

South Carolina Dental Association's Position Paper on Oral Health

Historical Reflections – Constructive Recommendations

Advancing excellence in dentistry



SOUTH CAROLINA
DENTAL ASSOCIATION

August 11, 2017

SCDA's Mission Statement:

Optimize public health by advancing the art and science of dentistry.

INTRODUCTION

Achieving optimal oral health for the citizens of South Carolina is a goal the South Carolina Dental Association (SCDA) embraces with its clinical and advocacy partners. The SCDA Board of Governors and the SCDA House of Delegates have approved this position paper that (1) delineates our state's progress towards achieving optimal oral health and (2) the SCDA's recommendations for evidence-based solutions that address our state's unique challenges. While the paper is intended to clarify the SCDA's position on oral healthcare delivery for our state, we welcome the continued constructive dialogue we have historically enjoyed with clinicians, government agencies, philanthropic and non-profit organizations. This history of collaboration has yielded the best possible solutions for South Carolina.

RATIONALE FOR ACTION

"Oral health and general health are integral to each other."¹ Many adverse health conditions have manifestations in the mouth. These conditions can also affect activities of daily living and particularly a child's development and classroom performance. Many systemic diseases and conditions, including diabetes, and nutritional deficiencies, have oral signs and symptoms. These manifestations may be the initial sign of clinical disease and may serve to inform health care providers and individuals of the need for further assessment or immediate care. Mounting clinical research demonstrates that oral inflammation may increase the risk of heart disease, stroke, premature births, respiratory infection, and difficulty in controlling blood sugar in persons with diabetes.²

Oral health is directly related to a person's well-being and quality of life as measured along functional, psychosocial and economic dimensions. Oral/facial pain, both as a symptom of untreated dental and oral diseases and as a condition itself, is a major source of diminished quality of life. Diet, nutrition, sleep, psychological status, social interaction, school, and work are adversely affected by impaired oral and craniofacial health. Oral and craniofacial conditions such as temporomandibular disorders, diminished salivary functions, and ill-fitting prosthetics can lead to a variety of poor health outcomes including a compromised ability to eat which leads to limitations in food selection and to poor nutrition. Poor oral health is also associated with sleep deprivation, depression, and multiple adverse psychosocial manifestations.³

HISTORICAL BACKGROUND: COORDINATED ADVOCACY & PLANNING INFRASTRUCTURE

The Surgeon General's Call to Action (2000). Since the Surgeon General's report in May of 2000, oral health care has become an increasingly discussed topic in the United States. This report led many experts to note that oral health care was critical to the overall health of an individual and that oral health is an integral part of a healthy society.⁴ Soon after the Surgeon General's report, Healthy People 2010 created a document that presented a comprehensive, nationwide health promotion and disease prevention agenda. The Healthy People 2010 report included objectives, processes and outcomes related to improving the oral health of citizens.³

The Surgeon General's report served as a wakeup call and produced a call to action that led policy makers, community leaders, private industry officials, health professionals, media outlets and the public to come together to address oral health.³

The call to action was designed to:

- Promote oral health
- Eliminate oral health disparities
- Improve quality of life

SC's Policy & Infrastructure Responses to the SG's Call to Action (2001-2003). Following the release of the Surgeon General's report, South Carolina's Department of Health and Environmental Control (SCDHEC) began to work with the SCDA and others to re-establish the Public Oral Health Division for South Carolina. SCDHEC began to form public and private partnerships to improve the oral health of South Carolinians. An oral health summit was held in April 2001. The summit brought together major stakeholders to finalize the priorities identified at the 2000 National Governors Association Oral Health Policy Academy (NGAOHPA). The NGAOHPA worked to build linkages between providers and those in need, expand access to care, and develop policies related to oral health.

At the first NGAOHPA, the Academy encouraged 21 states to assemble a team to include:⁵

- A representative from the Governor's Office
- A member of the State Legislature
- The State Dental Director
- A representative from the State Medicaid office
- A representative from the State Dental Association
- A member of the community
- A practicing Pediatric dentist

The Academy focused on the development of strategic plans to address oral health care coverage and services to children in each state.⁵

Five priority areas were addressed:

- Policy and Advocacy
- Prevention and Education
- Work Force Development
- Public Health Infrastructure
- Improved access to Dental Services

Subsequently, the Healthy Smiles for South Carolina Summit convened in November 2001 and developed policy recommendations to address the five priority areas. In addition, the *South Carolina School-Based Dental Prevention Program Guidelines* were approved. These guidelines established a process for developing public/private partnerships to provide school-based oral health services to students. In 2007, 28 of the 46 counties in South Carolina had a school-based oral health program. By 2010, 51 out of the state's 85 school districts were served by a DHEC School Dental Program. During the recent 2015-2016 school year, 49 of the state's 81 school districts were served by a provider in the DHEC School-Based Dental Public Health Prevention Program. The Oral Health Surveillance System was a joint project of SCDHEC, the Office of Public Health Statistics and Information Services (PHSIS), the State Revenue and Fiscal Affairs (RFA) office, the South Carolina Oral Cancer Registry and the South Carolina Birth Defects Registry. This system allows the tracking of oral disease (i.e. dental caries/tooth decay and oral/pharyngeal cancer), population based oral health infrastructure (water fluoridation, workforce capacity), and the utilization of the oral health system among subpopulations (elderly, children with special health care needs, Medicaid/Medicare populations, etc.)⁶

A Statewide Oral Health Plan (SOHP) was developed under the leadership of DHEC's Division of Oral Health in collaboration with its Advisory Council and the State Oral Health Coalition. Many people and organizations collaborated on the plan, all with the same aim – to help South Carolinians have healthy mouths as well as healthy bodies. As a living and breathing document, the SOHP was drafted, then revised in 2008 and again in 2016. The full text is available at: <http://www.scdhec.gov/Health/FHPP/DiseaseResourcesforHealthcareProviders/OralHealth/StateOralHealthPlan/>

The South Carolina Oral Health Advisory Council was established in 2003 as a part of the State Oral Health Plan, to provide guidance to SCDHEC's Oral Health Division. The Advisory Council continues to assist in establishing goals and objectives for the Division of Oral Health to impact policy and to support oral health education throughout the state. The Oral Health Coalition was also established in 2003. The mission of the Coalition is to assist in the development of oral health promotion and disease prevention activities at the state and community levels. The Oral Health Advisory Council and Coalition have historically made demonstrable contributions to SCDHEC's Division of Oral Health and to stakeholders across the state. Given the utility of each group, there is tremendous value in utilizing the strengths of each group in furthering public oral health in South Carolina.

