

Improving Oral Health: Promise and Prospects

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OVERVIEW — *This background paper examines the variety of issues affecting access to oral health care in the United States. It considers the possibilities and challenges presented by public financing sources for dental care for low-income children and families—including Medicaid, the State Children’s Health Insurance Program, and other safety net programs—and reviews a sampling of privately funded efforts at improving oral health access. The paper illustrates some of the major barriers to dental care, particularly the shortage of dentists willing to serve low-income and uninsured patients and the overall lack of growth in the dental workforce. It also considers the changing roles of other providers, such as dental hygienists and primary care providers, in providing oral health education, preventive care, and referrals to dentists. Finally, this background paper touches on more global—or population-based—approaches to improving oral health.*

Improving Oral Health: Promise and Prospects

Oral health does not get a great deal of press in today's "big picture"—the nation is preoccupied by the threats of terrorism and war, burdened by a struggling economy, and challenged by continuously rising health care costs and rates of uninsurance. The economic downturn has taken its toll on state budgets, and the Medicaid program, which plays a significant but underappreciated role in oral health, is in jeopardy for the first time in 35 years. Many Americans find it easy to put off dental care, both as a personal priority and as a policy priority. However, the message from advocates and policymakers who focus their efforts on promoting dental access is that, without oral health, the promise of overall health is significantly compromised. As stated in the 2000 surgeon general's report, "Oral Health in America," "As the gateway of the body, the mouth senses and responds to the external world and at the same time reflects what is happening deep inside the body."¹

THE "SILENT EPIDEMIC"

It is difficult to overstate the importance of oral health, particularly for children. In adults, neglected oral health can eventually lead to a number of more serious conditions; the implications for children are perhaps even more immediate and can have dire consequences. For an estimated four to five million children and adolescents, tooth decay and the pain associated with it severely interfere with the daily activities of eating, sleeping, speaking, learning, playing, and going to school and work. These children struggle through meals, are distracted from play and study, and are often embarrassed about how they appear to their peers.² And, in some instances, there is evidence of "failure to thrive" in young children with early childhood tooth decay.

One of the key themes of the surgeon general's report is to emphasize the association between oral health and *overall health*, which was defined in 1948 by the World Health Organization as "a complete state of physical, mental, and social well-being, and not just the absence of infirmity." Research has pointed to associations between chronic oral infections and heart and lung diseases, diabetes and strokes; as well premature births and low-birth weights. The report argues that "Oral health is a critical component of health and must be included in the provision of health care and the design of community programs,"³ and this theme now runs through the body of work on oral health in the health policy community.

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The surgeon general's report is careful to acknowledge that significant gains in oral health have been made since the idea of "prevention" started to become accepted in the 1930s. People are no longer expected to lose their teeth by middle age, although 30 percent of adults aged 65 and older are still edentulous (toothless).⁴ In the next 50 years, due to advances such as increased access to basic dental services, fluoridated community drinking water, and the broader availability of dental sealants, fewer individuals will suffer from significant dental disease and can expect to keep their teeth throughout their lives. The surgeon general's report documents that dental caries (tooth decay) is the single most common and chronic childhood disease—five times more common than asthma—and that 50 percent of children between the ages of five and nine have untreated tooth decay. Seventy-eight percent of children have dental caries by the time they are 17. And 80 percent of tooth decay is concentrated in 25 percent of children.⁵ Dental-related illness results in the loss of millions of hours of school each year, with even more significant losses for poor children.⁶ Even among children with dental coverage through Medicaid, only 20 percent actually receive preventive dental visits (one-fourth the number of children that obtain a medical visit through Medicaid each year).⁷

For low-income adults, dental care often becomes an even lower priority. In 1999, only 28 percent of people with incomes below 200 percent of the federal poverty level (FPL) reported making a dental visit in the previous 12 months, compared with 58 percent of higher-income people.⁸ The Medical Expenditure Panel Survey (MEPS) found that, for every adult without health insurance, there are three adults without dental coverage. The Medicaid income eligibility levels for nondisabled, childless adults are extremely limited (the average Medicaid eligibility level is 59 percent of the federal poverty level—\$5,298 for an individual in 2003). And, while roughly half of the states currently provide some level of optional dental care for Medicaid-eligible adults, only a handful provide comprehensive services, and that number is decreasing as the state budget crisis continues. Adults lose more than 164 million work hours each year due to pain and other consequences of poor oral health. The implications of poor access to oral health care extend well beyond the reaches of the Medicaid program—there are 108 million children and adults without dental insurance in the United States, more than two and a half times the number of people without health insurance.

The elderly struggle with an additional set of barriers to dental care, as many elderly individuals lose their dental insurance when they retire and Medicare does not pay for routine dental care. Nearly one-third of individuals over age 65 have untreated dental caries. And in 1997, only half of noninstitutionalized individuals reported having a dental visit in the previous 12 months. Medicare covers only "medically necessary" dental care that is related to a specific medical problem, which excludes almost all basic, preventive, and reconstructive services. Low-income elderly and

Only 28 percent of low-income people reported making a dental visit in the past 12 months.

individuals with disabilities may have dental coverage through Medicaid, but a variety of barriers, including very low payment rates for dentists, create significant access problems.⁹ Consequently, 79 percent of elderly individuals are faced with paying for their dental care out-of-pocket. These financial factors are significant because the elderly are more likely to suffer from severe conditions like edentulism, periodontal disease (inflammation of the supporting structure of the teeth), and oral cancer (which results in more than 4,000 deaths each year).¹⁰

