

CHAPTER 5 BEST PRACTICES IN ORAL HEALTH POLICIES

5.1 FINDINGS

5.1.1 POLICY LEVEL BEST PRACTICES

A research team from University of Mississippi attempted to identify sustainable programs and policies with effective results that have been, or could be, adopted in the Appalachian Region. PDA and UNC Sheps Center staff expanded on that work with additional research. Together, the efforts identified best practices from four sources: **1)** professional literature, **2)** the 2011 Institute of Medicine (IOM) report on best practices in oral health, **3)** anecdotal reports of professionals selected to participate in the Appalachian Regional Commission 2011 Annual Conference, Healthy Families, Healthy Future, and **4)** a limited survey of Appalachian health professionals conducted by Krause, et al. from University of Mississippi Medical Center (2010). Few of these practices have been subjected to professional peer review, but there is some consensus among the sources.

Health care research literature defines as best practices: any activity or process that is consistent with improving health promotion (Kahan and Goodstadt. 1999). Generally speaking, measures of clinical practice guidelines, health technology assessment and/or evidence-based medicine are used to assess best practices (Perleth, Jakubowski, Busse. 2001). In a recent CDC publication, Roeber and his colleagues argue that “a more common approach is the use of multiple sources of expertise to identify best practices in population-based health interventions” (2004:71). Previous studies have argued for the use of qualitative data to establish best practices related to health care. Sofaer (2002) argued that the application of qualitative methods may allow for an improved assessment of existing programs and policies. Leys (2003) argued that qualitative research is quite valuable in the assessment of health care programs and policies, particularly when the research evaluates perceptions of a program or practice.

To achieve sustained, affordable improvement in oral health, prevention returns the highest value for public investment.

- At the community level, fluoridation and culturally appropriate communication regarding what constitutes good oral hygiene practices were preferred.
- When direct care investments occur, most sources concurred that children should be the focus, with programs ranging from school-based screenings and education; sealants for children under six; education of new parents; and encouragement of expanded practice functions for dental assistants and dental hygienists.
- Sources surveyed provided little discussion of the results of programs that develop dietary and nutritional awareness of the role of vitamin D, calcium, and critical trace minerals play in good oral health; yet, dental professionals interviewed by PDA were quick to list these as recommended primary investments when budget is limited.

Supported by funding from HRSA, the IOM convened a national task force on oral health of underserved populations and released its first report in summer 2011. The report made several very specific recommendations with regard to vulnerable and underserved populations. It focused on two concerns:

- Six percent of the nation’s children did not receive needed dental care because their families could not afford it, and
- The other parts of the population who do not get annual dental care face supply and affordability barriers. This group represents 25 percent, and more of the population in some states.

Reflecting the special interests of the report's funding source, the Health Resources and Services Administration (HRSA), many of its recommendations are focused on HRSA-funded programs. The report did not address the financial impact of recommendations.

Key recommendations include:

- Policy initiatives
 - Support state legislative efforts to amend laws to maximize access to oral health care.
 - State policy should focus on allowing professionals to practice to the full extent of their education and training in a variety of settings.
- Workforce initiatives
 - Train diverse populations in diverse communities.
 - Shift oral health provision beyond dentists to dental hygienists and dental assistants.
 - Develop a new profession (Dental Therapist), and delegate more oral health responsibilities to physicians.
 - Encourage development of new dental schools to train dentists closer to underserved populations.
 - Develop interdisciplinary teams that incorporate oral health in total health.
- Direct Care
 - Expand oral health services in public clinics and other non-traditional settings, like Federally Qualified Health Centers.
 - Contract with private dentists to care for low-income uninsured persons.
 - Develop dental school residency clinics in underserved areas.
 - Encourage school, health department and mobile dental clinics.
 - Use hospital emergency departments as sentinel sites for monitoring demand for emergency dental care.
- New Financing Mechanisms
 - Enhance Medicaid rates for dental care / physicians for oral health services.
 - Implement Medicaid payment to primary care providers for application of fluoride varnish on children.

