A New Paradigm to Address the Dental Workforce Crisis

Developing Comprehensive Oral Health Policy: Challenges and Opportunities for State Health Policy Makers Symposium

June 17, 2008

The Hilltop Institute
University of Maryland, Baltimore County
Baltimore, Maryland

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Introduction

Given my orientation as a pediatric dentist, as well as time constraints, I am only able to address the dental workforce crisis from the perspective of meeting the needs of our children.

The German poet Goethe stated it well, *"He who is wise begins with the child."* A healthy population begins with health care for children. The ultimate goal in oral health is the prevention of disease. However, it would be naive to believe we can ever be completely successful in achieving that goal. Therefore, a further goal must be ensuring that our children who do experience oral disease are treated effectively and efficiently. To achieve these goals requires an adequate dental workforce, and as the title of our session suggests, our dental workforce is in a state of crisis.

The Surgeon General's Report, *Oral Health in America*, identified dental disease as a "silent epidemic" in America's children, and documented the profound and significant disparities in oral health among children. Children lose 52 million hours of school time each year due to dental problems, and poor children experience nearly twelve times as many restricted activity days from dental disease as do children from higher income families. In my home state of Kentucky, the number one health problem affecting classroom performance, as identified by teachers, is toothaches. Eighty percent of dental disease is found in 20-25% of children—approximately 18 million children--children primarily from low income and minority families.

Children with no dental insurance are three times more likely to have an unmet dental need, as are children from families below 200 percent of the federal poverty level. One in four children is born into such families. While 25 percent of children are eligible for Medicaid/S-CHIP, fewer than one in five received a preventive dental visit in a year long study. Poor children have one-half the number of visits to a dentist as children from higher income parents. Only 22% of children under age six receive any dental care. Children, our society's future, and our most vulnerable population, are being neglected.

Today I want to argue for a paradigm shift in our approach to providing oral health care for children. I will advocate for the addition of a new member to the dental team, a paraprofessional uniquely trained to provide basic, primary preventive and restorative care for children, a *pediatric oral health therapist.* In doing so, I will argue that our current system denies access to care for children most in need of care, contributing to disparities in oral health. I will suggest our current approach is not a cost-effective way of ensuring the benefits of oral health for all of America's children. In making my argument, I will cite problems in the current delivery system and reference how other developed nations have been more successful in providing cost-effective oral health care for their children.

A Basic Assumption

I begin by expressing a basic assumption. The eminent free market theorist, Adam Smith, in *The Wealth of Nations*, drew a distinction between *social* goods and *consumer* goods. He argued that for a market economy to function, it must be based on a foundation of what he called *social* goods. Among the identified foundational social goods are basic security, education, and health. Such *social* goods, were for Smith, outside the marketplace and not subject to the forces of supply and demand. Rather they were seen as basic human needs and imperatives to be met by society in order for a marketplace to even exist. I join with Adam Smith in believing that health, including a "decent basic minimum" of oral health, is a *social good*, not a *consumer good*. As such it must be addressed outside the marketplace of consumer goods. Basic oral health care for children is not analogous to purchasing an automobile or buying a television. To understand basic dental care as a consumer good to be purchased in the marketplace is to accept the access problem children of poor families face today. A dental delivery system for children based on demand rather than need is not a system that meets the demands of social justice.

Oral health care for our children cannot be left to the vagaries of the marketplace.

The Prevailing Assumption

However, the prevailing assumption today in my profession of dentistry is that oral health care for children is a commodity of the marketplace. In a published statement, the American Dental Association espoused a "self-producing system that operates without direct subsidization by government." It was acknowledged that the "trade-off" in such a market-driven system is the maldistribution of resources in relationship to need. I contend that this approach is at the heart of our access and disparities problem today. Access to care for children and the reduction or elimination of disparities in oral health among our children can never be addressed given this prevailing assumption.