Barriers to Oral Health for Low-Income Families

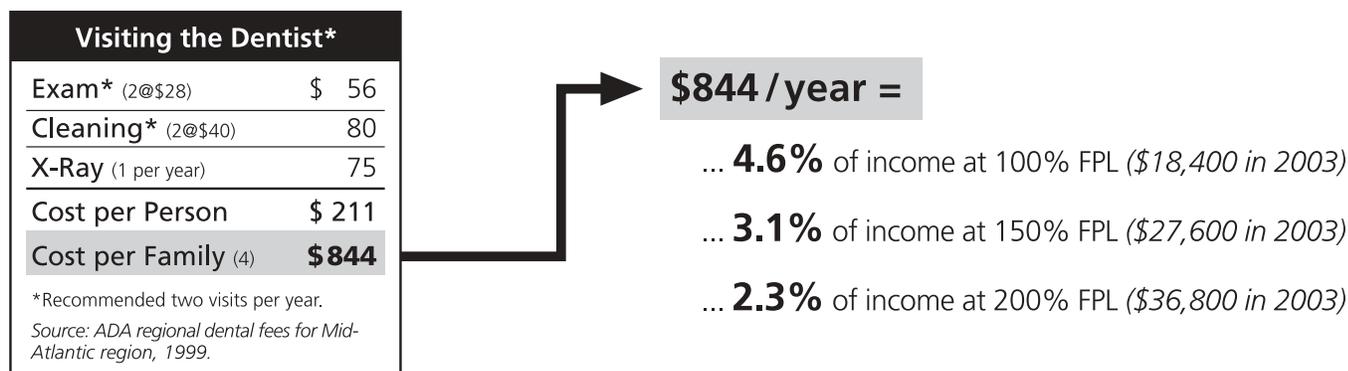
From the health policy perspective, the most obvious barrier to oral health for low-income families is the lack of accessible providers in both the private sector and the public “safety net.” A significant portion of the overall population lacks dental insurance, and federal surveys of payment sources for dental care for children found that 47 percent of care was paid out-of-pocket, 45 percent by private insurance, and only 8 percent by Medicaid (or “other”).¹¹ Even when individuals have dental coverage, it is often limited and the cost-sharing requirements can often be prohibitive.

The relationship between coverage and access is different for medical care and dental care. While many issues with access to health coverage and services remain, the overall impact of dental coverage has been even more significantly questioned. First, dental coverage is typically very limited and often includes both annual and lifetime caps. In addition, most dental coverage has significantly higher deductibles and copayments, even to the point that paying for dental care out-of-pocket is more cost-effective for some individuals. As a result, it could be argued that the lack of dental coverage is a less significant barrier to oral health care than the lack of health coverage is to medical care. Second, it is almost impossible to buy dental insurance in the individual market. This is because dental needs are typically much more predictable than medical needs. Therefore, it is more likely that individuals will purchase coverage only when they anticipate a need for major dental treatment and then drop coverage after the care is received. Consequently, the dental insurance market offers only group plans in order to spread the risk associated with dental care needs.¹² Even though group plans are available, many employers (across the board) that offer subsidized health insurance to their employees do not offer similar dental coverage. As a result, working families are often faced with paying for their dental care out-of-pocket, which gets expensive very quickly (see Figure 1).

Despite efforts to increase access to oral health services in recent years, too many disparities remain—poverty is the greatest indicator of disparities in both oral health and dental care, followed closely by racial, ethnic, and geographic indicators. Cuts resulting from the current budget crisis in the states and nationally will only further stifle the slow progress that

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FIGURE 1
Annual Cost of Dental Care for a Family of Four



had been made through the creation and implementation of the State Children's Health Insurance Program (SCHIP) in the late 1990s. Low-income children under age 19 account for 80 percent of all tooth decay, and these children have acute dental disease at a significantly higher level than middle- or higher-income children. Spending patterns further illustrate the disparity issue. Dental expenditures for the more than one-third of children whose families are poor or near-poor account for only one-sixth of dental expenditures for children overall—\$1.9 billion as compared to \$10.1 billion in expenditures for higher-income children in 1996—despite the availability of Medicaid.¹³

Study results have also shown that Hispanic and African-American children have twice as much untreated tooth decay as Caucasian children. A corresponding problem is the racial disparity among dentists (see further discussion under "Addressing Workforce Issues"). To address some of the oral health problems that stem from such economic, racial, and ethnic disparities, states and the federal government—through the Medicaid and SCHIP programs—have taken steps to expand coverage and reach out to the nation's vulnerable populations, with mixed and somewhat inconsistent success.

MEDICAID AND SCHIP: THE DOUBLE-EDGED SWORD

Medicaid and SCHIP are significant but somewhat limited sources of dental coverage for certain low-income families and children. Medicaid is a state-administered health coverage program that is jointly financed by the state and federal governments to serve low-income children and families, as well as the aged and disabled. The Medicaid program provides health coverage for 55 percent of all poor children and 20 percent of children overall.¹⁴ With respect to dental services, all children under

age 21 who are enrolled in Medicaid are provided with comprehensive dental coverage under the required benefit known as EPSDT (Early and Periodic Screening, Diagnostic, and Treatment services).

SCHIP was created as part of the Balanced Budget Act of 1997 and gave the states additional federal funds to expand coverage primarily to uninsured children with incomes below 200 percent of the FPL (although 13 states have expanded to even higher eligibility levels). The states were given the option to expand their existing Medicaid programs, create a separate children's health insurance program, or create a combination program. States that expanded Medicaid must provide children with the same benefits, including EPSDT, as in their existing Medicaid program. States with separate SCHIP programs have the option but are not required to include dental services in the SCHIP benefit package. The SCHIP benefit packages are generally quite comprehensive, and almost all of the states have included dental coverage in their state plans. At this point, Delaware is the only state that has elected not to offer dental coverage under SCHIP. (However, it is important to note that the SCHIP program provides coverage for only about five million children and is significantly smaller in size than Medicaid.¹⁵)

Medicaid also serves some low-income adults, although eligibility is significantly limited for single and childless adults who are not disabled. Dental care is an "optional" service that states may elect to provide as part of the Medicaid benefit package. In January 2000, about two-thirds of the states covered adult dental services to some extent; however, in the past two years, an increasing number of states have cut or limited dental coverage for adults as an effort to control spiraling Medicaid costs.

Low-income elderly and disabled individuals comprise a third major category served by Medicaid. Even when dental care is part of the Medicaid benefit package for these populations, other barriers to care exist. Frail elderly are deterred from getting consistent dental care for a variety of reasons, including unpredictability of illnesses, lack of energy, and dependence on other people for transportation. And the problems are even more acute for elderly people in nursing facilities. An estimated 70 percent of the nation's two million nursing home residents have dental problems.¹⁶ Many individuals are not able to brush and floss adequately on their own, and aides are not usually trained in the techniques of proper dental care. In addition, while many states provide some Medicaid coverage of dental care for elderly individuals residing in nursing facilities, patients may have limited ability to access needed dental services.

