



# ORAL HEALTH STATE PLAN 2.0

2016-2020  
West Virginia

West Virginia Oral Health Program  
September 2015

# Recognition of Collaborative Efforts

The 2016-2020 State Oral Health Plan 2.0 could not have been accomplished without collaboration in the assessment of statewide oral health needs and the development of goals, objectives, and strategies.

## Contributing Partners

Claude Worthington Benedum Foundation

Kanawha County Dental Health Council

Marshall County Health Department

Marshall University (MU)

Mid-Ohio Valley Health Department

Office of Senator Jay Rockefeller

Office of Senator Ron Stollings

Ohio County Schools

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West Virginia Board of Dentistry (BOD)

West Virginia Child Health Insurance Program (CHIP)

West Virginia Dental Association (WVDA)

West Virginia Dental Hygienists' Association (WVDHA)

West Virginia Department of Education (WVDE)

West Virginia Department of Health and Human Resources (WVDHHR)

- Bureau for Medical Services
- Bureau for Public Health

West Virginia Healthy Kids and Families Coalition (WVHKFC)

West Virginia Oral Health Advisory Board (OHAB)

West Virginia Oral Health Coalition (OHC)

West Virginia Rural Health Association

West Virginia School-Based Health Assembly

West Virginia University (WVU) Health Sciences Center

- School of Dentistry (SOD)
- School of Public Health (SPH)

Wirt County Health Services Association, Inc.

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# Executive Summary

In 2007, the West Virginia Department of Health and Human Resources (WVDHHR) was encouraged by the West Virginia Legislature to develop a plan to improve the oral health of residents in the State. In 2009, the first State Oral Health Plan was developed by assessing statewide oral health needs and multiple organizational collaborations. The initial five year plan was pivotal in building the infrastructure of the State Oral Health Program and as a result has added a new full-time State Dental Director and Program staff to provide oral health education, develop state oral health policy and monitor the oral health status of West Virginia residents.

## Overview of Oral Health: West Virginia's Burden of Oral Disease

West Virginia has made great strides in improving oral health in the state over the last five years, but there is much more to be done, especially to protect our most vulnerable populations. Developing new collaborations and innovative service coordination models, strengthening research and renewing educational efforts will make it possible to eliminate disparities in oral health.

Such efforts are needed because oral diseases such as tooth decay, gum infections, and orthodontic problems still affect a large proportion of the population. In West Virginia, 56% of children experience tooth decay by the third grade. Tooth decay and advanced gum diseases ultimately lead to loss of some or all teeth. In adults aged 55-64 years, about 43% have lost six or more teeth due to dental decay or gum disease. Furthermore, oral cancers are constant contributors to premature death.

Disparities in oral health observed in national surveys are also apparent in West Virginia. For example, among persons 65 years and older, the percent of the population who have lost all their natural teeth varied from a low of 11% among college graduates to a high of 61% among those without a high school degree. Although most oral diseases are preventable, not all individuals and communities benefit fully from the available preventative measures. West Virginia is the second most rural state in the nation, with 49 of the 55 counties designated fully or in part as Health Professional Shortage Areas and/or Medically Underserved Areas. Nearly half (26) of the counties have less than six practicing dentists.

The mouth is our primary connection to the world. It serves to nourish our bodies as we take in water and nutrients to sustain life. It is our primary means of communication, the most visible sign of our mood, and greatly influences how we are perceived by others. Oral refers to the whole mouth: the teeth, gums, hard and soft palate, linings of the mouth and throat, tongue, lips, salivary glands, chewing muscles, and upper and lower jaws. Therefore, the mouth is an integral part of human anatomy and plays a major role in our overall physiology, making oral health intimately related to the health of the rest of the body.

Scientific reports have linked poor oral health to adverse general health outcomes. The role of chronic low-grade periodontal (gum) infections in increasing the risk for heart and lung diseases, stroke, low birth weight and premature births is being studied. A strong association between diabetes and periodontal infection has been observed. The effect of early childhood caries (tooth decay) on weight gain and failure to thrive has been reported. The impact of tooth loss on food choices is well documented. Behaviors that affect general health such as tobacco use, excessive alcohol use, and poor dietary choices are also associated with poor oral health outcomes. The emergence of this connection between oral health, general health, and risk factors supports oral health care as an essential component of health programs and policies.

The *Burden of Oral Disease, West Virginia 2014* identifies oral health gaps in several populations within the state, including:

- Children and adolescents with special health care needs;
- Adults aged 21 years and older enrolled in Medicaid;
- Perinatal population and infants under age two; and
- Children and adults of low socioeconomic status.

## Current Status of West Virginia Oral Health

### Children

- 56% of 3rd graders experienced tooth decay (2013-2014).
- 21% of 3rd graders had untreated cavities (2013-2014).
- 19% of children and adolescents had dental sealants on their permanent molar teeth (2013-2014).
- Children and adolescents with Medicaid dental coverage were more likely to experience tooth decay than those with CHIP or private insurance (2012-2013).
- Children and adolescents who had not visited the dentist in more than one year were 24% more susceptible to untreated tooth decay as compared to those who had visited the dentist in the past year (2012-2013).

### Adults (age 18+ years) and the Elderly

- 12% of all adults were completely edentulous (2012).
- 29% of adults used some form of tobacco (2011).
- 22% of adults had not visited a dentist in over five years (2012).
- 40% of adults had some type of dental coverage (2012).
- 16% of adults could not access care when needed over the past 12 months (2012).
- Low-income adults aged 65+ years were more likely to experience complete edentulism as compared to those with higher income (2010).

### Perinatal and Infant (aged <2 years)

- 38% of perinatal women with Medicaid dental insurance experienced untreated decay (2014).
- 23% of perinatal women needed some type of dental care; 10% of these women had Medicaid dental coverage (2014).

### Cancer of the Oral Cavity and Pharynx

- The age-adjusted incidence rate for oral and pharyngeal cancer among West Virginians was 11.4 per 100,000 population (2006-2010).
- The average annual mortality rate for oral and pharyngeal cancer among West Virginians was 2.8 per 100,000 population (2000-2010).
- Oral and pharyngeal cancer accounted for 674 years of potential life lost (2010).

### Emergency Department (ED) Visits and Hospitalization

- 11% of perinatal women with Medicaid dental insurance visited the ED for dental problems (2014).
- Those aged 15-44 years accounted for 56% of hospitalizations for dental problems (2012).
- The most common complaint for hospitalization concerned the pulp and periapical tissue; accounted for 62% of complaints (2012).

### Community Water Fluoridation

- 91.1% of West Virginians served by community water systems (CWS) were receiving fluoridated water (2012).

### Dental Workforce

- West Virginia had 4.7 dentists per 10,000 population (2012).
- There were 899 active, licensed dentists and 922 active, licensed dental hygienists working in the state (2014).
- 47% of dentists were 58 years or older (2012).
- 70% of dentists were actively participating in Medicaid (2013).
- 42% of dental practices had seen and treated infants aged 2 and younger (2014).
- 26 of 55 counties had less than 6 practicing dentists (2014).

## Summary of State Oral Health Plan 1.0

Prior to developing State Oral Health Plan 2.0, it was important to review the outcomes of State Oral Health Plan 1.0. There were seven objectives and several strategies identified in State Oral Health Plan 1.0. Of the established objectives and strategies in the initial Plan, 80% were accomplished or are currently in progress.

There were several state level oral health accomplishments as a result of the State Oral Health Plan 1.0, including: the hiring of a full-time State Dental Director and Oral Health Epidemiologist; the development and implementation of the Oral Health Surveillance System; completion of the first West Virginia Burden of Disease document; development of the Dental Loan Reimbursement Project; development of the Oral Disease Prevention Project; revision of the Fluoride Rinse Project; implementation of a new policy mandating dental exams in school; and many more. A small number of objectives and strategies have yet to be started due to shifts in priorities and various barriers. The remaining goals and objectives that have yet to be realized have been incorporated into State Oral Health Plan 2.0.

A table summary of State Plan 1.0 Objectives and Strategies is listed in Appendix A.

## Development of the West Virginia Oral Health State Plan 2.0

With State Oral Health Plan 1.0 coming to an end, the OHP, OHAB and OHC determined that a new plan should be developed in order to maintain a clear view of statewide oral health priorities. The State Oral Health Plan 2.0 was developed as a collaborative effort with input from organizations across the state and input from four Regional Community Forums. The goals and objectives developed in this new five year plan incorporate national, state and local oral health priorities in an effort to meet the needs of the state but also remain connected to the national oral health community.

The focus areas of the State Oral Health Plan 2.0 include access to care; oral health education; oral disease prevention; research, surveillance and evaluation; and infrastructure and strategic partnerships.