Fewer than 25% of America's dentists will accept children in their practices whose care is publicly insured by Medicaid or S-CHIP. That is an a generous number, as the percentage of those who participate to any significant amount is around 10 percent--one dentist in ten. Thus we have individuals who have vowed as professionals to care for the public's oral health, and have been granted a virtual monopoly by society to practice dentistry, refusing to treat the children who that same society is willing to pay them to treat. And, the overwhelming majority of these dentists have been educated in public-supported universities where society has invested several hundreds of thousands of dollars on each of them for their education.

Increasingly, fewer general dentists are treating any children, as children's dentistry in a general practice is not economically as profitable as implants, crowns and bridges, and cosmetic dentistry. And, dentists are locating in upper middle class suburbs, away from

rural and inner city areas where many of the children who require care live. The number of federally designated dentist shortage areas doubled in less than ten years.

An International 'Best Practices' Solution to the Problem

As the old saw goes, *"if we keep doing what we are doing we will keep getting what we got."* It is time to change! And, we have a successful model practiced internationally, a 'best practices' solution to emulate, as we augment our dental workforce to both prevent oral disease in our children, and to care for it when our preventive efforts fail. The model was developed in New Zealand in 1921, and has since spread to 52 other countries of the world. It is the model of the *school dental nurse*, who since the 1980s has been referred to as a *dental therapist.* I will use the term *pediatric oral health therapist* in my advocacy for the development and deployment of this new paraprofessional to address the needs of America's children.

In New Zealand, there are 610 registered dental therapists caring for the country's 850,000 children. Almost 98% of New Zealand's children are cared for by dental therapists who are assigned to every elementary and middle school in New Zealand. They work under the general supervision of a district dental officer. At the end of a given school year essentially none of New Zealand's children in the School Dental Service have untreated tooth decay, in sharp contrast to the millions of children in the United States with untreated cavities. As one New Zealander expressed it, the School Dental Service is to Kiwi's like "motherhood and apple pie."

Dental therapy spread from New Zealand to Australia and currently there are over 1,500 dental therapists practicing there. A recent report indicated that the overwhelming majority of dental care for children in Australia is provided by dental therapists. Canada has 300 dental therapists, approximately 100 of whom are employed by Health Canada to care for First Nation people. The remainder practice in Saskatchewan in dental offices, complementing the work of dentists, in much the same manner hygienists practice in the United States. Great Britain recognizes dental therapists as important members of the dental team. Currently, there are 700 dental therapists practicing in the UK in a variety of dental health care settings. Great Britain recently expanded the training opportunities for dental therapists and now graduates over 200 dental therapists each year from its 15 programs.

Recently, The Netherlands adopted dental therapists as a major dimension of their dental delivery system, and are now matriculating 300 a year in their vocational schools. At the same time, they are reducing by 20 percent the number of dentists accepted to their dental schools. Their rational: in the future, significant aspects of basic preventive and restorative care will be provided by these dental therapists, with dentists performing more complex procedures and treating medically and pharmacologically compromised patients. Their new policy reduces the absolute numbers of dentists to control the costs of dental education--a very significant issue in the United States--and develops dental therapists to

both improve access to care as well as reduce the costs of care. What a thoughtful and rational policy.

Throughout the world dental therapy is growing in popularity, primarily because of a dental workforce unable to provide access to preventive and rehabilitative care for all citizens.

Numerous studies have documented the quality of care dental therapists provide children, quality in terms of diagnostic, preventive, and technical skills. The results are uniform in finding that dental therapists provide an equivalent quality of care as dentists.

The Economic Issue

Developing and deploying *pediatric oral health therapists* for children is rational economics. As a society we can no longer afford rising health care costs, but must actually reduce costs. Just yesterday, Federal Reserve Chairman, Ben Bernanke identified health care costs as one of the major economic challenges facing the nation and affecting our future economic health. Today our society supports the education and training of general dentists in programs of post-secondary education eight years in length, and the training of specialists in pediatric dentistry who have had ten years of post-secondary education. General dentists are trained in complex rehabilitative procedures for all patients; pediatric dentists are trained in tertiary care for children--by that I mean, the ability to care for children with complex developmental and medical problems, as well as to manage, with the aid of sedation or general anesthesia, children who either lack cooperative ability or are uncooperative in their behavior. General dentists annually earn approximately $200,000; while pediatric dentists earn between $300-350,000/year. Yet, the children in these practices are overwhelmingly children who do not need this level of expertise in receiving basic, primary preventive and restorative care. In New Zealand, the dental therapist, with two years of post-secondary education, who cares for essentially all of New Zealand's children, earns, on average, $40,000/year.