Individuals with disabilities also experience a disproportionate level of dental disease, due to a complex and specific set of barriers to care. Many disabled individuals do not have access to private health insurance and have little or no income. Poor oral health can be a side effect of medication or of the disability itself, and daily tasks such as brushing

All children under age 21 enrolled in Medicaid have comprehensive dental coverage through EPSDT.

and flossing can be challenging for many. Depending on the individual's condition, some providers are not able to accommodate the special circumstances surrounding the use of wheelchairs and the need for sedation or anesthesia during treatment. In addition, there is a general difficulty in finding available dentists in the community.¹⁷

While public funding for oral health care is theoretically available through Medicaid and SCHIP, evidence has shown that coverage does not even remotely guarantee access. For example, while dental care costs equal nearly 30 percent of total health care spending for children, dental services constituted only 2.3 percent of Medicaid spending for children in 1998.¹⁸ And a recent study found that children enrolled in Medicaid were 24 percent more likely to receive restorative dental care if they resided in the county with the largest number of dentists in the state (as compared to the county with the fewest dentists).¹⁹ This disparity is in large part due to a lack of dentists who are available and willing to serve these vulnerable populations.

Provider Participation Concerns

As has been noted, even with enrollment in public health coverage programs, a number of factors contribute to the disproportionate difficulty low-income populations have in accessing dental care:

Provider Availability — For a variety of reasons, there is currently a maldistribution of dentists serving low-income populations in the United States. While there are more practicing dentists today than ever before, the population is growing faster than the number of dentists, resulting in a downswing in the availability of dental providers. In addition, there is a widely acknowledged shortage of pediatric dentists, with approximately one pediatric dentist for every 12 physicians.²⁰ In 2000, there were only 166,000 licensed dentists in the United States,²¹ partially the result of a 30 percent reduction in dental school enrollment in the 1980s, when the number of graduates dropped from 5,200 to 4,000 students annually and six dental schools closed their doors.²² The demand for dental care is growing steadily, especially given the aging of the population and the increased likelihood of retaining one's teeth into old age. As the oral health of the overall population improves, dentists will eventually be able to spend less time on restorative services and see a greater number of patients. In the meantime, however, the dental community and the advocate community agree that strategies are needed to bolster the dental workforce.

Payment Rates — Medicaid payment rates have long been a point of contention between the states and their providers; the tensions are even more pronounced with regard to dental providers. The U.S. General Accounting Office (GAO) conducted a study in 2000 looking at the factors affecting use of dental services. Twenty-three of the 39 state Medicaid program officials who responded to the survey reported that less than half of the dentists in their states accepted Medicaid patients. This

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is in part due to the overall availability of dentists and in part due to the typically low payment rates that dentists receive from state Medicaid programs. At the time of the GAO's survey, only 13 states had Medicaid payment rates that exceeded 66 percent of the average regional private-pay fee charged by dentists, and many states paid significantly less (averaging about 30 percent to 40 percent). To compound the problem, unlike most physicians, dentists provide the surgical facilities in their offices, resulting in operating costs that are higher than those for physicians, whose surgical costs are borne by hospitals that have their own financing systems and mechanisms for absorbing and redistributing costs. Consequently, the Medicaid payment rates are often less than the dentists' cost of delivering services. (See below for further discussion.)

Patient Factors — One of the more difficult problems that providers face in serving low-income populations is a higher rate of missed and delayed appointments than with private-pay patients. The additional barriers low-income families often face—such as lack of transportation, inability to take time off of work, and child care limitations—can prevent them from being able to keep appointments, especially for seemingly non-urgent matters like dental check-ups. Understandably, the perception of low-income patients combined with some documentation of lost time and money resulting from these missed appointments has led many dentists (or their staffs) to limit the number of Medicaid patients they accept, limit office hours, or avoid participating in the program altogether. The result of this unfortunate combination of circumstances is that many individuals who are enrolled in Medicaid or SCHIP do not actually have access to all of the services provided for under the state plan.²³

Administrative Issues — The GAO also noted dentists' concerns that the administrative requirements associated with public insurance programs (and presumably with some private insurance as well) reduce access. Many of the dentists surveyed cited complicated eligibility and claim forms as well as slow payment as reasons for not accepting Medicaid patients. As a result, about half of the states have taken steps—such as removing the requirement for prior authorization and simplifying provider contracts—to help entice dentists to accept Medicaid patients.²⁴ Many states now allow dentists to bill electronically and use the same billing processes for their Medicaid claims as are accepted by the American Dental Association.

POLICY APPROACHES TO DENTAL ACCESS

The federal government and the states have followed the recommendation of the surgeon general to recognize the value and efficiency of “producing health” over that of “restoring health” and have taken steps toward the goal of better access to dental coverage.²⁵

Oral health policy analysts Burton L. Edelstein, D.D.S., M.P.H., and James J. Crall, D.D.S., Sc.D., of the Maternal and Child Health Bureau's

National Oral Health Policy Center noted in their report for the Reforming States Group that “well designed and administered plans can assure coverage that provides value and leads to better health. Such plans are backed by proper financing, implemented with meaningful outreach, and linked to a responsive public and private dental provider community.”²⁶ Edelstein further noted, in a second report for the Connecticut Health Foundation, “An observation of states’ efforts reveals that, ultimately, only three factors relate to a state’s capacity to obtain dental care for beneficiaries: (1) market-based payment rates for dental providers; (2) engagement of sufficient numbers of providers; and (3) effective program oversight.”²⁷

Provider Payment Rates

Several states have attempted to improve dental access in Medicaid and SCHIP by increasing provider payment rates, with some success. Studies have found that increasing Medicaid reimbursement rates for dental services does have a positive effect on dentist participation, although only when the payment rates are raised to at least 70 percent to 75 percent of the “usual, customary rate” (UCR) used for private insurance. However, 75 percent of the UCR is still not a high enough rate to guarantee dentist participation. As business people, dentists are concerned with at least “breaking even”—receiving a payment rate that meets or exceeds the cost (including fees, paperwork, late or contested payments, and even fear of program instability) of providing care. So long as states are paying at rates below what dentists regard as their *cost* of providing care (without regard to profit), fee increases—no matter how large—cannot be expected to increase access. Only those states who have been able to meet or nearly meet commercial rates have been able to document significant success.²⁸