## Measuring Success



### *Healthy People 2020*

*Increase by 10% the proportion of children, adolescents, and adults who used the oral health care system in the past 12 months:  
Baseline 45% (2007) → Target 49% (2020)*

Healthy People 2020 provides an evidence-based framework to improve the nation's health by setting 10-year benchmarks and monitoring progress on selected health indicators. Significantly, Healthy People 2020 was the first time the framework included oral health as one of its leading health indicators (LHI).

This recent shift among the top tier of public health leadership in emphasizing oral health and recognizing its crucial role in general health presents an exciting opportunity for West Virginia: the opportunity to advocate for a life with confident smiles and without needless pain.

As the West Virginia Oral Health Program moves forward to implement strategies to reduce the prevalence of oral disease, it will measure its success against Healthy People 2020's LHI for the nation.

## *Access to Care*

**Goal 1: Improve access to standardized, comprehensive, continuous oral health services and eliminate disparities for all West Virginians.**

## *Education*

**Goal 2: Promote educational opportunities and experiences for the public, health professionals, and policy-makers to increase knowledge of oral health and its correlation to overall health.**

## *Prevention*

**Goal 3: Provide sustainable maintenance of oral wellness through coordinated, integrated, and comprehensive services.**

## *Surveillance and Evaluation*

**Goal 4: Enhance utilization of the existing statewide surveillance system to measure key indicators of oral health, and expand the system to address other data gaps.**

## *Infrastructure and Strategic Partnerships*

**Goal 5: Solicit, develop, and nurture relationships with other organizations and associations to enhance oral health information and knowledge, as well as to capitalize on unique strengths and resources.**



# Priority Areas: Oral Health Goals, Objectives and Strategies

The West Virginia Oral Health Plan defines specific goals, objectives, and strategies for advancing oral health for all West Virginians. These priority areas were identified by a cross-section of public health and oral health professionals and recognize that oral health is dependent on a complex, interrelated set of factors that range from good oral hygiene and optimal water fluoridation to providing more equitable access to oral health care services.

Guided by the report, *Burden of Oral Disease, West Virginia 2014*, corresponding objectives and strategies were also developed to work towards meeting the established goals. The State Oral Health Program and the West Virginia Oral Health Coalition will take the lead on Plan implementation and will facilitate efforts of multiple organizations across the state to work together towards reaching the desired outcomes.



## GOAL 1: Improve access to standardized, comprehensive, continuous oral health services and eliminate disparities for all West Virginians.

### FOCUS AREA: Access to Care

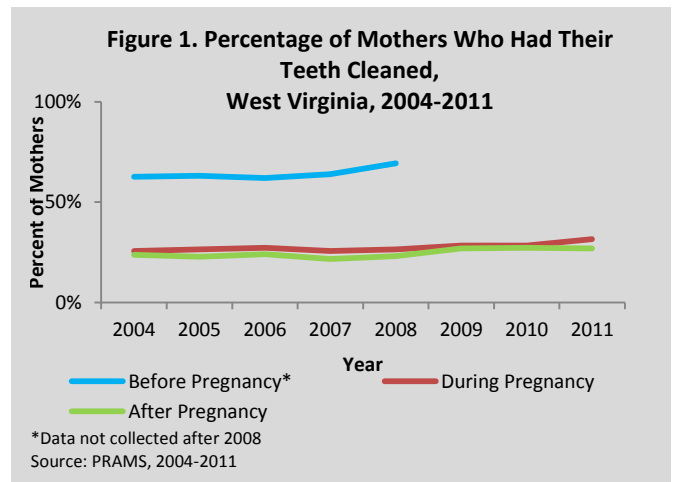
Inadequate access to oral health care is due to a variety of complex factors including a shortage of dental providers, especially in rural areas; not enough providers willing to accept people on medical assistance due to low reimbursement rates; and a gap in affordable insurance options. The need for more accessible and affordable dental care has led people to seek oral health care in emergency departments and hospitals, resulting in exorbitant health care costs that could be prevented.

### Perinatal and Infant Oral Health Care

Given emerging evidence showing the associations between periodontal disease and increased risk for pre-term labor and low birth weight babies, teeth cleanings during pregnancy are recommended in order to avoid the consequences of poor health. Based on data from the West Virginia Pregnancy Risk Assessment Monitoring System (PRAMS, 2010), women who did not have their teeth cleaned during pregnancy were almost four times as likely to have a baby with low birth weight (77.6% vs. 22.4%). Moreover, in 2011, it was estimated that only one-third (31.5%) of pregnant women had their teeth cleaned during pregnancy. An even lower percentage (27%) of women had their teeth cleaned after pregnancy (Figure 1).

In 2013, the Health Resources and Services Administration (HRSA) awarded the OHP the Perinatal and Infant Oral Health Quality Improvement (PIOHQI) grant to improve the oral health of pregnant women in West Virginia, spanning over four years. The pilot

project's main goal is to expand upon the Helping Appalachian Parents and Infants (HAPI) Project so that at-risk mothers and infants across the state can have access to comprehensive preventive and restorative care.



Between 2007 and 2011, there were 106,210 births in West Virginia, of which about 60% were funded by Medicaid. Currently, adults between age 18-20 years may access dental services via their Early Periodic Screening, Diagnosis and Treatment (EPSDT) benefit under Medicaid. However, adults aged 21 and over are not covered for any preventative oral health services under Medicaid, so many pregnant women often go without necessary dental care. In addition, many dentists are reluctant to provide care to this population in fear of potential malpractice suits related to perinatal issues (miscarriages, birth defects, etc.)



*Objective 1.1: By January 2019, increase the proportion of pregnant women receiving comprehensive oral health assessments by dental providers from 31.5% to 34.7%.*

**Suggested Strategies:**

- a) Assess the potential return on investment for oral health services provided to pregnant women.
- b) Work with the West Virginia Board of Dentistry (WVBOD) and the West Virginia Dental and Dental Hygienists’ Associations (WVDHA) to educate the current workforce on updated standards of practice regarding perinatal oral health.

Potential Partners: WVDHHR, OHC, WVDA, Perinatal Partnership, WV BOD, WVDHA, Partners in Community Outreach

*Objective 1.2: By December 2020, increase the proportion of dental practices conducting Infant (age 1 or eruption of 1<sup>st</sup> tooth “Age One Dental Visit”) Oral Health exams from 42.2% to 46.4%.*

**Suggested Strategies:**

- a) Encourage dental and dental hygiene schools to place an emphasis on the importance of early prevention measures through infant oral health exams.
- b) Collaborate with the West Virginia Board of Dentistry, and the West Virginia Dental and Dental Hygienists’ Associations on providing infant oral health exam training for the current workforce.
- c) Offer basic oral health education to dental office administrative/clerical staff.
- d) Coordinate with existing infant programs to promote the Infant Oral Health exam to their clientele.
- e) Educate medical and dental providers on referrals for Infant Oral Health exams.

Potential Partners: WVDHHR BPH, WVU SOD, dental hygiene schools, WV Dental Association, WV Dental Hygienists’ Association, Partners in Community Outreach

**Dental Workforce in Underserved Areas**

Treatment of oral disease begins with availability to oral health professionals. Recent reports from the Board of Dentistry have shown an increase in licensed and active dentists in the state; whereas the number of dental hygienists has decreased (Table 1).

**Table 1. Number of Licensed and Practicing Dental Health Professionals, West Virginia, 2012 and 2014**

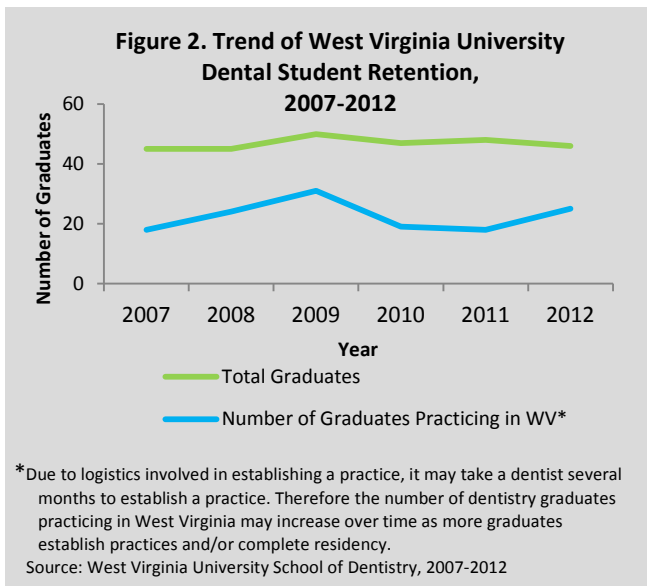
Practice	2012	2014
Dentists	873	899
Dental Hygienists	1,080	922
Total Dental Professionals	1,953	1,821

Source: WV Board of Dentists and Dental Hygienists, 2012 and 2014

With a population of 1.8 million, the distribution of these dental professionals is essential. In 2012, almost half (26) of the state’s 55 counties had six providers or less. Additionally, these areas generally corresponded with higher rates of chronic disease and poor health. In 2014, the number of dentists in Mingo and Taylor Counties increased; whereas the number of dentists in Brooke, Wood and Boone Counties decreased.