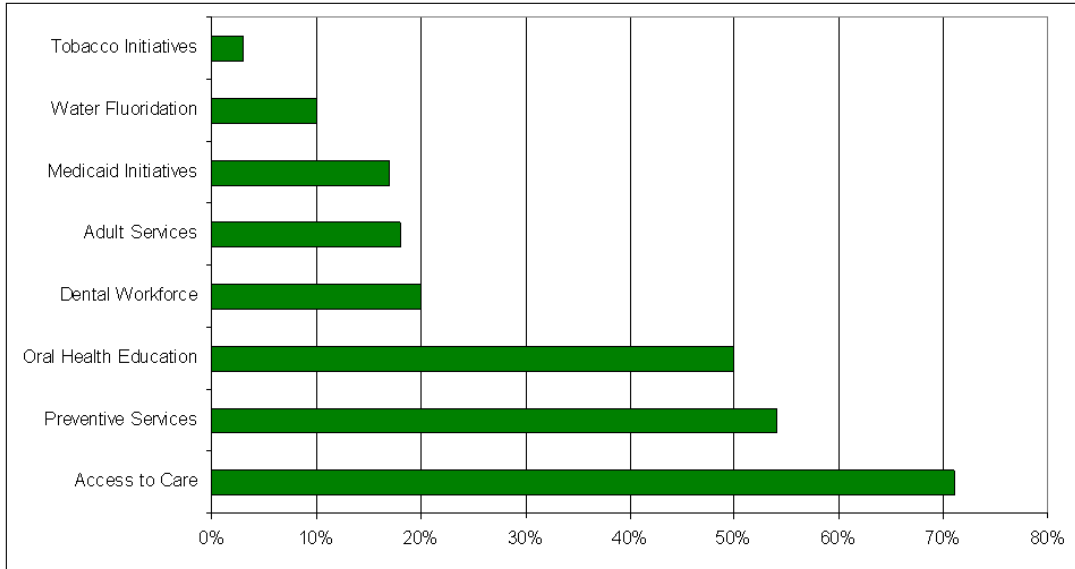
5.1.2 APPALACHIAN INITIATIVES

SURVEY

Using direct interviews of 31 stakeholders in the 13 Appalachian states, a team of University of Mississippi researchers identified oral health initiatives underway in the region in 2009. They collapsed 134 different programs into eight themes by using a meticulous coding system that was blind checked by a second team. Detailed analyses of their interviews, coding and results are contained in Appendix F.

Figure 17 shows the eight intervention themes by frequency of mention. The low frequency for fluoridation suggests that the stakeholders interviewed may not have been personally involved in their state's fluoridation program, because most Appalachian states have a fluoridation program.

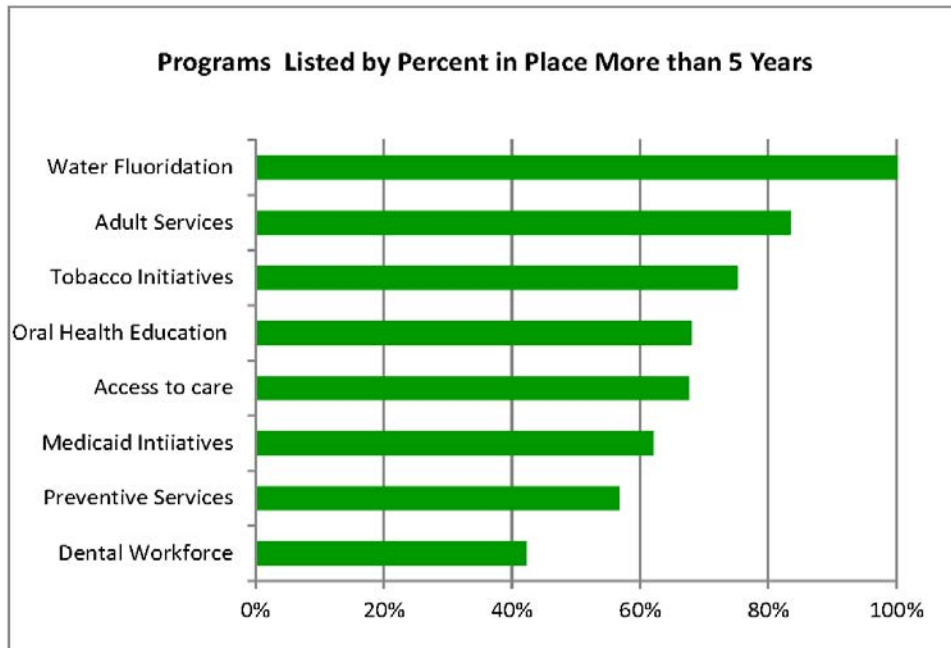
FIGURE 17 – ORAL HEALTH INITIATIVES AREAS BY FREQUENCY OF MENTION IN APPALACHIAN STATES, 2009