Using a combination of the momentum from the enactment of SCHIP and the strong state revenue flow of the late 1990s, states such as Delaware, Michigan, Alabama, South Carolina, Georgia, Indiana, and Tennessee were able to significantly increase payment to “market-based rates” for dentists in their states. The states were able to document improved Medicaid provider participation as well as improved access to dental care. Georgia’s provider base increased by 63 percent and Michigan reimbursed 88 percent more dental visits within a year of implementing the new approach.²⁹

In addition, ten states have implemented SCHIP programs that rely on contracts with private insurers or the state employees’ health

Healthy Kids Dental in Michigan (Medicaid)

The state dental task force determined that the dental component of the state’s Medicaid and SCHIP program would be administered by Delta Dental of Michigan in an attempt to engage the company’s commercial network of dentists. The state increased its payment rates to approximate the rates typically charged by 80 percent of Michigan’s dentists, the same level as for commercial dental plans, but did not charge additional copayments for the dental services. Children are eligible for \$600 a year in dental services (at a cost to the state of \$9 per child per month). Utilization and expenditures increased by a significant amount initially, because of the unmet needs among the low-income population, but are expected to level off over time. As a result of the efforts, the number of participating dentists increased by 300 percent and utilization rates for Medicaid beneficiaries approached commercial utilization rates—the program is estimated to be meeting the needs of 95 percent of children who obtain care.

plan with payment rates that are comparable with private insurance rates (and significantly higher than the Medicaid rates.) State officials in those states reported few or no dental access problems for their enrollees.

However, a side effect of this disparity between Medicaid and SCHIP is that many dentists indicated they would select SCHIP patients over Medicaid patients and even suggest to families that they come back only if they can get SCHIP coverage.³⁰ While SCHIP programs have escaped budget cuts so far, it is uncertain at this point whether states will be able to maintain the payment level increases and other expansions in the coming year.

Pennsylvania CHIP

The dental portion of the state-financed Pennsylvania Children's Health Insurance Program (operating prior to the enactment of SCHIP in 1997) was modeled after commercial dental insurance and actively recruited dentists from the private sector to become CHIP providers. As a result, the program more than doubled the percentage of children who had a dental visit (increasing from 30 percent to 64 percent), increased the proportion of children who had a regular source of dental care (from 51 percent to 86 percent), and reduced the percentage of unmet dental treatment needs (from 52 percent to 10 percent).

Case Management as a Stabilizing Force

Case management—which often includes patient education, help with making appointments, arranging for transportation, and generally assisting patients with accessing available care—has also emerged as a useful tool in enhancing access to a wide array of services, dental care in particular. While case management is not a complete solution, states that provide it as an optional service under Medicaid or SCHIP note better attendance at appointments and improved overall oral health when a case manager is available to assist families with scheduling, transportation, and child care arrangements. As a result, this strategy has been a focus of many of the privately funded initiatives that are currently under way. (See Appendix A.)

Saved by The Safety Net?

The term *safety net* can have different meanings, depending on the context in which it is presented. In the case of oral health, the safety net has necessarily stretched beyond the traditional community settings to include nontraditional venues and mechanisms such as dental schools and hospital outpatient departments in the care delivery system. However, it should be noted that at least 90 percent of dentists are in the private sector, leaving only 10 percent working in the safety net, dental education, and all other nonprivate practice settings combined. Still, the net is stretched very thin and is held together by a patchwork of resources, all struggling to address but unable to meet the needs of the 92 million people considered to have inadequate access to dental care.

Community health centers (CHCs) play a vital role in providing health care services to low-income people, including the uninsured and a large share of the Medicaid and SCHIP population. Clinics typically are located

in low-income communities and are often the only source of health care for families. While many clinics now have the capability to provide preventive, restorative, and sometimes even acute dental services on-site, the capacity falls far short of the need. Before the recent CHC expansion initiative, roughly one-third of federally supported CHCs and migrant health centers were providing any form of dental services.³¹ Further, the GAO found in its review that, in 1998, only 385 of 700 CHC grantees reported that they were providing dental services to at least 1,000 health center users or had at least a half-time dentist working at the health center. Consequently, only about 1.2 million people—14 percent of the 8.6 million people who used the health centers nationwide—received center-based dental care that year.³²

There are several reasons that CHCs have not been able to consistently include dental care in their range of services. First, federal funding is dependent upon a requirement that targeted communities be designated (or in the process of applying for designation) as “dental health profession shortage areas,” or DHPSAs. While designation does require a burdensome application process, it qualifies the facility for a wide range of federal funding sources. More than 34 federal programs—including all National Health Service Corps (NHSC) programs, cost-based reimbursement for federally qualified and rural health centers, and Area Health Education Centers—depend on the shortage designation to determine eligibility or to receive funding preference.³³

Even with federal funding, clinics encounter many barriers—including lack of resources needed to purchase expensive dental chairs and equipment, lack of work space in what are often already cramped settings, and difficulty in recruiting dentists—that prevent them from setting up dental programs. In the absence of donations or other sources of private funding dedicated to the effort, clinics have generally had to go without.

The Bush administration has committed to giving increased attention to the role of community health centers as a source of health care services. The fiscal year (FY) 2004 budget follows through on that commitment by proposing \$1.6 billion for continued funding and expansion of CHCs, holding out the promise of opening 1,200 more clinics over the next two years. The grant announcement for proposals to create “new access points” (new CHCs) included specific provisions requiring the grantee to have a strategy for providing access to oral health care services—either on-site at the CHC or through contracts and referrals to existing dental care sites in the community. In addition, direct funding has also been made available for dental care service expansions within existing community health centers. The U.S. Department of Health and Human Services (DHHS) awarded \$16 million in grants to 31 health center grantees on March 24, 2003.³⁴ It should be noted that the proposed 2004 budget allocations represent a \$122 million increase over current spending levels that, while significant, could be offset by proposed reductions in the Medicaid program that will affect corresponding payments to federally qualified health

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centers, or FQHCs, which are usually CHCs. It is not clear what impact these recent developments might have on access to oral health services.