The South Carolina Oral Health Advisory Council and Coalition (SCOHACC) functions as a cohesive group; however, the Advisory Council and the Coalition have separate roles and responsibilities. The Advisory Council consists of twenty executive level members who influence policy, while the Coalition is comprised of a diverse group of stakeholders from private practice, public health, academia and communities who are familiar with practice issues related to health care. The Division of Oral Health (DOH) staff work closely with the SCOHACC and it is considered part of the oral health infrastructure in South Carolina.⁷

The SCDA plays an integral role in South Carolina's advocacy infrastructure and facilitates a policy environment that favors evidenced-based solutions for meeting the oral health needs of our state's citizens. As we reflect on our historical achievements, this position paper explores the contributors to optimal oral health and our recommendations for maximizing their effectiveness.

CONTRIBUTORS TO OPTIMAL ORAL HEALTH:

The multi-factorial contributors to lackluster oral health are not speculative; there are numerous theories and studies to support them. The Andersen and Aday Behavioral Model of Utilization frames environmental, population and individual factors that influence utilization of dental services and optimal oral health. The theoretical model is presented in Appendix A of this report. This framework is used to identify the barriers to oral health care for which the SCDA clarifies its position and recommendations.

The External Environmental Contributors. The environment is defined as both the community and the oral healthcare system available to the state's citizenry. While the SCDA cannot change the circumstances in which many South Carolinians live, we recognize that the economic, social, and cultural attributes of a community can influence oral health status. However, the SCDA intends to continue its leadership role in addressing issues related to the oral healthcare system, including:

- Dental Workforce Issues
- Dental Workforce Diversity
- Water Fluoridation
- Availability of Public School-Based Services
- Payment and Reimbursement Issues
- Tobacco Cessation
- Identifying and Reporting Abuse and Neglect
- Creative Solutions

Positions and recommendations for each of these environmental issues are presented on subsequent pages.

Dental Workforce Issues:

The oral health care workforce is critical to the delivery of high quality dental care in the United States. Effective health policies intended to expand access, improve quality, or constrain costs must take into consideration the supply, distribution, preparation, and utilization of the health workforce.

In 2000 there were 2,328 dentists, 1,410 dental hygienists, and 2,970 dental assistants practicing in South Carolina.⁸ This equated to 43.2 dentists per 100,000 citizens in South Carolina in 2000, which is below the national rate of 63.6. The per capita ratio of dental hygienists in 2000 was also substantially lower than the national rate, at 44.2 per 100,000.⁸ By 2005, those numbers changed significantly. Dental hygienists practicing in South Carolina increased to 1,883 and dentists decreased to 1,839 despite the state's continued population growth.⁸ Between 2008-2010, the numbers shifted again. Dentists have increased since 2005 to 2,082 thus increasing the number of dentists per 100,000 citizens in South Carolina to 45.4. The number of hygienists and dental assistants has also increased since 2005. Reports from 2008-2010 reflected an increase in the number of hygienists to 1,983 which equates to 43.2 per 100,000 citizens and dental assistants increased to 3,260 which equates to 71.1 per 100,000 citizens.

In 2011, only one county, Lexington, was not designated as Dental Professional Shortage Areas (DPSAs). Of the other counties, 18 were designated as geographic DPSAs, and 27 were designated as income DPSA's. The most recent reports from 2016 reflect that Lexington county is now partially considered a DPSA while Charleston and Greenville counties are no longer considered as DPSA's.

Health Resources and Services Administration (HRSA), however, has recently suggested that a ratio of up to even one dentist to 5000 is acceptable due to increased capacity and efficiency in the modern dental office model. The Dental Economics Advisory Group at the American Dental Association (ADA) states that with new dental schools coming on-line and anticipated workforce and technology enhancements, the supply of dentists is not likely to be a problem.¹⁰

From an education standpoint, the only four-year school of dentistry in South Carolina is at the Medical University of South Carolina which offers a joint D.M.D./Ph.D. program in addition to the standard curriculum. Post-doctoral training

is available in general dentistry, oral and maxillofacial surgery, pediatric dentistry, periodontics, endodontics and orthodontics. Palmetto Richland Hospital in Columbia has a general practice dental residency program. It is a one-year certificate program and includes rotations in anesthesia and in family medicine. Nearly all the resident's time is spent providing dental care at Palmetto Richland clinic sites. There are seven technical colleges across the state that train dental hygienists. A dental hygiene associate program requires two years and provides academic study in basic and dental sciences as well as clinical experience that renders the student eligible to take the national and state licensing exams. Some colleges also offer a one-year dental assisting program. Continuing education for dental hygienists, dental assistants and dental office professionals is also available either on campus or on-line.

Some suggest that the solution to removing barriers to oral health care is the addition of another type of provider. These provider types include: Dental Health Aide Therapists, Advanced Dental Health Aide Therapist and the Advanced Dental Hygiene Practitioner. In short, these are classified under the umbrella of a mid-level provider. In recent years, some states (ie. Alaska, Maine and Minnesota) have passed legislation allowing a mid-level provider and discussions are ongoing in several other states.⁹ In past legislative sessions, South Carolina has had bills introduced to expand dental hygiene practice and/or establish a dental therapist position. The bills did not move out of subcommittee. The SCDA supported funding of the Community Oral Health Coordinator established in 2010. The position was established by law in South Carolina, yet remains unfunded.

The term "Dental Access" is included in many discussions when people cannot obtain dental care. There are many factors that affect dental access issues:

- Financial
- Geographic and Transportation
- Government Policies
- Cross-Cultural Beliefs and Language
- Lack of Oral Health Literacy
- Conflicting Work Schedules

Dentistry is a profession built upon long-established educational foundations that provide the minimum skill and knowledge level necessary to provide optimal oral health care to the public. Individuals who are performing under anything less than these standards do not have the necessary educational level of an oral health professional who is capable of diagnosing and treating oral conditions. A provider whose education and training does not meet minimum standards should not be diagnosing patients, planning treatment or performing irreversible/surgical procedures on any patient. However, some organizations continue to recommend the utilization of mid-level providers to treat the oral health needs of the underserved and economically challenged population which often present the most complex and severe problems. These are the patients who typically have more severe levels of dental disease and multiple co-morbidities that require a health care professional with advanced training, skill and experience.¹⁰

The SCDA believes that the doctor-patient relationship is critical to providing the best comprehensive care for the patient. The dentist is the doctor of oral health and therefore should be the only one who is responsible for patient diagnosis and treatment. Delegating select limited duties to existing allied dental personnel under appropriate supervision of the dentist can help expand the dentist's capacity for providing care. However, only a dentist can provide a definitive diagnosis and perform procedures that are surgical or that otherwise permanently alter the patient.¹⁰

The SCDA Supports:

- Utilizing treatment that is prevention-focused and incorporates a fully trained dentist and his or her full oral health team (dental team concept). It is the dentist who decides the needs and treatment required for patients. The dentist utilizes the team to increase efficiency in order to treat more patients without decreasing the level of care.
- Increasing the number of allied dental personnel (assistants, hygienists, expanded function dental assistants) within the dental team. These team members expand the capacity of the dentist but are not self-directing, cannot diagnose or develop a treatment plan, and have appropriate oversight by the dentist.
- Increasing the knowledge, abilities, and training of allied dental personnel within the dental team by supporting selected limited expanded functions.
- Placing the responsibility squarely on the shoulders of the dentist, not non-dentists, for safeguarding the health and safety of patients.
- Supporting a single-tiered oral health care system in which the poor and geographically challenged are not relegated to non-dentists and are afforded the support services necessary to achieve optimal oral health equity.¹²

Recommendations:

- The SCDA will seek funding for the Community Oral Health Coordinator (COHC). (See details in the creative innovation section.)
- The SCDA urges government officials to put additional money into the loan repayment options and tax incentive programs to encourage dentists to practice in underserved areas. This includes SCDA's Rural Incentive Program.
- The SCDA urges government officials to investigate giving tax credits to those dentists who treat significant numbers of Medicaid patients.

Dental Workforce Diversity:

One cause of oral health disparities is a lack of access to oral health services among under-represented minorities. Increasing the number of dental professionals from under-represented racial and ethnic groups is viewed as an integral part of the solution to improving access to care for these populations⁴ because individuals in minority communities are more likely to seek treatment from people of their own racial or ethnic background.⁴

Research also shows that increasing the diversity of our dental schools enhances the educational experience and increases the likelihood that dental school graduates will practice in ways that extend oral care services to all segments of society.⁴

In 1999, the ADA reported that 1.9 percent of active dentists in the United States identified themselves as being Black or African American, although that group constituted 12.1 percent of the U.S. population. Hispanic/Latino dentists made up 2.7 percent of U.S. dentists, compared with 10.9 percent of the U.S. population that was Hispanic/Latino. In South Carolina, 80 percent of 1,722 licensed dentists in 2003 were White males. Just over 6 percent of all dentists were African American, and 2 percent were Hispanic.¹¹

In 2006, an oral health workforce report reported that 3.4% of dentists in the United States were Black or African American compared to 13.3% of the U.S. population while Hispanic dentists had increased to 3.4% with a national population growth to 16%.

In 2012, South Carolina reported that 91% of the state's dentists were White, while the percentage of Black or African American dentists remained stagnant at 6.1%, and the percentage of Hispanic dentists had increased slightly to 3.4%.¹¹

The National Dental Association points out "that the disparity in health status between African Americans and Non-Hispanic Whites is alarming. Racial minorities are sicker than White Americans and are dying at significantly higher rates. These are undisputed facts. There are numerous examples of disparities between racial and ethnic groups and between men and women. Mortality rates are 2.5 times higher for African Americans and 1.5 times higher for Native Americans than Whites. The death rate from heart disease for African Americans is higher than for Whites, 50% of all AIDS cases are among minority populations and African Americans are twice as likely to be diagnosed with diabetes as Non-Hispanic Whites. Additionally, they are more likely to suffer complications from Diabetes, such as end-stage renal disease and lower extremity amputations Although African Americans have the same or lower rate of high cholesterol as their Non-Hispanic counterparts, they are more likely to have hypertension."¹²

In addition to race and ethnicity-based disparities, ensuring access to care for rural communities in South Carolina remains a priority for SCDA. An analysis conducted by the Division of Population Oral Health at MUSC discovered the Rural Dentist Incentive Program has accomplished its purpose of retaining access to dental care in underserved communities. In calendar year 2015 alone, the cohort of 39 community dentists who received the award between 2007 and 2016 provided 50,912 visits to 30,089 patients enrolled in Medicaid. That is an average Medicaid patient load of 772 and 1,305 visits per dentist.

Recommendations:

- The SCDA will continue discussions with the College of Dental Medicine at MUSC to increase the number of minority students accepted into dental school. In 2008, the MUSC Dean established a Diversity Task Force which has met annually with the SCDA leadership to discuss the challenges.

- The SCDA will continue to support the recruitment of more minority dental providers.
- The SCDA supports innovative programs that encourage students early in their educational experience to consider dentistry as a possible career path.
- The SCDA supports financial aid and scholarships for students to create a more diverse workforce.
- The SCDA supports efforts to increase higher education state funding for MUSC College of Dental Medicine to help in the recruitment of minority students. (Some minority students enroll in other state dental schools due to the high cost of attending MUSC College of Dental Medicine)

Water Fluoridation:

As noted in the Surgeon General's report, community water fluoridation is the most cost-effective and safe means to provide protection from tooth decay. Scientific studies have found that all children and adults living in communities with fluoridated water have fewer cavities than those living where the water is not fluoridated. For more than 50 years, small amounts of fluoride have been added to drinking water supplies in the United States where naturally-occurring fluoride levels are too low to protect teeth from decay. Over 8,000 communities are currently adjusting the fluoride in their community's water to a level that can protect the oral health of their citizens.¹³

A significant advantage of water fluoridation is that all residents of a community can enjoy its protective benefit at home, work, school, or play simply by drinking fluoridated water or beverages and foods prepared with it.¹³

The annual cost for a U.S. community to fluoridate its water is estimated to range from approximately \$0.50 per person in large communities to approximately \$3.00 per person in small communities. It can be calculated from the data that the average lifetime cost per person to fluoridate a water system is less than the cost of one dental filling. When it comes to the cost of treating dental disease, everyone pays. Not just those who need treatment, but the entire community through higher health insurance premiums and higher taxes. For most cities, every \$1 invested in water fluoridation saves \$38 in dental treatment costs.¹⁴

The SCDA has worked closely with SCDHEC over the years to ensure South Carolina communities maintain fluoridated water. There has also been work with related groups to provide water fluoridation mini grants. These mini-grant programs were funded through SCDHEC's CDC Cooperative Agreement in 2005 and were conducted annually until they were discontinued in 2012. The SCDA collaborated with SCDHEC to provide information on the health benefits of water fluoridation to water treatment plants.

The SCDA established a fluoridation strike force in 2008 in collaboration with SCDHEC to provide support for dentists in local communities where water fluoridation was being challenged. The strike force held two state-wide water fluoridation training sessions in Columbia. Since 2008, the SCDA has been involved in several communities in South Carolina where groups have attempted to remove fluoride from the water systems. Due to the increased activity, the SCDA established a Water Fluoridation Committee in 2015 that is comprised of not only dentists, but also other health advocates who assist the SCDA in fluoride issues. The Committee serves as a resource on community water fluoridation for dentists and South Carolina communities.