Also in 2012, the OHP was awarded approximately \$1.5 million over a three-year period from the HRSA to implement the Dental Workforce Project. The goals of the Project are to increase the number of dental school graduates choosing to provide services in West Virginia and to increase the number of persons with an identified dental home within dental health provider shortage areas. In 2014, the OHP was successful in retaining and placing a total of 18 recent WVU School of Dentistry (SOD) graduates in Dental Health Professional Shortage Areas (DHPSAs).

While workforce retention has improved (Figure 2), we also know that two out of five dentists plan to retire within the next 10 years. This will drastically reduce access to oral care in West Virginia, so workforce retention will continue to be a priority of the state.



**Objective 1.3:** *By August 2020, increase the number of West Virginia University School of Dentistry graduates who chose to practice in underserved areas from 18 to 20.*

**Suggested Strategies:**

- a) Expand dental student clinical rotations in assisted living facilities, school-based health centers, and federally-qualified health centers (FQHCs).
- b) Expand dental loan reimbursement programs to include dental hygienists.
- c) Increase awareness of dental and dental hygiene students of practice opportunities within the State.
- d) Expand the number and location of dental and dental hygiene rural rotation sites in WV.
- e) Utilize the statewide career and technical education organizations and public school counselors to promote careers in oral health and the importance of providing care in underserved areas to students.

Potential Partners: WVDHHR BPH, WVU SOD, OHC

**School-Based Dental Services**

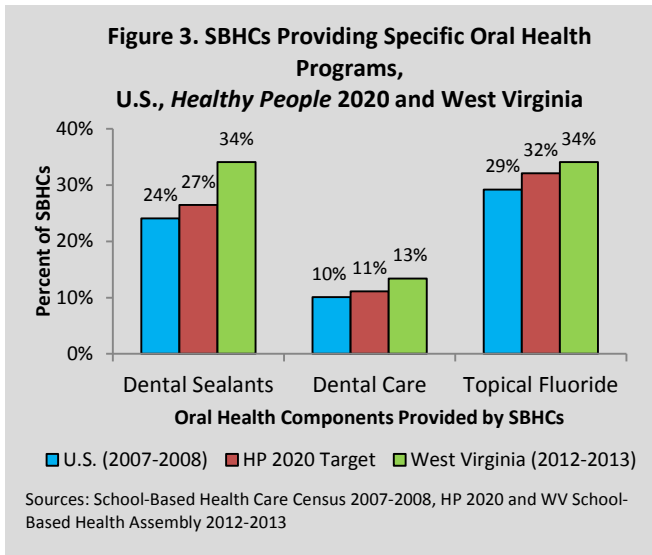
On November 20, 2008, West Virginia Governor Joe Manchin III and the Appalachian Regional Commission (ARC) Federal Co-Chair, Anne B. Pope, announced a major initiative on school-community partnerships to promote children’s oral health in West Virginia. The Appalachian Regional Commission and the Claude Worthington Benedum Foundation collaborated to fund a grant for the program which helped establish school-based dental clinics that are managed by the Robert C. Byrd Center for Rural Health at Marshall University. Clinics in the School-Community Oral Health Partnership Project target school-age youth without access to dental care in economically distressed, at-risk, and transitional counties in West Virginia.

In 2014, the West Virginia Department of Education and the West Virginia Oral Health Program collaborated to implement the West Virginia Board of Education (WVBE) Policy 2423: Health Promotion and Disease Prevention, which recommends dental examinations for public school children as part of a comprehensive approach to student well-being. This policy serves to improve the dental health of West Virginia’s student population through establishment of dental homes and school-based dental services, as well as encourage the inclusion of dental services within school-based health centers (SBHCs).

As of 2013, West Virginia has 82 SBHCs that provide a wide range of health care services to students. Most of these sites offer some level of oral health education, and about half (47.6% or 39) of these SBHCs have an oral health assessment component.

Eleven centers offer on-site comprehensive oral health assessments (education, screenings, preventive, and restorative care). Some of these centers contract with local dentists in order to provide services, while other centers have a full-time dentist (or two) on staff. Furthermore, some schools have programs focusing on specific oral health practices such as dental sealants, dental care, and topical fluorides.

Although West Virginia has already surpassed the Healthy People 2020 goal of the percentage of SBHCs providing dental services (Figure 3), less than a quarter (22%) of the schools in the state provide school-based dental services.



**Objective 1.4:** By August 2020 increase the proportion of schools providing school-based dental services from 21.7% to 23.9%.

**Suggested Strategies:**

- a) Develop a county-level referral list for school-based dental services.
- b) Promote the use of Public Health Registered Dental Hygienists (PH RDHs) to provide services for school-based dental service programs.
- c) Explore reimbursement for preventive resins restoration (PRR) – “super sealant”.
- d) Work with school-based health centers and other community health centers on increasing and/or providing oral health services.

Potential Partners: WVDE, WV School-Based Health Assembly, WV Board of Dentistry, WVDHHR

**Low-Income Adults**

Regular preventative dental care can reduce the development of disease, and facilitate early diagnosis and treatment. One measure of preventative care that is being tracked is the

percentage of adults who had their teeth cleaned in the past year. Having one’s teeth cleaned by a dentist or dental hygienist is indicative of preventative behaviors. Yet disparities in oral health, as measured by tooth loss due to dental caries or periodontal disease, exist.

People living in low-income families bear a disproportionate burden via oral diseases and conditions. For example, despite the progress in reducing dental caries in the U.S., children and adolescents in families living below the poverty level experience more dental decay than children who are economically sound. Furthermore, the caries seen in individuals of all ages from poor families are more likely to be untreated than caries in those living above the poverty level.

In West Virginia, 67% of adults with less than a high school education had not visited a dentist in the past year in 2010, whereas only 17% of those who had graduated college had not seen the dentist in over a year. In addition, low-income adults (those below 200% Federal Poverty Level, FPL) were more likely not to visit the dentist than those above 200% FPL (Table 2).

**Table 2. Percentage of Adults (18+) Who Had Not Visited the Dentist in the Past Year, West Virginia, 2010.**

	West Virginia
<b>Total</b>	39.5%
<b>Age</b>	
18-24	31.0%
25-44	21.0%
45-64	42.0%
65+	46.6%
<b>Education Level</b>	
Less than High School	66.8%
High School or G.E.D.	44.5%
Some Post-High School	33.7%
College Graduate	16.7%
<b>Income</b>	
<\$15,000	66.2%
\$15,000-\$24,999	58.1%
\$25,000-\$34,999	47.9%
\$35,000-\$49,999	32.3%
\$50,000+	29.4%

Source: BRFSS 2010

*Objective 1.5: By December 2020, increase the proportion of low-income adults who receive an annual dental visit from 45.4% to 49.9%.*

**Suggested Strategies:**

- a) Develop and implement a dental referral resource for services that are available.
- b) Assess existing systems for adult dental referrals in free clinics, community health centers (CHCs), federally-qualified health centers (FQHCs).

Potential Partners: WVDHHR BPH, OHC, community dental providers, free clinics, CHC’s, FQHC’s, WVDA

**West Virginia Adult Medicaid**

In West Virginia, Medicaid reimburses dentists for general dentistry, orthodontics and oral and maxillofacial surgery services. Children up to 21 years of age are eligible for diagnostic, preventive, restorative, periodontics, prosthodontics, maxillofacial prosthetics, oral and maxillofacial services and orthodontics. Adults 21 years or older, however, are limited to emergent procedures to treat fractures, reduce pain or eliminate infection<sup>1</sup>.

In FY 2011, about 20% of Medicaid-eligible adults 21 years or older and 48% of Medicaid-eligible children utilized dental services. Because Medicaid does not cover preventative care for adult patients, there were a higher number of visits for restorative care than for preventive care; whereas children’s visits were mostly for preventive care.

*Objective 1.6: By December 2018, develop coverage plan (Medicaid expansion) for basic adult dental services (preventive, restorative, extraction, and dentures).*

**Suggested Strategies:**

- a) Research successful adult oral health coverage plans including states with similar population demographics as West Virginia.