The *division of labor principle* of organizational management science documents that procedures should be delegated to the least trained and lowest salaried individual in an organization who is able to effectively and competently perform the activity at the required level of quality. It is not reasonable for dentists (general or pediatric) to perform basic preventive and restorative procedures for children when a *pediatric oral health therapist* can do so just as effectively. It is not that general dentists and pediatric dentists are not needed on the dental team caring for children, they are. Rather it is that they should focus on problems that cannot be managed by a *pediatric oral health therapist*; problems that only they can address.

New Zealand is a country with a population approximately the same size of my home state of Kentucky. We have comparable numbers of children. New Zealand provides basic primary preventive and restorative oral health care for essentially all of their children with dental therapists trained in two year programs. Complex tertiary care for

children, the type for which our pediatric dentists are trained, is provided for in New Zealand by seven pediatric dentists—as specialists they focus specifically on tertiary care. In Kentucky, we have 63 specialist pediatric dentists who spend the overwhelming majority of their time providing basic primary care.

While no direct economic comparisons can be made between the United States and New Zealand, due to significantly different circumstances, it is interesting (actually amazing) to note that in a recent year New Zealand spent $34 million (US) caring for *all* of its children, ages 6 months through age 17. In New Zealand dental care is paid for by the government for all children. Kentucky's expenditures for children with Medicaid and S-CHIP *alone* were $40 million. And, this was with only a 50% utilization rate by eligible Medicaid/S-CHIP recipients. Again, it does not make economic sense to have expensive, highly trained dentists provide care that can be safely and effectively delegated to a *pediatric oral heath therapist*.

Adding a *pediatric oral health therapist* to the dental workforce not only makes sense, it seems unreasonable, in economic terms, not to proceed as rapidly as possible.

Introducing Dental Therapists in the United States

Because of the prevalence of dental disease and the persistent, chronic shortage of dentists in Alaska, the Alaska Native Tribal Health Consortium, with the support of the Indian Health Service (IHS), in 2003, sent six Alaskans to be trained in dental therapy at the University of Otago, New Zealand's national dental school. They returned to Alaska in 2005 to begin practicing dental therapy in rural villages, only to be met with a lawsuit by the American Dental Association to stop what the Association considered to be the illegal practice of dentistry. The Alaska attorney general's office issued a ruling that dental therapists in the Alaska tribal health system are not subject to the state dental practice act because they are certified under federal law. The lawsuit was settled in 2007, allowing dental therapists to continue to practice in the Alaska tribal system. Currently, eleven dental therapists are practicing in Alaska who were trained in New Zealand. Training of dental therapists has now been initiated in Anchorage.

The American Association of Public Health Dentistry and the American Public Health Association have endorsed the practice of dental therapists in Alaska.

Many dentists in the United States, unfamiliar with the development, functioning, and achievements of dental therapists internationally, fear and oppose dental therapists. The American Dental Association has been outspoken in its objection to dental therapists stating that dental therapists do not have the education and training to do what the ADA routinely refers to as "irreversible surgical procedures;" that is, preparing and restoring teeth with 'fillings.' The typical two year dental therapy curriculum internationally is 2,400 clock hours—two academic years. Traditionally, dental therapists have only provided care for children, so this time is devoted specifically to learning how to care for children. In New Zealand, 760 of these hours is actually spent in the clinic treating

children. In sharp contrast, the most recent study of the curriculum hours in our nation's dental schools indicates that an average of 181 hours are spent teaching general dentists to care for children. This includes classroom and clinic. The American Dental Association's concerns and statements simply lack validity.

