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Pediatric Oral Healthcare in Tennessee and Mississippi, USA.

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Abstract:

Children in the U.S. suffer from high rates of cavities, dental caries, and other childhood oral diseases. Pediatric oral healthcare in the United States is a very important issue; however, despite funding for pediatric oral healthcare from federal, state, and private organizations it remains an often neglected issue. Expanded preventive care services, strengthened relationships between policymakers, dental care providers and public health professionals are needed to improve the oral healthcare delivery for children.

Key Words: Mississippi, Tennessee, USA, Pediatric, Oral, Health.

Introduction:

The current status of pediatric oral health in the United States is in critical need for improvement. Dentists are reluctant to practice in rural and underserved urban areas due to policy that impact them economically and personally. Public health dental services offer lower salaries and providers prefer to enter into more lucrative private practices or partnerships. Salaries are frequently supported by the Medicaid system and Dentists frequently complain about the billing process and low reimbursement.

The majority of funding comes from federal and state organizations, and private corporations. Each entity allocates funds for all areas of pediatric oral healthcare with an emphasis on prevention services, quality dental health professionals, and programs. However, individual states are responsible for implementing policies and generating sources of funding for oral health services and programs.

Conversely, the rates of oral disease in rural and underserved areas are very high due to: (1) ineffective oral health funding policies, (2) lack of access to quality dental services, (3) lack of access to trained dental health professionals, and (4) inadequate dental public health programs.

This discussion will review policy and focus on pediatric oral healthcare for the adjacent states of Tennessee and Mississippi. Part I of the paper discusses the funding sources for oral disease services and programs in Tennessee and Mississippi. Part II describes the quality of dental preventive programs and services in Tennessee and Mississippi. Part III com-

pares and contrasts the different funding sources for both states. Part IV addresses policy and makes recommendations for recruiting/retaining quality dental public health professionals.

Funding for pediatric oral health-care in Tennessee

The state of Tennessee receives funds for its oral healthcare from three sources: the federal government, private corporations, and state government. These sources are used simultaneously to protect and improve the dental health of children in Tennessee.

Federal Funds:

The United States Department of Health and Human Services funds several programs and services for pediatric oral health in Tennessee. The major programs are: (1) Head Start, (2) Women Infants and Children's program (WIC), (3) The Bright Futures Project, Centers for Disease Control and Prevention for the Water Fluoridation Assistance Program, (4) Medicaid and TennCare.

Head Start. It addresses the needs of preschool, low income, and special needs children. The emotional, physical, social, and psychological needs of those children are met with interventions and developmental programs. Head Start centers in Tennessee offer nutrition education and oral hygiene programs in addition to free dental preventive services, such as teeth cleanings and fluoride treatments.

Through the Women, Infant, and Children's program (WIC), parents and children participate in dental health education classes where parents learn general information on taking care of their children's dental health needs. In 2005, Ten-

nessee was awarded \$119,021,587 by the Department of Health and Human Services to carry out the state dental health initiatives. Additional funds from outside sources expanded the services, and are currently providing oral health services for more families

The Maternal and Child Health Bureau from the Department of Health and Human Services recognized the importance of improving and protecting children's oral health, and allocated funds for the Bright Futures Project. The main objective of the Bright Future's Project is to improve the quality of health and prevention services for infants, children, and young adults. States that are awarded funds from the agency must adhere to the guidelines specified in the publication entitled Bright Futures Guidelines, Bright Futures in Practice. This framework contains information on health topics, guidelines for providers, and general resources for families. Community health clinics in Chattanooga, TN began using the Bright Futures programs in 2004. Oral health educators from the Hamilton County Health Department have implemented the educational programs in several dental clinics in rural Tennessee so children from those areas can have access to dental services.

In 2003, Tennessee was one of sixteen states that received approximately \$55,000 in grant money from the Centers for Disease Control and Prevention for the Water Fluoridation Assistance Program. This program was developed to help individual states and community health groups establish fluoridated water systems. The CDC grant funded the fluoridation equipment, computer software,

training, and programs on water fluoridation awareness. The CDC grant money also funded the Fluoridation Reporting Systems (FRS). The FRS is a reporting system that monitors water fluoridation efforts and the levels of fluoride in public water systems. Tennessee has 333 community water systems that distribute fluoridated water throughout its ninety-five counties.