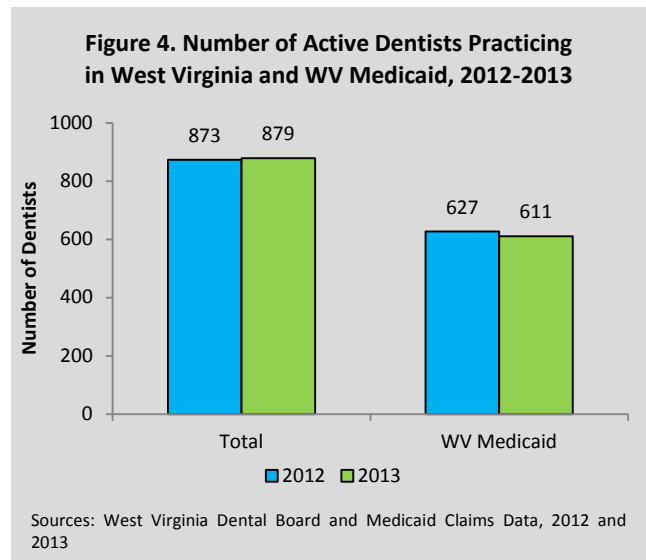
<sup>1</sup> West Virginia Department of Health and Human Services, Bureau for Medical Services. (2011). *Medicaid report*. Retrieved from website: <http://www.dhhr.wv.gov/bms/AboutUs/lir/Documents/LOCHHRA May 2011-March 2011 Data.pdf>

- b) Determine possibility of expanding or piloting the WV Pre-Employment Program model of limited services, annual financial cap and nominal Client co-pay for special adult populations (includes pregnant women, seniors, persons with disabilities/special needs and those deemed medically necessary).
- c) Conduct cost analysis for basic adult plan.
- d) Identify potential financial resources to cover initial or partial estimated costs of basic adult dental benefit.
- e) Educate (health professionals, administrators, family and patients) in use of Incurred Medical Expenses (IMEs) for payment of dental services.

Potential Partners: WVDHHR BPH, OHC, WVDA

**Dentists Participating in West Virginia Medicaid**

In 2013, of the 879 dentists (general dentists and specialists) licensed to practice in West Virginia, 611 (69.5%) were active in the state’s Medicaid program (had at least one paid claim). These numbers vary from the previous year. Despite the slight increase in the number of dentists licensed and actively working in the state (873 dentists in 2012 to 879 dentists in 2013), WV Medicaid observed a 2.6% decrease in active dentists (Figure 4).



*Objective 1.7: By December 2020, increase the proportion of dentists actively participating in Medicaid from 69.5% to 76.5%.*

**Suggested Strategies:**

- a) Work with CMS and WV Medicaid on comparable reimbursement rates and a standard reimbursement rate review.
- b) Work with WV Medicaid on streamlining enrollment and billing process.
- c) Inform dental providers on benefits of treating Medicaid patients.

d) Identify programs that have successfully reduced “no show” rates in dental offices and dental clinics and disseminate information about these programs.

e) Educate providers on the use of Non-Emergency Medical Transportation.

Potential Partners: WVDHHR BMS & BPH, WVDA, OHC



**GOAL 2: Promote educational opportunities and experiences for the public, health professionals, and policy-makers to increase knowledge of oral health and its correlation to overall health.**

*FOCUS AREA: Education*

Good oral hygiene, combined with good nutrition, is the building block to personal oral health. Bolstering oral health literacy as early as possible among both vulnerable populations and the general public can be done most effectively through those who work directly with children and their caregivers. Through broad and consistent provider and public education efforts to raise awareness, the risk factors associated with poor oral health can be decreased, leading to better health outcomes and significant health care cost savings.

**Public Health and Health Integration**

The state has several programs employed by the public health sector that present numerous partnership opportunities with oral health agencies. The links between oral disease and chronic disease have been well documented; they also share common risk factors such as poor nutrition, tobacco, and alcohol use.

Increasing awareness among local public health agencies of the interrelatedness of oral health to other preventable diseases widens the field for greater collaboration to meet common health goals. Including oral health in public health agencies' missions is an important step in integrating proven oral health prevention strategies that lead to improved health.

Banding together, public health and oral health agencies can speak with one voice to address

policies that create barriers to health. Together, they can also more effectively heighten awareness among health care providers and policy makers of the social and environmental factors that are largely responsible for health inequities.

*Objective 2.1: By December 2016, explore opportunities to increase communication between programs to assist in oral health delivery.*

Suggested Strategies:

- a) Engage the West Virginia Oral Health Coalition to enhance communication between stakeholders in different regions of the State.
- b) Coordinate technical assistance to local groups and assist in procuring funding for oral health programs for marketing and educational outreach on prevention strategies, availability of services and options to cover associated costs.
- c) Work in collaboration with Diabetes Coalition, heart health agencies, cancer agencies, tobacco agencies, and other health organizations to increase knowledge of the systemic link between poor oral health and chronic disease.

Potential Partners: WVDHHR BPH, OHC, MU, WVU

*Objective 2.2: By January 2017, build awareness of best practices to prevent oral disease and injury in all settings, including public health and private practice.*

**Suggested Strategies:**

- a) Increase knowledge of best practices (e.g., evidence-based, proven effective) to prevent oral disease and injury, including those tailored to specific populations (e.g., those of different ages, with different health conditions, and of different cultures) and to traditional and non-traditional settings.
- b) Assess best practices and revise them periodically.
- c) Develop a collection of best practices.
- d) Educate the general public and health professionals about the availability and use of best practices.
- e) Develop a plan to select and incorporate best-practice programs.
- f) Explore the possibility of membership to the Mid-Atlantic Prevent Abuse and Neglect through Dental Awareness (PANDA) Coalition.

Potential Partners: WVDHHR BPH, OHC, MU, WVU

**Educating the Workforce**

To ensure oral health care is considered an essential component of a patient’s overall health and is embedded in the health care home model, the concept that “the mouth is a part of the body” must be elevated in health education. A better understanding of the interrelatedness of oral and systemic health stands to improve a patient’s overall health. Both dental and non-dental professionals must be educated in this concept: obstetrics, family practice, pediatrics, internal medicine, nurses, dietitians, health plan case managers, community health workers, social workers, and others. In time, this health care integration will give rise to a team of people working together to better meet the health needs of all West Virginians, especially the underserved.

*Objective 2.3: By June 2018, work in conjunction with state licensing boards to educate existing dental professionals (both private and public sectors) on workforce issues throughout the state.*

**Suggested Strategies:**

- a) Ongoing education to promote and recruit public health dental hygienists within the State of WV.
- b) Collaborate with WV Board of Dentistry to mandate continuing education (CE) courses covering community water fluoridation for re-licensure.
- c) Educate new dental graduates on loan repayment opportunities for retention of services in the state.
- d) On site staff trainings for medical professionals and other supporting agencies including training on tobacco prevention/cessation, oral cancer screenings, and nutrition.
- e) Provide CE courses throughout the state on medical/dental collaboration on application of fluoride varnish during well child visits.

Potential Partners: WVDHHR, OHC, MU, WVU

*Objective 2.4: By December 2020, develop training programs that improve the skills of primary care providers, nurses (including school nurses), social workers, home visitation staff, and case managers in evaluating their patients' and clients' oral health needs, issues, and improve their ability to counsel individuals to reduce the risk of oral disease.*

**Suggested Strategies:**

- a) Integrate oral health into primary care by scheduling medical and dental visits together where possible and facilitating the development of effective referral networks.
- b) Include oral health in primary care medical practice settings by including a brief explanation of common dental conditions in the EPSDT manual (WV HealthCheck).

- c) Work with primary care training programs to integrate assessment of oral cavity as part of the routine physical examination curricula across the lifespan.
- d) Develop a statewide oral health training for teachers and caregivers of the special needs population.
- e) Develop statewide oral health staff training on correlation between HPV and oral health.
- f) Provide online CE course to address cultural barriers that dental and medical professionals may face when communicating with patients.
- g) Provide training to implement Oral Health Resource kits into all Head Start, Pre-K and private child care facilities throughout the state with an emphasis on nutrition.
- h) Provide trainings for caregivers of senior populations for proper oral health care, cancer screenings, and tobacco prevention.
- i) Utilize Regional Oral Health Coordinators to continue to be a resource for disabled/special needs agencies on proper oral hygiene instructions, oral health care supplies, screenings, and referrals upon request.

Potential Partners: WVDHHR, OHC, MU, WVU





### **GOAL 3: Provide sustainable maintenance of oral wellness through coordinated, integrated and comprehensive services.**

#### *FOCUS AREA: Prevention*

Protecting children and adults from developing caries is the first line of defense for related health complications such as tooth loss, infection, and compromised immunity. Informing the public about the risk factors associated with oral cavity and pharynx cancers is also critical. Two of the most effective and proven strategies for preventing the development of caries are dental sealants and fluoridated drinking water. These interventions, mixed with efforts to increase oral health literacy among the public through education campaigns and those working directly with vulnerable populations such as school nurses, prenatal and primary care providers, and public health workers are proven strategies to preventing most oral diseases.