The SCDA partnered with DHEC and Amy Martin, DrPH, formerly with the SC Rural Health Research Center at USC and now with the James B. Edwards College of Dental Medicine. Through this partnership, the state received a federal Oral Health Workforce grant in 2012 that allowed funding to replace or upgrade water fluoridation equipment in seven rural counties. A community water fluoridation advocacy training program was created to ensure local leaders (dentists, pediatricians, early childhood advocates, and water system operators) would be equipped to counter any anti-fluoridation movements in communities receiving these awards. Training and equipment awards in seven communities were provided. Six awards totaling \$115,294 were made in Congressional District 7 (Florence County), ensuring optimal community water fluoridation for 141,587 residents. One additional award was made in Spartanburg County (Congressional District 4) totaling \$37,650 for 180,000 residents. The training toolkit and a description of the work entitled "Readying Community Water Fluoridation Advocates through Training, Surveillance, and Empowerment" is in press at the journal *Community Dental Health*.

Unfortunately, several communities have faced the challenge of aging water systems and infrastructure that is expensive to replace. The SCDA was involved in those city and council meetings, but it has been difficult to convince

those communities to keep fluoride in their drinking water when they have to consider cutting other needed community services like police, fire and/or ambulance support.

The SCDA has also worked with SCDHEC and SCDHHS to include fluoride varnish as a reimbursable procedure for physicians through South Carolina Medicaid. The SCDA was involved in the training of the allied medical staff in 2008. An analysis of the policy was led by Dr. Veschusio in 2013. The analysis found that fluoride varnish rates per child-year were 1% and 23% for physicians and dentists, respectively. The study concluded that the policy did not have the desired intent for improving fluoride varnish receipt rates when administered by physicians but the dentists' data showed promising trends.¹⁵

Recommendations:

- The SCDA supports seeking for funding to replace aging water fluoridation equipment in communities.
- The SCDA supports the adjustment of fluoride to optimal levels in community water systems.
- The SCDA supports efforts to increase usage of fluoride varnish by dental and medical offices.

School-Based Services:

Since 2000, DHEC has partnered with school dental providers' to decrease barriers to dental care. The providers have established local school partnerships in several underserved South Carolina communities. Partnerships such as the SC DHEC school-based dental prevention program have been successful in increasing utilization of dental sealants. During the 2009-2010 school year, there were five programs that had a Memorandum of Agreement (MOA) with SCDHEC and provided preventive dental services to approximately 20,000 students.⁶ During the 2015-2016 school year, there were six providers that entered into a MOA with SCDHEC to provide preventive dental services to approximately 21,500 students. The providers include:

- Child Smiles
- Classy Smiles
- Dental Screening Associates
- Health Promotion Specialists
- Beaufort, Jasper, Hampton Comprehensive Health Center
- Little River Medical Center⁶

Additional school-based providers' exist, some include private dentists going to schools to provide services. Unfortunately, DHEC currently has no access to data from those providers who have not executed an agreement with the agency.

In addition, SCDHEC and the SCDA have teamed with The Columbia Marionette Theater to produce two specific puppet shows concerning dental health – *Me and My Big Mouth* for the South Carolina Dental Association, and *Flora and Floppy Go to the Dentist* for the South Carolina Department of Health and Environmental Control. These productions are provided at a minimum cost and the SCDA has sponsored dozens of these productions in recent years. The puppet shows are taken to rural area elementary schools and Head Start Centers which have large enrollments of children on Medicaid and/or free and reduced lunch. The purpose of the puppet shows is to promote a strong preventive message that conveys to students the importance of taking care of their teeth and mouth and that visiting the dentist can be a positive experience.¹⁶ In 2008-2009, the SCDA sponsored 40 performances of the Columbia Marionette Theater. Forty schools were visited and over 6,900 children saw the show.¹⁶ The SCDA is a strong supporter of this program and agreed to sponsor another 20 shows for the 2010-2011 school year. In fact, the SCDA has sponsored an average of 15-20 shows every year and has encouraged their member dentists to sponsor show in their local area. Since the inception of the program, over 35,000 children and families have been reached by this initiative.

Recommendations: The SCDA recommends continued growth of school-based prevention since they offer a program of care that may otherwise not be available.

- The SCDA will work with SCDHEC and SCDHHS to develop a method where all school-based programs are utilizing the same standards and providing accurate reporting to assess the program's effectiveness.
- The SCDA supports SCDHEC's efforts to work to add additional school-based prevention providers.
- The SCDA encourages SCDHEC to explore grant opportunities to fund additional puppet shows to promote oral health across the state.
- The SCDA supports SCDHEC's recommendation that all children in grades K, 3, 7 and 10 get a dental screening.

- The SCDA supports the establishment of a dental home by age one (1) for comprehensive care for all children.
- The SCDA supports efforts in seeking funding for the Community Oral Health Coordinator (COHC). See details in Creative Innovations Section.

The Population Contributors. The psychosocial predisposing and enabling factors that lead to oral health behaviors and service utilization are numerous and complex. As with the external environment, there are limitations to how much the SCDA can influence an individual’s decision-making framework. We can, however, advocate for the programs and services that empower people to make better decisions about their oral health. Specifically, in this position paper, we are concerned with improving oral health literacy and perceived value of oral health. In the case of children, we recognize meaningful improvements are impossible without parent education and involvement in their children’s dental health. In terms of actionable items around these population-based contributors to oral health, we address payment and reimbursement of dental services, literacy and education, and other creative innovations that empower patients and their families. The SCDA positions on each of these are presented below.

Payment and Reimbursement Issues:

South Carolina is considered a rural state with economic deficiencies. When national attention was being brought to the oral health burdens in the United States, the SCDA was already addressing these issues and had assembled a group of child advocacy groups to begin discussions to tackle the issue of Medicaid funding and the role they would play to help improve the dental health of many in South Carolina.

In the late 1990’s, South Carolina was faced with a declining number of dentists seeing Medicaid patients. Large providers (1,000 plus visits) were dropping Medicaid and pediatric dentists in several metropolitan areas were no longer accepting new Medicaid patients. Additionally, the South Carolina Department of Health and Human Services (SCDHHS) was adding a potential 75,000 new children to the rolls under the Children’s Health Insurance Program (CHIP). At this same time, January 1, 1998 through December 31, 1999, there was a 3.6% decline in children receiving services.

This group of partners led by the SCDA approached the South Carolina Legislature and sought an increase in Medicaid funding and recommended reforms to decrease administrative burdens to make it easier for all dentists to be able to treat Medicaid patients. At that time, the top 20 codes averaged 47% of usual and customary reimbursement (UCR), but basic restorative codes were significantly less. A general dentist’s overhead was 60-65% so it was costing the dentist money each time he/she treated a Medicaid patient. Furthermore, less than 1% of the South Carolina Medicaid budget was allocated to dental health services.

