years (21-12) ³	57%	31%	25.53%	
Community-based health centers and local health departments with oral health components (21-14)	75%	85%	88%	
System for recording and referring infants and children with cleft lip and cleft palate (21-15)	YES	YES	32 States	
# cases w/ cleft palate w/out cleft lip ⁵		27		
# cases w/ cleft lip w/ & w/out cleft palate ⁵		42		
Oral Health Surveillance System (21-16) – Office of Oral Health	YES	YES	32 States	

¹Survey of Oral Health Status of Maryland Public School Children 2005-2006. Caries Experience is reported from 2000-2001 School Children Survey

²Behavioral Risk Factor Surveillance System 2008
³Annual EPSDT Participation Report FY 2007
⁴Maryland Department of the Environment

⁵Birth Defects Reporting and Information System ⁶Maryland Cancer Survey, 2008



ORAL HEALTH STATUS

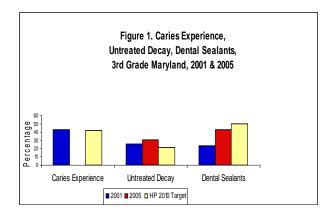
Adults

According to data from the 2008 National Behavioral Risk Factor Surveillance System¹ (BRFSS), approximately 57% of MD adults reported that they have never had any permanent teeth extracted, up from 49% in 1999. However, approximately 10% of adults between the ages of 65-74 have reported having had all their natural teeth extracted. In 1999, 25.5% of adults aged 65 and over reported having had all their natural teeth extracted, indicating that more adults are retaining their natural teeth. When Maryland adults were asked if they visited the dentist or dental clinic within the last year, 72.6% responded yes, which is higher than the national average, but slightly lower than ten years ago (73.6% in 1999 Maryland BRFSS).

Children

The most recent data on children were collected in 2005-2006, when the Family Health Administration, Office of Oral Health in conjunction with the University of Maryland Dental School performed the *Survey of Oral Health Status of Maryland Public School Children*². Overall, 1,292 children were screened from Kindergarten and Third grade. The results showed:

- ❖ 29.7% of Third graders and 32.6% of Kindergartners had untreated dental caries
- ❖ 42.4% of Third graders and 7.5% of Kindergartners had dental sealants



¹ Behavioral Risk Factor Surveillance System (BRFSS), 2008

² Survey of Oral Health Status of Maryland Public School Children 2000-2001, 2005-2006

Other findings from this survey were:

- Children in K and Grade 3 who reside in the Eastern Shore were more likely to have untreated dental caries as compared to children who reside in Southern or Western Maryland
- Non-Hispanic white children had lower prevalence of untreated caries than children of non-white race/ethnicity
- ❖ Prevalence of untreated caries was lower in children of college graduates
- ❖ Approximately 27% of school children in K and Grade 3 had at least one dental sealant
- Non-Hispanic Black school children in K and Grade 3 were less likely to have at least one dental sealant than Non-Hispanic White children
- ❖ Children in K and Grade 3 who reside on the Eastern Shore and in Central Baltimore were less likely to have dental sealants than children with similar demographics who reside in Western Maryland or Central DC
- ❖ Sealant prevalence was lower in children eligible for free/reduced meal program



ORAL CANCER

Oral cancer is described as cancer of the oral cavity or pharynx. Risk factors include age, tobacco use, alcohol consumption and persistent viral infections such as Human Papillomavirus (HPV). Historically, oral cancer has been more prevalent in men than women; however the ratio has narrowed significantly. While the reason for this change is unknown, lifestyle changes such as increased smoking among women may be a contributing factor. Moreover, mortality rates are higher in blacks than whites. Socioeconomic factors, access to care and ethnicity may be risk factors for the development of the disease and successful treatment.

The American Cancer Society estimated that more than 34,000 Americans will be diagnosed and 8,000 would die in 2009 as a result of oral cancer³. Of those individuals diagnosed with oral cancer in the United States, only half (50%) will survive the next five years, primarily due to late diagnosis. Commonly, when a patient is diagnosed, the cancer has already spread to nearby organs such as the lymph nodes. In addition, at its early stages of development, the patient may not have any symptoms or pain, which contributes to problems in early diagnosis. Routine screening and avoiding high risk behaviors are vital to prevention and successful treatment of oral cancer.

Nationally, Maryland ranked 25th in oral cancer mortality rate during 2001-2005⁴.

Incidence Rates

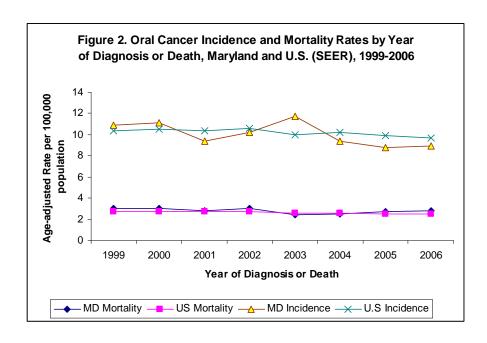
In 2008, the Maryland Cancer Survey funded by the Maryland Cigarette Restitution Fund (CRF) Program reported:

- ❖ 520 diagnosed new cases of oral cavity and pharynx cancer
- ❖ An age-adjusted incidence rate of 8.9 per 100,000 (figure 2)
- ❖ 28.08% were diagnosed at the localized (early) stage, 44.42% at the regional stage and 17.88% at the distant stage

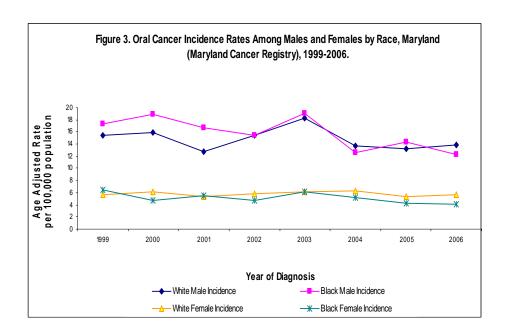
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³ Oral Cancer Foundation – Updated 3-02-2009 (<u>www.oralcancerfoundation.org/facts</u>)

⁴ SEER Cancer Statistics Review, 1975-2005, National Cancer Institute. http://seer.cancer.gov/csr/1975_2005/results_merged/topic_staternk.pdf

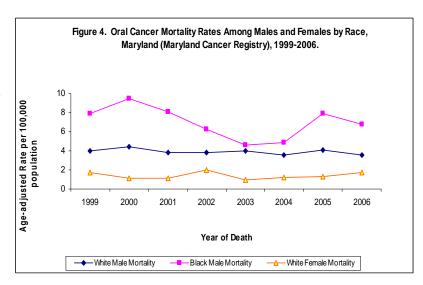


From 1999 to 2006, males had a higher oral cancer incidence rate than females (figure 3). When comparing by race/ethnicity, incidence rates for black males were slightly higher than white males in 1999-2001 but the rates nearly equaled in 2002 - 2006. Incidence rates for both white and black females were nearly the same for the entire period.



Mortality Rates

Mortality rates for oral cancer declined from 1999 – 2003 (figure 2). There was a slight 2.4 decrease to per 100,000 in 2003. During that five year period, oral cancer mortality rates declined at a rate of 4.4% per vear. Overall. Maryland's mortality rate has been consistent with the U.S rate (figure 2). In 2006, the mortality increased



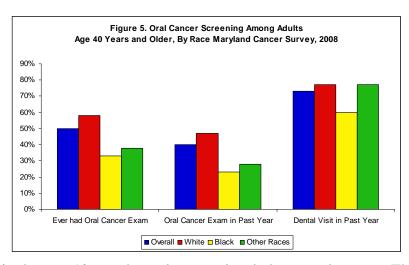
slightly to 2.8 per 100,000 with 158 deaths.

**Black Females Mortality - Rates based on death counts 0-15 are suppressed per DHMH/CCSC Mortality Date Suppression Policy

When comparing by race and gender, males consistently have higher mortality rates than females (figure 4). Historically, black males have a higher mortality rate than whites. However, with an average of 13.9% decline in oral cancer mortality among black males from 2000 to 2003, the gap that exists between white and black males has narrowed. Rates have also declined for white females.

Secondary Prevention of Oral Cancer

Screening is vital to prevention in public health, and is particularly important for oral cancer. When cancer is found at an early stage, treatment is easier and usually less invasive for the patient, with a higher chance of success. A Healthy People 2010 target is to increase oral cancer screening to 20% for adults age 40 and over



reporting having an exam in the past 12 months to detect oral and pharyngeal cancer. The 2008 Maryland Cancer Survey found 40% of persons age 40 and older responding that they had an oral cancer exam within the past 12 months, which is twice the *Healthy People 2010* target of 20% (figure 5). Though Maryland compares favorably to the US as a whole, ideally, cancer screening at dental appointments should be routine. This is not currently the case, as is seen in the above chart (figure 5), as well as a discrepancy by race.

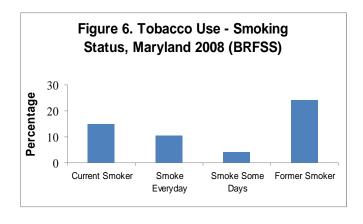


Tobacco Use

Overall, tobacco use (cigarettes, cigars, pipes, and spit tobacco) increases the risk of developing oral diseases and oral and pharyngeal cancers. Tobacco use is believed responsible for more than 90% of oral cancers among men and 60% among women, and is responsible for over 90% of oral cancer related deaths in males⁵. Evidence also indicates that tobacco use is one of the most significant risk factors in the development and progression of periodontal disease⁶. Also, studies have shown that tobacco use slows down the healing process and complicates oral treatment results. This problem is not limited to cigarette users; in addition to being a causative agent for oral cancer, smokeless tobacco can cause gum recession and increase the chance of tooth loss. There is a 50% risk reduction after 3 to 5 years for oral and pharyngeal cancers in those individuals who stop or reduce their exposure to smoking.