The SCHIP program was created in 1997 and is the largest expansion of health insurance for children since Medicaid. The program was designed to provide children from low-income families with health and dental coverage. Most SCHIP enrollees come from families with incomes too high to qualify for Medicaid, but too low to afford private health insurance. According to federal Medicaid law, children who receive Medicaid are entitled to dental services under the Early and Periodic Screening, Diagnosis, and Treatment Program. Each state is responsible for modifying the program with any desired changes as long as they meet Medicaid guidelines. Because of the problems within the Medicaid system, Tennessee revamped the state's Medicaid program by contracting the program's dental services to a managed care organization named Doral Dental ⁽¹⁾.

The dental portion of TennCare, Tennessee's Medicaid program, works as a separate entity. Medicaid allocates funds to be specifically used for oral healthcare. Those funds cover claim processing, dental provider networks, and benefits management. Doral Dental acts as a single benefits manager for pediatric dentists. The number of dentists has increased in the network due to its multiple benefits.

Reimbursements for services are guaranteed, and payments for submitted claims are quickly processed. Dentists also have the option to treat as many TennCare patients as they wish, and an advisory committee addresses dental health professionals' concerns; the advisory committee allows dental health professionals to have input into the Medicaid system and SCHIP policies. Contracting TennCare's dental services to an outside organization has proven to be cost effective for the programs and preventive services. Doral Dental and TennCare can provide more dental services for children from low-income families with their cost saving measures ⁽²⁾.

Corporate Funds:

Corporate and private sources help to fund additional pediatric dental health programs in Tennessee. In 2003, the Robert Wood Johnson Foundation awarded a \$1.5 million grant to Meharry Medical College – School of Dentistry located in Nashville. Meharry was one of only ten dental schools in the United States to receive this grant. The grant money was part of the foundation's Pipeline Profession & Practice: Community Based Dental Education program. This program aids dental schools in providing services for North Nashville. The North Nashville region was designated as a Dental Health Professional Shortage area by the Tennessee Department of Human Services due to the lack of accessible and affordable dental services for North Nashville residents, particularly children. A portion of the Robert Wood Johnson grant was used to offer incentives to recruit more minority dental health professionals, and

increase collaborations with community health clinics. This foundation grant made it possible for Meharry School of Dentistry to provide much needed preventive dental services for populations in central Tennessee ⁽³⁾.

Through the General Mills Champions for Healthy Kids fund, several cities in Tennessee (Memphis, Shelbyville, Waverly, and Woodbury) have active programs that target pediatric nutrition and dental health. Nutrition is the first line of defense against common childhood oral diseases. The programs funded by General Mills focus on the importance of eating healthy, avoiding sugary snacks/food, and the impact of unhealthy foods on teeth and gums. The General Mills fund covers expenses of staff and equipment as well as volunteers from dental schools and clinics ⁽⁴⁾.

Funding For Preventive Pediatric Oral Healthcare in Mississippi:

Dental health prevention services and educational programs are necessary to improve pediatric oral health. Routine check ups detect the early signs of periodontal disease, tooth decay, and other common childhood oral conditions. Dental health programs provide parents with vital information, such as proper tooth brushing techniques, the importance of eating healthy foods, the importance of dental sealants, and how to use mouth guards for athletic children. Oral health has an impact on other areas of health. Good oral health also results in improved appearance, which bolsters self-esteem

and confidence. Children who receive preventive dental services do not suffer from frequent tooth pain, and can perform well in school.

Federal Funds:

The state of Mississippi has similar funding sources for pediatric oral healthcare as Tennessee. Federal, state, and private agencies all contribute funds to pay for oral health services and educational programs for children in underserved areas. The Ryan White Care Act of 1990 distributed a total of \$203,155 in 2003 to Mississippi to provide preventive dental services for children who are HIV positive. The Health Resources and Services Administration (HRSA) established this program in honor of Ryan White⁽⁵⁾. These funds are available to states that have accredited schools of dentistry that wish to apply.