Source: Appendix F

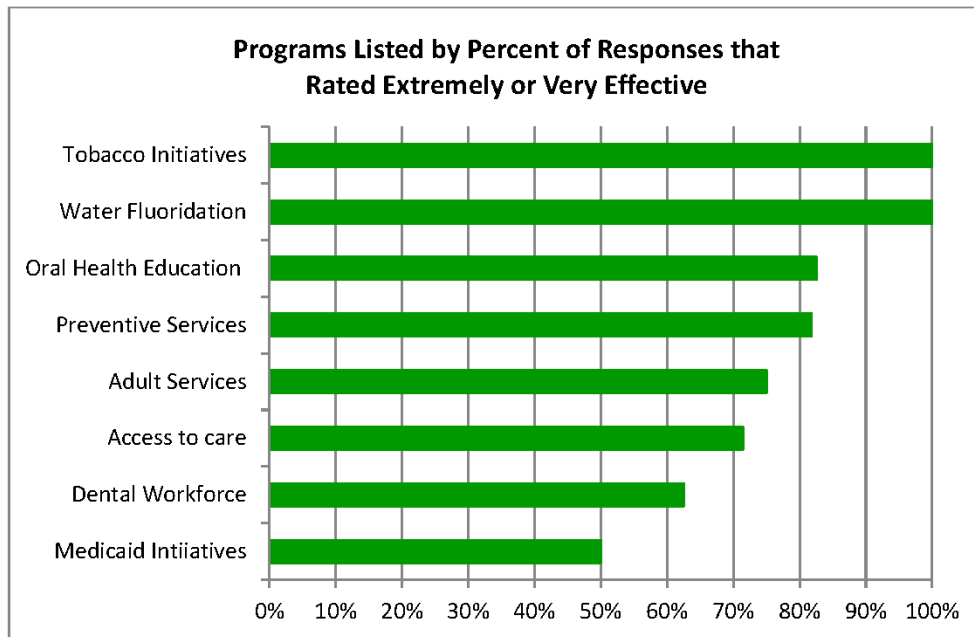
Interviewees were asked three questions about each program: 1) how long has the program been in effect; 2) how effective would you rate it on a 5-step scale ranging from Extremely Effective to Not Effective; and 3) how many people does the program reach? Figures 18, 19 and 20 summarize the responses of the interviewees.

FIGURE 18 – DURATION OF APPALACHIAN STATE ORAL HEALTH PROGRAMS



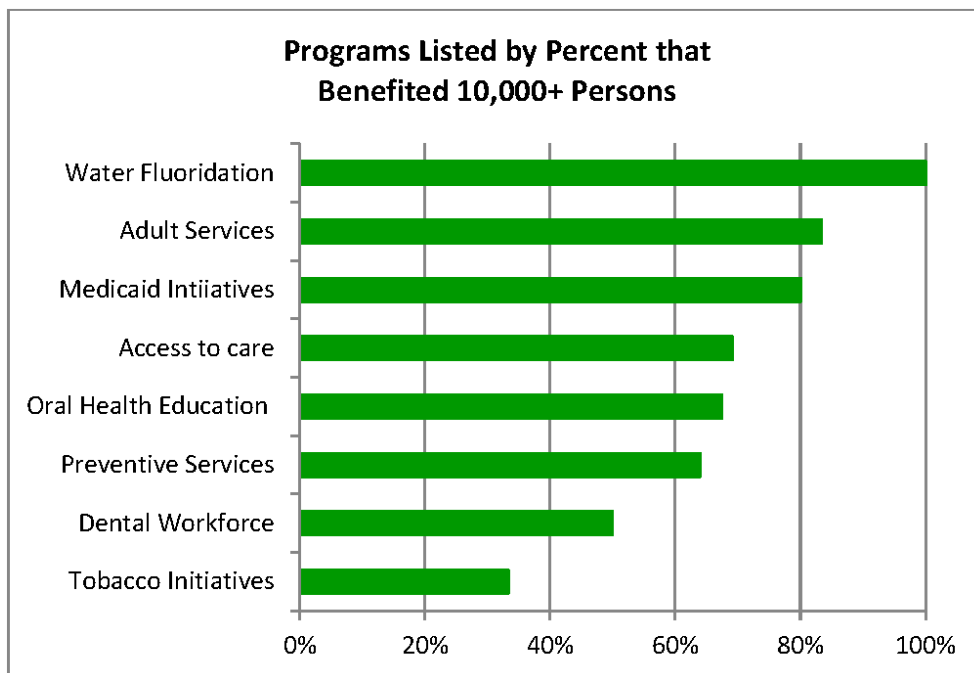
School-based sealant programs are included in the preventive programs. The eight reports of this program all rated 100 percent effective.