Ignorance of their role and objection to their use occurred initially in other countries where dental therapists are now accepted and valued. It is ironic to note that the development of a dental hygienist was met with similar objections by organized dentistry in the United States when first introduced in the early 1900s. After an initial period of resistance, American dentists came to understand the valuable role of dental hygienists as integral members of the dental team.

Adding *Pediatric Oral Health Therapist*s to Our Dental Workforce

Various models are possible for developing and deploying *pediatric oral health therapist*s to treat children in the United States. The classical model for the world has been a two academic year training program similar to our current two year dental hygiene training programs. Two year *pediatric oral health therapist*s curricula could be developed and offered alongside our dental hygiene programs, sharing many of the courses in the basic biomedical and clinical sciences.

Where and under what circumstances might a *pediatric oral health therapist* practice? At least four possibilities exist. To effectively address the access problem it appears practitioners must go to where children are located. As in New Zealand, the most logical place to capture this audience is in the school system. It is reasonable to deploy *pediatric oral health therapists* in school-based clinics and mobile vans to provide care on a financial needs-tested basis, for example, to all Medical and S-CHIP eligible children in a school; moving through the academic year from one school to another. Such a program, begun in an incremental manner with the youngest children, with the least experience with dental disease and the greatest potential for implementation of preventive care, would seem to be a cost-benefit effective way of managing the oral health needs of our poorest and neediest children. In New Zealand, the school-based clinics are a 'dental home' not only for the children in school, but also for the preschool children in the neighborhood or district. The New Zealand school dental therapist is the oral health educator for parents and children from birth, an absolutely essential approach if we are to address the significant problem of early childhood caries.

Certainly all public health clinics would be appropriate places for *pediatric oral health therapists* to serve.

Another potential environment for *pediatric oral health therapists* is in dental offices, as exists in Saskatchewan. In such, therapists could work with the dentist, and serve as a dentist-extender for children's care, in much the same manner that a dental hygienist serves in such a role for adult periodontal care. Such an arrangement could enable a dentist's office to care for more children and at a lower cost. It would be in dentistry's

economic self-interest to develop and deploy *pediatric oral health therapists* in our nation's dental offices, just as we did with dental hygienists almost a hundred years ago.

A final potential environment for *pediatric oral health therapists* is the offices of America's pediatricians. A significant number of children are seen regularly by the nation's 60,000 pediatricians. In fact, the typical infant/child has had 12 visits to the pediatrician by age three; providing multiple opportunities for early intervention to effect preventive and restorative oral health care. It would be economically desirable for pediatricians to expand their scope of practice and retain *pediatric oral health therapists* to work in their offices under their supervision. Medical and dental practice acts in a number of states would permit them to do so.

Conclusion

Our country, once a leader in health care innovation, has fallen behind other developed countries, at least with respect to oral health care for children. The dental workforce in our country is inadequate to provide access to optimum oral health care for America's children. It is inadequate in the current reality, and will become more so in the future. The leadership of my professional organization has become self-protective, essentially focused on maintaining the status quo; as the status quo is economically advantageous. Dentistry is not providing the leadership required.

It is my belief that the time has come for leaders outside of dentistry, our health policy experts, our state legislatures, our leaders in Washington, to say "*enough is enough*." The silent epidemic of dental disease is no longer silent. It is screaming at us to *"do something!"* The tragic and unnecessary death of Deamonte Driver from an infected tooth calls out to us, *"Do something."* Today we need thoughtful, committed—and yes, courageous leadership. When faced with the injustices in society, courageous leaders committed to social justice, such as Gandhi, Nelson Mandela and Martin Luther King, challenged the establishment; they *"did something."* I challenge you to find you voice, to raise it loudly, and to speak out strongly whenever, wherever, and with whomever you can. Educate yourself and other policy leaders to a more effective and less expensive way to ensure oral health care for our children by advocated for expanding our dental workforce by developing and deploying *pediatric oral health therapists.* Let us not be content until all of America's children have access to the decent, basic minimum of oral health care they deserve. Justice demands that we do no less!