Most of the money goes to HIV and dental health training for professionals, collaborations between dental clinics and schools, and HIV education resources for young patients and families. There are two programs the funds are applied to: the Dental Reimbursement Program and the Community Based Dental Partnership Program. The Dental Reimbursement programs received \$2526, and the Community Based Dental Partnership program received \$200,629. Funds from the Ryan White Act were also utilized by the Mississippi Department of Health to provide HIV training for dental and dental hygiene students, and to increase access to oral healthcare for children infected with HIV⁽⁶⁾.

The Mississippi Medicaid program initially expanded its SCHIP coverage to include

adolescents from families whose income is at or below 100% of the federal poverty level. Children who fall in that category and those between the ages of 19-21 who meet the state's eligibility requirements receive preventive dental services. Enrollees over the age of eighteen are assessed a \$3.00 dental visit copayment. Mississippi has a separate SCHIP program called the Children's Health Insurance Program. This program was designed for children whose family income is too high to qualify for Medicaid, (at or below 200% FPL) but cannot afford private health insurance. The change in Mississippi's SCHIP program has allowed dental health providers to expand their services for a larger group of children. Prior to the changes, the service only covered basic dental services. After the changes, the covered services included extractions, crown, sealants, root canals, and other periodontal services.

The Preventative Health and Health Services Block Grant administered by the United States Health and Health Services awarded the Mississippi Department of Health with a grant to help fight dental caries among school children. Health department officials focused on water fluoridation systems as methods in reducing the cases of dental caries. A partnership with local health organizations resulted in six new water fluoridation systems to twenty-six Mississippi communities. The grant also funded a series of oral health programs in Mississippi public schools that will be discussed later. An additional source of pediatric oral healthcare financing in Mississippi is tobacco settlement funds. Mississippi was one of only four states to receive their funds in 1997, one

year before the remaining states received their settlements.

Mississippi received a one-time payment of \$170 million in 1997 and \$136 million annually. The settlement money was separated into two funds: the Mississippi Health Care Trust Fund and the Health Care Expendable Fund. Money from the Expendable Fund can only be used for health care and health care related purposes. \$7.5 was allocated to the SCHIP and CHIP programs, providing more children with quality healthcare. \$2.2 million was allocated for the fees of dental providers. The Mississippi State Department of Health developed tobacco prevention programs for school-aged children. These programs addressed the effects of smoking and chewing tobacco on dental health, and the benefits of choosing positive oral health lifestyles⁽⁷⁾. The Mississippi Department of Health created the Mississippi Qualified Health Center Grant Program in 1999. The purpose of this program was to provide community health clinics with resources to offer medical and dental services to uninsured children. The grant program was created by using state funds with amounts determined by state legislators. Eligible clinics within the state are required to offer preventive and diagnostic services in dental health and other areas of health. The total amount appropriated for the Mississippi Qualified Health Center Grant Program was \$4 million. Each eligible clinic received \$200,000 to implement its programs and services.

A state/federal source for pediatric oral healthcare in Mississippi is the Dental Corrections program sponsored by the Mississippi Department of Health. The

Dental Corrections program offers alternate financing for dental care services to families who are not eligible for Medicaid, CHIP, or whose private insurance rates are too expensive. If treatment plans for severe dental problems require hospitalization or out patient surgery, the program will assist in those costs⁽⁸⁾.

Private Foundation Funding:

The American Academy of Pediatrics created the Healthy Tomorrow Partnership for Children grant program for states that have partnership programs to address childhood problems in different areas of health. Mississippi was awarded a grant for the Cary Christian Health Center in Vicksburg. The center expanded their services and developed a network for pregnant women, new mothers, and infants. Some of the programs designed by the center included classes on protecting children's oral health, the effects of thumb sucking on primary teeth, and why sweet drinks/juices in baby bottles should be avoided.

The Children's Health Fund recognized that one of the major barriers to access to health care services and facilities for children is lack of transportation to medical facilities. They appropriated funds to the Mississippi Children's Health Project, which is located in the Mississippi Delta. This project used the funds to purchase vans and develop a coordinated transportation system. The coordination system included new computer software to assist medical staff in scheduling transportation (pick ups and drop offs) for patients.