FIGURE 19 – EFFECTIVENESS OF STATE PROGRAMS IN APPALACHIA



Source: Appendix F.

FIGURE 20 – REACH OF APPALACHIAN STATE ORAL HEALTH PROGRAMS



Access to care seems to be one of the key challenges addressed by these programs and policies. This is not surprising given the distinctive geographic and socioeconomic characteristics of the Region as related to health care (Behringer, et al. 2007). Others agree. Access to care is deemed a barrier to improving oral health care by the United States Surgeon General (DHHS. 2000; Haden, et al. 2003). Many practices included in the sample seek creative ways to increase access to oral health care. For example, in areas with fewer dentists, allow primary care physicians to perform basic preventive services. At least four of the ARC states —Alabama, North Carolina, South Carolina and Virginia— have such programs in place for young children who are more likely to visit a primary care physician than a dentist. Furthermore, primary care physicians in some states may be reimbursed by Medicaid for providing these services. The use of mobile clinics may also provide basic access as well as assist patients in finding dental homes. At least one ARC state, North Carolina, considered this an effective practice; however, such a program often relies on volunteers and may, therefore, not be feasible. Lack of follow up is another problem with mobile screening clinics.

Preventive services mentioned in this study primarily focus on children. These services include dental sealants, dental screenings, and fluoride applications. Most, if not all, of these services are offered in some manner in the ARC states. Many of these services are administered at schools or by pediatricians in an effort to not only improve oral health, but to educate children about the importance of proper oral hygiene. Dye, et al. (2007) found that dental sealant prevalence among children age 6 to 11 has increased in recent years. Policies regarding dental screenings vary around the nation, yet many states require some sort of dental certificate prior to admittance into school (Booth, et al. 2008). Three states in the Appalachian Region —Georgia, Kentucky and New York— have the requirement (Booth, et al. 2008).

Oral health education and advocacy was somewhat linked to both access to care and preventive services in this analysis. Many of the practices categorized as educational aimed to teach patients about the importance of oral health care. Persons with the greatest need also seem to lack knowledge about its importance (Haden, et al. 2003). Thus, it is not unexpected that many state oral health practices seek to educate the population about oral health.

Efforts to maximize and continually educate the **dental workforce** are crucial in socioeconomically challenged areas like the Appalachian Region. Practices that encourage recent dental school graduates to work in rural areas at least one year, in exchange for tuition, make a small contribution to care in underserved areas. Haden, et al. (2003) argue that dental schools should support recent graduates who provide at least one year of service in underserved areas. The goal is both to increase access to care and have dentists acquire knowledge about providing culturally appropriate care. Other health care workers, such as primary care providers, if properly trained, can provide basic dental services geared toward prevention (Selwitz, Ismail and Pitts. 2007). Moreover, as discussed in Chapter 4, practice restrictions placed on dental hygienists vary by state (BHP. 2004). Reducing the restrictions on the level of supervision for dental hygienists is potentially beneficial for improving access to care in underserved areas (Krause, Mosca and Livingston. 2003). Few practices identified seek to diversify the dental workforce; however, that issue may be better addressed by dental schools in the recruitment of students.

Practices to improve **adult oral health** are critical, as well. Medicaid coverage for dental services for adults varies by state and is often quite limited (Ellis, et al. 2009). Adults are more likely to have medical insurance than dental insurance (DHHS. 2000). Therefore, some programs and policies have been implemented in ARC states such as Maryland, Mississippi, North Carolina, New York, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia and West Virginia, in order to provide some basic preventive dental services to uninsured adults or insured adults unable to afford costs associated with dental visits. Because the risk of dental caries continues throughout the lifespan, it is critical for adults to receive preventive dental care. Adults over the age of 40, who use tobacco, are at a greater risk of oral cancer (Selwitz, et al. 2007); this makes adult dental care important in oral cancer detection.