#### **Fluoridation**

Fluoride varnish has been found to be a cost-effective, preventive treatment reducing decay on tooth surfaces by 50% - 70%. Fluoride varnish is applied on high-risk teeth through a resin-based solution and must be reapplied at regular intervals to be effective.

West Virginia has multiple programs that focus on fluoride treatment, including varnish and mouth rinse. These programs are community and school-based, and target high-risk, low-income children and adolescents throughout the state:

- Marshall University School-Community Oral Health Partnership
  - Provides preventive oral health services including fluoride varnish.

- Target population includes low-income schools.
- Fluoride Mouth Rinse (FMR) Project
  - Schools pass out cups of fluoride solution to participating students, swishing the fluid and disposing of garbage.
  - Requires participants to perform a weekly rinse with a 0.2% neutral sodium fluoride solution over 30 weeks.
  - Participation is voluntary; target population includes children in grades kindergarten through sixth grade in multiple counties throughout the state.
  - During FY 2013, 9,634 children participated
  - The Oral Health Program has updated the Fluoride Mouth Rinse Manual, which was implemented this 2013-2014 school year.
- Fluoride Water Testing
  - Water test kits provided to families for testing fluoride levels of private water systems.
  - During FY 2013, the Oral Health Program assisted over 200 families in testing for elevated fluoride levels.

Furthermore, during the 2012-2013 school year, 14,251 of West Virginia children participated in dental screening programs. Of these children, 9,634 children participated in the fluoride mouth rinse program, and 228 children received fluoride supplements (tablets or drops).

Fluoride is a naturally occurring mineral found in water, air and soil. At proper levels, fluoride provides significant health benefits by preventing tooth decay. Community water fluoridation has been recognized by the CDC as one of the 10 greatest public health achievements of the twentieth century, providing one of the most cost-effective and equitable means to prevent tooth decay. Economic analysis conducted by the CDC found that in communities with more than 20,000 people, every dollar invested in water fluoridation yields \$38 in savings for dental treatment costs. In states where more than half of the communities have fluoridated water, there is 26% less tooth decay among 12-year-olds when compared to states with less than one-quarter of the communities with fluoridated water.

In West Virginia, about nine out of 10 (91.5%) residents on public drinking water are receiving fluoridation, compared to the seven out of 10 (74.6%) nationally<sup>2</sup>. The state remains steady regarding the population being served by fluoridated community water systems and continues to exceed the *Healthy People* 2020 goal. As of 2012, West Virginia ranks 13<sup>th</sup> among the nation for population served by fluoridated water at optimum levels<sup>2</sup>.

***Objective 3.1: By December 2016, develop a plan to increase the number of topical fluoride programs for preschool- and school-age children from 20% to 30%.***

**Suggested Strategy:**

- a) Develop and implement a plan to encourage the integration of topical fluoride programs into preschool and school curricula.

Responsible parties: WVDHHR BPH, OHC, WVDE, MU

***Objective 3.2: By December 2020, develop a plan to increase the percentage of communities served by optimally fluoridated water from 91.5% to 100%.***

**Suggested Strategies:**

- a) Identify communities that do not have optimally fluoridated water.
- b) Identify partners to assist in advancing community water fluoridation efforts.
- c) Develop a plan to encourage implementation of optimal community water fluoridation.
- d) Develop a plan to increase the percentage of families that access well water testing and consequently obtain fluoride supplementation.
- e) Promote and provide access to well water testing for those who rely on well water.
- f) Ensure access to appropriate fluoride supplements for those who rely on well water.

Responsible parties: WVDHHR BPH, OHC, MU

**Dental Sealants**

The risk of developing tooth decay can begin as early as when teeth first erupt in an infant’s mouth. Tooth decay is caused by bacteria on teeth that break down foods and produce acid that destroys tooth enamel resulting in tooth decay. The best defenses against cavities are good oral hygiene, regular dental visits, a healthy diet low in sugary foods and beverages, fluoride, and dental sealants. Dental sealants are highly effective – nearly 100 % – in preventing decay among vulnerable children and adults. Dental sealants are a thin coating bonded to the chewing surfaces of back teeth (molars) to protect them from decay.

Providing children with sealants through school-based sealant programs has also been shown to be an efficient and cost-effective strategy for providing children in need with preventive oral health care.

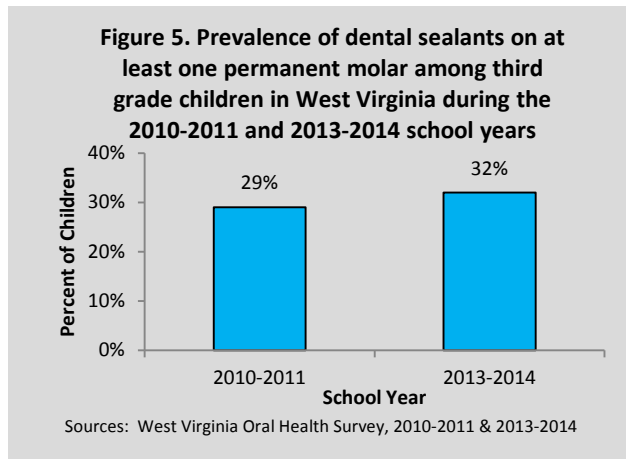
West Virginia is one of 21 recipients awarded a *State Oral Disease Prevention Programs* grant from the Centers for Disease Control and Prevention (CDC). The aim of this grant program is to assist

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<sup>2</sup> Centers for Disease Control and Prevention. (2012). *Water fluoridation statistics*. Available at <http://www.cdc.gov/fluoridation/statistics/2012stats.htm>

state health departments with improving the oral health of their state residents, especially those children and adults who are most at risk for oral diseases such as tooth decay (cavities). With these grant funds, the OHP has been working closely with the West Virginia Department of Education, local dental providers and other community partners to reduce the incidence of childhood caries (cavities) through the application of dental sealants to children who might not otherwise receive preventive dental services.

As noted below, sealant placement has slightly increased over the past several years; however, every two out of three children are still not receiving dental sealants (Figure 5). The West Virginia Oral Disease Prevention Project (ODPP) is using the awarded CDC funding to develop and implement the Project that will reach an additional 109 (35%) of our state’s high-need schools during the five-year project period.



When observing all the children and adolescents in the state, the prevalence of dental sealants is much lower. Only 19% of all children and adolescents aged 18 years and younger have received dental sealants on their permanent molar teeth.

Objective 3.3: By December 2020, increase the proportion of children and adolescents who have received dental sealants on their molar teeth from 19.2% to 21.1%.

**Suggested Strategies:**

- a) Expand school based sealant programs to those most needy areas of WV, utilizing a targeted population.
- b) Strengthen existing programs that provide school-based prevention programs which include dental sealants.
- c) Develop and implement a standardized reporting mechanism that all providers of school-based dental services will be required to utilize.

Potential Partners: WVDHHR BPH, OHC, WVADA, WVDE, WWSBHA, WVPCA, local dental providers

**Preventive Oral Health Services for Perinatal Women and Infants**

Recently, the State Oral Health Program, in collaboration with Marshall University (MU) and West Virginia University School of Public Health (WVU SPH) completed initial surveillance among the perinatal population and the state’s dental providers to better understand the dental needs within this community. MU conducted oral health screenings on 403 perinatal women, while WVU SPH evaluated accessibility of services by conducting telephone calls to all dental practices (312) in West Virginia.

- Visual oral health screenings by Marshall University

Visual oral health screenings were completed by the surveillance team as well. A total of 403 women were screened by dental hygienists. Data included demographics, dental visits, oral health status and dental insurance. Although final analysis is currently underway, the following preliminary observations were made:

- 38% of women screened had active, untreated decay;
- 46% of women screened had not been to a dentist in the past twelve months;
- 30% of women screened had not been to a dentist within the past three years;
- 9% of women screened reported experiencing dental pain “very often” within the past year;
- 8% of women screened reported having visited an ER (emergency room)/urgent care facility for dental-related issues within the past year.

These preliminary data further stress the importance of preventive dental care services during pregnancy through Medicaid.

- **Accessibility:** Telephone calls to all dental practices in WV.

Evaluation efforts are underway to determine the number of dental offices in the state that accept pregnant mothers and children under two-years-old. Thus far, 312 dental practices in WV have been contacted by telephone using a list of 879 licensed dentists in WV provided by the WV Board of Dentistry. Of these 312 contacts, 184 (59.0%) hung up, could not be reached, or refused to answer. The evaluation team has completed the brief telephone call with a staff member from 128 practices (comprising 207 dentists) in 35 counties, 19 of which are considered rural using the Office of Management and Budget (OMB) definition. Data are presented in Table 4.