Another source of revenue for pediatric oral healthcare in Mississippi came from the Southern Rural Access program. The

Mississippi Primary Healthcare Association in Jackson was awarded a two-year grant for \$767, 4888 from the Southern Rural Access program. Funds from this source were used to provide dental and medical services for children in rural Mississippi. The Robert Wood Johnson Foundation contributed funds to help fight oral diseases among Mississippi's children.

Specific Pediatric Oral Health Prevention Programs and Services:

Tennessee-based programs:

Tennessee has developed several oral health education programs with the funds given by federal, state, and private agencies. The School Based Dental Prevention Project targets schools with students in grades K-8 who are on free/reduced lunch. The program uses mobile vans to conduct dental screenings, surveillance, and provide referrals to children in low-income urban and rural communities. Volunteer dentists and public health hygienists who participate in the program also provide oral health education and preventive teeth sealants. The Tennessee Department of Health purchased three fully equipped dental vans to provide services to children across Tennessee. The mobile vans are currently used to cover the Cumberland region, West Tennessee, and Northeastern Tennessee. The volunteers and dental staff that provide the services are faculty and staff from University of Tennessee – School of Dentistry⁽⁹⁾. At least 51 % of K-8 eligible schools have participated. Of the schools receiving dental screenings in 2004, 86 % have received comprehen-

sive dental services (2006 Tennessee MCH block grant needs Assessment).

To attract children and make their dental visits comfortable, the mobile vans have an animated space theme. The vans are named *Space Station Smiles: Searching the Galaxies for Healthy Teeth*. Each side of the vans has large drawings of astronauts, space ships, moons, and orbiting planets. The insides of the vans have a blue border and wallpaper with small moons plastered across it. Children are given t-shirts and balloon animals after each visit. The purpose of creating a “kid friendly” environment is to make the children feel at ease. This program has been very successful. Over a quarter of a million children in Tennessee received necessary preventive, diagnostic, and follow-up dental services.

The most successful and effective oral health education program in Tennessee is the community water fluoridation project. Due to advanced equipment, training, and resources from the Tennessee Department of Energy and Conservation, the CDC, and the Fleming Training Centers, Tennessee has a total of more than 300 fluoridated public water systems. 96% of all Tennesseans are reaping the benefits of fluoridated water; this percentage surpasses the satisfactory level of 75% set by Healthy People 2010. Children who are exposed to fluoridated water at an early age have reduced rates of cavities, periodontal disease, and tooth decay⁽¹⁰⁾. Several states are beginning to model their water systems after Tennessee to improve the oral health of their communities.

Rural counties in Tennessee that do not have dental clinics or receive fluoridated

water are benefiting from alternative fluoride programs. Elementary school children in grades 1-6 participate in a weekly fluoride rinse. Parents in fluoride deficient communities can also request low cost prescriptions for fluoride tablets or drops. Residents in fluoride deficient communities must have a sample of water analyzed to determine the fluoride level before requesting the tablets or drops. To ensure children are not overexposed to fluoride, the Oral Health Division from the Tennessee Department of Health monitors fluoride supplement programs. Tennessee developed its first medical-dental partnership to address oral health disparities among Tennessee children in 2004. The fluoride varnish program, which is currently active, operates under the direction of state Health Department officials. Public health nurses apply a fluoride varnish to children between the ages of 1 and 20. Quality assurance reviews are conducted annually to make sure all children's oral health programs and services in the state of Tennessee measure up to high standards.

Mississippi-based Oral Health Prevention Programs:

The Mississippi Department of Health currently sponsors a fluoride mouth rinse program for school aged children in grades 1-5. Elementary schools that have 30% or more students who receive free/reduced lunch and are located in communities with low levels of fluoride in the public water system are eligible to participate in the program. According to the CDC, Mississippi has an insufficient fluoridated water supply system. A large percentage of Mississippi elementary

schoolchildren between the ages of one and ten have untreated cavities and tooth decay; however, these problems are preventable with the use of fluoride. To help decrease the rates of childhood dental diseases, the school fluoride program allows children to rinse their mouths with a safe fluoride solution under the careful supervision of trained school personnel and registered dental hygienists. The program operates on a weekly basis with parental consent ⁽¹¹⁾.