Medicaid programs and policies mentioned in the survey seek to increase the number of dental Medicaid providers, increase Medicaid reimbursement, or reduce the amount of paperwork necessary for providers to be reimbursed. These respond to concerns that children enrolled in Medicaid are more likely to have dental caries and untreated tooth decay compared to children enrolled in private insurance (GAO. 2008). Savage, et al. (2004) found evidence that children with Medicaid coverage in areas with lower dentist-to-population ratios were less likely to use dental services. Fewer dentists in an area could mean that even fewer dentists participate in Medicaid reimbursement. Thus, initiatives to increase the number of Medicaid providers seem warranted. About one-third of the practices included in the sample relating to Medicaid initiatives have been implemented within the last five years, possibly a response to findings from a 2000 survey administered by the American Dental Association, in which about 75 percent of dentists did not treat patients insured by Medicaid (Haden, et al. 2003).

Water fluoridation is one relatively inexpensive practice believed to benefit the population (Bailey, et al. 2008; Griffin, Jones and Tomar. 2001; Kohlway. 2008). Not only is community water fluoridation perceived as inexpensive for communities, but it is also perceived as a long term cost-saving mechanism by preventing future expenses related to tooth decay (Kohlway. 2008). However, as of 2006, the CDC reported that only 69 percent of the population had access to a fluoridated community water system (Bailey, et al. 2008). Given that the rate of water fluoridation varies from state to state, and from county to county in some states, it may be helpful to continue to move forward for those areas that lack community water fluoridation. While water fluoridation has its proponents, it also has its opponents; so, education regarding the benefits of water fluoridation may need to be continually addressed in some states (Kohlway. 2008).

Practices related to **tobacco initiatives** were the only theme not mentioned by at least one stakeholder in each of the 13 Appalachian states. Given the significant relationship between tobacco use and dental caries, oral cancer, and other oral diseases (Winn. 2001), this is somewhat surprising. However, it is possible that there are programs in place in the Appalachian states, but the programs are not specifically oral health initiatives.

The survey methodology for the study was not robust enough to quantify the effectiveness of these programs in the Appalachian Region. With the exception of West Virginia (in which all counties are included in the Appalachian Region), this methodology did not uncover to what extent practices were designed solely to improve the oral health of the residents of the Appalachian Region.

FOUNDATION SUPPORTED INITIATIVES

Throughout the Appalachian Region, private philanthropic foundations have supported grant-funded oral health initiatives that have made a difference. Unfortunately, these local initiatives often terminate when grant funding ends. Responding to the dilemma, states and foundations have shifted their focus to sustainable policy changes:

- The W.K. Kellogg Foundation is sponsoring a project to increase roles of dental therapists in five states, including **Ohio**.
- **Ohio** also focused state funds on sealants for children in low-income neighborhood schools, reaching 30,000 children in 2008 (Pew. 2010).
- Two new dental schools are opening in underserved areas in Appalachian states, **East Carolina University** in North Carolina and the **University of West Virginia Rural Dentist Project**.
- The DentaQuest Foundation and the Washington Dental Service Foundation are supporting a national multidisciplinary collaborative to train primary care providers in ways to protect and promote oral health. The project, National Interprofessional Initiative on Oral Health, engages professional associations, medical school residencies and other training programs to develop a common curriculum around oral health issues, especially for children (NIOH. 2011).

- **Kentucky** Governor Steve Beshear committed to an expanded Kentucky Children’s Health Insurance Program (KCHIP) and a community partnership to improve the oral health of Kentucky children, particularly in Appalachia. In September 2011, the Kids’ Health program provides screening, sealants and direct care, and engages families in maintaining children’s oral health. The program targets families with incomes below 200 percent poverty level and uses a case manager approach to keep families involved. Healthy Smiles Kentucky is jointly funded by the state and ARC and works through the Department of Public Health. It targets particularly Appalachian communities. It also trains local dentists in ways to care for children, supports community oral health coalitions and has a school health component (McKee. 2011).
- **West Virginia** Marshall University Area Health Education Center, with help from ARC and the Benedum Foundation, developed small grants to community partnerships that work with local dentists and the dental society to establish dental homes. In 2011, the program was operating in 24 of the 55 counties, providing school education, dental screening and sealants to children. This program raised West Virginia’s score on the Pew Child Oral Health scorecard from “F” to “A” in the course of five years. A common reporting system lets the program give feedback to participating communities. The program is moving from direct care to a full statewide plan and development of the expanded dental provider workforce. With sustainability as the goal, West Virginia is engaging funds from a tobacco tax to support the program (Muto. 2011).