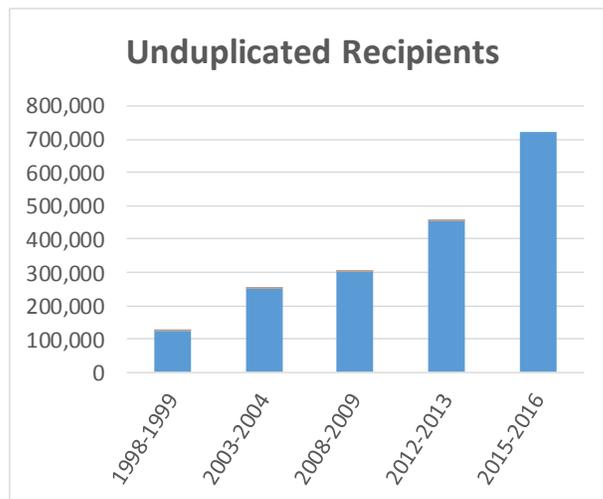
The South Carolina Legislature passed legislation in 1999 and the fees were increased to the 75th percentile meaning a dentist treating Medicaid patients would be reimbursed at what 75% of the dentists in the state billed as their UCR. **Since, there has virtually been no fee increase for 17 years, fees have decreased from the 75th percentile to less than the 45th percentile and the dental money allocated in the overall Medicaid budget is less than .02%.**

After the legislation was passed, the SCDA issued a challenge to its members and the number of dentists treating Medicaid patients increased dramatically. In October 2010, SCDHHS reported that over 1,200 dentists were seeing Medicaid eligible patients. Because of the fee increase, the efforts of the SCDA and dramatic reductions in the administrative burdens, the trend of decreasing number of children being treated was reversed.

According to SCDHHS, unduplicated means when reporting the number of beneficiaries receiving services in a given period of time, it only counts a recipient once, no matter how many services they receive during that time.¹⁷

The numbers in the graph (see right) indicated that increasing Medicaid reimbursement rates and decreasing administrative burdens lead to more dentists treating Medicaid patients - thus improving the oral health of the citizens of South Carolina.

Despite the impressive turnaround of the program,



more work needs to be done. The SCDA continues to have a major focus on Medicaid issues. Recently, poor economic conditions have led to dramatic increases in the number of Medicaid recipients. In 2010, the US Census Bureau reported that South Carolina had approximately 4.5 million people living in the state with over 1 million being eighteen years old or younger.¹⁸

In 2010, SCDHHS reported that 43% of all children in South Carolina were on Medicaid.¹⁷ Even with the increasing number of patients covered under Medicaid, there has been no significant increase in dental reimbursement rates and a shift from SCDHHS to DentaQuest as the administrator has led to a new set of challenges and increased administrative burdens.

Those challenges directly affect the dental program and the results have not been positive. Recent statistics from SCDHHS reflected a decrease in the number of dentists regularly submitting claims. Prior to August 2010, when DentaQuest began administering the dental Medicaid program, SCDHHS reported over 1,500 providers were submitting claims. That number, as of March 2011, had decreased to 975 dentists regularly submitting claims. Those same statistics reflect a decrease of almost \$12 million dollars in dental payments and care has decreased. Fewer needy people have received dental care. Right after the increase in 2000, SCDHHS began to reduce the fees by eliminating a number of procedure codes. In April 2011, and continuing through the end of the fiscal year, SCDHHS imposed a 3% reimbursement rate reduction on the dental program. This lowered reimbursement rate was then reduced an additional 3% beginning in July 2011.

In December 2010, SCDHHS notified dentists that the Medicaid adult dental emergency program would be discontinued as of February 1, 2011. The SCDA felt this was shortsighted since it would shift costs for adult dental Medicaid recipients to a more expensive delivery system without resolving the issue. The SCDA knows that the adult dental program serves as the primary vehicle and a basic safety net for emergency dental care among adults with low income. The SCDA firmly believed that eliminating the adult program would have adverse effects on pregnant women. If a pregnant woman could not access dental care, then dental disease could lead to complications during pregnancy. Mounting evidence shows that periodontal (gum) disease, when left untreated during pregnancy, can lead to low birth weight babies and premature births. This will only lead to additional costs during infant care in a hospital. Untreated dental disease can also lead to life threatening infections which require expensive hospitalization.

Emergency – No Emergency Medicaid Comparison:

Emergency Adult Dental Medicaid Program

Patient with abscessed tooth seeks treatment in a dental office.

Problem Focused Exam:	\$38.50
X-Ray	\$12.83
Extraction of Tooth	\$88.80

Total Cost to Medicaid: \$140.13

Result:

1-Problem is solved.

2-No further treatment necessary.

Source: SCDHHS Fee Schedule

No Emergency Adult Dental Medicaid Program

Patient with abscessed tooth seeks treatment in the emergency room.

Hospital ER Charge	\$276
X-Ray	\$152
Physician Fee	\$53
Radiologists Fee	\$25

Total Cost to Medicaid: \$506

Result:

1-Pain and infection medication are prescribed to treat symptoms.

***2-Problem is NOT SOLVED and will likely reoccur.**

3-Could result in return visits to ER.

Source: Palmetto Health, Columbia, SC

**The above emergency room example reflects palliative care only. Left untreated, dental disease may progress to a life-threatening condition that would require hospitalization increasing those costs dramatically.*

Since the elimination of the adult dental program in 2011, the SCDA has worked to reduce the number of emergency room visits related to dental problems. The SCDA was successful in helping to start a program with Palmetto Richland Hospital. The hospital used their own funds to reimburse dentists agreeing to see patients who presented

themselves to the emergency room with a dental need. This program proved to help eliminate unnecessary emergency room costs. Since the implementation of that program, SCDHHS has begun to cover limited adult services again, including some preventive and restorative services. However, each adult recipient is limited to only \$750 of dental care per State fiscal year (July through June).

The children's program has not seen much relief since 2011. No fee increases and inflation have put the program equal to or worse than it was back in 2000 when the crisis was first recognized. SCDHHS continues not to increase fees and continues to place administrative burdens on dentists. As mentioned earlier, in 1999, the SCDA led a coalition of advocates that was successful in educating legislators about the crisis, and a favorable fee increase was provided for the children's program. In 2017, the final decision for a fee increase rests with the head of SCDHHS (a gubernatorial appointment), not the legislature. This has led the SCDA to advocate with the Director. SCDHHS did institute a small increase on some exam, preventive and oral surgery procedure codes July 1, 2017.