**Table 4. Summary of results from brief telephone calls to dental practices**

Item	Total, yes (N=128)	Urban practices (N=71)	Rural practices (N=57)
See and treat children less than 2 years old, yes (n, %)	54, 42%	22, 31%	32, 56%
See and treat pregnant women, yes (n, %)	118, 92%	66, 93%	52, 91%
	<b>Total (M, SD)</b>	<b>Urban (M,SD)</b>	<b>Rural (M,SD)</b>
# dentists at the practice (N=207)	1.64 (0.85)	1.66 (0.88)	1.63 (0.82)
# dental hygienists at the practice (N=245)	1.91 (1.40)	2.01 (1.55)	1.79 (1.18)

Source: PIOHQI Project Evaluation Results, 2014

These preliminary data suggest there is a lack of access to dental care for children less than two-years-old in WV, especially in practices in urban areas. Professional education may be necessary to inform dentists or their staff about the importance of treating young children to create systems change. In addition, reimbursement policies must be analyzed to understand if this is a barrier preventing dental practices from treating children under two-years-old.

*Objective 3.4: By December 2018, work with Medicaid to provide preventive oral health services to pregnant women aged 21+ years.*

**Suggested Strategies:**

- Educate and inform policy makers of the importance of oral health during pregnancy and the effects on the development of the baby.
- Show cost effectiveness of early prevention and long term costs.

Potential Partners: WVDHHR (BMS, BPH), WV Perinatal Partnership

*Objective 3.5: By December 2017, increase the number of Medicaid eligible children ages 0-2 years who received any dental service from 5,759 per year to 6,335 per year.*

**Suggested Strategies:**

- a) Provide initial and continuing education to medical and dental providers on perinatal and child oral health utilizing the Smiles for Life curriculum and other continuing education opportunities.
- b) Increase the number of oral health care professionals that provide appropriate treatment for young children.
- c) Increase the number of health professionals that include an oral health risk assessment as part of well-child care and provide a dental referral.

Responsible parties: WVDHHR BPH, OHC, WVBMS, MU, Partners in Community Outreach, WVU

**Oral Cancer Screenings**

Recognizing the need for dental and medical providers to examine adults for oral and pharyngeal cancer, Healthy People 2020 objective OH-14 (developmental) is to “increase the proportion of adults who, in the past 12 months, report having had an examination to detect oral and pharyngeal cancers”. In the U.S., few adults aged 40+ years (13%) reported receiving an examination for oral and pharyngeal cancer, although the proportion varies by race/ethnicity. Although West Virginia does not currently collect data on oral and pharyngeal cancer screening, the state plans to promote the importance of screenings and work toward developing the necessary surveillance capacity.

*Objective 3.6: By December 2017, encourage oral cancer screenings as the standard of care for all disciplines of healthcare professionals.*

**Suggested Strategies:**

- a) Educate and train non-oral health professionals (e.g., physicians, nurse practitioners, physician

assistants) to screen individuals for oral cancer and refer them to appropriate health professionals for follow-up care, as needed.

- b) Support continuing education programs in oral cancer screening for oral health professionals.

Potential Partners: WVDHHR BPH, OHC, MU, WVU, universities and technical schools

**Health Care Models and Integration**

To truly prevent oral diseases, it is critical that changes are made upstream within the health care system and provider education programs to achieve a broader understanding among health care providers of the relationship oral health has to overall health. Building partnerships across care sectors (dental, primary care, dietary, public health, health plans, and community health) to achieve a more patient-centered approach to health care will have the triple advantage of decreasing oral and other diseases, while slashing health care costs.

This holistic approach to health care, combined with efforts to provide more affordable dental care through new dental provider types and workforce models, will help reach more people who often lack adequate or any access to oral health care and treatment.

*Objective 3.7: By December 2020, explore new clinical and financial models of care for children that are at high-risk for developing caries, such as risk-based preventive and disease management interventions. \*This goal was adapted from the National Oral Health Plan to support the needs in West Virginia.*

**Suggested Strategies:**

- a) Systematically research new clinical care models that are evidence-based and supported by documented success rates.
- b) Seek out financial leveraging from a variety of sources, including non-traditional partners.

Responsible Parties: WVDHHR BPH, OHC



**GOAL 4: Enhance the utilization of the existing statewide surveillance system to measure key indicators of oral health and expand the system to address other data gaps.**

*FOCUS AREA: Surveillance and Evaluation*

Monitoring the status of oral diseases among West Virginians is the foundation to improving oral health. Public health surveillance is the ongoing, systematic collection, analysis, interpretation, and dissemination of data regarding a health related event. In turn, data inform policy development and target public health initiatives to improve the health of all West Virginians.

West Virginia will continue to monitor the status of oral health to regularly evaluate and refine prevention programs. Moreover, there are some data gaps that constrain efforts to better target resources. The most significant lack of data is on service coverage, chronic disease linkages, and disease estimates in certain populations. Better data is needed on oral health status among infants, adolescents, and perinatal women. Data is limited on the burden of disease among the special needs population.

Despite these gaps, several indicators related to the objectives outlined in this plan are collected through existing surveillance systems. The West Virginia Oral Health Surveillance System (WVOHSS) is the state's main mechanism for monitoring trends in childhood and adult caries, edentulism, oral health care during pregnancy, and workforce. In addition, WVOHSS data informs the efficacy of preventive services such as dental sealants, community water fluoridation, and dental service utilization. A list of secondary sources to generate oral health indicators can be found in Appendix B.

**Oral Health Program**

*Objective 4.1: By December 2016, prepare annual reports discussing and outlining the West Virginia's progress towards Healthy People 2020 objectives – due by the end of each fiscal year.*

**Suggested Strategies:**

- a) Collect and update oral health data using available sources.
- b) Identify and address any issues regarding data surveillance and monitoring.
- c) Prepare and disseminate report on an annual basis.

Potential Partners: WVDHHR, OHC

*Objective 4.2: By December 2016, standardize data collection from insurance providers, specifically Medicaid, CHIP, and PEIA reflecting service utilization.*

**Suggested Strategies:**

- a) Develop and compile data elements to be collected.
- b) Collaborate with insurance providers to discuss requested data elements and reporting timeframe.
- c) Work with partners to assure accuracy in data reporting.
- d) Collaborate with CDC linkage project that links vital stats to CMS.

Potential Partners: WVDHHR

## Perinatal, Infants and Special Needs

*Objective 4.3: By December 2016, develop an evaluation plan for the Perinatal and Infant Oral Health Quality Improvement (PIOHQI) pilot project.*

### **Suggested Strategies:**

- a) Develop a Continuous Quality Improvement (CQI) Team.
- b) Establish measurable objectives based upon priorities identified through the use of established criteria for improving the quality and safety of clinic services.
- c) Develop performance monitoring tools and indicators of quality based on a priority basis.

Potential Partners: WVDHHR, WVU, MU

*Objective 4.4: By January 2016, implement a surveillance system to monitor oral health status within the perinatal population.*

### **Suggested Strategies:**

- a) Collaborate with new and existing partners to develop a tool similar to ASTDD's BSS tool.
- b) Identify target sampling population.
- c) Conduct initial screening surveillance.
- d) Assess oral health among target population.
- e) Disseminate data via reports and/or OHP website.
- f) Educate dental and medical providers on safety of treating pregnant women.

Potential Partners: WVDHHR, OHC, WV Perinatal Partnership, MU

*Objective 4.5: By December 2016, implement a surveillance system to monitor oral health status within the special needs/disabled population.*

### **Suggested Strategies:**

- a) Collaborate with new and existing partners to develop a tool similar to ASTDD's BSS tool.
- b) Identify target sampling population.

- c) Conduct initial screening surveillance.
- d) Assess oral health among target population.
- e) Disseminate data via reports and/or OHP website.

Potential Partners: WVDHHR, OHC, WV Perinatal Partnership, MU

## Adolescent Caries

*Objective 4.6: By December 2018, implement into the Oral Health Surveillance System the monitoring of dental caries in adolescents the 9<sup>th</sup> grade. (In conjunction with Healthy People 2020 objectives targeting adolescents aged 13-15 years).*

### **Suggested Strategies:**

- a) Collaborate with new and existing partners to develop a tool similar to ASTDD's BSS tool that is currently used to monitor Universal Pre-K and third grade children.
- b) Identify target sampling population and distribute survey.
- c) Assess oral health among target population.
- d) Disseminate data via reports and/or OHP website.

Potential Partners: WVDHHR, WVDE, County School Boards, ASTDD, MU

## Chronic Disease

*Objective 4.7: By January 2017, expand the West Virginia Oral Health Surveillance System to include the monitoring of chronic diseases (cancer, asthma, heart disease & diabetes) in relation to oral health among adults aged 18+ years.*

### **Suggested Strategies:**

- a) Research and analyze existing data available on the correlation between oral health and chronic disease.
- b) Identify & collaborate with existing/new partners in chronic disease to develop appropriate survey method(s).