The nation's 56 dental schools have stepped up efforts to encourage students to serve their communities by requiring student dentists to practice in on-site dental clinics for a specified number of hours before graduating. For example, two-thirds of patients seen in pediatric dentistry residency programs are Medicaid enrollees.³⁵ In addition, a few hospitals provide access to basic dental care for low-income populations, most typically through hospital-based dental residencies.

ADDRESSING WORKFORCE ISSUES

A key area of focus in improving oral health care seems to be the need for increased provider access and wider diversity of the dental workforce. In 2000, African-Americans and Hispanics comprised about 25 percent of the nation's population, but only about 10 percent of the student makeup of dental schools. The disparity is even greater among the American Indian community, which has only 112 students enrolled in dental schools—the equivalent of one American Indian dentist for every 35,000 individuals. Although the composition varies by program and sometimes by dental school, postdoctoral training programs and faculties show a similar lack of diversity.

The rising cost of dental education and high student debt also contribute to the decline in students from lower-income families. Research has shown that students from these backgrounds tend to practice in underserved communities at higher rates than other students.³⁶ And since the number of available dentists from any economic or ethnic background is growing at a slower rate than the overall population, other mechanisms for delivery of oral health care are being investigated.

One increasingly effective solution to the dental workforce problem is to provide incentives for new dentists to spend time practicing in underserved areas. For example, the University of Michigan and Columbia University have programs that link dental students to underserved communities to encourage subsequent service in rural and urban areas. The NHSC has piloted a program to award up to 20 dental student scholarships on the condition that dental students will be trained to work with low-income and other vulnerable populations.³⁷ And dental schools in several states—California, Kentucky, Missouri, New Mexico, and Oklahoma—report success in encouraging dentists to work with low-income populations in their future practices by exposing them to Medicaid and SCHIP beneficiaries while they are in school.³⁸

In addition, in September 2002, 11 dental schools across the nation (4 additional California schools were recently added) became grantees of a community-based dental education grant program entitled Pipeline, Profession and Practice, which is intended to expand ways in which future dentists work in underserved communities. Within the

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next five years, each school will establish community-based clinical education programs and curricula and implement initiatives to increase recruitment and retention of underrepresented minority and low-income students. The Pipeline program is a five-year \$15 million national program funded by the Robert Wood Johnson Foundation and directed by the Center for Community Health Partnerships at Columbia University.³⁹ Twenty-seven percent of the nation's dental schools are now participating in the Pipeline program. The co-director of Pipeline, Howard Bailit, D.M.D., Ph.D., estimates that, if all dental school seniors spent 60 days working in patient-centered community sites, the net effect would be the care of an additional one million patients, approximately the same number served by CHCs.⁴⁰

Another forward-thinking activity in the areas of bolstering the dental workforce and encouraging dentists to give back to their communities is the development of a new dental school in Mesa, Arizona—the Arizona School of Dentistry and Oral Health. Jack Dillenberg, D.D.S., M.P.H., has spearheaded the effort to create a new type of dental school that is technologically innovative, clinically advanced, and socially responsible. As dean of the new school, Dillenberg has placed an added emphasis on community service as a key part of dental education and has structured the program curriculum with an interactive, hands-on focus. The third year of the program will be spent getting on-site clinical training at the school and will be followed by a residency placement where students would spend the final year of their dental training gaining clinical experience in community health centers, Indian Health Service (IHS) facilities, and clinics operated by the U.S. Department of Veterans Affairs. Many in the dental community regard the new programs as a promising experiment in changing dentists' attitudes and providing a social science aspect to their dental education.

Dillenberg favors recruiting and providing need-based scholarships to dental students who have an interest in public service and may themselves come from the underserved communities. And, given the location of the school, Dillenberg has placed a specific focus on recruiting American Indian students. While the promise of loan repayment is a useful incentive in some cases, Dillenberg hopes to provide his new students with a strong grounding in public service to encourage them to practice in underserved and low-income areas that need dentists most. Students will also graduate with a certificate in public health management obtained through an online graduate program offered by the School of Health Management at the A. T. Still University of Health Sciences. The Arizona School of Dentistry and Oral Health received its initial accreditation in January 2003; it is scheduled to open on July 21, 2003. As of this writing, Dillenberg had received 1,200 applications for 54 positions in the new school.⁴¹

While some research has shown that individuals who come from low-income families or underprivileged backgrounds are more likely to be

willing to return to serve the communities from which they came, it is not yet clear whether these new, more structured programs and commitments to serving the underserved will extend beyond those with a very personal reason to do so. Observers note that efforts such as the Pipeline program and the new dental school in Arizona should not be thought of as a panacea, but rather as a complement to needed improvements in Medicaid financing and service delivery strategies.

Loan Repayment Programs

In 2002, dental school graduates incurred an average of \$122,500 in debt, significantly more than the average debt of a graduating medical student.⁴² Weighed down with this heavy burden and with the significant capital expense of setting up an individual practice, it is not surprising that many new dentists feel compelled to take the position that pays the best, which is most likely to be in an existing private practice in a higher-income urban or suburban area. In many cases, the only incentive that might trump the combination of low salary levels in underserved areas and the low payment rates provided by Medicaid is the possibility of having one's debts wiped away.