Maryland BRFSS, 2008:

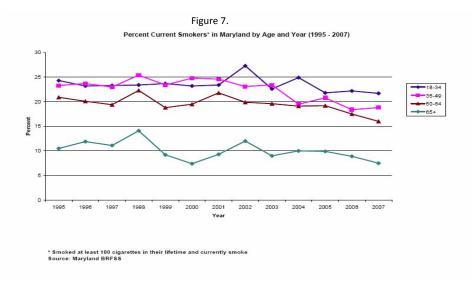
- ❖ 14.9% of adults were current smokers (figure 6)
 - o 10.6% smoked everyday
 - o 4.3% smoked some days
- ❖ 24.2% of adults were former smokers (figure 6)



⁵ Cancer Report 2008, Cigarette Restitution Fund Program (http://fha.maryland.gov/cancer/surv home.cfm)

⁶ American Academy of Periodontology (<u>www.perio.org</u>)

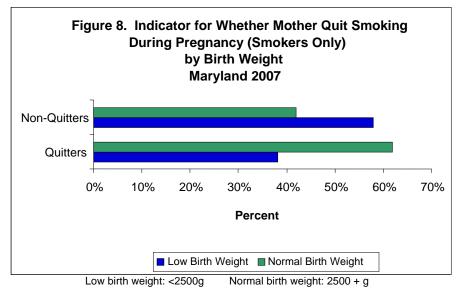
While smoking appears to be decreasing in other age groups, the smoking rate among 18-34 year olds has remained mostly unchanged (figure 7).



Additionally, 2007 CPONDER - CDC's PRAMS for Maryland (sample of women who have had a recent live birth drawn from the state's birth certificate file) reported:

- ❖ 17.5 % smoked within three months before getting pregnant
- ❖ 13.3% were current smokers
- ❖ 9.3% reported smoking during the last 3 months of pregnancy
- ❖ 47.8% reported quitting smoking during their pregnancy

Mothers who did not quit smoking during their pregnancy had a greater chance of having a low birth weight baby (<2500g) than those who quit smoking during pregnancy (figure 8).





PREVENTIVE CARE

Population Strategies

Fluoridation

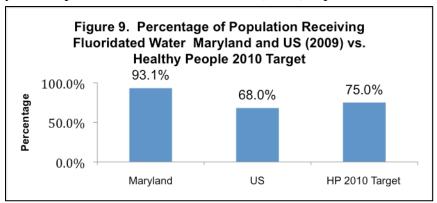
Community water fluoridation (CWF) is a controlled process that adds a fluoride (F) compound to the natural level of fluoride in a community water system to reach a level that will best prevent dental caries while minimizing fluorosis. Dental fluorosis is an excessive intake of fluoride that can result in esthetic effects from hypo-mineralization of tooth enamel (Table 2).

TABLE 2. DRINKING WATER STATISTICS*						
	2007	2004	2001			
Population of Maryland	5,618,344	5,558,058	5,296,486			
Individuals Served by Community Water Systems	4,844,668	4,846,923	4,438,335			
Percent of Population Served by Community Water Systems	86%	87%	84%			
Percent of Population Served by individual wells	14%	13%	16%			
Number of Public Water Systems	3,533	3,692	3,816			
Number of Community Water Systems	486	502	503			
Number of Non-Community Non-Transient Water Systems (NCNTWS)	559	576	568			
Number of Transient Non-Community Water Systems (TNCWS)	2,488	2,614	2,745			
Number of systems using surface water	69	66	64			
Number of systems using only ground water	3,464	3,626	3,752			

*excerpted from "Capacity Development for Maryland Public Drinking Water Systems" (Maryland Department of the Environment, September 2008)

In March 2009, the Maryland Department of the Environment (MDE) reported 93.1% of

the population on public water supplies Maryland was served by supplemental and naturally fluoridated water systems (figure 9). The optimal range for fluoridation is 0.7-1.2 ppm (or mg/l). Of the population that is



served by fluoridated community water systems (CWS - 93.1%), 91% is receiving water within the optimal range, while 9% are either above or below the range. Maryland has surpassed the *Healthy People 2010 (21-9)* target of 75% of the population being served by community water systems receiving optimally fluoridated water.

Fluoridation Ordinance

The Code of Maryland Regulations (COMAR, Title 26, Subtitle 4) requires that "all suppliers of water to community water systems shall comply with the MCL for fluoride." The maximum contaminant level (MCL) for fluoride is 4.0 mg/l.

Dental Sealants

Dental sealants are thin plastic coatings that are applied to the grooves on the chewing surfaces of the back teeth to prevent tooth decay. Sealants protect the chewing surfaces from tooth decay by keeping bacteria and food particles out of the grooves. Sealants are recommended primarily for permanent molars. First permanent molars usually appear at about 6 years of age, and the second permanent molars appear at about age 12.

The U.S. Healthy People 2010 national health objective is to increase dental sealant utilization to 50%. According to the 1988-94 Third National Health and Nutrition Examination Survey (NHANES-III), only 23% of eight-year olds and 15% of fourteen-year-olds had received sealants⁸.

The 2005-2006 *Survey of Oral Health Status of Maryland Public School Children* reported 42.4% of third graders had dental sealants. State data has not been collected for children 12 years and older. Though possibly higher than national levels, greater oral disease prevention will be achieved through increased provision of sealants in Maryland children.

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⁷ Centers for Disease Control – Oral Health (http://www.cdc.gov/OralHealth/publications/factsheets/sealants_faq.htm)

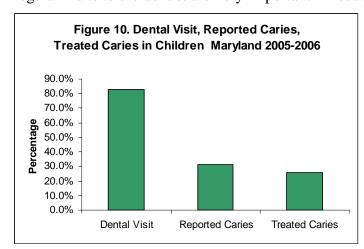
⁸ Oral Health in America: a report of the surgeon general. U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000.

Individual Oral Health Behaviors

As with many health conditions, individual behaviors and lifestyle are very important in preventing oral diseases. Preventive measures such as: brushing after meals with fluoride toothpaste, flossing, maintaining regular dental visits, and proper nutrition (i.e. low glycemic foods) are important in preventing and reducing the progression of oral disease.

Routine Dental Care

Regular visits to the dentist are very important in reducing the burden of oral disease. The



American Academy of Pediatric Dentistry, American Dental Association and Academy of General Dentistry recommend that children be scheduled for their first dental visit by the first birthday⁹. Dental problems often start at an early age, so the sooner a parent starts a child on a regimen that includes routine dental care, the greater the likelihood that the child's oral health will be better as an adult. The 2005-2006 "Survey of Oral

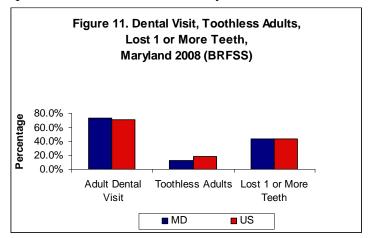
Health Status of MD School Children" for kindergartners and third graders reported (figure 10): 83.1% of parents reporting that their child visited a dentist within the last 12 months; 31.1% reported diagnosed dental caries in the last 12 months; and 25.8% received treatment within the same time frame. In 2007, "The National Survey of Children's Health" (parental reports) reported 79.1% of Maryland children received preventive dental care in the past 12 months which is slightly higher than the national average of 78.4%.

⁹ American Academy of Pediatric Dentistry (<u>www.aapd.org</u>)

 $^{^{10}}$ The National Survey of Children's Health - The Oral Health of Children: A Portrait of States and the Nation 2005 (ftp://ftp.hrsa.gov/mchb/oralhealth/state/maryland.pdf)

In the 2008 MD BRFSS survey report, 72.6% of adults said they visited a dentist or a

dental clinic within the last year (figure 11). Forty-three percent (43%) of adults reported having one or more permanent teeth extracted sometime in the past, and 12.4% of adults 65 years and older reported having had all their teeth extracted (figure 11). Of adults 65 years or older, 43.5% reported they had lost 6 or more teeth due to decay or gum disease. In the 2004 BRFSS, 73.6% of adults

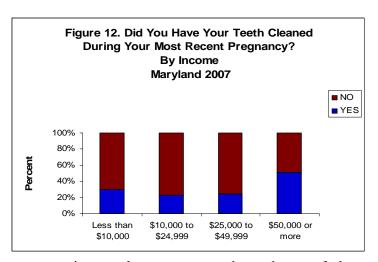


reported having their teeth cleaned within the last year. Routine dental care that includes dental cleaning is a good indicator of preventive behavior for oral health.

Oral Health Behaviors of Pregnant Women

According to the CDC Pregnancy Risk Assessment Monitoring System 2007: CPONDER (PRAMS)¹¹, 37.1% of women (sample of women with recent live births from state's birth certificate) in Maryland said they had their teeth cleaned during their recent pregnancy. Of

the women who reported an income of \$50,000 or higher. 51.2% had their teeth cleaned during their pregnancy, and 48.8% reported not having their teeth cleaned during their In comparison, pregnancy. women with a reported income of \$10,000 - \$24,999, 22.6% of women reported having their cleaned during their pregnancy, while 77.4% reported not having their teeth cleaned. Pregnant women of



higher socioeconomic status are accessing oral care more than those of lower socioeconomic status (figure 12). More programs and activities to increase access to care are needed for lower income pregnant women.

¹¹ CDC's Pregnancy Risk Assessment Monitoring System (PRAMS): CPONDER (http://www.cdc.gov/PRAMS/CPONDER.htm)

When looking at disparities by race and ethnicity among Maryland women who gave birth between 2004 and 2007, lack of teeth cleaning during this 4-year period was more prevalent among Hispanic women at 42%, Black at 33%, and Asian at 25%, than among White Non-Hispanic women at 17% ¹². This disparity could be attributed to several factors such as maternal age, marital status, education or healthcare access. Women in this group with less than a high school education (44%) were more likely not to have had their teeth cleaned than those with a high school education or higher (16%).