The Adopt-A-School Sealant program, sponsored by the Mississippi Department of Health and the University of Mississippi, is another oral disease prevention program that serves school aged children. In this program, community dentists adopt a local elementary school of their choice and place protective sealants on the teeth of second graders. Second graders are targeted for this program because they are at the appropriate ages for the permanent molar teeth to begin forming.

Community dentists have partnered with the School of Nursing at the University of Mississippi to place the sealants on the teeth of disadvantaged children. The University of Mississippi School of Nursing also has a sub-program called the Mercy Delta Health Express. This program provides dentists and dental health professionals who participate in the sealant program with fully equipped mobile vans to travel from school to school. The Adopt-A-School and Mercy Delta Health Express programs are only carried out in the school districts from nine Mississippi Delta counties. The Mississippi Department of Health sponsors several smoking

cessation programs that are designed to educate children on the effects of tobacco on oral health. Knowing all of the facts about tobacco and its relationship with dental health will help children choose healthy lifestyles that will impact their oral health in the future ⁽¹²⁾.

Comparing and Contrasting Funding Sources for Tennessee and Mississippi

Tennessee and Mississippi share similar revenue generating sources for their pediatric oral healthcare services. Most of the commonalities in funding exist on both states' federal and state levels. Both states received funds from the Preventive Health and Health Services Block Grant and the national tobacco settlement. Medicaid allocates money to each state's SCHIP programs for dental services through legislation and policy modification. The second main contributor to oral health care services for children is the states' Department of Health. Health departments are primarily responsible for public health activities, such as screenings, health programs, and preventive services. Coordination of Dental health services is included as well.

Tennessee and Mississippi state health departments offer multiple pediatric dental health projects. They conduct fluoride and teeth sealant programs for school aged children and provide free or low cost oral disease screenings. Health departments for Tennessee and Mississippi create programs for school aged children and adolescents that stress the importance of nutrition and avoiding alco-

hol/tobacco in protecting their oral health.

Mississippi has received funds from federal, state, and private sources that have not contributed to the pediatric oral health care for Tennessee. The Children's Health Fund, which is a national organization, included Mississippi in its national network for providing pediatric services to rural children in the Delta region. The Ryan White Care Act distributed funds for the provision of dental services to HIV infected children in Mississippi. Tennessee was not awarded any funds from either source. The American Association of Pediatrics and Southern Rural Access are additional funding sources for Mississippi. With the Southern Rural Access resources, children in rural Mississippi gained access to quality dental services. The American Academy of Pediatrics enabled a Vicksburg community health clinic to expand their services for pregnant women, new mothers, and infants. The programs initiated by the organization included vital information on baby bottle decay, dental caries in young children, and the effects of thumb sucking on dental health, which are a part of Bright Futures routine pediatric anticipatory guidance.

The funding sources for Tennessee which did not contribute to Mississippi's pediatric oral healthcare are General Mills and the Centers of Disease Control and Prevention. (CDC) General Mills provided resources to develop nutritional programs for school aged children. Funds from the CDC helped Tennessee to strengthen its fluoridated water supply systems.

Recruiting/Retaining Dental Health Professionals as a Barrier to Quality Oral Care:

Rural communities face more disadvantages in accessing dental services because of various barriers. They have limited educational resources, are poverty stricken, lack transportation, and do not have coordinated medical or dental systems. Tennessee and Mississippi have difficulties in attracting dental public health professionals to practice in underserved areas; however, the state of Mississippi has a slight advantage over Tennessee in attracting dental care providers. . The State of Mississippi has a dental loan program for graduates from the University of Mississippi – School of Dentistry. New dental professionals are eligible for student loan debt forgiveness if they agree to practice in a public or community health setting that serves underserved populations. The State of Tennessee currently does not have any loan forgiveness programs for new dental school graduates ⁽¹³⁾.