In four years, West Virginia moved from a score of “F” to “A” on child oral health.

Muto, 2011

5.1.3 NATIONAL INITIATIVES

The United States Department of Health and Human Services (DHHS) is investing in oral health program plans and workforce development.

- Centers for Disease Control (CDC) is providing funds to 19 states to develop state oral health plans. Grantees include four Appalachian states: Georgia, Maryland, New York and South Carolina. In 2011, three Appalachian states had no oral health plans: Alabama, Georgia and Tennessee.
- On a temporary basis, Health Resource Services Administration (HRSA) Behavioral Health Planning Council / Bureau of Clinician Recruitment Service National Health Service Corps expanded slots for dentists and dental hygienists in Appalachian states. However, this temporary stimulus funding ended in April 2011.

The Pew Charitable Foundation developed a state scorecard to encourage states to improve oral health of high-risk children. The **Pew Child Oral Health Initiative**, a multi-year initiative, grades states on eight policy indicators (Pew. 2010).

- Have sealant programs in at least 25 percent of high risk schools.
- Allow a hygienist to place sealants in a school-based program without requiring a dentist’s exam.
- Provide optimally fluoridated water to at least 75 percent of residents who are served by public systems.
- Meet or exceed the 2007 national average, 38 percent, of Medicaid-enrolled children ages 1 to 18 receiving dental services.
- Pay dentists who serve Medicaid-enrolled children at least the 2008 national average (60.5 percent) of median retail fees.

- Reimburse medical care providers through state Medicaid program for preventive dental health services.
- Authorize a new type of primary care dental provider.
- Submit basic screening data to the national database that tracks oral health conditions.

On the 2010 Pew scorecard, Appalachian states ranked from best to worst. **Maryland** had the top score in the country. **South Carolina** also scored an “A”. Most states had improved from the initial score. **West Virginia** had moved from “F” to “C”, and recently reported an “A.” (Muto. 2011). Work remains—in the Appalachian states, 46 percent received a “C” compared with only 27 percent nationwide.

FIGURE 21 - PEW CHILDREN’S DENTAL HEALTH REPORT CARD 2010

Appalachian State	Grade	Number of Benchmarks Met (of 8 possible)
Maryland	A	7
South Carolina	A	6
Ohio	B	5
New York	B	5
Georgia	B	5
West Virginia	C	4
Virginia	C	4
Tennessee	C	4
Mississippi	C	4
Kentucky	C	4
Alabama	C	4
Pennsylvania	D	3
North Carolina	D	3

Source: Pew. 2010.

Note that in 2011, West Virginia reported moving up to “A” on the Report Card.

Responses from 31 policy makers, who represented all Appalachian states, focused on seven areas they considered effective in addressing access to oral health care and improvement in oral health status.

- Access is important in areas with fewer dentists. Allowing primary care physicians to perform basic preventive services is one such mechanism to increase access. Mobile clinics may also provide basic access, as well as assist patients in finding dental homes.
- Preventive Services mentioned in this study primarily focus on children and include dental sealants, dental screenings, and fluoride applications. Most, if not all, of these services are offered in some manner in the Appalachian states.
- Oral Health Education and Advocacy are somewhat linked to both access to care and preventive services in this analysis, as many of the practices categorized as such also aimed to teach patients about the importance of oral health care.