Children with Special Health Care Needs (CSHCN)

In 2009-2010, "The Center for Maternal and Child Health" along with "The Parents' Place of Maryland" conducted a statewide survey of the parents of children with special health care needs in Maryland to learn their views, perceptions and experiences with using the health service delivery system. Based on preliminary data, when asked "do your children's teeth get brushed at least once per day," 92% answered yes. In addition, when asked "how long has it been since you or your child children last went to a dentist for a check-up?," 65% said 6 months or less, and 19% said more than 6 months but not more than 1 year ago, and 16% reported more than a year 13.

¹² Maryland Pregnancy Risk Assessment Monitoring System, "Focus on Oral Health Among Maryland Women Giving Birth 2004-2007", December 2009.

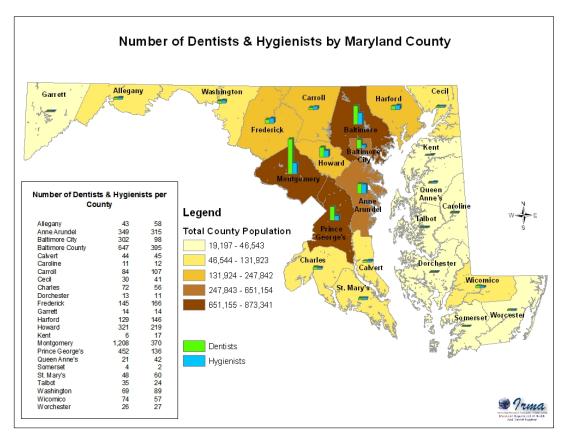
 $^{^{13}}$ Survey for Children with Special Health Care Needs, BPO Number: M00P0404238, Preliminary Results January 2010.



Access to Care

In 2008, there were 4,147 dentists in the State of Maryland, of which 4,053 were active and practicing. Eighty percent were practicing general dentistry, 6% were orthodontists, 4% were oral surgeons, 3% were pediatric dentists, and 3% were endodontists. Approximately, 33% of the state's dentists participate in the Medicaid program. About 79% of the dentists are concentrated in 6 counties and are centrally located in urban areas of Maryland. These 6 counties are the most populated with about 71% of the state's population (see geographical chart below).

They were 2,507 dental hygienists in the State of Maryland in 2008. Approximately 74% of the hygienists practice in 8 counties. Again, the majority of them are located in more urban areas, similar to dentists.



Maryland Access

According to Maryland 2007 BRFSS (self-reported)¹⁴:

- ❖ 74.4% of adults visited a dentist or a dental clinic within the past year
- ❖ 73.4% of adults had their teeth cleaned by a dentist or dental hygienist within the past year

In 2008, the Maryland Cancer Registry reported 15:

- ❖ 50% of adults age 40 years and older reported **EVER** having an oral cancer screening exam
- ❖ 84% of those who ever had an oral cancer screening were screened by a dentist, 11% by a dental hygienist, and 5% by a physician
- ❖ Among Maryland mothers who delivered during 2004-2007, PRAMS reported ¹⁶:
- ❖ 38% had their teeth cleaned within the past year
- ❖ 67% had their teeth cleaned prior to becoming pregnant

According to the 2009 Annual Oral Health Legislative Report ¹⁷:

❖ 19.1% of dentists were treating Medicaid patients in 2008

Medicaid

In the United States 50% of the total Medicaid population are children. According to the Kaiser Family Foundation, 26% of Maryland's residents are children. Approximately 63% of the individuals in the state covered under Medicaid are children 18. Data from the Hilltop Institute showed 495,219 children and adults enrolled in the Maryland Medicaid program in 2008. When broken down by race, of those enrolled, 52% are Blacks, 29% are Whites, 11% are Hispanics, and 3% are Asians.

¹⁴ Maryland Behavioral Risk Factor Surveillance System (BRFSS), 2007 http://fha.maryland.gov/databases.cfm

¹⁵ Maryland Cancer Survey, 2008, A Population Based Statewide Survey on Cancer Screening and Behavioral Risk Factors, Maryland Department of Health and Mental Hygiene, September 2009

 $^{^{16}}$ Maryland PRAMS, Focus on Oral Health Among Maryland Women Giving Birth 2004-2007, December 2009 Report

¹⁷ House Bill 70 (Ch. 656) of the Acts of 2009, Maryland 2009 Oral Health Legislative Report (http://www.dhmh.state.md.us/reports)

 $^{^{18}}$ Kaiser Family Foundation State Medicaid Fact Sheets 2006-2007 $\,$

Other Indicators

- ❖ There are 16 federally qualified health centers (FQHC)¹⁹ in the State of Maryland. Nine of the FQHCs²⁰ provide a range of dental services to eligible individuals (Table 3). Another FQHC (Healthcare for the Homeless) with an oral health component is scheduled to open in the spring of 2010 in Baltimore, Maryland. A FQHC in Montgomery County Community Clinics Inc., will open with a dental clinic the summer of 2010.
- ❖ All of the 24 local health departments in the State of Maryland have received a grant from the Office of Oral Health to provide dental services to children and adults. These services include: sealants, oral cancer screening, children and adult clinical services and fluoride treatments.
- ❖ The University of Maryland Dental School provides comprehensive dental services to both adults and children (Table 3).
- ❖ There are 7 dental health programs in the state that provide services to individuals with HIV/AIDS.
- Other dental health programs exist for homebound, children and adult special needs populations.

¹⁹ U.S. Department of Health and Human Services Health Resources and Services Administration http://findahealthcenter.hrsa.gov

²⁰ Maryland Oral Health Resource Guide 2008 http://fha.maryland.gov/oralhealth

Table 3. Maryland Dental Public Health Clinical Resources

County	Local Health Department Clinic	Federally Qualified Health Centers	Academic/Other
Allegany	On Site	None	
Anne Arundel	² On Site	Stanton Center	
Baltimore City	² On Site	So. Baltimore, Total Health, Chase Brexton, Parkwest, People's Comm., BMS, Healthcare for the Homeless	University of Maryland Dental School
Baltimore County	^{1, 2} On Site	Chase Brexton	
Calvert	None	None	Calvert Memorial Hospital
Caroline	None	Choptank	
Carroll	On Site	None	
Cecil	None	None	University of Maryland Dental School
Charles	On Site	Nanjemoy	
Dorchester	None	Choptank	
Frederick	On Site	None	
Garrett	On Site	None	
Harford	On Site	None	
Howard	Subcontract with Chase Brexton FQHC	³ Chase Brexton	
Kent	In Development – FY 2010	Choptank	
Montgomery	^{1, 2} On Site	None	
Prince George's	² On Site	Greater Baden	
Queen Anne's	In Development – FY 2010	Choptank	
Somerset	None	Three Lower Counties	
St. Mary's	Serves as an intermediary between Maryland Medicaid Program and private dental providers	None	Does not directly provide clinical services but is the main entry point for Medicaid patients and makes arrangements with private providers for their care.
Talbot	None	Choptank	
Washington	On Site	Walnut Street	
Wicomico	On Site	Served by Three Lower Counties FQHC	
Worcester	In Development – FY 2010	Served by Three Lower Counties FQHC	
1	Does not currently treat Medica		

Does not currently treat Medicaid enrollees Multiple sites

Partnership of Howard County Health Department and Chase Brexton

Training

Maryland has a dental school housed on the University of Maryland Baltimore City campus. There are eight accredited advanced programs with different specialties in the State of Maryland. The University of Maryland Dental School and the Navy Medicine Manpower, Personnel, Education and Training Command have the most diverse selection including general dentistry, endodontics, maxillofacial prosthetics, oral and maxillofacial pathology and surgery, orthodontics and dentofacial orthopedics, pediatric dentistry, periodontics, and prosthodontics.²¹

In addition, the state has four accredited dental hygiene programs: 1) Baltimore City Community College; 2) The Community College of Baltimore County; 3) University of Maryland Dental School; and 4) Allegany College of Maryland. The University of Maryland Dental School is the only baccalaureate dental hygiene program in Maryland. In addition, their program has a "hybrid type online program" where faculty have the ability to choose 100% online classes with live exams or a combination of both online and classroom settings.

There are two dental assisting programs in Maryland. One is located at the Medix School in Towson Maryland, the other at the All-State Career Healthcare Division in Baltimore.

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²¹ American Dental Association, www.ada.org



DISPARITIES

Disparities continue to exist among different racial and ethnic groups for several oral health indicators including preventive care, certain risk factors, and current oral health status, as shown in Table 4. Untreated dental caries is higher among black and hispanic children than whites. Sealant prevalence in 3rd graders is highest among white children. Blacks have the highest prevalence of tooth extractions. When looking at disparities that exist for oral cancer, whites are more likely to get the disease but blacks are more likely to die as a result of the disease. This could possibly be due to screening behaviors, with only 23% of blacks reporting having an oral cancer exam within the past year compared to 47% of whites. Overall, whites appear to have the greatest access to care and preventive procedures. Regarding tobacco use, Hispanics were less likely to smoke during pregnancy than any other group. Little information is available on the Asian population because the information is either not collected or the data collected are so sparse that the numbers are suppressed.