- c) Identify target sampling population and distribute survey(s).
- d) Conduct baseline data for selected populations and programs.
- e) Collect and assess chronic disease data in relation to oral health for selected populations.
- f) Analyze data and disseminate information via reports and/or OHP website.

Potential Partners: WVDHHR

*Objective 4:8: By December 2017, include and distribute chronic disease-related questions with OHP's Adult & Seniors surveys.*

**Suggested Strategies:**

- a) Collaborate with current partners to develop chronic disease-related questions to be included in existing Adult and Senior Oral Health surveys.
- b) Use established Adult and Senior Oral Health surveillance system for survey distribution and data collection.
- c) Analyze data and disseminate information via reports and/or OHP website.

Potential Partners: WVDHHR, MU, ASTDD





**GOAL 5: Solicit, develop, and nurture relationships with other organizations and associations to enhance oral health information and knowledge, as well as to capitalize on unique strengths and resources.**

*FOCUS AREA: Infrastructure and Strategic Partnerships*

To sustain continued progress in reducing the burden of oral diseases across West Virginia, it is imperative to devote attention to the status of oral health and amplify the prevention strategies that address them.

State-level integration is the continued development of collaborative partnerships with other public health and social welfare sectors, educational and health care organizations, and private organizations concerned with oral care. The establishment and continued support of the West Virginia Oral Health Coalition as an independent entity has provided the energy needed to prioritize and address the complexities of oral diseases.

Through this combined, stable leadership, the State will continue to leverage and maximize resources, augment data collection, streamline interventions, and address policy barriers while expanding oral health literacy among both professional sectors and the public at large. Working together, the State will achieve optimal oral health for all West Virginians while reducing health care costs.

*Objective 5.1: By January 2020, identify potential policies and regulations to improve oral health in West Virginia.*

**Suggested Strategies:**

- a) Inform and educate policymakers and officials at local, state, and federal levels about oral health needs, effective programs and successes.

- b) Create and promote regional oral health networks and a statewide Oral Health Coalition to promote oral health.
- c) Encourage professional organizations, key state agencies, educational institutions, and other stake-holders to examine and make recommendations on:
  - Policies and regulations that affect the provision of dental services and practice of dentistry and dental hygiene.
  - Financing of dental education, scholarship, and loan repayment programs.
  - Effective approaches to address health disparities in oral health, including changes to curricula in schools of dentistry and dental hygiene.
  - Strengthening the dental health workforce by integrating dental hygiene education and training programs into undergraduate and graduate programs to advance the careers of dental hygienists.
  - Promotion of public resources for oral health services that are targeted to the populations at risk for oral diseases and that improve access for underprivileged individuals.

Potential Partners: WVDHHR, OHC

*Objective 5.2: By December 2020, professional organizations and educational institutions will incorporate oral health as a component of licensure renewal and general curriculum.*

**Suggested Strategies:**

- a) Encourage professional organizations, key state agencies, educational institutions, and other stake-holders to examine and make recommendations to include oral health.
- b) Professional licensing boards will promote medical dental collaboration.
- c) Incorporate Smiles for Life Curriculum into all allied health higher education university and school settings.
- d) Provide CE courses that focus on medical/dental collaboration.
- e) Promote oral health as a basic health issue.

Potential Partners: WVDHHR BPH, OHC, MU, WVU, various professional organizations

*Objective 5.3: By December 2020, WV will have diversified funding resources to provide support for oral health programming and activities statewide.*

**Suggested Strategies:**

- a) Identify local, state, and national funding sources, foundations and programs to support state oral health programming.
- b) Identify partners to assist and promote the efforts of the State Oral Health Plan and community engagement.
- c) Develop a plan to encourage local oral health activities.

Potential Partners: WVDHHR BPH, OHC

# Future Considerations

During the drafting of this document, there were many objectives that, although West Virginia acknowledged the importance of, the State does not currently have the capacity to measure. The objectives set for the 2016-2020 plan will work toward developing this capacity. The following objectives may be considered for the 2020-2025 West Virginia State Oral Health Plan:

## *Access to Care*

- Increase the number of primary care physicians providing oral health risk assessments, fluoride varnish, anticipatory guidance and dental referral during well-child and inter-periodic visits.
- Develop a referral network to specifically identify dental providers that specialize in preventive and restorative care for persons with disabilities/special needs.

## *Education*

- Assess and address gaps in oral health education materials to ensure comprehensive coverage of oral health issues consist of effective messaging.
- Ensure public health resources for oral health services are targeted to populations at risk for oral diseases as it relates to comorbidities such as cancer, ATOD, HIV, and other risk factors.
- Develop a resource clearinghouse that provides consumers with information about dental practices and facilities.

## *Prevention*

- Increase the number of healthcare providers (primary, perinatal and pediatric) delivering a standardized oral health risk assessment and referrals as a part of routine health care for all populations.
- Develop a plan of action to ensure senior and disabled/special needs populations receive preventive oral health services.

## *Infrastructure and Strategic Partnerships*

- All West Virginia dental professionals will have an understanding of statewide oral health issues, the importance of private public partnership in addressing oral health disparities along with a better understanding of the responsibilities of the State Oral Health Program and the State Dental Director.

# Appendix A: Table Summary of State Plan 1.0 Objectives and Strategies

Objective/ Strategy	Timeline	Achieved	In-Progress	Not Started
<i>Objective 1: The WV OHP will strengthen West Virginia's state-level infrastructure and capacity to improve the oral health of its citizens.</i>		X		
<b>Strategy 1:1 – The WV OHP will secure adequate funding to support staff expansion of oral health efforts and implementation of the oral health plan, including at a minimum:</b>	2010-2012	X		
a) A full-time oral health director to administer and supervise all dental health programs within the West Virginia Bureau for Public Health.	2010-2012	X		
b) Recommend assessing the feasibility of hiring a full-time dentist with a public health degree and or experience as the oral health director, in accordance with WV state personnel policies.	2010-2012	X		
c) A part-time epidemiologist to develop, implement, and monitor an oral health surveillance system.	2010-2012	X		
d) Adequate staff to support and ensure implementation of the state plan, such as a fluoridation specialist and epidemiologist.	2010-2012	X		
<b>Strategy 1:2 - The WVOHP will establish and maintain a state-based oral health surveillance system to assess needs and monitor progress in improving oral health systems in accordance with CDC recommendations.</b>	2010-2012	X		
<b>Strategy 1:3 - The WVOHP will complete a "burden of disease" report on oral health disease in WV, which includes a study of all payers regarding the current costs of emergency room visits incurred for dental problems to determine if expenses can be reduced through more appropriate utilization of expanded coverage and preventive programs.</b>	2010-2011	X		

Objective/ Strategy	Timeline	Achieved	In-Progress	Not Started
Strategy 1:4 - The WVOHP will develop and sustain a statewide coalition of stakeholders in both public and private sectors invested in reducing oral health disease.	2010-2014	X		
<i>Objective 2: The WVOHP will develop a financing strategy for oral health services and implementation of the state plan recommendations.</i>			X	
Strategy 2:1 - The WVOHP will develop budget and assess costs and revenues needed to support expansion of the OHP and fund expansion of services.	2010-2012		X	
Strategy 2:2 - The WVOHP will analyze feasibility and develop a strategy for approval of a one cent increase in tax on soft drinks. Such a tax would also encourage West Virginians to make healthier drink choices.	2010-2015			X
Strategy 2:3 - The WVOHP will establish recommendations for systematic and ongoing monitoring/evaluation of reimbursement, and incremental/phasing in of increases in WV Medicaid and WVCHIP reimbursement for dental services to 25% of the ADA Mid Atlantic scale; giving priority to increased reimbursement for oral surgery and other services critical to increasing access.	2010-2015			X
Strategy 2:4 - The WVOHP will develop a plan to phase in expansion of coverage for preventive and basic restorative services for children, adults, and pregnant women under WVCHIP, WV PEIA and WV Medicaid.	2010-2015		X	
Strategy 2:5 - The WVOHP will explore feasibility of a public/private partnership for the development of an affordable, basic dental plan for adults that includes features such as an employer-based "pool" that is supplemented by state funds and includes individual contributions.	2010-2015		X	

