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CHILDREN'S ORAL HEALTH IN MISSISSIPPI: Addressing a Silent Epidemic

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A National Call to Action

The first ever Report on Oral Health in America (2000), issued by U.S. Surgeon General Dr. David Satcher, served as a platform to increase public awareness on the importance of oral health. Among the major themes of the report are that oral health is essential to general health and well-being and that profound and consequential oral health disparities exist in the United States. Dr. Satcher stated that what amounts to a silent epidemic of dental and oral diseases is affecting some population groups-restricting activities at schools, work, and home-and often significantly diminishing the quality of life. U.S. Surgeon General Dr. Richard Carmona issued a National Call to Action to Promote Oral Health (2003) as a wake-up call to community and industry leaders, policymakers, health professionals, the media, and the public on issues regarding the nation's oral health.

So what are the major concerns that inspired this national call to action?

The U.S. Surgeon General (2000) reported that:

- Dental caries, or "tooth decay," in childhood is alarmingly pervasive; it is 5 times more common than asthma.
- American children, particularly those in poverty, receive too little dental care, which results in unnecessary disease and discomfort for the children as well as excessive school absenteeism.

Dr. Burton Edelstein is the Founding Director of the Children's Dental Health Project and a national authority on children's oral health. His organization (2003) notes that:

- Oral and dental disease can predispose children to significant oral and systemic problems including eating difficulties, altered speech, poor body image, and low self-esteem.
- Visible oral and dental deterioration can impair children socially and have far-reaching ramifications.
- Oral diseases are progressive and cumulative and become more complex and costly to treat over time. Therefore, problems that were preventable in early childhood can escalate to irreversible damage over one's lifespan.

Causes of Childhood Dental Caries, or "Tooth Decay"

Dental caries (tooth decay) is an infectious and transmissible, yet preventable, disease. Among infants and toddlers, the newer term "early childhood caries" (ECC) has also been used interchangeably with "baby bottle tooth decay," "bottle mouth," and other similar names; however, research demonstrates that ECC also occurs when bottles are not used (Platt & Cabezas, 2000). Tooth decay is initiated by the bacterium Streptococus mutans. Because ECC is infectious, it can be easily spread to infants through mothers' or caregivers' saliva during nurturing activities such as feeding and using a pacifier (Ettinger, 1999). As the bacteria accumulate in dental plaque over time and are nourished by sugar-laden foods or drinks, tooth enamel deteriorates and cavities form. Since tooth decay can be prevented even prior to the formation of cavities, the American Academy of Pediatrics, American Academy of Pediatric Dentistry, and American Public Health Association all advise that children should receive a dental check-up before their first birthday. Effective measures for preventing and treating childhood caries include fluoridating water supplies, appropriately using fluoridated toothpaste, professionally applying sealants and topical fluorides, and properly feeding infants.

Research Findings

Given the following children's oral health statistics on the frequency of disease occurrence and disparities in dental care access, it is evident that improving children's oral health is an arena ripe for health policy discussions. Research findings highlighting each of these areas appear below:

- Tooth decay (dental caries) is the single most common chronic childhood disease (U.S. Department of Health and Human Services, 2000).

- Approximately one in five preschoolers, half of second graders, and four in five 17-year-olds have at least one cavity or filling. (U.S. Department of Health and Human Services, 2003).

- A child suffering pain from a dental problem may have difficulty with school attendance, which compromises their mental and social well-being (Peterson, Neissen, & Lopez, 1999).

- Approximately 1 in 10 children between the ages of 2 and 17 have at least one dental visit in a year because of dental pain or a dental problem (National Health Interview Survey, 1999).

- Children living in poverty suffer 2 times the tooth decay and pain experience, but are only one-half as likely to obtain a dental visit as their affluent peers (U.S. Department of Health and Human Services, 2003).

- One in four children living in poverty have not seen a dentist before entering kindergarten (U.S. Department of Health and Human Services, 2000).

- African American children have a much higher proportion (67.4%) of untreated dental caries than White children (37.3%) (U.S. Department of Health and Human Services, 2000).

- Only about one in five children enrolled in Medicaid received a single dental visit in a year (U.S. Department of Health and Human Services, 2003).

- For every child without medical coverage, there are 2.6 children without dental coverage (U.S. Department of Health and Human Services, 2003).

- Over one-third of the United States population has no access to community water fluoridation (Centers for Disease Control and Prevention, 2002).

Oral Health of Mississippi's Children and Youth

One of the primary indicators of dental decay for children is low socioeconomic status (Mouradian, Wehr & Crall, 2000). Approximately one in five Mississippians lives in poverty, and of this 20 percent, over one-third (38%) are children ages 17 and younger (U.S. Census Bureau, 2000). Therefore, a high percentage of the Mississippi population is in a high risk group for dental decay.