- Dental Workforce Education practices that encourage recent dental school graduates to work in rural areas and that ease restrictions on scope of practice for dental hygienists improve access in underserved areas.
- Adult Oral Health Care services and coverage vary by state, but are quite limited. Some programs and policies implemented in many Appalachian states provide some basic preventive dental services to uninsured and underinsured adults.
- Medicaid Initiatives seek to increase the number of Medicaid providers, by enhancing Medicaid reimbursement or reducing the amount of paperwork necessary for providers to be reimbursed.
- Water Fluoridation remains an attractive means to improve a population's oral health and is relatively inexpensive. It also varies a great deal across Appalachia.
- Tobacco Initiatives were mentioned by a single stakeholder. Given the significant relationships between tobacco use and dental caries, oral cancer, and other oral diseases (Winn, 2001), this is somewhat surprising.

Details of the interviews are in Appendix F.

5.2 METHODOLOGY

5.2.1 DATA SOURCES

Information in this Section was drawn from presentations at the ARC 2011 Annual Conference, from national reports, website searches, and from a direct interview survey conducted by University of Mississippi research team in 2009, and contained in Appendix F, and from referenced published reports.

University of Mississippi researchers supplemented data provided by the Association of State and Territorial Dental Directors (ASTDD) by briefly interviewing stakeholders in each Appalachian state. Stakeholders included, but were not limited to, a representative from each state's oral health division; a representative from each state's dental association; and a representative from each state's Medicaid Dental Division. Contact information for these stakeholders was obtained from an internet search of websites such as the ASTDD's website (<http://www.astdd.org>), each state's dental association website, and each state's Medicaid website. Stakeholders were interviewed by telephone or email. The interview was tested and approved by the Institutional Review Board for the Protection of Human Subjects in Research at Mississippi State University prior to its implementation.

Overall, 31 individuals agreed to the interview for a response rate of 79 percent.

The primary interview question was "What programs or practice policies are in place in your state related to oral health?" This was followed by a brief explanation of what types of programs and policies we were interested in for this project, namely fluoridation, screening, sealants, smoking or community oral health initiatives of which the stakeholder had some knowledge. Respondents were asked to provide the name of the program and a brief program description.

Three additional questions were asked regarding each practice mentioned by stakeholders.

1. “How long has this practice been in place?” Responses fell into one of four categories: more than 5 years; between 1 and 5 years; less than 1 year; or still being implemented.
2. “How effective would you say this program/policy is?” Responses were scored on a 5-point scale: extremely effective, very effective, effective, somewhat effective, or not effective at all.
3. “How many people would you say benefit by this program/policy?” Respondents were asked to categorize responses into one of five categories: 1-100; 101-1,000; 1,001-9,999; 10,000 or more; or there is no benefit.

Surveys identified 134 programs and policies related to oral health. Each was coded according to the themes, and scored for effectiveness. Population-based initiatives were favored over those involving direct service.

Categorizing into themes was not necessarily mutually exclusive; some programs and policies addressed more than one area. A code book was created to assist coding of cases into the various themes.

Two methods were used to insure the reliability of the coding. The first method involved a test-retest format, in which all cases were coded by a single individual. Two weeks after the initial coding, the same individual re-coded all cases. A comparison of each set of coding was conducted, and a reliability score of approximately 92 percent was achieved. The second method used to determine the reliability of the coding involved a random sampling of 10 percent of the cases. A second individual was asked to code these randomly selected cases, and a reliability score of 91 percent was achieved. Given the two reliability scores, it was determined that the coding was largely consistent.

5.3 DISCUSSION

In the Appalachian Region, policy makers face the daunting challenge of limited knowledge base, low income and workforce shortages. Policy makers found programs that focused on community health or direct care more effective than ones focused on general prevention or work force. Unfortunately, the survey did not provide opportunities to probe reasons for low effectiveness ratings. Both reducing workforce shortages and causing behavior changes in oral health practices are critical to improved oral health in the Appalachian Region. Further exploration of obstacles and opportunities in both areas should be encouraged. Both issues are complex and progress will require engagement of oral health professionals and experts in behavioral change.

States and foundations have naturally gravitated to programs aimed at stabilizing children’s oral health, building on families’ desire to give their children good foundations. Even then, most states are working on low cost interventions, expansion of roles of non-dentists, engagement of local practicing dentists and scorecards with feedback. The scorecards appear to be effective in drawing comparative attention to oral health disparities in the Appalachian Region. In the case of West Virginia, a low scorecard motivated significant program improvement.

Going forward, investments in children should improve educational performance and build foundations for a productive workforce. States like Maryland, South Carolina, West Virginia and Kentucky are pace setters for children’s oral health in the Appalachian Region.