The most recent reports from DentaQuest and the graph on the previous page continues to show that the number of unduplicated recipients continues to increase when compared to past years. Their reports also reflect that the number of dentists treating patients is holding steady, however, the SCDA knows that the program is heading down the path it did back during the 1990's. If something is not done soon, there is no doubt dentists will begin to drop out of the program and recipients will have a harder and harder time finding a dentist to treat them.

Recommendations:

- The SCDA must remain involved politically and maintain their collaborative relationships with the Oral Health Coalition and the state legislature.
- The SCDA will continue to focus on prevention at an early age which will decrease the disease burden and dramatically lower future costs for dental care.
- The SCDA will promote oral health literacy since dental caries is the number one preventable chronic disease.
- The SCDA will continue to work with SCDHHS and DentaQuest to alleviate administrative burdens and enhance the dentist's ability to examine, diagnose and treat patients.
- The SCDA will continue to advocate for care for underserved populations including emergency dental services for adult Medicaid recipients. Dental coverage for adults will prevent emergency room visits which have a greater cost to the State.

Tobacco Cessation:

Tobacco is a health issue for all South Carolinians. Nearly 40% of South Carolina residents smoke every day, and an additional 13% smoke some days. This is much higher than the national rates. SCDHEC has established the Tobacco Quitline, a toll-free phone number that state residents can call to receive individualized cessation counseling. The program includes an oral health component, where the "Quit Coach" discusses the impact of tobacco (including smokeless) on teeth, gums and breath, and the risk of oral cancer with the client. The program is also available as a Web-based counseling program. Additionally, the consequences of tobacco use are included within the Health and Safety Standards in place for South Carolina public schools.

Recommendations:

- The SCDA will encourage members to take a more active role in informing patients about the risks associated with tobacco use and refer them to tobacco cessation resources. Although dental teams usually ask their patients about their tobacco use, most do not provide tobacco cessation counseling. Havlicek *et al* demonstrated that training offered in a dental clinic setting can be an effective strategy for addressing tobacco dependence.
- The SCDA recommends school districts teach curricula that explain the dangers of tobacco use and the effect it has on one's oral health.

Identifying and Abuse and Neglect:

Preventive Abuse and Neglect through Dental Awareness, (PANDA), is an educational program geared toward dental professionals and their office staffs to advise them of their legal responsibility to report suspected cases of child abuse and neglect, including how to recognize the physical and behavioral symptoms, and how to report suspected abuse. The SCDA continues to partner with SC DHEC, Delta Dental of Missouri, and the Mid-Atlantic PANDA Coalition on a plan to educate and train dental providers in South Carolina.

A 2017 collaboration between SCDA, SC DHEC, Delta Dental, Mid-Atlantic PANDA Coalition, SC Children's Law Center, and the Arnold School of Public Health has led to the development of a South Carolina specific educational presentation on the prevention of abuse and neglect. Future plans call for a web-based training through SC DHEC and the Arnold School of Public Health. The South Carolina version will be titled "Palmetto PANDA"

Creative Innovations:

The SCDA realizes there are areas in the state that may require a creative approach to improve oral health care delivery. In response, the SCDA wrote and led the way for passage of legislation to create a Community Oral Health Coordinator (COHC) during the 2010 legislative session. The bill was passed by both chambers. However, due to declining state revenues, no funding was provided. When faced with other delivery methods of dentistry, the SCDA returns to this legislation to remind legislators that a law is already present and only needs funding to help address the dental concerns of South Carolina. No funding has been supplied, but the SCDA continues to look for ways to start this dental position.

Results from a South Carolina School Nurses survey conducted in 2009 by the South Carolina Rural Health Research Center supports the need for a COHC. The survey had an extremely high return rate and it was determined that schools rarely have a problem finding a dentist to see a child who needs treatment. **The number one reason identified that children do not receive treatment is lack of parental involvement.**¹⁹ The addition of a mid-level provider will not address this problem in South Carolina. It will require someone in the community working with local people to address their needs and provide assistance in obtaining access for proper treatment.

This is where the COHC would play a pivotal role in addressing the barriers identified in the school nurse survey. These COHC's would be community health workers who live in the community, know the people and the available community resources. They would work closely with the schools that are already providing dental screenings to children. If a child is found to need attention, the COHC can contact the dentist for care, arrange for transportation if needed, enroll the eligible child into Medicaid, and provide the parent and child preventive oral health education.

This type of approach has already been proven in a pilot study years ago when the community worker was called a patient navigator. A Robert Wood Johnson grant funded a project from December 2002 to February 2006. The patient navigator was the "glue" that held the system together. The goal was to improve oral health for children from birth to age six and children with special health care needs. A system of care was developed in the six target counties that began with infants, young children and children and adolescents with special health care needs. While in their medical home, an oral health risk assessment and a referral to the dental provider was conducted. Dental referrals made for children at medium to high risk for dental disease were coordinated by the patient navigator to ensure that children became established in a dental home and received preventive, as well as disease management and/or reparative services.²⁰

SC DHEC included the COHC functions in a grant (2016-2019) that is funding oral health activities through DHEC Regional Offices to address oral health in pregnant women and infants. This project is intended to establish a statewide framework to improve the oral health of pregnant women and infants by linking the perinatal system of care with the oral health system of care. The regional efforts in eight pilot counties are led by the DHEC Community Systems Development staff.

The ADA has developed another model like SCDA's COHC called a Community Dental Health Coordinator (CDHC). The ADA, as well as the SCDA, believes that to expand access to the same high quality dental care available to all Americans, the CDHC and the COHC are better solutions. CDHC's are community health workers with dental skills focusing on education and prevention. As a member of the dental team led by a dentist, the CDHC works in underserved communities where residents have no access or limited access to dental care. CDHC's provide limited clinical services and help connect patients to dentists who will provide treatment. CDHC candidates are drawn from the communities in which they will serve. They understand the social barriers that prevent access to available oral health services and, therefore, can more effectively help their neighbors overcome barriers. The CDHC's are new allied dental personnel intended to be employed by Federally Qualified Health Clinics, the Indian Health Service and tribal clinics, state or county public health clinics, or private practitioners serving dentally-underserved areas.²¹

Recommendations:

- The SCDA urges the legislature to appropriate funds to pay for COHC's in as many counties as possible, if not statewide.

- The SCDA urges SCDHEC's public oral health program to investigate grant opportunities to provide monies to start the COHC programs in areas where they are most needed and where schools are willing to work with them.
Additional Creative Innovations:

The SCDA began its' Dental Access Days (DAD) Project in 2009 in Charleston, SC. Dental team members were brought together to provide free dental care over a weekend. The DAD project in South Carolina works like the Mission of Mercy (MOM) projects held in other areas of the United States. This project has been held annually across the State. Since its' inception, South Carolina dentists and dental team members have provided free care to over 12,000 patients at a value of over \$7 million.