A recent study (Gill, Grice, Parisi, & Taquino, 2003) assessed the health and insurance status of 13,472 children enrolled in Mississippi's licensed childcare centers. The findings are reported below:

- Among very young children in Mississippi, only 11 percent have seen a dentist by age 1; 27 percent by age 2; 56 percent by age 3; 77 percent by age 4; and 84 percent by age 5.

- Native American (62%) and Hispanic (60%) children were more likely to have been seen by a dentist than African American (57%), White (53%), and Asian American (43%) children during their preschool years.

In an earlier study, Silberman, Mosca, Eklund & Stilley (2001) conducted oral health assessments on a sample of 5,227 third graders, representing 74 public schools in Mississippi. Results of this research include:

- Almost three in four children (70%) exhibited caries experience.

- Fifteen percent were in urgent need of dental care.

- African American children had one-half the number of sealants as White children.

- Children without sealants had 3 times the need for urgent care than children with sealants.

- Children with more than one sealant had less need for dental care.

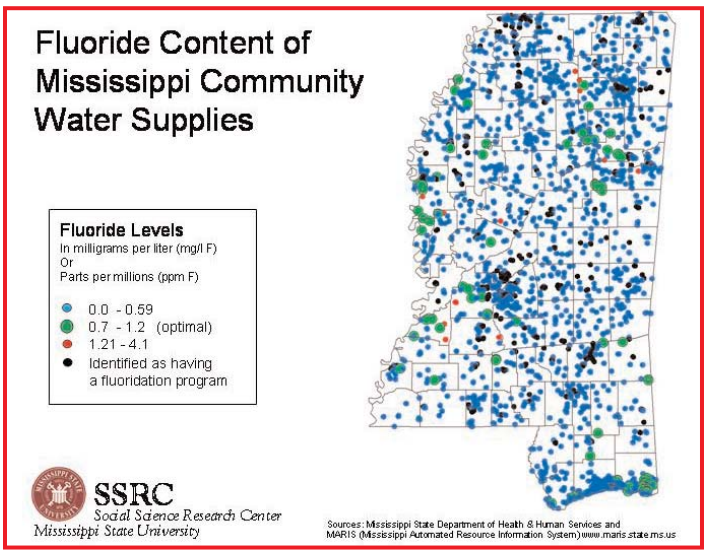
Dental Care for Mississippi's Children: Current Challenges & Efforts

In the recent "Keep America Smiling: 2003 Oral Health in America" report by Oral Health America, Mississippi received an overall mark of "D+," compared to the national overall mark of "C." While Mississippi has begun to address the oral health needs of its children, many opportunities remain in the areas of prevention, access to dental care, and infrastructure development.

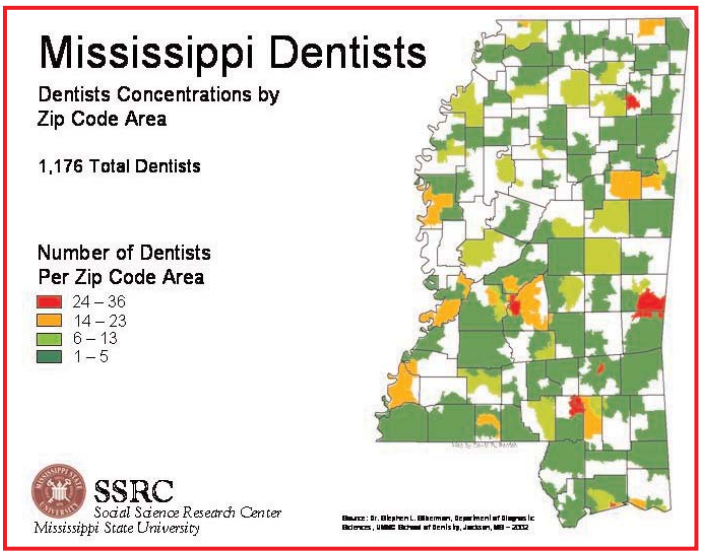
Prevention Strategies

Water fluoridation is the controlled adjustment of the natural fluoride concentration in a public water supply to a level that is beneficial for preventing dental caries. This level has been determined to be in a range of 0.7

to 1.2 parts per million (ppm) by the U.S. Public Health Service (American Dental Association, 2003). While water fluoridation is considered a great public health success story, only 46 percent of Mississippi's population receives optimally fluoridated water. In fluoridation effectiveness, Mississippi ranks 41st out of 50 states (Centers for Disease Control and Prevention, 2002). While many water systems in Mississippi have naturally occurring fluoride, additional fluoridation programs are required to increase the total population served.