Table 4. Oral Health Indicators by Race							
v	White	Black	Hispanic	Asian	Others		
Current Status							
Untreated Dental Caries (Survey of Oral He	alth Status of Ma	ryland Public He	alth Children	2005-2006)			
Kindergarten	24.4%	36.8%	36.8% 40.0% 33.3% 42.0%		36.2%		
Third Grade	17.4%	33.3%			45.9%		
Extractions (MD BRFSS 2008)							
None	59.6%	47.5%	47.5% 62%		59.9%		
1-5	27.3%	35.4%	30.4%	22.3%	28.5%		
6 or more	9.5%	13.8%	5.0%	4.2%	8.6%		
Oral Cancers (Maryland Cancer Registry –	MCR 2008)						
Incidence	9.4/100,000	7.6/100,000	*	*	S		
Mortality	2.6/100,000	3.7/100,000	*	*	S		
Preventive Care							
Sealants (Survey of Oral Health Status of M	aryland Public H	ealth Children 20	05-2006)				
Kindergarten	10.0%	2.3%	13.1%	*	6.5%		
Third Grade	56.2%	30.9%	41.7%	*	41.5%		
Individual Behaviors (MD BRFSS 2008, Nat	tional BRFSS 200	8, MCR 2008, PR	AMS 2007)				
Teeth cleaning past year	75.6%	61.9%	67%	70.5%	69.9%		
Visited dentist past year	76.7%	65.3%	65.9%	*	72.2%		
Oral cancer exam	47%	23%	*	*	28%		
Dentist visit during pregnancy	49.6%	40.2%	*	54.8%	45.4%		
Teeth cleaned during pregnancy	45.4%	23.4%	31.8%		45.8%		
Tobacco Use (National BRFSS 2008, PRAM	S 2007)						
Current Smoker – Adults	15.8%	16.4%	7.9%	*	6.7%		
Pregnant mother currently smokes	18.6%	12.2% 1.6%		*	4.6%		
Smoked 3 months before pregnancy	25.7%	13.1% 4.8% *		*	6.6%		
Smoked during last 3 months of pregnancy	14.4%	5.8%	2.9%		1.9%		
Quit smoking during pregnancy	43.9%	53.7%	*	*	*		

s= Counts are suppressed to prevent disclosure of data

* = Not available

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EDUCATION and TRAINING

Fluoride Varnish

The Office of Oral Health developed a program named *Maryland's Mouths Matter – Fluoride Varnish and Oral Health Screening Program for Kids* in an effort to collaborate with licensed Early and Periodic Screening, Diagnosis and Treatment (EPSDT) medical providers, including pediatricians, family physicians, and nurse practitioners, to address the oral health needs of Maryland's children (See Appendix D). Medical providers, who successfully complete a state-sponsored training program, are reimbursed by Medicaid for fluoride varnish application on children 9 months to 36 months old as part of their routine well-child visits. These providers were trained specifically in oral health screening and fluoride varnish application (including demonstrations), with a brief overview on Medicaid billing and reimbursement procedures. Eleven training sessions and one pilot session in different regions of the state were conducted between June and August, 2009. By December 2009, approximately 458 providers attended the training sessions, of which roughly 270 were certified for reimbursement by Medicaid for application of fluoride varnish (Table 5).

Due to the success of the program, in March 2009, the Fluoride Varnish and Oral Health Screening Training course became available online (www.fha.maryland.gov/oralhealth).

Future Plans

A *Fluoride Varnish Registry* housed at the Baltimore City Health Department will be made available to qualified providers to look at historical data for patients who have received fluoride varnish in the past in order to properly schedule subsequent visits.

Table 5. Fluoride Varnish Training Information

	TRAINED				ELIGIBLE TO BILL		
	Physician	Nurse Practitioner	Medical Assistant	Nurse/ Other	Physician's Assistant	Physician	Nurse Practitioner
Baltimore City Pilot :							
(not included in "Trained" totals)	27	4				20	
Training Session 6/2:							
Pilot - Cherry Hill	9		1	25		9	
Training Session 6/4:							
Montgomery, Shady Grove	40	10	2	7		27	1
Training Session 6/9:							
Western MD, Rocky Gap	18	7	8	14	1	17	6
Training Session 6/11:							
Southern MD, Charles County HD	13	5	2	5		12	2
Training Session 6/11:							
Eastern Shore, Easton Memorial	14	5	1	6	2	14	4
Training Session 6/13:							
Central MD, Dental School	42	7	3	2	1	37	3
Training Session 6/18:							
Eastern Shore, Peninsula General	7	4		1		6	1
Training Session 6/20:							
Central MD, Dental School	16	2	5	1		16	
Training Session 6/23:							
Prince George's, PG Hospital	25	4	3	4		21	1
Training Session 6/25:							
Central MD, Dental School	44	13	8	17	3	39	5
Training Session 8/19:							
Western MD, Walnut Street	11	4	6	2	2	9	4
Training Session 8/22:							
Central MD, Dental School	18	1	4	3		12	
Total:	257	62	43	87	9	239	27
Grand Total:					458		266

CHILDREN'S DENTAL HEALTH PROJECT

Focus Group Research with Pregnant Women and Mothers of Young Children

The Children's Dental Health Project (CDHP), in collaboration with the School of Public Health, University of Maryland, conducted three focus groups during the summer of 2009 with low-income pregnant women and mothers of children under age two in the State of Maryland. (A fourth group is planned for fall 2009.) The focus groups were held in three settings that included urban



communities (Baltimore and Seat Pleasant) and a rural community (Cambridge). A professional moderator with extensive women's health experience facilitated the groups.

The objective of the focus groups was to collect data on women's experiences, knowledge, practices, and opinions related to oral health, both for themselves and their children. Additionally, women's reactions to various materials and messages, including those addressing vertical transmission, the age one dental visit, fluoride, and limiting sugars were gathered. Information will be used to strengthen and improve educational messages and outreach efforts for improving women's and children's oral health, as well as to plan further research endeavors.

Overview of Findings

Most participants knew some basic information about oral health for themselves and for their children, but their knowledge of caring for their infant's oral health varied greatly. It is important to note that all of the women in these groups were connected to programs such as Healthy Start, WIC, or other health promotion program that had given them greater exposure to information resources than other similar women may have received. However, it appeared from the number of stories women told about serious dental problems among their children that the information they had received was not available early enough for women to act on, or that access to care may have been too limited.

Implications

From discussions with participants, the following implications were evident:

Women need information earlier.

While many women did know basic information on caring for their children's oral health, it was evident that overall, it was not received early enough. In many cases, women did not receive information on maintenance of their children's oral health (which they subsequently implemented) until they had sought care for their children specifically due to dental problems or pain. It seems that women are willing to implement the health messages they receive, but often are not exposed to information early enough to do so.

Communicating health messages to women must include creative means, outside of print.

Introducing print materials and message concepts in the focus groups reinforced the need to have sources of information tailored to audiences that may have low literacy levels that could benefit from short and very visual media. Additionally, it appears that many women do not receive the majority of health information they are aware of from print materials.

The continuum of care must be addressed and promoted.

Many existing materials encourage women to seek dental care during pregnancy for themselves, and afterwards for their infant. However, most participants described a large gap in accessing care from childhood to adulthood. Limited use of dental care likely contributes to the erroneous knowledge or lack of knowledge women have regarding the importance of oral health to their own overall health, and to the health of their children.

Materials must address underlying causes that inhibit women from seeking care.

Many existing print materials are prescriptive in nature - providing specific information encouraging women to take their infants to the dentist. However, they do not address underlying fears and concerns that may play a role in seeking care, such as some mothers' fear of being separated from their child during the dental visit.

Specific behaviors and misinformation must be addressed.

One example that needs to be addressed is the seemingly widespread practice of chewing food and passing it to babies. Another source of misinformation is advertising messages touting "natural" products that actually contain high amounts of sugar, but may lead parents to believe they are good choices for their children. A key component of addressing misinformation relates to correcting misperceptions regarding the safety of tap water, and to ensuring that women understand the purpose and benefit of fluoride.

Overall, most women did have some degree of knowledge related to maintaining good oral health for themselves and their children. However, there was great variance and confusion related to specific behaviors and practices. Additionally, women seemed to be highly motivated to implement health behaviors for their children, but often did not receive the correct information early enough, or in a manner that was accessible to them.

For further information, please contact Jessie Buerlein at Children's Dental Health Project: (202) 833-8288 x 208; jbuerlein@cdhp.org



POLICY

The Office of Oral Health at the Maryland Department of Health and Mental Hygiene (DHMH) was built upon the development of legislative policy that led to the enactment of oral health policy interventions aimed at reducing the burden of oral disease in Maryland. The Office of Oral Health continues to strive for and support policy which will lead us to that goal. Prior to 1996, the then Division of Dental Health had no budget, and depended on oral health grants funded by the DHMH Division of Maternal and Child Health, including a Lower Eastern Shore Regional grant, a Queen Anne's County grant, and Case Formula Dental grants.

In 1998, the newly named Office of Oral Health (OOH) was mandated by SB 590, which also established the formulation of an Oral Health Advisory Committee. This enabled the OOH to begin community outreach programs. Other legislation followed, including: a) SB 791 (2001) - Reducing Oral Cancer Mortality; b) SB519 (2000) - Maryland Dent-Care Loan Assistance Repayment Program; c) HB1309 (2002) - Dentistry – Waiver of Licensure Education Requirement – Pediatric Specialist; d) SB 181 (proposed in 2006 and passed in 2007) - Oral Health Safety Net and e) SB 568 (2007) - Health Occupations– Supervised Practice – Dental Hygienist.

Additionally, in June 2007, the Dental Action Committee (DAC) was formed by the Department of Health and Mental Hygiene Secretary, John Colmers, in response to continuing concerns regarding access to oral health care services. The death of 12-year-old Deamonte Driver from Prince George's County resulting from a dental infection, increased awareness of the lack of access to oral health care services facing low income families in Maryland²².

Dental Practices Statutes/Regulations

The above referenced statutes, as well as relevant regulations enacted administratively, and through the General Assembly, have addressed and impacted dental practice, health care quality, prevention and access to care issues in an effort to reduce oral health disparities in Maryland. The following is a detailed update of relevant statutes and the DAC recommendations.

²² The Maryland Dental Action Committee Access to Dental Services for Medicaid Children in Maryland Report (http://fha.maryland.gov/pdf/oralhealth/DAC_Final_Report.pdf)

SB590 (1998)

This bill required DHMH to issue a request for proposals for the administration of dental services for recipients of the Maryland Medical Assistance Program for the purpose of making a comparison between managed care organizations and dental managed care organizations. It also required DHMH to provide program recipients with access to dental services in accordance with utilization targets of the DHMH. Additionally, the bill required that dental services for pregnant women be included as a benefit under the Maryland Medical Assistance Program. Moreover, it required DHMH, in cooperation with representatives of the dental care community, dental managed care organizations, and managed care organizations in the state, to make an assessment, develop and implement a strategy, and establish a plan for a period setting certain utilization targets for dental services. Furthermore, it required a plan to include an assessment process and statewide follow-up survey. (This led to the establishment of a school-children survey that is conducted every 5 years.) This bill also required DHMH, subject to the state budget, to establish an Office of Oral Health.

