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HEALTH & SCIENCE

Tooth or consequences: The costs of poor dental fitness


The traditional divide between dentistry and medicine is shrinking as data accumulate linking oral health with overall health.

By Victoria Stagg Elliott, *AMNews* staff. March 3, 2008.

A few years ago, an extremely sick, 2½-year-old boy came to the Houston office of pediatrician Ray Wagner, MD, with a 105-degree temperature. The illness, which required five days of hospitalization and a course of intravenous antibiotics, got its start in an infected tooth; which, in turn, resulted from poor dental hygiene and a lack of dental care. Dr. Wagner, who was then an assistant professor at the University of Texas Medical School, decided to use this case as a hook for an educational session on oral health.

"We discovered that early childhood caries [tooth decay] was the most common chronic disease of children," he said. "We were all shocked."

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- [Links](#)
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- [Topic: The uninsured](#)

Now a staff physician at El Rio Community Health Center in Tucson, Ariz., he is one of more and more physicians who are looking at patients' mouths and teeth before moving on to their throats. These doctors are motivated by both firsthand experiences and the scientific literature documenting that health in this area makes a difference to the whole body.

An increasing number of physicians are educating patients on cleaning teeth and gums and advising parents on reducing the risk of transmitting cavity-causing bacteria from their own mouths to their children's. Fluoride varnishes are being applied to teeth in doctor's offices, and dentists are being added to the list of specialists consulted as needed.

"The mouth is part of the body," said Wanda Gonsalves, MD, associate professor of family medicine at the Medical University of South Carolina in Charleston. She began her career as a dental hygienist. "I'd really like dentists and physicians to co-ordinate more and not have the mouth treated as a totally separate entity."

The American Medical Association and other medical organizations have supported water fluoridation, but a movement is now emerging to have physicians more involved in mouth

health. This interest had its start with the release of the surgeon general's 2000 report, "Oral Health in America." It pushed the message that oral health means more than teeth, is an integral part of wellness, and nondentists need to be involved.

"You can't be healthy if you don't have good oral health," said David Satcher, MD, PhD, who was surgeon general at the time of the report's release and is now director of the Center of Excellence on Health Disparities and the Satcher Health Leadership Institute at Morehouse School of Medicine in Atlanta.

Children's health

Physicians have since taken this report and applied it in various ways. The American Academy of Pediatrics published policy in the May 2003 *Pediatrics* urging pediatricians to start evaluating oral health at six months of age. Revised guidelines are expected before the end of this year. Also, a major educational session on the subject is being planned for the organization's annual meeting in October.

"We have to help physicians make [oral health] doable and make it easy, so it becomes second nature and no different than when you check the fingernails or the eyes or the ears," said Martha Ann Keels, DDS, PhD, chair of AAP's section on pediatric dentistry and head of pediatric dentistry at Duke University in Durham, N.C.

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The U.S. Preventive Services Task Force recommended in April 2004 that primary care physicians prescribe fluoride supplements to preschoolers who primarily drink unfluoridated water. The Society of Teachers of Family Medicine launched "Smiles for Life," a curriculum designed to educate medical students and residents on oral health, in October 2005. A second edition will come out this summer. The New York Academy of Sciences hosted a symposium on this subject in January.

"Because of the historical separation of medicine and dentistry, there is a framework of thinking which separates dental care and oral health from medical care and general health. [The NYAS meeting] was one of many efforts to reconnect the mouth to the body," said Burton Edelstein, DDS, MPH, professor of clinical dentistry, health policy and management at Columbia University and a member of the event's planning committee.

These actions also were taken because, although overall dental health has improved, statistics related to children suggest the future may not be so bright. Dental caries is five times more common in children than asthma. An estimated 51 million school hours are missed annually because of health problems affecting the mouth. Data released by the Centers for Disease Control and Prevention's National Center for Health Statistics in April 2007 indicated that tooth decay in ages 2 to 5 increased for the first time in years.

"We as pediatricians haven't done a very good job of preventing disease in those youngest

children," said David Krol, MD, MPH, chair of the pediatrics department at the University of Toledo's College of Medicine in Ohio and a member of the AAP's Oral Health Initiative Steering Committee. "Our previous policy in pediatrics was that we don't need to send a child to the dentist until they're age 3. By default, we were taking responsibility for those children's oral health."

Experts are particularly concerned because having bad teeth is a problem that goes far beyond the aesthetic and can become more serious as a child grows into adulthood.

"We are understanding more and more that having early childhood caries invariably sets you up to develop tooth decay of the permanent teeth," said Dr. Wagner. "Once the bacteria are well established in your mouth, they persist, and they're very hard to get rid of. Early oral disease predicts lifelong oral disease."