In 2013, the SCDA established the Donated Dental Lifeline Network program in the State. With the help of legislative funds provided annually, the SCDA houses a coordinator for the program that works the entire state. This individual coordinates with providers, labs, and other groups to help secure free and much needed treatment for South Carolinians who cannot afford services and who are disabled, seriously ill and/or elderly. In the most recent 2015-2016 fiscal year, there were 149 dentists and 42 dental labs enrolled in the program. They had treated 72 patients providing over \$269,000 of free dental care. Since the inception of the program, 234 patients have been treated and dentists and labs have provided almost \$1 million in free care.

The James B. Edwards College of Dental Medicine established a new Division of Population Oral Health (DPOH) in the Department of Stomatology in July 2014 with the recruitment of Amy Martin, Dr. PH. Joining her as faculty in the Division were Drs. Christine Veschusio and Joni Nelson. SCDA has partnered with the DPOH on several initiatives that are demonstrating the value of dental delivery models when integrated with rural health systems. The initiatives include:

ROADS – Rural Oral Health Advancements in Delivery Systems. SCDA and the DPOH are working in York, Orangeburg, Fairfield and Florence Counties to advance collaborative referral relationships that focus on improving (a) A1c levels for adults with diabetes and (b) overall wellness of high risk children through integrated care models. New models are emerging that demonstrate how private practices in rural communities can demonstrate leadership in rural health systems to improve medical outcomes such as child wellness and A1c control for adults with diabetes. The emerging models are demonstrating excellence in (a) integrated clinical care, (b) modern business practices essential for safety net participation, (c) and quality improvement in key HEDIS indicators.

MORE Care – Medical Oral Health and Rural Expansion. More Care is an initiative of the DentaQuest Institute. It focuses on coaching primary care providers on oral health interprofessional competencies (i.e. oral health risk assessments and fluoride varnishing). The DPOH has used a learning collaborative model (Institute for Healthcare Improvement) to support the adoption of oral health interprofessional competencies that are within the scope of practice for family medicine and pediatric providers. This work is being done in the aforementioned counties in partnership with the ROADS dental practices. SCDA members have provided considerable technical assistance to their primary care colleagues as they elevate the role of oral health in comprehensive health.

Each county has received \$280,000 in funding for its dental (\$270K) and medical (\$10K) providers to advance their integrated care models. Funding has supported activities that directly improved capacity for 50 new Medicaid patients of record each year for three years. The dental partners exceeded their goals early in the grant period.

A project that was recently completed focused on enhancing dental safety net capacity through practice management and clinical innovations. Through the DPOH's partnership with the DentaQuest Institute's Safety Net Solutions program, the partners worked with community health centers (CHCs) across the state to support their development of enhancement plans. Through these plans the CHCs worked to address unrealized efficiencies and capacities for care within their organizations. Many demonstrated reductions in no-shows, better management of emergencies, and improvements in other practice management areas that yielded untapped capacity. One of the more successful CHCs completing this work was Little River Medical Center who serves as an excellent model for CHC dental programs.

SUMMARY

In summary, the SCDA feels that no individual or group can look at the issues related to oral health care and comment that one answer will solve the problems. As explained, there are multiple issues and barriers that affect oral health care. To improve them, one must take a comprehensive look at all facets.

Over the past several years many have emphasized the message that organized dentistry has been proclaiming for decades that oral health care is important, especially for children. The SCDA is pleased that many organizations are recognizing the need for individuals and families to find a 'dental home' and that oral health affects overall health.

The SCDA's concern is with the approaches that many groups are taking in effecting change in public policy. Rather than focusing on the issues of underfunded government based programs, or programs to improve the oral health literacy of the public, some groups are proposing programs to dismantle the current dental delivery model and promote the institution of less trained individuals providing dental services. This is not a solution, but a potential inevitable problem that can compromise the health and safety of the patient. The SCDA strongly supports the ADA's resolution passed by its House of Delegates in the fall of 2010:

Diagnosis or Performance of Irreversible Dental Procedures by Non-dentists:

Resolved, that the ADA policy on Diagnosis or Performance of Irreversible Dental Procedures by Non-dentists be amended as follows:

Resolved, that the American Dental Association by all appropriate means strive to maintain the highest quality of oral health care by maintaining that the dentist be the healthcare provider that performs examinations/evaluations, diagnoses, and treatment planning, and be it further

Resolved, that the dentist be the health care provider that performs surgical/irreversible procedures, and be it further

Resolved, that surgical procedures be defined as the cutting or removal of hard or soft tissue.²²

The Pew Center on the States, a division of The Pew Charitable Trusts, gave South Carolina a grade of "A" recently. The Pew Center pointed out that "South Carolina is the national leader in Pew's assessment and the only state to meet seven of eight policy benchmarks aimed at addressing children's dental health needs."²³

This grade of A may be interpreted that South Carolina does not need to do much more and all of its oral health issues will be solved. That is not the case. We actually need to work even harder to maintain the programs that have been established and to increase awareness to begin the new programs that have been introduced and make sure that the SCDA is at the table with any organization to discuss access to care issues.

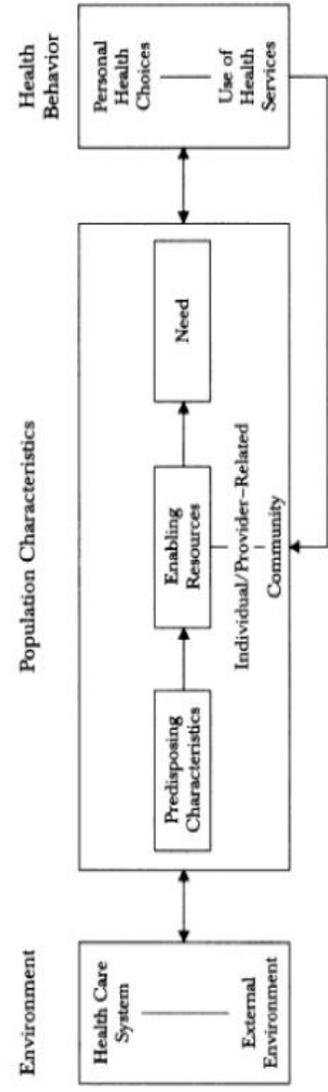
The SCDA has concerns about the vast reach and implications of numerous organizations and foundations that are taking actions to influence policy on dental care delivery and access to care based on faulty assumptions, inadequate data, and comparisons to the medical model. The SCDA believes that the health and safety of the patient is paramount. We believe that some of the proposed solutions being put forward by outside entities, in the name of access, do not place the health and safety of the patient first and do not address previously identified barriers to the delivery of oral health care which were discussed earlier in this paper. (See Page 5)

The South Carolina Dental Association is the voice of organized dentistry in our state and seeks to work with all groups willing to help promote and provide access to quality dental care for South Carolinians. We invite interested individuals to help the profession strive to find solutions to well-documented problems that we know can be addressed by better funding, implementing oral health literacy programs, establishing more safety-net programs for those who fall through the cracks and simplifying third-party insurance plans, which allow dentists to be more productive. Time and valuable resources should not be wasted in pursuit of proposals that lower the standard of dental care by creating a two-tiered delivery system that utilizes less educated individuals that has been proven not to work.