State Efforts — In an issue brief on improving oral health, the National Governors Association's Center for Best Practices describes attempts being made by several states to increase the dental workforce by offering loan repayment and forgiveness or tax credits to dentists who will relocate in their home state or in an underserved community. The issue brief notes that states are also working to recruit retired dentists to help serve low-income patients. Indeed, the Children's Dental Health Project's review of oral health-related action in state legislatures confirmed that most of the activity has been in the areas of loan repayment and licensing changes such as relaxing licensing requirements for retired dentists. For example, Colorado has a two-year loan repayment program as well as a tax credit option for dentists who agree to treat underserved populations. Maine provides up to \$80,000 over four years in forgivable loans for treating Medicaid, SCHIP, and other uninsured patients, regardless of their ability to pay. And Minnesota has created a loan forgiveness program for dentists whose practice is made up of at least 25 percent Medicaid and SCHIP patients.⁴³

The National Health Service Corps — The NHSC is a significant federal source of loan repayment activities that specifically target dental students. For example, it has an On-Campus Ambassador program to identify new dental students for a career in service to the underserved. Forty-eight of the nation's 56 dental schools have NHSC ambassadors on campus to act as mentors and resources throughout the year. The NHSC operates a loan repayment program, as well as providing scholarships for medical and dental providers to work in underserved areas, but the program is grossly underfunded when compared to the identified need. NHSC

In 2002, dental school graduates incurred an average of \$122,500 in debt.

funding appropriations support a total of only 300 loan repayment and scholarship positions nationwide. While NHSC has 293 dentists and 18 dental hygienists practicing in underserved areas, the program still has more than 660 unfilled dental vacancy requests and 170 unfilled requests for hygienists. As a result, in 228 areas of the country that DHHS had identified as needing dental providers, nearly two-thirds (144 areas) did not get any NHSC providers in 1999.⁴⁴

The dental community has raised concerns that the bulk of NHSC resources have consistently been devoted to physicians and clinicians, such as nurse practitioners, over dentists. For example, in 2000, NHSC awarded new loan repayment awards totaling about \$12.2 million to physicians; about \$7.6 million to nurse practitioners, physician assistants, and nurse midwives; about \$5.7 million to dentists and dental hygienists; and about \$3.3 million to mental and behavioral health providers. In addition, NHSC awarded \$28.2 million in new scholarships to physicians, nurse practitioners, physician assistants, and nurse midwives in fiscal year 1999, but no scholarships were awarded to dental providers.⁴⁵ In FY 2004, the Administration has proposed expanding the NHSC funding by \$42 million to further subsidize providers willing to serve in underserved areas—funding for 2,000 more clinicians than in FY 2001.⁴⁶

The Indian Health Service — IHS provides states with 100 percent federal funding to serve the American Indian/Alaska Native population. However, like Medicaid enrollees, this group has not had sufficient access to dental care. IHS reports that only 27 percent of the eligible population had a dental visit in 2002.⁴⁷ The main reason for the lack of access is the lack of available dentists in tribal communities. According to IHS officials, about one-fourth of the service's dentist positions at 269 IHS and tribal facilities were vacant in April 2000.⁴⁸ This is in part due to the IHS's inability to offer competitive salaries to encourage dentists to serve the American Indian/Alaska Native communities, which are often located in remote areas.

IHS does have a loan repayment program that is intended to encourage providers to work in tribal facilities. The program places about 11 dentists and one hygienist each year in IHS positions, but this has had only a small impact. A requirement that loan repayments to dentists comprise only 15 percent of the overall loan repayment pool has prevented the program from filling the many vacancies.⁴⁹

Expanding the Provider Base: Registered Dental Hygienists and Primary Care Providers

Registered Dental Hygienists — While authorizing registered dental hygienists (RDHs) to practice independently of the dentist is still a challenging aspect of the provider issue, more and more attention is gradually being paid to the idea. Unlike the nursing profession, the field of dental hygiene has no "practitioner level" of training. Instead,

The National Health Service Corps has more than 660 unfilled dental vacancy requests and 170 unfilled requests for hygienists.

dental hygienists are educated and clinically trained to provide only a subset of preventive dental services and cannot be certified to provide surgical or restorative care. There are two aspects of the discussion around the role of registered dental hygienists—scope and authorization.

■ **Scope**—The scope of services that can be provided has been a major point of contention between dentists and dental hygienists. At this point, hygienists are trained to clean teeth and apply sealants and fluoride treatments but must refer patients to a dentist if anything further is needed. Most dentists oppose expansions in state practice acts for hygienists because they argue that RDHs are not trained to diagnose and treat oral diseases. However, an emerging concept is to expand the role of registered dental hygienists as disease managers—providers of medical (rather than surgical) management of dental caries and periodontal disease.

■ **Authorization**—Some expansions in the level of authorization of RDHs have been implemented. According to surveys conducted by Crall and Edelstein, at least eight states report modifications to ease dentist supervision requirements from “direct supervision,” which requires care to be provided with a dentist present, to “general supervision,” which requires care to be delivered under the auspices of a dentist who may or may not be present. These modifications also allow for “independent practice” which enables hygienists to own and operate independent practices of dental hygiene using a dental referral network to ensure comprehensive care.⁵⁰ However, the dental community expresses concern that allowing hygienists to practice independently will both erode dentists’ patient base and inadequately treat patients.⁵¹ The other side of the debate is that expanding hygienists’ role would enable them to provide high-quality preventive services to patients that may otherwise get no dental care at all.

Colorado has permitted hygienists to bill Medicaid directly for preventive services provided to children; and Maine has changed its state laws to allow hygienists to practice in school health centers, hospitals, and public clinics without a dentist on site.⁵² As a result, many hygienists are now able to go to schools, nursing homes, and other public health facilities to provide preventive services to patients who are generally underserved for lack of available and willing dentists. This also frees up time for dentists to focus on restorative and other acute care services when seeing low-income populations (and likely helps eradicate the problem of costly missed appointments if the services provided are more serious in nature).⁵³ The expanded authorization issue—independent practice for hygienists— is gaining acceptance in some circles, especially as dentists continue to specialize their practices and payment rates continue to erode.

Primary Care Providers — One of the greatest challenges in improving oral health is better coordination of the medical and dental primary

Colorado has permitted hygienists to bill Medicaid directly for preventive services provided to children.

care systems. Primary care providers are playing an increasingly important role with education, screenings, preventive care, anticipatory guidance, and the provision of referrals for more specialized care as needed. The Children's Dental Health Project has partnered with the American Academy of Pediatric Dentistry to create the Interface Project, which includes a series of papers that outline the policy issues that emerge as primary medical providers get involved in oral health promotion. Primary care provider intervention has proven to be an important aspect of increasing dental access, as young children are more likely to see a physician than a dentist before they reach age five.⁵⁴

Licensing and accreditation issues will continue to pervade the oral health access debate. For example, the California state legislature recently passed a bill to allow Mexican-trained dentists (and physicians) to practice in health centers in California without state licensure. This has raised the ire of organized dentistry, as well as concerns about quality and discrimination.