The mouth-body connection

And this circumstance can have implications beyond the mouth. The first signs of some diseases such as osteoporosis or HIV infection can show up in the mouth, but poor oral health can also cause damage to the rest of the body. Over the past decade, published studies have linked tooth loss to dementia and associated it with poor pregnancy outcomes. Dental plaque can be a source of ventilator-associated pneumonia among intensive care patients. Tooth decay may increase the risk of heart disease. Diabetes can increase the risk of gum disease, and, conversely, leaving this problem untreated can make blood sugar control next to impossible.

While significant data has tied such conditions to periodontal disease, attempts to improve them by going for the teeth have had mixed results. A study in the Nov. 2, 2006, *New England Journal of Medicine* reported that treating periodontal disease in pregnant women had no impact on the risk of preterm birth, although related research is continuing.

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Other studies have been more positive. One in the March 1, 2007, issue of the same journal found that treating periodontitis could improve endothelial function. Others also documented that caring for the teeth can improve glycemic control in diabetics.

"In general the field is comfortable with the finding that treating periodontal disease in a diabetic will contribute to their glycemic control," said Robert Genco, DDS, PhD, distinguished professor of oral biology and microbiology at the State University of New York at Buffalo, who has authored numerous studies on this subject. "It probably wouldn't hurt [for physicians] to say this is a possible complication and you should see your dentist. People see

their dentist anyway, but we have found that if the primary care physician makes a recommendation like that, the patients oftentimes will listen to that carefully and act on it."

Although physicians are getting more involved in oral health because of the science, the lack of access to dental care faced by so many patients -- in part because there are far fewer dentists than physicians -- also is an important factor driving their interest and involvement.

"There aren't enough dentists in this country. We really do need primary care physicians jumping on board," said Catherine Hayes, DMD, DMSc, chair of the Dept. of Public Health and Community Service in the School of Dental Medicine at Tufts University in Boston, who is investigating the impact of poor oral health on children's growth.

Patients also have more difficulty financing dental care. Far more lack dental than medical insurance. Medicare does not cover most dentistry. Medicaid dental coverage for adults is optional, although quite a few states do provide this benefit to some degree. Children on Medicaid have coverage, but because of low reimbursement rates and other issues associated with the program or with living in poverty, they can have a very difficult time finding a dentist who will see them. These realities mean disparities in oral health generally run directly along economic lines. According to data from the Agency for Healthcare Research and Quality, released in September 2007, 26.5% of those in poor families saw a dentist annually, while 57.9% of those from high-income families did.

"This is a problem that doctors have to grab hold of if we're really going to make inroads here," said Alan Douglass, MD, associate director of the family medicine residency program at Middlesex Hospital in Middletown, Conn., and co-chair of the STFM's oral health workgroup. "This can't just be relegated to dentists. There are just too many linkages to overall health, and the reality is that while most patients in the United States have access to some form of medical care, many fewer have access to dental care."

And the consequences of not being able to access care can be catastrophic. Last year, newspapers were filled with stories of 12-year-old Deamonte Driver of Prince George's County, Md., a Washington, D.C., suburb, who died of a brain infection caused by untreated dental disease. On and off Medicaid and occasionally homeless, he was not able to get care.

"Deamonte Driver's inability to obtain timely oral health care treatment underscores the significant chronic deficiencies in our country's dental Medicaid program," said Kathleen Roth, DDS, during a March 27, 2007, congressional hearing held in response to the incident. She was president of the American Dental Assn. at the time. "Fundamental changes to that program are long overdue, not simply to minimize the possibility of future tragedies, but to ensure that all low-income children have the same access to oral health care services enjoyed by the majority of Americans."

A bill was subsequently introduced in the U.S. House calling for increased funding of federally qualified health centers for dental services and training of more pediatric dentists. The proposal is currently in committee.

[Back to top.](#)

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ADDITIONAL INFORMATION:

Who gets dental care?

Percentage of people who visit a dentist at least once a year:

By family income	
Poor (100% of the federal poverty line or less)	26.5%
Low Income (100% to 200%)	29.9%
Middle Income (200% to 400%)	41.9%
High Income (400% or more)	57.9%
By race	
Hispanic	28.9%
African-American	30.2%
Caucasian	49.4%
Other	41.5%
By education	
Some or no school	21.9%
High school graduate	37.3%
College graduate	54.5%

Note: For the purposes of this report, the federal poverty line was \$18,850, based on a family of four.

Source: "Dental Use, Expenses, Dental Coverage, and Changes, 1996 and 2004," Agency for Healthcare Research and Quality, September 2007

[Back to top.](#)

Weblink

Centers for Disease Control and Prevention on oral health resources (cdc.gov/oralhealth)

Medicaid benefits online database, dental services, Henry J. Kaiser Family Foundation, 2006 (www.kff.org/medicaid/benefits/service.jsp?yr=3&cat=6&sv=6)

"Oral Health in America: A Report of the Surgeon General," May 2000 (www.surgeongeneral.gov/library/oralhealth)

[Back to top.](#)

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