In addition to the above, SB590 required DHMH to apply to the federal Health Care Financing Administration for a special waiver to qualify for additional federal funds for the provision of dental services. The U.S Department of Health and Human Services approved Maryland's application to convert its fee for service program to a managed care model in 1997. SB 590, which mandated dental care utilization rates increase from the then 14% to 70% over the next five years, was passed one year later by the Maryland General Assembly. In response, the then Secretary of DHMH established the Oral Health Advisory Committee (OHAC) to advise DHMH about access to care and provider participation issues, as well as to oversee demonstration projects aimed at identifying barriers to access and recommend solutions. OHAC developed and coordinated utilization data protocols, provider recruitment strategies, outreach methodologies, case management oversight, dental procedure remuneration rate assessment and legislative initiatives²³.

In 1997, Maryland began the statewide mandatory managed care program called *HealthChoice*, which provided healthcare to most eligible Medicaid recipients. The program was administered through Managed Care Organizations (MCOs) that provide covered services to eligible Medicaid recipients. One of these services is dental, which is a required service for those eligible under the age of 21 as a component of the Early and Periodic Screening, Diagnosis and Treatment (EPSDT) benefit.

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²³ National Institute of Dental and Craniofacial Research: Oral Health Advisory Committee - Strategies to Improve Access http://www.nidcr.nih.gov/NR/rdonlyres/CFBD2AAF-31D6-4104-4644-733C9083B900/0/Law Policy Medicaid.pdf

SB791 (2000)

Legislation supported by OHAC included SB 791. This bill required the Secretary of Health and Mental Hygiene to establish the Oral Health Program to prevent and detect oral cancer in the state with certain focus and intent; targeting the program to the needs of high-risk underserved populations; requiring the Secretary, in consultation with certain providers, to develop and implement programs to train health care providers to screen and refer patients with oral cancers; and to promote certain smoking cessation programs. As a result, the oral cancer mortality prevention initiative, directed by the Office of Oral Health, enables counties to provide an education and awareness campaign to the public and to address the oral cancer screening training needs among health care providers. Of the six counties that received oral cancer mortality prevention initiative funding in FY 2009 from the Office of Oral Health, three are also using Cigarette Restitution Fund (CRF) funding to provide oral cancer services. In these three counties, the funding from the Office of Oral Health has been used for public and provider education. CRF funding was used by one county to conduct an oral cancer screening, perform biopsies, and assist in treatment when necessary, and by two counties for additional public and provider education.

SB519 (2000)

OHAC also supported SB519 - Maryland Dent-Care Loan Assistance Repayment Program (MDC-LARP). This bill was established to provide education loan assistance grants to qualifying dentists who agree that at least 30% of their patients treated will be Maryland Medical Assistance Program recipients. The bill required the Maryland Higher Education Commission to administer the Maryland Dent-Care Program with the assistance of the Office of Oral Health. The purpose of this program is to increase access to oral health care services by increasing the number of dentists who provide services for Medicaid recipients. In CY 2008, a total of 11 dentists participated in the program; three of these dentists completed their three-year service obligation in December 2008. The service obligation requires that the dentists must participate in the program for the full three years and during that period 30% of their base patient population must be Medicaid patients. In January 2009, five new dentists started the program and will continue through December 2011. As of January 2010, there are 15 dentists currently in the program. During 2008, MDC-LARP dentists treated 7,758 non-duplicated Medicaid patients and had 19,395 dental visits by Medicaid recipients. Since the inception of the program in 2001, MDC-LARP dentists have seen 41,700 non-duplicated Medicaid patients through 104,250 patient visits.

HB1309 (2002)

This bill allows for a waiver of educational requirements for dental licensure in Maryland for applicants who do not hold a dental degree from an institution/country recognized by the Maryland State Board of Dental Examiners. The bill also assists the Pediatric Dental Fellowship Program in recruitment and retention of Pediatric Dental Fellows. Under this bill, the Dental Board may grant a waiver on educational requirements for an applicant if the applicant holds a degree of Doctor of Dental Surgery, Doctor of Dental Medicine, or an equivalent degree from a dental school that is not located in the United States or Canada. The applicant must have successfully completed at least a 2-year Pediatric

Dentistry Residency Program at an American Dental Association (ADA) accredited US or Canadian dental school, or a hospital authorized by any state which is recognized by the Maryland Dental Board. The applicant must successfully complete a Pediatric Dental Fellowship at the University of Maryland Dental School. Additionally, the applicant is contractually obligated to provide pediatric dental services for at least 2 years in a public health dental clinic operated by the State of Maryland or municipality of the state during the fellowship program.

HB40

Language is included in this Budget Bill that requires Medicaid Managed Care Organizations to increase dental fees. The bill dedicated \$7.5M to cover increased fees for 11 commonly used dental restorative procedures.

SB181 (2007)

In 2007, the Oral Health Safety Net bill was passed but was initially unfunded. This bill requires DHMH to maintain and enhance the dental public health infrastructure by ensuring that each local jurisdiction has a local health department dental clinic and a community oral health safety net clinic, and by providing funding to fulfill the requirements outlined in the Oral Health Safety Net legislation. In response to the Maryland Dental Action Committee recommendations, the Governor's FY 2009 budget for the Department of Health and Mental Hygiene's Family Health Administration included \$2 million to increase clinical dental treatment and preventive services for lowincome Maryland children, especially those who are Medicaid-eligible or uninsured. While these oral health safety net grant funds are intended to be used statewide, they are specifically targeted for jurisdictions that at the time were not served by a public health dental clinical program (Worcester, Kent, Queen Anne's, and Calvert Counties), and for purposes other than those specified in HB 30/SB 181 (2007). Also in 2008, the General Assembly directed that \$500,000 be set aside out of the Governor's FY 2009 \$2 million budget for the Office of Oral Health and be placed in a capital infrastructure grant program to acquire, design, construct, renovate, convert, and equip oral health safety net clinic facilities. Further, the 2009 Maryland General Assembly approved the Governor's FY 2010 budget, which maintained \$1.5 million in the Department's budget to support many of the requirements listed in the 2007 Oral Health Safety Net legislation²⁴.

Despite significant improvements under *HealthChoice*, Maryland, like many other states, continued to face numerous barriers to providing comprehensive oral health services to Medicaid enrollees. Barriers included low provider participation due, among other things, to low reimbursement rates, missed appointments, and a lack of awareness among enrollees about the benefits of basic oral health care. As the Medicaid population continued to increase each year, these barriers remained as significant impediments to increased access to dental services.

²⁴ Maryland Oral Health Annual Legislative Report 2009 (http://www.dhmh.state.md.us/reports)

In response to this situation and galvanized by the death of a 12-year old Prince George's County boy, Deamonte Driver, to an untreated dental infection in June 2007, Secretary Colmers of DHMH convened the Dental Action Committee (DAC) in an effort to increase children's access to oral health services. The DAC also worked to identify ways to increase utilization of oral health services by eligible Medicaid enrollees. The DAC was comprised of a broad-based group of stakeholders concerned about children's access to oral health services. The DAC focused its efforts and recommendations on four topic areas: (1) Medicaid reimbursement and alternative models; (2) provider participation, capacity, and scope of practice; (3) public health strategies; and, (4) oral health education and outreach. The DAC reviewed dental reports and data to develop a comprehensive series of recommendations, building on past dental initiatives, lessons learned, and best practices from other states.

The DAC developed seven principal recommendations for the Secretary to act upon. Additionally, the DAC recognized that significant racial and ethnic disparities exist in the receipt of oral health services by children and that the well-being of Maryland's children requires that any comprehensive plan to increase access to oral health services must also address these disparities. The DAC stated that the intent of its recommendations was to establish Maryland as a national model of oral health care for low-income children.

The Dental Action Committee recommended the following seven points for immediate action by the Maryland Department of Health and Mental Hygiene:

- 1. Initiate a statewide single vendor dental Administrative Services Only (ASO) Provider for Maryland.
- 2. Increase dental reimbursement rates to the 50th percentile of the American Dental Association's South Atlantic region charges, indexed to inflation, for all dental codes.
- 3. Maintain and enhance the dental public health infrastructure through the Office of Oral Health by ensuring that each local jurisdiction has a local health department dental clinic or a community oral health safety net clinic and by providing funding to fulfill the requirements outlined in the Oral Health Safety Net legislation (SB 181/HB 30 2007).
- 4. Establish a public health level dental hygienist to provide screenings, prophylaxis, fluoride varnish, sealants, and x-rays in public health settings.
- 5. Develop a unified culturally and linguistically appropriate oral health message for use throughout the state to educate providers, parents and caregivers of young children about oral health and the prevention of oral disease.
- 6. Incorporate dental screenings with vision and hearing screenings for public school children, or require dental exams prior to school entry.

7. Provide training to dental and medical providers to provide oral health risk assessments, educate parents/caregivers about oral health, and to assist families in establishing a dental home for all children.