POPULATION-BASED APPROACHES TO DENTAL HEALTH

Governments and communities have sponsored a number of global approaches that have significantly improved oral health, but the two key efforts that have had lasting impact are community water fluoridation and the use of dental sealants in school-aged children.

Community Water Fluoridation

Probably the most efficient, cost-effective, and preventive approach to oral health has been community water fluoridation. The surgeon general noted that fluoridation is "an ideal public health method...[and] is equitable because the entire population benefits regardless of financial resources."⁵⁵

As early as the 1930s, researchers discovered that people living in communities with naturally fluoridated water supplies had fewer cavities (dental caries) than those in other communities. First implemented in Grand Rapids, Michigan, in 1947, water fluoridation costs less than \$1 per person per year and has been proven to play a significant role in preventing tooth decay. In fact, it is estimated that every dollar spent on supplementing public drinking water with fluoride averts \$38 dollars in dental care expenditures.⁵⁶ According to the surgeon general's report, recent study findings attribute a 15 to 40 percent decrease in tooth decay to community water fluoridation efforts over the past 55 years. In addition, over the past generation, fluoridated water has resulted in a significant decrease in the number of people that are edentulous.⁵⁷

However, more than 100 million Americans—one-third of the population—do not have access to sufficiently fluoridated water.⁵⁸ Several major

Probably the most efficient, cost-effective, and preventive approach to oral health has been community water fluoridation.

cities—including San Antonio, San Jose, Fresno, Tucson, Portland (Oregon), and Honolulu—do not provide fluoridated water. Many rural and less populated areas simply do not have access to “city water” and remain dependent on wells and other nonfluoridated private water supplies.⁵⁹ However, it should be noted that fluoride in bottled drinks and foods has improved fluoride levels in these communities, so major health outcomes at this point would be difficult to document. There are a variety of reasons communities have not elected to provide fluoridated water, including cost, disagreements about government intervention into citizens’ lives, and misguided fears about potentially negative health consequences. Although the broader availability of fluoride in food and beverage products will reduce the likelihood of major improvements, the overall health benefit of community water fluoridation has not been disputed.

The surgeon general’s Healthy People 2010 goals include increasing the percentage of people on fluoridated public water systems from 65.8 percent in 2000 to 75 percent by the end of this decade. Twenty-six states have achieved this objective already, but ten states remain below the 50 percent level.⁶⁰ Although it is not clear how this goal can easily be met, Sens. Russell Feingold (D-Wis.) and Susan Collins (R-Maine) recently spearheaded an oral health-related bill, the Health Care Safety Net Amendments of 2002, that includes authority for grants for innovative dental programs that can include funding for community water fluoridation. The bill’s passage was hailed as a great victory within the oral health community, but funding has not yet been appropriated for its implementation.

Sealants

Dental sealants are another low-cost, highly effective mechanism for preventing dental caries in children. Sealants are a plastic material that is applied to the “pit-and-fissure” surfaces of the molars and forms a thin, hard, protective coating on the teeth. Sealants provide a protective barrier to food particles and microorganisms from collecting in these inaccessible areas of the teeth. This quick and easy prevention mechanism has been shown to reduce one type of tooth decay by over 70 percent.⁶¹

Despite what seems like an obvious boon to preventing dental caries in children, only three percent of low-income children under age eight—and less than a 25 percent of children overall—have received dental sealants.⁶² The surgeon general’s Healthy People 2010 goals also address the need for increases in sealant use, calling for 50 percent of all children in America to have received sealants on their molars by 2010. Because of the relative ease of application, many programs have gone out to other settings, such as schools, to reach out to children, especially those without other sources of routine dental care.

Several steps in this direction are already under way. The Centers for Disease Control and Prevention has provided additional funding through grants for coordinated school health programs to encourage states to

Dental sealants are a low-cost, highly effective mechanism for preventing dental caries in children.

increase the use of dental sealants. For example, the Wisconsin Department of Health and Family Services has established the Seal A Smile initiative, which provided \$60,000 in state general purpose revenue for sealant projects. The FY 2001 grant awardees sealed the teeth of more than 2,000 children at a value of over \$151,000. Finally, Oral Health America and America's Promise have partnered in an effort to provide dental sealants to at-risk children and have signaled their commitment to securing the delivery of one million dental sealants to approximately 225,000 children by 2010.⁶³

Observers have noted that programs for low-income children can perhaps best serve as a complement to other preventive oral health activities sponsored by Medicaid and other public funding sources.

CONCLUSION

The surgeon general's report gave some much-needed attention to the important issue of oral health care and solidified the correlation between oral health and overall health. The current debate has centered around improving meaningful access to care, and the solution to the access problem seems to require a multifaceted approach. The dental advocacy community continues to work toward expanding oral health awareness and addressing workforce issues that include both a limited availability of dental providers and an unwillingness to accept Medicaid payment rates, all the while recognizing the context of the state budget crisis and impending cuts to Medicaid services.

Because the budget crisis is expected to continue into the next two years, the Medicaid and SCHIP programs will be hard pressed to sustain the efforts to improve oral health access that started in the late 1990s. In fact, according to a 50-state survey conducted by Vernon Smith and his colleagues, limiting benefits such as dental coverage for adults has been a primary focus of states' cost containment activities. At least two states have eliminated dental coverage for adults entirely, two states have eliminated coverage for dentures, one state has eliminated all but basic restorative coverage, and one state has imposed an annual per person limit of \$600 on dental services.⁶⁴ Reductions in adult dental coverage have resurfaced concerns about the viability of Medicaid payment rates and have made dentists wary about participating in the program. This confluence of events will by definition force an increased reliance on a safety net whose strength is also in question, requiring the nation to recognize public health and prevention efforts, such as community water fluoridation and dental sealant programs, as a necessity rather than a luxury.

Absent major programmatic and economic changes, the policy issues described in this background paper will likely continue to be the issues facing the dental community for years to come. Analysts argue that simply producing more dentists will not necessarily solve the problem of underserved populations. In fact, without purchasing power, even those

with Medicaid coverage will not likely experience increased access. It will take a combination of approaches, accompanied by a broad financial and ideological commitment, to affect significant change in the current system.