Objective/ Strategy	Timeline	Achieved	In-Progress	Not Started
<i>Objective 3: The WVOHP will promote oral health across the lifespan.</i>			X	
Strategy 3:1 - The WVOHP will identify funding to implement a statewide oral health public awareness campaign with consistent messages targeted to specific high risk groups including pregnant women, minorities, parents of young children, nursing home staff, and health professionals.	2010-2012		X	
Strategy 3:2 - The WVOHP will collaborate with all health professionals to increase oral health awareness across the lifespan, to incorporate lifelong dental care into current medical protocols, and to promote dental care as part of an integral part of a medical home.	2010-2012		X	
<i>Objective 4: The WVOHP will strengthen and improve the dental health workforce.</i>			X	
Strategy 4:1 - The WVOHP will form a task force to study the following:	2010-2012	X		
a) The existing capacity and distribution of the oral health workforce to ensure oral health needs are met.	2010-2012	X		
b) How to extend or expand workforce capacity and productivity to address oral health in health care shortage areas.	2010-2012	X		
c) Ensure a sufficient workforce pool to meet oral health care needs.	2010-2012	X		
Strategy 4:2 - The WVOHP will develop a plan to address unequal distribution and shortage of dentists in rural areas inclosing the following:	2010-2012	X		
a) Establishment of uniform system for assessing oral health workforce capacity as one component of the WVOHSS.	2010-2012	X		
b) Assure capacity of schools of dentistry and dental hygiene to recruit and retain faculty to provide state of the art teaching and research opportunities.	2010-2012			X
c) Recruitment and retention of dentists and dental hygienists.	2010-2012	X		
d) Need for continuing health education training programs for health care providers, school educators, and extension specialists.	2010-2012		X	

Objective/ Strategy	Timeline	Achieved	In-Progress	Not Started
<i>Objective 5: the WVOHP will invest in community prevention.</i>			<b>X</b>	
Strategy 5:1 - The WVOHP will develop and implement a statewide plan for increasing the number of public water systems with fluoridated water.	2012-2015		<b>X</b>	
Strategy 5:2 - The WVOHP will develop a preventive oral health program for all West Virginians that involve a broad spectrum of health care professionals.	2010-2015			<b>X</b>
Strategy 5:3 - The WVOHP will define protocol and develop educational components and training opportunities for pediatricians to replicate successful and proven preventive oral health programs such as fluoride varnish, promoting good oral health activities, and linkage to dental homes.	2010-2015	<b>X</b>		
Strategy 5:4 - The WVOHP will work with the WVDE to analyze, evaluate, and redefine the role of the state's oral health educators to maximize their effectiveness as community oral health prevention specialists.	2010-2015	<b>X</b>		
Strategy 5:5 - The WVOHP will encourage local boards of health to implement a dental health component in their program plans and provide outreach activities to inform the public of the type and availability of oral health services.	2010-2015		<b>X</b>	
Strategy 5:6 - The WVOHP will support and collaborate with oral cancer educational programs to:	2010-2013			<b>X</b>
a) Study risk factors that lead to oral cancer.	2010-2014			<b>X</b>
b) Improve accessibility to screening to detect oral cancer.	2010-2014			<b>X</b>
c) Stress high risk behaviors, signs, and symptoms of oral cancer in oral health education presentations.	2010-2013			<b>X</b>

Objective/ Strategy	Timeline	Achieved	In-Progress	Not Started
<i>Objective 6: The WVOHP will strengthen the role of WV schools in promoting the oral health of students.</i>			X	
Strategy 6:1 - The WVOHP will improve oral health knowledge among students through teacher trainings.	2010-2015	X		
a) Teacher trainings	2010-2015	X		
b) Assessment and monitoring of outcomes	2010-2015	X		
Strategy 6:2 - The WVOHP will incorporate strategies to increase parent instruction and involvement in oral health education.	2010-2015		X	
Strategy 6:3 - The WVOHP will promote and support the expansion of school-based oral health programs including the following:	2010-2015	X		
a) Fluoride rinse programs	2010-2015	X		
b) Sealant programs	2010-2015	X		
c) Mouth guards	2010-2015	X		
Strategy 6:4 - The WV OHP will evaluate and make recommendations for policies requiring dental examinations prior to school entry collaborating with the Kid's First initiative to ensure a dental component.	2010-2015		X	
<i>Objective 7: The WVOHP will maintain, evaluate and monitor state plan implementation.</i>		X		
Strategy 7:1 - The WVOHP will establish a process to implement the state plan, including defining roles and responsibilities and local agencies for planning and evolution, coordination and accountability.	2010-2015	X		
Strategy 7:2 - The WVOHP will report progress on a regular basis to the Select Committee D on oral health.	2010-2015		X	
Strategy 7:3 - The WVOHP will establish a broad-based coalition focused on oral health improvement for all West Virginians across the lifespan.	2010-2015	X		



## Appendix B: Secondary Sources to Generate Oral Health Indicators

Data Source	Purpose	Population Sampled	Collection Method	Frequency
<b>Basic Screening Survey (BSS)</b>	Collect information on observed oral health	Pre-school and school-age	Standardized survey completed by dental professionals	Annual; every other year per population
<b>Behavior Risk Factor Surveillance System (BRFSS)</b>	Collect information on risk behaviors and health conditions among adults and children	Non-institutionalized WV adults and children	Telephone survey	Survey is annual; oral health questions are usually asked every other year
<b>Children's Health Insurance Program (CHIP)</b>	Track claims to pay providers for medical, dental and pharmacy services	WV children 0-20 enrolled, and are not eligible for Medicaid	Claims submitted by providers	Annual
<b>Dental Workforce Survey (DWS)</b>	Collect and report issues surrounding dental workforce and provide information on clinically active dental professionals in WV	Dentists and dental hygienists who are completing their license renewal in WV	Mailed survey	Every other year; the year opposite when providers have to report continuing education credits
<b>Marshall University School-Community Partnership Database</b>	Collect and provide information on oral health services provided and oral health status of students in low-income schools	Students in low income schools in WV that are participating in program	Mandated reporting by dental professionals providing services	Annual
<b>Medicaid</b>	Track claims to pay providers for medical, dental and pharmacy services	WV residents enrolled in Medicaid	Claims submitted by providers	Annual

Data Source	Purpose	Population Sampled	Collection Method	Frequency
<b>National Health and Nutrition Examination Survey (NHANES)</b>	A series of cross-sectional nationally representative health examination surveys conducted in mobile examination units or clinics	U.S. population (all ages)	In-person interviews in the household or in a private setting in the mobile examination center. Standardized physical examinations and medical tests in mobile examination centers	Continuous (a minimum of two data years is required for analysis)
<b>National Survey of Children's Health (NSCH)</b>	Examine the physical and emotional health of children. Provide a broad range of information about children's health and well-being	Birth-17 years	Telephone survey completed by parent or guardian	Approximately every four years
<b>National Survey of Children with Special Health Care Needs (CSHCN)</b>	Assess the prevalence and impact of special health care needs	Children from birth through 17 years who have special health care needs	Telephone survey completed by parent or guardian	Approximately every four years
<b>Pregnancy Risk Assessment Monitoring System (PRAMS)</b>	Collect information on maternal experiences and attitudes before, during and after pregnancy	Mothers who had a recent live birth	Mailed survey, with telephone follow-up of non-responders, linked to child's birth certificate data	Annual
<b>Uniform Data Systems (UDS)</b>	Collect information on services provided at FQHCs	Participating community health centers (funded by HRSA)	Required reporting of core set of information directly to HRSA	Annual
<b>Water Fluoridation Reporting System (WFRS)</b>	Collect and report on fluoridation levels from participating public water systems in WV	Community water systems	Web-based data collection form	Annual
<b>West Virginia Birth Defects Registry (BDR)</b>	Conduct statewide surveillance of select major birth defects	0 – 6 years	Passive case ascertainment using multiple sources	Annual
<b>West Virginia Board of Dental Examiners (WVBDE)</b>	Regulates practice of dentistry in WV. Sets and defines standards for safe dental practices. Provides dental professionals with license to practice	Dental professionals licensed in WV	Recorded during license registration/renewal	Annual

Data Source	Purpose	Population Sampled	Collection Method	Frequency
<b>West Virginia Cancer Registry (WVCR)</b>	Conduct statewide surveillance of newly diagnosed and treated cancers, provide data on cancer incidence and mortality	WV residents	Mandated reporting by hospitals that diagnose/treat a patient with cancer, plus mandated reporting by physicians of newly diagnosed cancer cases when the patient will not be referred to a hospital for diagnosis/treatment	Annual
<b>West Virginia Healthcare Authority</b>	Collects hospital inpatient uniform billing discharge data	Patients discharged from West Virginia hospitals	Required reporting by healthcare facilities	Annual
<b>West Virginia Title V Block Grant Application</b>	Collects data on current MCH projects, Title V national performance measures and State performance and outcome measures	Activities covered under the MCH Title V Block Grant	Data compiled from annual reports sent in by MCH Programs, Vital Statistics and multiple data sources	Annual
<b>Youth Risk Behavior Surveillance System (YRBSS)</b>	Assess and monitors priority health risk behaviors that contribute markedly to the leading causes of death, disability and social problems among youths and adults	Middle and high school students	School-based survey	Biennial
<b>Youth Tobacco Survey (YTS)</b>	Collect information on tobacco use and tobacco-related behaviors; provides information on asthma among youths	Students in grades 7-12	School-based survey in conjunction with the YRBS	Biennial