Progress has been made by the Department on many of the DAC's recommendations, including:

- 1. The Department awarded a contract to DentaQuest, formerly Doral Dental Services, to serve as the single statewide dental vendor. The Department worked closely with DentaQuest to transition dental services from the MCOs and DentaQuest began managing dental services and paying claims July 1, 2009. During the transition, current members were notified of the new dental benefits administrator and additional dental providers were recruited to participate in the program. The new Medicaid dental program has been named "Maryland Healthy Smiles."
- 2. The Governor's FY 2009 budget included \$7 million in general funds (\$14 million total funds, including \$7M in federal funds) to increase targeted dental rates starting in July 2008 to the ADA 50th percentile for the South Atlantic region. This rate increase has attracted many new dental providers to the Maryland Healthy Smiles program. As of August 2009 there were 874 dental providers enrolled with DentaQuest. A second and third round of rate increases have been delayed due to budget constraints.
- 3. To provide for greater access to dental services for young children, beginning July 1, 2009, Early and Periodic Screening, Diagnosis and Treatment (EPSDT) medical providers (pediatricians, family physicians, and nurse practitioners) can receive Medicaid reimbursement for providing fluoride varnish treatment to children age 9 36 months through the Maryland's Mouths Matter: Fluoride Varnish and Oral Health Screening Program for Kids. Certified medical providers who successfully complete an Office of Oral Health training program for oral health assessments and fluoride varnish application are eligible for this Medicaid reimbursement. As of August 2009, approximately 400 EPSDT medical providers have successfully completed the Office of Oral Health training program. Of these, 272 providers are now billing the Maryland Healthy Smiles Program and being reimbursed for fluoride varnish application.
- 4. The DAC recommended legislation to improve and expand the oral health safety net by strengthening the role of dental hygienists. During the 2008 session, the General Assembly unanimously passed legislation that facilitates the role of dental hygienists working for public health programs. The legislation, sponsored by Delegate Veronica Turner in the House of Delegates (HB 1280), and by Senator Middleton in the Senate (SB 818), took effect October 1, 2008. The legislation allows dental hygienists who work for public health programs to provide services within their scope of practice at off-site programs without a dentist having to be on the premises or see the patient before services are

rendered. This legislation has enabled dental hygienists working for public health agencies to more efficiently and expeditiously provide services within the scope of their practice in offsite settings (e.g., schools and Head Start centers). As a result of this legislation, health department dental programs have begun recruiting and enlisting public health dental hygienists, and additional School-Based Health Centers are making plans to employ dental hygienists to provide preventive services.

5. The Governor's FY 2010 budget includes \$1.5 million to continue support for new or expanded dental public health services, especially targeting jurisdictions without public health clinics. With this funding, every county in Maryland now has, or will have within the next year, a public health safety net dental clinical program (see Table 3). In 2007, only half of the state's jurisdictions had such programs.

Also, the Robert T. Freeman Dental Society Foundation Deamonte Driver Dental Van Project began operations in March 2009 and by June 2009 had provided care to over 700 students from Prince George's County public schools. This project has helped recruit and enroll new dentists into Maryland Medicaid to provide treatment for children referred from the van.

- 6. General dentists have received training in didactic and clinical pediatric dentistry so that they may competently treat young children. As of August 2009, over 250 general dentists received this training through various courses sponsored by the Office of Oral Health as well as a multi-week course developed and presented by the University of Maryland Dental School.
- 7. A subcommittee of the DAC is working to develop an oral health literacy campaign aimed at educating low-income, high-risk families about the importance of oral health care. Currently, a \$1.2 million fiscal appropriation has been approved for this statewide campaign by Congress' Labor, Health and Human Services and Education Appropriations Committee. Furthermore, the Office of Oral Health partnered with the University of Maryland at College Park School of Public Health on a successful grant proposal to a private nonprofit foundation that provided over \$300,000 in funding for this program.
- 8. A subcommittee of the DAC is working to develop a program whereby dental screenings are incorporated with vision and hearing screenings for public school children. The target date for enactment of this program is 2011.

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APPENDIX A: RESOURCES

- 1. **Behavioral Risk Factor Surveillance System (BRFSS)** is an ongoing surveillance program designed to collect data on the behaviors and conditions that place Marylanders at risk for chronic diseases, injuries, and preventable infectious diseases. BRFSS data are used to design, implement, and evaluate prevention efforts (http://www.cdc.gov/brfss).
- 2. **Survey of Oral Health Status of Maryland Public School Children** is a survey conducted every 5 years by the Office of Oral Health to assess the oral health status of Maryland's public school children in kindergarten and 3rd grade.
- 3. **Oral Cancer Foundation** is a national public service, nonprofit entity designed to reduce suffering and save lives through prevention, education, research, advocacy, and support activities related to oral cancer (www.oralcancerfoundation.org/facts).
- 4. **SEER Cancer Statistics Review** is a premier source for cancer statistics in the United States. Surveillance, Epidemiology and End Results (SEER) collects information on cancer incidence, survival, and prevalence from specific geographic areas representing 26 percent of the US population (www.seer.cancer.gov/crs/1975 2003).
- 5. Cancer Report 2008, Cigarette Restitution Fund Program. Reports are required to be produced under the Maryland Cigarette Restitution Fund Program (CRF Program) that focus on overall cancer incidence and mortality and on the 7 CRF targeted cancers: lung, colorectal, breast, prostate, cervical, skin, and oral. The reports contain information on new cancer cases and deaths; 5 year cancer numbers and deaths; cancer rates; maps; screening rates; and recommendations. (http://fha.maryland.gov/cancer/surv_home.cfm)
- 6. **American Academy of Periodontology** is the membership organization that works to advance the periodontal and general health of the public and promote excellence in the practice of periodontics. Its journal, the Journal of Periodontology, publishes original scientific articles to support practice, education, and research in the dental specialty of periodontics (www.perio.org).
- 7. Maryland Department of the Environment (MDE) was created to protect and preserve the state's natural resources, including water, and oversees fluoridation of water supplies. In addition to restoring Maryland's environment and safeguarding the environmental health of Maryland citizens, MDE's duties encompass enforcement and regulation, long-term planning and research, and technical assistance to industry and communities for pollution, growth issues, and environmental emergencies (http://www.mde.state.md.us/).

- 8. **Centers for Disease Control Division of Oral Health** works to improve the oral health of the nation by promoting oral health surveillance and the use of proven strategies of prevention and control of oral diseases (http://www.cdc.gov/OralHealth).
- 9. **Oral Health in America: A Report of the Surgeon General** focuses the nation's attention on important public health issues. The one specifically on oral health was published on May 25, 2000 (http://www.surgeongeneral.gov/).
- 10. American Academy of Pediatric Dentistry is the membership organization representing the specialty of pediatric dentistry, which contributes to professional education programs and scholarly works concerning dental care for children (www.aapd.org).
- 11. **National Center for Health Statistics** conducts surveillance activities and compiles statistical information to guide actions and policies to improve the health of people of the nation (http://www.cdc.gov/nchs/).
- 12. **Pregnancy Risk Assessment Monitoring System (PRAMS)** is a surveillance project that collects and makes available state-specific, population-based data on maternal attitudes and experiences before, during, and shortly after pregnancy (http://www.cdc.gov/PRAMS/CPONDER.htm).
- 13. The Center for Maternal and Child Health and The Parents' Place of Maryland conducted a statewide survey of parents of children with special health care needs in Maryland. Only preliminary data is available since the survey is not complete.
- 14. **Maryland's 2009 Annual Oral Health Legislative Report** is a comprehensive oral health legislative report followed by the enactment of House Bill 70 during the 2009 legislative session submitted by the Maryland Medicaid Program and the Office of Oral Health within the Department of Health and Mental Hygiene. (http://www.dhmh.state.md.us/reports)
- 15. Center for Medicaid and Medicare Services is responsible for ensuring effective, up-to-date health care coverage and for promoting quality care for beneficiaries (http://www.cms.hhs.gov/).
- 16. **Kaiser Family Foundation State Medicaid Fact Sheets 2006-2007** are designed to provide free, up-to-date, and easy-to-use health data on all 50 states. Data are drawn directly from Kaiser's continuously updated database for state-level health data, which features the most current data from the Kaiser Commission on Medicaid and the Uninsured (www.statehealthfacts.org).
- 17. **Health Resources and Services Administration (HRSA)** is an Agency of the U.S. Department of Health and Human Services. It is the principal Federal Agency charged with increasing access to health care for those who are medically underserved (http://www.hrsa.gov/).

- 18. **Maryland Oral Health Resource Guide 2008** is designed to inform and assist children, adults, patients with special health needs, caregivers, consumer groups, and government agencies in finding affordable and appropriate dental care services in Maryland and the immediate surrounding regions (http://fha.maryland.gov/oralhealth).
- 19. **American Dental Association** is the oldest and largest dental association and is an oral health information authority. It provides a wide array of data and information on oral health topics and state oral health resources (www.ada.org).
- 20. The Maryland Dental Action Committee Access to Dental Services for Medicaid Children in Maryland Report. This committee was tasked with making recommendations to Secretary Colmers of the Department of Health and Mental Hygiene on increasing access to dental care for undeserved children in Maryland. (http://fha.maryland.gov/pdf/oralhealth/DAC Final Report.pdf)
- 21. National Institute of Dental and Craniofacial Research Oral Health Advisory Committee: Strategies to Improve Access. In response to SB 590, the Secretary of the Department of Health and Mental Hygiene (DHMH) chartered the Oral Health Advisory Committee (OHAC) to advise DHMH about access to care and provider participation issues, as well as to oversee demonstration projects aimed at identifying barriers to access and recommending solutions. (http://www.nidcr.nih.gov/NR/rdonlyres/CFBD2AAF-31D6-4104-A6A4-733C9083B900/0/Law_Policy_Medicaid.pdf)
- 22. **Children's Dental Health Project (CDHP)** advances policies that improve children's access to oral health. CDHP forges research-driven policies and innovative solutions by engaging a broad base of partners committed to children and oral health (http://www.cdhp.org/).
- 23. **Maryland Medicaid Program HealthChoice** is Maryland's statewide mandatory managed care program, which provides health care to most Medicaid recipients (http://www.dhmh.state.md.us/mma/healthchoice/).
- 24. **Maryland General Assembly**. The Maryland Legislative Information System provides a record of all legislative activity of the state General Assembly (http://mlis.state.md.us/).
- 25. National Maternal and Child Oral Health Resource Center responds to the needs of states and communities and provides resources in addressing current and emerging public oral health issues related to mothers and children (http://www.mchoralhealth.org/).
- 26. **Healthy People 2010** provides a framework for prevention for the nation. It is a statement of national health objectives designed to identify the most significant preventable threats to health and to establish national goals to reduce these threats (http://www.healthypeople.gov/).