One potential strategy for each state to use is a state loan repayment program. These programs benefit policymakers and dental care providers. In exchange for providing pediatric services in rural and urban communities, states will pay a portion of the professionals' student loan debt. Low salaries in the dental public health field combined with high student loan debts are major factors that discourage new dental school graduates from serving in needy areas. By reducing their debt, states can attract new dental health professionals to their communities. Both states should utilize different strategies to recruit new dental public health

professionals and retain existing professionals to improve the oral healthcare delivery for children. For an example, states can establish scholarships for rural and urban high school students. Providing money for college lessens the financial burden of college for underprivileged students. Further financial assistance and service learning during dental school are other options. Upon graduation, new dental school graduates will be more willing to practice in their areas because they are aware of the oral health status of residents, particularly children.

Current and new students often perceive the equipment and supplies in dental public health clinics as sub-standard. By modernizing the equipment, state policy makers increase the likelihood of dental health professionals maintaining their public practices. Awarding grants for equipment upgrades in community dental clinics will also aid in attracting dental health professionals.

Recommendations for Recruiting/Retaining Quality Dental Public Health Professionals:

As mentioned earlier, complex problems with the Medicaid system are preventing dental health professionals from practicing in low-income areas where the majority of patients are on Medicaid. The relationship between dental care providers and Medicaid needs to be strengthened in order to improve pediatric oral healthcare delivery. One strategy to improve this relationship is by increasing the reimbursement rates for services. Low reimbursement is a major complaint for dentists. Implementing legislation to

increase state Medicaid rates reassures dentists their services and operating costs will be covered. Public appeals and direct marketing to dental care providers is a second potential strategy for improving the relationship between dental care providers and the Medicaid system. Policy makers from areas where a dental care shortage exists should make efforts to appeal to dental health professionals. They can send letters to individual dentists, seek input from current Medicaid dentists on how to attract their colleagues, and publish special articles in dental journals on oral healthcare disparities in underserved communities⁽¹⁴⁾. A strategy for improving the relationship between dental care providers and Medicaid is creating a case management system to address the high number of missed appointments. Dentists frequently experience frustrations with Medicaid parents and children who do not appear for their scheduled appointments. To reduce the number of missed appointments and increase dental providers' participation in Medicaid, case management can send out appointment reminder cards, use dental case managers to set up appointments, and create an 800 hotline for dentists to report patients who missed their scheduled appointments⁽¹⁵⁾.

Conclusion

Pediatric oral healthcare in the United States is in a crisis. Children suffer from various dental conditions that are preventable with routine check ups, screenings, and good oral hygiene practices. Many children in underserved communities do not receive those basic services

because of the low number of practicing dental health professionals, limited access to oral health facilities, and ineffective oral health policies. Individual states are responsible for providing oral healthcare for their children, and generating funding for services and programs. Funding for dental programs and services comes from different federal, state, and private agencies.

Tennessee and Mississippi utilize their funds in similar ways. Both states have developed nutritional and sealant programs for school aged children, smoking cessation projects for adolescents and young adults, and community water fluoridation systems. Most pediatric oral health care funding for Tennessee and Mississippi comes from the federal and state levels, and few similarities exist in funding on the corporate level.

Aside from programs and services, quality dental health providers are needed to improve the oral health care delivery system for children. Dentists often cite deficiencies with the current Medicaid system as a major deterrent in serving in rural or urban areas. Dental health professionals also complain about the low salaries in community dentistry, low reimbursement rates from Medicaid, and the high number of missed appointments from patients as factors that contribute to their unwillingness to practice in medically needy areas, or treat Medicaid patients. Policymakers can use several strategies to encourage dentists to serve in underserved areas. One strategy is a loan repayment program, which will eliminate a portion of dentists' student loans in exchange for treating low income and Medicaid patients. Policy makers can develop

scholarships in community dentistry or a related dental health field for rural/urban high school students, and encourage them to practice in their hometown after graduating. Other strategies for recruiting/retaining dental health professionals include marketing directly to dentists, developing case management systems, and increase the reimbursement rates for dental services.

Tennessee and Mississippi were used in this study for comparing and contrasting purposes, but the problems in pediatric healthcare exist in all states, and perhaps in other countries. As states seek additional funding to strengthen and diversify their dental care delivery systems, the status of oral health in children will greatly improve. We also hope that this work will inspire other health professionals to think about and to find ways to address pediatric healthcare-related issues of less fortunate populations in particular the issue of dental health. As one once said, the children may form 20 percent of today's population, but they form 100 percent of tomorrow's population.

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