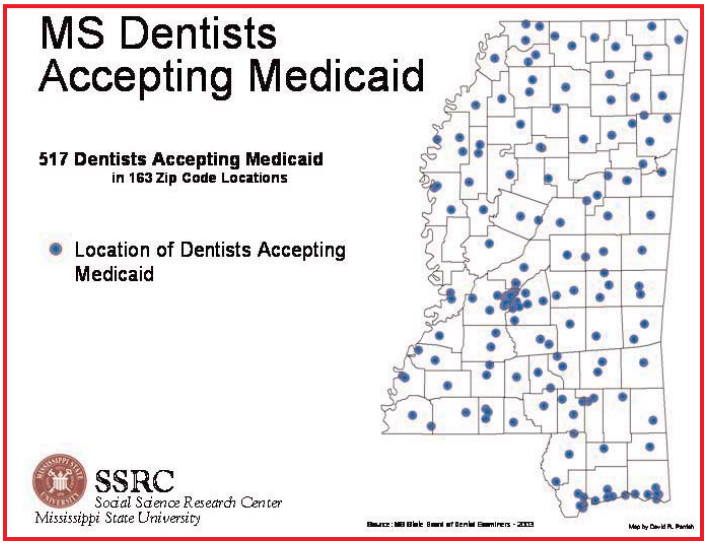


To address these concerns, the Mississippi State Department of Health (MSDH) has begun a new campaign to encourage the optimal fluoridation of Mississippi water systems and the participation in the School Mouth Rinse Program of all elementary schools located in areas currently without fluoridation. Over 40 public elementary schools currently participate in a school-based, weekly fluoride mouth rinse program (N. Mosca, personal communication, September 29, 2003). The MSDH is also developing programs to educate non-dental health care providers and childcare professionals on the importance of the early detection of dental caries and timely referral, including the importance of collecting and maintaining dental information on school and preschool general health records.



Access

In 2001, Mississippi had only 1,176 active dentists, or about 1 dentist per every 2,400 persons (Mississippi State Board of Dental Examiners, 2001). In 2002, the national average was about 1 dentist per every 1,800 persons (ADA, 2001). Currently, Mississippi has 42 pediatric dentists statewide (Mississippi State Board of Dental Examiners, 2003). In addition, just 517 Mississippi dentists accept Medicaid (L. Milton, personal communication, October 10, 2003), and 584 accept SCHIP (T. Hanna, personal communication, October 13, 2003).



Dental associations assert that reimbursement rates offered by Medicaid are deterring the addition of sufficient numbers of new providers (MDA, 2001). Although there have been modest increases in Mississippi Medicaid dental reimbursements for

routine diagnostic and preventive care, the increases for follow-up, reparative treatments have not been commensurate. A 2003 American Dental Association report found that 8 of 15 Mississippi Medicaid reimbursements for common childhood dental procedures are less than fees charged by 90% of dentists in the region (ADA, 2003). Nationally, the Centers for Medicare and Medicaid Services (2003) report that $65.6 billion was spent for dental services in 2001, but public programs including Medicaid paid very little at 6%.

The Mississippi Division of Medicaid 2002 Report notes that of the 434,327 children eligible for Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) in Mississippi, 102,661 (23.6%) received at least one initial or periodic screen. Although this number is low, it represents a substantial increase since 1998, when only 50,244 children received at least one initial or periodic screen.

Infrastructure Development in Mississippi

Within the last 2 years, there has been an increase in research and attention focused on children's oral health. Mississippi has employed a full-time Dental Director with the State Department of Health, hosted an Oral Health Policy summit, and established a Governor's Task Force on Oral Health. In addition, surveys are being developed through the Mississippi State Department of Health, Office of Dental Services to determine perspectives in gaps of services for low-income children among parents and directors of Head Start Centers, as well as dental providers. Among research universities, the University of Mississippi School of Dentistry has recently begun a pediatric dental residency program, and Mississippi State University's Social Science Research Center is conducting a pilot study that focuses on early childhood caries (tooth decay) within a network of childcare centers.

Recommendations for Future Action

The Mississippi Team of the National Governors Association Policy Academy, in 2001, authored a report recommending that Mississippi:

- Implement and expand all of the above-mentioned efforts that have been enacted to prevent childhood caries and improve dental health infrastructure.
- Restructure the fees and payment procedures of Medicaid to facilitate increased access to dental care for children and make efforts to improve Medicaid provider/beneficiary relations.
- Insure access to dental care for all children and promote the profession of dentistry by: increasing the number of dental graduates, encouraging dental graduates to return to their respective communities to practice, and providing incentives such as loan forgiveness or tax advantages to dental graduates.
- Provide ongoing education for both dental patients and dental care providers.
- Develop case management in oral health services to insure that comprehensive services are rendered to patients.
- Make dental insurance more accessible, for example, by extending dental coverage to state employees as a part of their benefits package.
- Place a high importance on early intervention by mandating a comprehensive oral exam for all children before they enter school.

Conclusions

As the most widespread, chronic, and preventable childhood disease, dental caries is costly to children, families, and the state. In addition, poor oral health in young children, if untreated, sets the stage for a lifetime of negative health outcomes. Clearly, continued support for statewide efforts to increase dental care access, caries prevention, and infrastructure development in Mississippi will be necessary to improve the oral health of our children and provide an unprecedented opportunity to positively affect both the health and educational outcomes of Mississippi's youth.

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