The SCDA encourages all interested parties to utilize the expertise and experience that SCDA members possess when considering oral health issues in the state. The SCDA member dentists are highly trained professionals that are uniquely positioned and qualified to advise and assist in developing and refining this state's oral health programs.

Working together, we can improve the oral health of all South Carolinians.

Figure 1: Utilization Model



Adapted from: R. M. Andersen, 1995. "Revisiting the Behavioral Model and Access to Medical Care: Does It Matter?" *Journal of Health and Social Behavior* 36 (March): 1-10. © March 1995 by the American Sociological Association, Washington, D.C. Adapted by permission.

Citation: Phillips KA, Morrison KR, Andersen R, and Aday LA. Understanding the context of healthcare utilization: assessing environmental and provider-related variables in the behavioral model of utilization. Health Serv Res. 1998 August; 33(3 Pt1)

2017 SCDA Position Paper Update Task Force

Dr. Thomas Edmonds, Chair
Dr. Rocky Napier
Dr. Jim Mercer
Dr. Ray Lala
Dr. Amy Martin
Dr. Chris Veschusio

SCDA Board of Governor's 2017

Dr. Rocky Napier, President
Dr. Tom McDonald, President Elect
Dr. Scott Cayouette, Vice President
Dr. Ron Wilson, Secretary/Treasurer
Dr. Chris Griffin, Immediate Past President
Dr. Jim Mercer, Speaker of the House
Dr. Rainey Chadwell, ADA Delegation Chair
Dr. Deirdre Crockett
Dr. Se Murdoch
Dr. Robert Beall
Dr. Jennifer Berwick
Dr. Nick Papdea
Dr. Peter DiVenere
Dr. Brandon Chadwell
Dr. Diane Jenkins
Dr. Ted McGill, MUSC Liaison

Phil Latham, Executive Director

For additional information or documentation on the topics discussed in the Position Paper, contact the South Carolina Dental Association:

**South Carolina Dental Association
120 Stonemark Lane
Columbia, SC 29210**

End Notes:

- 1- (Dasanayake, 1998; Offenbacher, Lieff, Boggess, Murtha, Maidanos, Champagne, et al., 2001; Davenport, Williams, Sterne, Sivapathasundram, Fearne, and Curtis, 1998; Beck, Offenbacher, Williams, Gibbs, and Garcia, 1998; Scannapieco, Bush, and Paju, 2003; Taylor, 2001).
- 2- White Paper on Georgia's Oral Health Status, Access to and Utilization of Oral Health Care Services. Georgia Dental Association 2010.
- 3- National Call To Action To Promote Oral Health. Office of the Surgeon General (OSG).
<https://www.ncbi.nlm.nih.gov/books/NBK47472>
- 4- U.S. Department of Health and Human Services. "Oral Health in America: A Report of the Surgeon General." Rockville: U.S. Department of Health and Human Services, National Institutes of Health, National Institute of Dental and Craniofacial Research, 2000.
- 5- National Governor's Association (NGA) Center for Best Practices. https://www.nga.org/cms/home/nga-center-for-best-practices/meeting--webcast-materials/page-health-meetings-webcasts/col2-content/main-content-list/title_policy-academy-improving-oral-health-care-for-children.html
- 6- South Carolina Department of Health and Environment Control. Oral Health.
<http://www.scdhec.gov/Health/ChildTeenHealth/OralHealthforChildren/SchoolBasedDental>.
- 7- South Carolina Department of Health and Environmental Control. Oral Health Coalition.
<http://www.scdhec.gov/Health/FHPF/DiseaseResourcesforHealthcareProviders/OralHealth/AdvisoryCouncilandCoalition/>
- 8- <https://bhw.hrsa.gov/sites/default/files/bhw/nchwa/state-profiles/southcarolina.pdf>
- 9- http://www.adea.org/uploadedFiles/ADEA/Content_Conversion/policy_advocacy/State_Legislative_Toolkit/May-2014-Alt-Workforce-Chart.pdf
- 10- White Paper on Increasing Access to and Utilization of Oral Health Services. Academy of General Dentistry. 2010.
- 11- <https://www.scohw.org/docs/2012/The-Dentist-Workforce-in-SC-2012.pdf>
- 12- Access to Care and Mid-Level Providers for Underserved Communities. National Dental Association 2010.
- 13- Department of Health and Human Services. Centers for Disease Control and Prevention. Surgeon General's Statement on Community Water Fluoridation, 2004. <https://www.cdc.gov/fluoridation/index.html>
- 14- American Dental Association - Fluoridation Facts.
- 15- Veschusio CN, Probst JC, Martin AB, Hardin JW, Hale N. Impact of South Carolina's Medicaid fluoride varnish reimbursement policy on children's receipt of fluoride varnish in medical and dental settings. J Public Health Dent. 2016 Sep;76(4):356-361. doi: 10.1111/jphd.12163. Epub 2016 Jun 7.
- 16- South Carolina Department of Health and Environment Control. Oral Health. Flora and Floppy go to the Dentist.
<http://www.scdhec.gov/HomeAndEnvironment/K12SchoolsStudentsTeachers/OralHealthCurricula/PuppetShow/>
- 17- South Carolina Department of Health and Human Services. Comparison of Prior Fiscal Years Graph for Dental Services.
- 18- United States Census Bureau. State and County Quick Facts. South Carolina. <https://www.census.gov>
- 19- South Carolina's Public School Nurses' Perceptions of Oral Health Status and Dental Partnerships in their Schools. South Carolina Rural Health Research Center.
- 20- South Carolina Department of Health and Environment Control. Oral Health Division.

- 21- American Dental Association. Community Dental Health Coordinators. <http://www.ada.org/en/public-programs/action-for-dental-health/community-dental-health-coordinators/cdhc-history>
- 22- American Dental Association House of Delegates Resolution 121H-October 2010.
- 23- The Pew Center on the States. <http://www.pewresearch.org/>