But the effort has not been without its successes. The Health Care Safety Net Amendments of 2002 included grants for innovative dental programs that can be used in a variety of ways, including to establish or expand community-based dental facilities, fluoridate community water supplies, support school-based oral health programs, boost dentist participation in Medicaid, and recruit dentists to underserved communities. Although funding has not yet been appropriated for the new initiatives, the advocate community is pushing for \$20 million in appropriations for FY 2004 (\$50 million was authorized in the bill).⁶⁵ And DHHS in April 2003 released a National Call to Action intended to build on the surgeon general's report with five action areas: (a) change perceptions of oral health care; (b) overcome barriers to care by replicating effective programs and proven efforts; (c) build the science base and accelerate science transfer; (d) Increase oral health workforce diversity, capacity, and flexibility; and (e) Increase collaboration.⁶⁶ Many challenges remain, but the promise and commitment to the importance of oral health remains as well.

Appendix

Watching Our Mouths — Privately Funded Efforts at Oral Health Access

“Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it’s the only thing that ever does.” — Margaret Mead

Especially during the booming economic years of the late 1990s, many foundations and other private organizations took an interest in the problem of access to dental care. A variety of initiatives are under way, ranging from conducting large-scale outreach efforts to operating mobile dental vans to sponsoring dedicated days of free dental care to all comers. The overall impact of these relatively small but important initiatives is just beginning to be measured, and they may demonstrate innovations that will produce models for larger scale successes in the future.

Following are a few examples of the many activities that are under way:

■ *The Community Voices Project*, sponsored by the W. K. Kellogg Foundation, has done extensive work in the area of dental access. Community Voices projects are operating in 13 communities across the country, and many of those communities have targeted activities at increasing access to oral health services for low-income families. For example, in 1999, Community Voices New Mexico started a major effort to recruit dentists to underserved areas. One area which previously had only one dentist available, now has eight. The number of patient visits grew from 580 in 1999 to 9,000 in 2000, and nearly 15,000 patient visits were completed in 2001. Efforts are currently expanding to focus on serving specific underserved groups, such as American Indians and the developmentally disabled, by bringing the dentists to the patients.⁶⁷

In El Paso, Texas, Community Voices has initiated a pilot education project—*Sonrisa Familiar* (The Family Smile)—that is testing the effectiveness of providing oral health education to children and their parents together. Families receive an initial dental check-up and cleaning and information is recorded as a baseline for evaluating progress. Families who exhibit a marked improvement in their dental health move on to a second phase of the program, in which they receive treatment and restorative care, including fillings and crowns. *Sonrisa Familiar* also works to enroll the children in Medicaid or SCHIP, so that more foundation resources will be available for dental care for the uninsured adults.⁶⁸

■ *The Center for Health Care Strategies*, through the support of the Robert Wood Johnson Foundation, is operating a \$6 million grant program that currently consists of dental access initiatives in six states—Arizona, Oregon, Rhode Island, South Carolina, Pennsylvania, and Vermont. The initiatives are targeted at improving access to oral

health services for low-income, minority and disabled populations served through Medicaid, SCHIP, and the public health system. State-based activities range from expanding the use of dental hygienists to providing case management and education about the importance of oral health for families to training dentists to care for children and individuals with disabilities and other special needs.⁶⁹

For example, Rhode Island has plans to expand the number of clinic sites where dental services are provided and to award several community-based performance grants to expand access. The state will also expand its dental sealant initiative, Providence Smiles, to more school-based sites. In addition, Rhode Island is in the process of restructuring its Medicaid dental benefit to place an increased emphasis on primary and preventive care and ensure access for all enrolled children. The state will also be using a performance-based dental benefits manager to oversee the efforts. Additionally, the state has started an effort to recruit women in welfare-to-work programs to train them to become dental assistants. Finally, the state is also partnering with the Rhode Island Foundation to develop a freestanding pediatric dental residency program to be housed at St. Joseph's Hospital for Specialty Care.

■ ***The Children's Dental Health Project (CDHP)*** is the primary non-profit organization devoted to promoting access to oral health services through technical assistance, research, and advocacy. The organization monitors state activities related to Medicaid and SCHIP and provides analyses in several areas, including state practices in securing dentists as Medicaid/SCHIP providers and the reduction of overall disparities in access to dental care. In addition, CDHP has sponsored and participated in a number of initiatives, including Awesome Smiles, a joint project with the American Academy of Pediatric Dentistry that is funded by the Health Resources and Services Administration of DHHS. Targeted at adolescents, Awesome Smiles is intended to promote awareness of the importance of oral health for adolescents and reduce oral health and dental care disparities among that age group. Finally, the CDHP's advocacy work has influenced and encouraged a number of successful legislative initiatives intended to increase funding for oral health services and encourage improved access to care, including a bill signed by President Bush in 2002.⁷⁰

■ ***The Health Trust***, a California-based foundation, has funded an initiative called Dentistry with Heart. As creator of the Watch Your Mouth campaign, the foundation provides comprehensive dental care through mobile and fixed facilities at a mix of school and community-based locations in Santa Clara County. For example, the Health Trust sponsors a bright green, 54-foot mobile dental clinic that has three state-of-the-art exam/treatment rooms and can accommodate two dentists and their staff. The clinic has relationships with six underserved school districts in the county and rotates among the various schools. The dentists conduct dental screenings, provide

preventive and restorative services at no charge, and send home dental “report cards” to encourage follow-up care. Utilization data that is collected enables the clinic to act as a “dental home” for thousands of children. The clinic provided 2,000 dental visits in 2002. The Health Trust also supports an annual event at which dentists volunteer their time to provide dental care to 500 needy children in a single day.⁷¹

■ **Give Kids a Smile Day.** The American Dental Association designated February 21, 2003, as Give Kids a Smile Day, joining with state and local dental societies in a campaign to deliver free dental services to children across the country. While thousands of children were served and millions of dollars worth of services were provided, the day was actually part of an overarching initiative designed to increase awareness of the need for broader dental access and “convince legislators that our health care is just as important as medical care and not simply a throw-away benefit.”⁷²

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