APPENDIX B: DEFINITIONS

- 1. **Caries experience**: The sum of treated and untreated caries (cavities), including any missing teeth that have been extracted due to decay.
- 2. **Cleft lip or palate**: A congenital opening or fissure occurring in the lip or palate.
- 3. **Community water system**: A public water system that supplies water to the same population year-round.
- 4. **Craniofacial**: Pertaining to the head and face.
- 5. **Dental caries**: An infectious disease that results in de-mineralization and ultimately cavitation of the tooth surface if not controlled or remineralized. Dental cavities may be either treated (filled) or untreated (unfilled).
- 6. **Dental Action Committee**: Formed by Department of Health and Mental Hygiene Secretary, John Colmers, in June 2007 in response to growing concerns regarding access to oral health services for Medicaid children in Maryland after the death of Deamonte Driver.
- 7. **Edentulous**: A condition characterized by having no natural teeth.
- 8. **Endodontist**: A dental specialist who performs root canals.
- 9. **Federally Qualified Health Centers**: Facilities, defined by the Medicare and Medicaid statutes, that provide care to underserved populations, e.g. Community Health Centers, Local Health Departments, Migrant Health Centers, Health Care for the Homeless Programs, and Public Housing Primary Care Programs.
- 10. **Fluoride**: A compound of the element fluorine. Fluorine is the 13th most abundant element in nature. Fluoride is used in a variety of ways to reduce dental caries.
- 11. **Fluoride Varnish**: A highly concentrated form of fluoride which is applied to the tooth's surface, by a health care professional, as a type of topical fluoride therapy.
- 12. **Fluoridation**: The adjustment of the natural fluoride concentration in water to recommended levels for optimal dental health.
- 13. **Gingivitis**: An inflammatory condition of the gum tissue, which can appear reddened and swollen, and frequently bleeds easily.
- 14. **Glycemic Index:** Glycemic Index indicates the after-meal response your body has to a particular food compared to a standard amount of glucose.

- 15. **HealthChoice:** HealthChoice is the name of the Maryland's statewide mandatory managed care program, which began in 1997. The HealthChoice Program provides health care to most Medicaid recipients.
- 16. **Homebound:** Those confined to or unable to leave home without assistance.
- 17. **Human Papillomavirus (HPV):** A papillomavirus that infects the epidermis and mucous membranes of humans. HPV can lead to cancers of the cervix, vulva, vagina, penis, anus, and oral cavity.
- 18. **Local Health Department**: A division of a local or larger government responsible for the oversight and care of matters relating to public health for a local population.
- 19. **Lymph Nodes**: An organ system found throughout the body which acts as a filter for foreign particles and is important for a properly functioning immune system.
- 20. **Managed Care Organizations**: Health care organizations that contract with a network of providers to provide covered services to their enrollees.
- 21. **Maryland Healthy Smiles:** Maryland's Medicaid Dental program. This program is for children, pregnant women and adults in the Rare and Expensive Case Management (REM) program.
- 22. **Maximum contaminant level (MCL)**: Mandatory water quality standards for drinking water contaminants, which are established to protect the public against consumption of drinking water contaminants that present a risk to human health.
- 23. **Oral Cavity**: Mouth.
- 24. **Oral Surgeon**: A dentist with special training in surgery of the mouth and jaws.
- 25. **Orthodontist**: A dental specialist who works to prevent or correct misaligned teeth and jaws for health or cosmetic reasons.
- 26. **Pediatric Dentist**: A patient age-defined specialty that provides both primary and comprehensive preventive and therapeutic oral health care for infants and children through adolescence, including those with special health care needs.
- 27. **Periodontal disease**: A cluster of diseases caused by bacterial infections resulting in inflammatory responses and chronic destruction of the soft tissues and bone that support the teeth. Periodontal disease is a broad term encompassing several diseases of the gums and tissues supporting the teeth.
- 28. **Periodontist**: A dental specialist that deals with the study and treatment of periodontal disease. They are also experts in the placement and maintenance of dental implants.
- 29. **Pharynx**: Throat.

- 30. **Public water system (PWS)**: A public water system provides water for human consumption to the public through piped or other constructed conveyances. A PWS has at least 15 service connections, or regularly serves an average of at least 25 individuals daily for at least 60 days out of the year. Ground water sources, surface water sources, or a combination of the two sources may provide water to a PWS. In some cases, one PWS may purchase all or part of its water from another PWS.
- 31. **Sealant**: A plastic material applied to the fissures or grooves of one or more back teeth to prevent dental caries (or tooth decay).
- 32. **Surveillance**: The ongoing systematic collection, analysis, and interpretation of health data essential to the planning, implementation, and evaluation of public health practice closely integrated with the timely dissemination of these data to those who need to know.
- 33. **Tooth Decay:** Tooth decay is the commonly known term for dental caries, an infectious, transmissible disease caused by bacteria. The damage done to teeth by this disease is commonly known as cavities. Tooth decay can cause pain and lead to infections in surrounding tissues, and tooth loss if not treated properly.



APPENDIX C: HEALTHY PEOPLE 2010

Goal: prevent and control oral and craniofacial disease, conditions, and injuries and improve access to related services.

- 21-2. Reduce the proportion of children and adolescents who have dental caries experience in their primary or permanent teeth.
- 21-1a. Reduce the proportion of young children with dental caries experience in their primary teeth.

Target: 11 percent.

21-1b. Reduce the proportion of children with dental caries experience in their primary and permanent teeth.

Target: 42 percent.

21-1c. Reduce the proportion of adolescents with dental caries experience in their permanent teeth.

Target: 51 percent.

- 21-2. Reduce the proportion of children, adolescents, and adults with untreated dental decay.
- 21-2a. Reduce the proportion of young children with untreated dental decay in their primary teeth.

Target: 9 percent.

21-2b. Reduce the proportion of children with untreated dental decay in their primary and permanent teeth.

Target: 21 percent.

21-2c. Reduce the proportion of adolescents with untreated dental decay in their permanent teeth.

Target: 15 percent.

21-2d. Reduce the proportion of adults with untreated dental decay.

Target: 15 percent.

<u>TOP</u>

21-3. Increase the proportion of adults who have never had a permanent tooth extracted because of dental caries or periodontal disease.

Target: 42 percent.

21-4. Reduce the proportion of older adults who have had all their natural teeth extracted.

Target: 20 percent.

21-5. Reduce periodontal disease (adults aged 35-44 years).

Target: Gingivitis = 41 percent; Destructive periodontal disease = 14 percent.

21-6. Increase the proportion of oral and pharyngeal cancers detected at the earliest stage.

Target: 50 percent.

21-7. Increase the proportion of adults who, in the past 12 months, report having had an examination to detect oral and pharyngeal cancers.

Target: 20 percent.

21-8. Increase the proportion of children who have received dental sealants on their molar teeth.

Target: 8-year-olds = 50 percent; 14-year-olds = 50 percent.

21-9. Increase the proportion of the U.S. population served by community water systems with optimally fluoridated water.

Target: 75 percent.

21-10. Increase the proportion of children and adults who use the oral heath care system each year.

Target: 56 percent.

21-11. Increase the proportion of long-term care residents who use the oral health care system each year.

Target: 25 percent.

21-12. Increase the proportion of low-income children and adolescents who received any preventive dental service during the past year.

Target: 57 percent.

- 21-13. (Developmental) Increase the proportion of school-based health centers with an oral health component.
- 21-14. Increase the proportion of local health departments and community-based health centers, including community, migrant, and homeless health centers, that have an oral health component.

Target: 75 percent.

- 21-15. Increase the number of States and the District of Columbia that have a system for recording and referring infants and children with cleft lips, cleft palates, and other craniofacial anomalies to craniofacial anomaly rehabilitative teams.
 - Target: All States and the District of Columbia.
- 21-16. Increase the number of States and the District of Columbia that have an oral and craniofacial health surveillance system.
 - **Target**: All States and the District of Columbia.
- 21-17. (Developmental) Increase the number of Tribal, State (including the District of Columbia), and local health agencies that serve jurisdictions of 250,000 or more persons that have in place an effective public dental health program directed by a dental professional with public health training.

Maryland's Mouths Matter: Fluoride Varnish and Oral Health Screening Program for Kids

PURPOSE STATEMENT

The goal of the Maryland's Mouths Matter: Fluoride Varnish and Oral Health Screening Program for Kids is to reduce the incidence of tooth decay in children ages 3 and under and contribute to the establishment of a dental home.

Effective July 1, 2009, the Maryland Medical Assistance Program (Maryland Medicaid) will reimburse Early and Periodic Screening, Diagnosis and Treatment (EPSDT) medical providers licensed in Maryland for the application of fluoride varnish (CDT Code D1206). Similar programs have been initiated in approximately half of the states throughout the United States and have shown success in increasing access to dental care services. Further, it has been demonstrated that fluoride varnish can be successfully adopted into medical practices. This program includes six components: (1) oral health screening; (2) dental caries risk-assessment; (3) anticipatory guidance; (4) fluoride varnish application; (5) referral to a dentist; and (6) billing Medicaid and accessing the Maryland Fluoride Varnish Registry database.

PURPOSE AND RATIONALE

Tooth decay is the most common chronic disease of childhood. It is a transmissible infection that is primarily caused by a bacterium (mutans streptococcus). The most likely source of the bacterium is the mother or another intimate care provider who shares food and eating utensils. The earlier a child's mouth is colonized with the bacteria, the higher the child's risk of developing tooth decay. Poor dietary and oral hygiene habits as well as lack of exposure to fluoride enable the bacterial attack and the eventual formation of tooth decay. Early childhood caries (ECC) is defined as rapid tooth decay in children ages 6 and under, but can be well advanced by the age of 3.³

The American Academy of Pediatric Dentistry recommends oral health screening of children by a primary care provider during medical visits (well-child visits) and referral of children identified at risk for poor oral health to a dentist to establish a dental home by 12 months of age. Maryland Medicaid utilizes the American Academy of Pediatrics (AAP) Recommendations for Preventive Health Care chart which is available at http://aappolicy.aappublications.org/subjournals/pediatrics/html/content/vol105/issue3/images/large/pe0304207001.jpeg.

Early access to preventive services has demonstrated a positive effect on the oral health status of children. Early intervention with oral health screening, dental caries risk assessment, anticipatory guidance (education), fluoride varnish (topical fluoride application) and necessary referrals, helps prevent dental caries.

FLUORIDE VARNISH BACKGROUND INFORMATION

Fluoride varnish is a liquid formulation of concentrated fluoride that is painted directly on the coronal surfaces of teeth. It has been used in Europe and Canada for more than 30 years, ⁴ and has proven to be effective in preventing tooth decay in both primary and permanent teeth. Fluoride varnish is applied at least one time per year and, in some cases may be applied as many as four times per year if a child is at higher risk of developing dental caries. First introduced in the United States in 1991, it received approval as a cavity varnish and a desensitizing agent. It is ideally suited for application on the teeth of infants, toddlers and children because of the ease of application and minimal ingestion. Because of its topical nature, fluoride varnish can be applied regardless of the concentration of fluoride in a community or private water system or whether a child is taking dietary fluoride supplements.

The application of fluoride varnish protects the primary teeth and ideally should be applied as soon as possible after the teeth erupt. Providers may purchase fluoride varnish in tubes containing sufficient product for multiple applications. However, many providers find it easier and more convenient to use pre-packaged single use (unit dose) tubes, which come with a small disposable applicator brush. Fluoride varnish is safe and less likely to be ingested when compared to other topically applied fluorides.

One advantage of the fluoride varnish and oral health screening program is that it is easily adaptable. This makes the program ideal for use in the Special Supplemental Nutrition Program for Women, Infants and Children (WIC), Head Start programs, EPSDT and state and local public health programs. Other advantages of the program include:

- It does not require special dental equipment;
- It does not require a professional dental cleaning prior to application;
- It is easy to apply;
- It dries immediately upon contact with saliva;
- It is well tolerated by infants and young children, including those with special health care needs:
- It is inexpensive;
- It requires minimal training;
- Medicaid will reimburse dental <u>and</u> medical providers who meet the criteria outlined in the fluoride varnish manual.

The Maryland Department of Health and Mental Hygiene (DHMH), Office of Oral Health recommends application of fluoride varnish to children at high risk for developing tooth decay in accordance with the United States Centers for Disease Control and Prevention's Recommendations for Using Fluoride to Prevent and Control Dental Caries in the United States⁴ and the American Dental Association, Council on Scientific Affairs's Professionally Applied Topical Fluoride: Evidence-Based Clinical Recommendations.⁵

- 1. Cantrell C. 2008. The role of physicians in children's oral health. *State Health Policy Monitor* 2(5):1-5. www.nashp.org/files/Fluoride%20Varnish%20Monitor.pdf.
- Lewis C, Lynch H, Richardson L. Fluoride varnish use in primary care: what do providers think? Pediatrics;115(1), 2005:e69-e-76. http://pediatrics.aappublications.org/cgi/content/full/115/1/e69.
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- Centers for Disease Control and Prevention. 2001. Recommendations for using fluoride to prevent and control
 dental caries in the United States. *Morbidity and Mortality Weekly Report* 50(RR-14);1-42.
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- American Dental Association, Council on Scientific Affairs. 2006. Professionally applied topical fluoride: Evidence-based clinical recommendations. *Journal of the American Dental Association* 137(8):1151-1159. http://www.ada.org/prof/resources/pubs/jada/reports/report_fluoride.pdf.



Appendix E: Dental Action Committee

The **Dental Action Committee (DAC)** was formed by Department of Health and Mental Hygiene (DHMH) Secretary, John Colmers, in June 2007 in response to growing concerns regarding access to oral health services for Medicaid children in Maryland after the death of Deamonte Driver. Deamonte Driver was a young boy from Prince George's County who died as a result of a brain infection caused by bacteria from tooth decay. The DAC was charged with developing a series of recommendations in the following priority areas: (1) oral health education and outreach to parents and caregivers; (2) public health strategies; (3) Medicaid reimbursements and alternate models; and (4) provider participation, capacity, and scope of practice. After careful review of data and best practices, the DAC developed major strategies for DHMH to undertake, main recommendation points for the Secretary to act upon immediately, and a comprehensive list of detailed recommendations for consideration. The overarching focus of the DAC and its subsequent recommendations was the establishment of a dental home for every child in Maryland, where comprehensive and on-going dental services are provided on a regular basis. Additionally, the DAC recognized that significant disparities exist in the receipt of and the delivery of oral health services to children and that a comprehensive plan to increase access to oral health services must address issues of disparity on all levels. Currently, DAC is in the process of becoming a statewide coalition.

Vision

Establish a dental home for all Medicaid children in Maryland where comprehensive dental services are available on a regular basis.

Main Recommendation Points

The Dental Action Committee recommends the following seven (7) points for immediate action by the Department of Health and Mental Hygiene:

FIRST: Initiate a statewide, single vendor dental Administrative Services Only (ASO) provider for Maryland.

SECOND: Increase dental reimbursement rates to the 50th percentile of the American Dental Association's South Atlantic region charges, indexed to inflation, for all dental codes.

THIRD: Maintain and enhance the dental public health infrastructure through the Office of Oral Health by ensuring that each local jurisdiction has a local health department dental clinic and a community oral health safety net clinic, and by providing funding to fulfill the requirements outlined in the Oral Health Safety Net legislation (SB 181/HB 30 2007).

FOURTH: Establish a public health level dental hygienist to provide screenings, prophylaxis, fluoride varnish, sealants, and x-rays in public health settings.

FIFTH: Develop a unified and culturally and linguistically appropriate oral health message for use throughout the state to educate parents and caregivers of young children about oral health and the prevention of oral disease.

SIXTH: Incorporate dental screenings with vision and hearing screenings for public school children, or require dental exams prior to school entry.

SEVENTH: Provide training to dental and medical providers to provide oral health risk assessments, educate parents/caregivers about oral health, and assist families in establishing a dental home for all children.

Members of the Dental Action Committee include:

Health Promotion and Policy, University of Maryland Dental School

Maryland Chapter of the American Academy of Pediatrics

Maryland Assembly of School Based Health Centers

Maryland Dental Society

Morgan State University

Maryland Dental Hygienists' Association

Advocates for Children and Youth

National Dental Association

Prince George's County Health Department

Maryland Oral Health Association

Medicaid Matters! Maryland

Maryland Academy of Pediatric Dentistry

United Health Care

Mid-Atlantic Association of Community Health

Centers

Public Justice Center

Carroll County Health Department

DentaQuest, formerly Doral Dental

Maryland Medicaid Advisory Committee

Maryland Community Health Resources

Commission

Maryland State Department of Education, Head

Start Collaboration Office

The Parents' Place of Maryland

Priority Partners

Maryland State Dental Association

Maryland Association of County Health Officers



Appendix F: CDC Cooperative Agreement

The Office of Oral Health (OOH) mission is "to improve the oral health status of Maryland residents through public oral health initiatives and interventions." Along with state funding, the Centers for Disease Control and Prevention's Cooperative Agreement has been instrumental in allowing OOH to pursue its mission while continuing to strengthen its programs. For instance, at the beginning of the cooperative agreement, in July 2008, OOH had only 6 staff members (4 FTEs). Since then, the Office has grown to a total of 17 employees, with the equivalence of 12 FTEs. This growth has been in large part due to CDC support and has allowed for development of program infrastructure that would not have otherwise been possible.

The funding has given the Office of Oral Health the opportunity to write and publish a "5 year Evaluation Plan" as well as this document. Moreover, the Office has hired staff that focuses on preventive activities that include fluoridation and sealants.



Appendix G: Water Systems Definitions

Fluoridation – Water Systems Definition Table

	# of Service Connections	# of Individuals	Duration of Service	Notes			
Public Water System (PWS)	either at least 15	or at least 25 individuals	at least 60 days annually	System providing water to the public for human consumption via pipes or other conveyances. Either CWS or NCWS.			
Community Water System (CWS)	either at least 15	or 25 residents	year round	A type of Public Water System - includes most homes, apartments and condominiums in cities, small towns, and mobile home parks			
Non- Community Water System (NCWS)	Public Water System that is not a Community Water System. Either a "Transient Non-Community Water System" or a "Non-Transient Non-Community Water System"						
Transient Non- Community Water System (TNCWS)	N/A	Less than 25	over 6 months annually	A type of Public Water System. Example: a rest area or campground with its own water system			
Non-Transient Non- Community Water System (NTNCWS)	N/A	Regularly serves at least 25	over 6 months annually	A type of Public Water System. Example: a school with its own water system			



Martin O'Malley, Governor • Anthony G. Brown, Lt. Governor • John M. Colmers, Secretary

OFFICE OF ORAL HEALTH

Family Health Administration

Maryland Department of Health and Mental Hygiene
201 W. Preston Street, 3rd Floor
Baltimore, Maryland 21201

(410) 767-5300

www.fha.state.md.us/oralhealth

The services and facilities of the Maryland Department of Health and Mental Hygiene (DHMH) are operated on a non-discriminatory basis. This policy prohibits discrimination on the basis of race, color, sex, or national origin and applies to the provisions of employment and granting of advantages, privileges, and accommodations.

The Department, in compliance with the Americans with Disabilities Act, ensures that qualified individuals with disabilities are given an opportunity to participate in and benefit from DHMH services, programs, benefits, and employment opportunities.