The Role of Cultural Competency in Health Disparities: Training of Primary Care Medical Practitioners in Children’s Oral Health


Abstract: This paper introduces a series of articles examining specific dental-medical educational collaborations intended to decrease oral health disparities. The first article discusses cultural competency and its relationship to oral health disparities. The next two articles present pediatric oral health educational programs for medical practitioners, one targeting primary care practitioners and the other training family practice residents. This introductory article reviews the national public health agenda for oral health, explains the rationale for targeting dental-medical educational collaborations to address health disparities, and identifies important gaps in dental as well as medical education, especially in the area of infant oral health. Key findings of the two projects are reviewed as well as lessons learned. We call for leadership in dental education in three critical areas: cultural competency, infant oral health, and ethical and professional values. Given the historical isolation of dentistry, strong leadership at the level of the dean’s office is needed to advance the agenda of eliminating oral health disparities through collaborations among dentistry, medicine, and the other health professions. Finally, an appreciation of the professional obligations of dental educators, practitioners, and the profession of dentistry can add resolve to this new prioritization.

In 2000 Oral Health in America: A Report of the Surgeon General documented profound and consequential disparities in the oral health of vulnerable populations. This report, the Surgeon General’s Conference The Face of a Child, and the recently released National Call to Action to Promote Oral Health all emphasize the relationship between oral health and general health and the need for critical partnerships at all levels of society to promote oral health and prevent disease. Individuals and institutions charged with training the next generation of health professionals have a special responsibility to develop educational initiatives in response to these national oral health recommendations.

This paper introduces a series of articles examining specific dental-medical educational collaborations intended to decrease oral health disparities. The opening article considers cultural competency and its relationship to oral health disparities. The next two articles present collaborative oral health educational programs for primary care medical providers. Articles to appear in subsequent issues of the Journal of Dental Education will address dental-medical educational collaboration in the care of special popu-
lations and the elderly and in community public health settings. This introductory article sets the context for these discussions within the national public health agenda for oral health, reviews the rationale for targeting dental-medical educational collaborations to address health disparities, and comments on key issues in the area of pediatric oral health raised by the two projects presented in this issue. We also call for leadership within academic health centers to eliminate oral health disparities through collaborations among dentistry, medicine, and the other health professions.

Background: The National Public Health Agenda for Oral Health

The charge of the Surgeon General’s report on oral health was “To define, describe, and evaluate the interaction between oral health and general health and well-being (quality of life), through the life span, in the context of changes in society.” Despite recent advances in oral health, the report documents disparities in certain segments of the population and identifies opportunities for improvement in oral health and quality of life. Key findings and themes in the report including specific pediatric data are summarized in Tables 1 and 2. The report concluded with a Framework for Action: 1) change perceptions regarding oral health and disease so that oral health becomes an accepted component of general health; 2) accelerate the building of the science and evidence base and apply science effectively to improve oral health; 3) build an effective health infrastructure that meets the oral health needs of all Americans and integrates oral health effectively into overall health; and 4) use public-private partnerships to improve the oral health of those who still suffer disproportionately from oral diseases.

After the release of the Surgeon General’s report, a Partnership Forum was developed to foster communication and collaborations and act as a forum to measure progress toward these actions. The Partnership Forum representation included more than sixty national and state professional and public groups, including the American Dental Association, the American Medical Association, the American Public Health Association, and the American Dental Education Association. Further professional and public commentary on the Framework for Action was received during winter and spring 2002 at five regional listening sessions and through submitted written testimony.

The National Call to Action to Promote Oral Health that emerged from these discussions elaborates on the earlier Framework for Action. It provides both a conceptual framework for actions to improve the oral health of Americans as well these guiding principles: efforts are to be 1) culturally sensitive, 2) science-based, 3) integrated into overall health efforts, and 4) routinely evaluated. The National Call to Action to Promote Oral Health steps in Table 3 include many sub-items that are particularly relevant all the papers in this series. Each of the five major action steps will require collaborations among dentistry, medicine, and other health sectors and communities for optimal development and implementation. The goals of the Call to Action are also consistent with broad Healthy People 2010 aims to improve quality of life, eliminate health disparities, and promote oral health.

Table 1. Major findings and themes from Oral Health in America: A Report of the Surgeon General, as reported in the National Call to Action to Promote Oral Health (www.nidr.nih.gov/sgr/nationalcalltoaction.htm)

- Oral health is more than healthy teeth.
- Oral diseases and disorders in and of themselves affect health and well-being throughout life.
- The mouth reflects general health and well-being.
- Oral diseases and conditions are associated with other health problems.
- Lifestyle behaviors that affect general health such as tobacco use, excessive alcohol use, and poor dietary choices affect oral and craniofacial health as well.
- Safe and effective measures exist to prevent the most common dental diseases—dental caries and periodontal diseases.
- There are profound and consequential oral health disparities within the U.S. population.
- More information is needed to improve America’s oral health and eliminate health disparities.
- Scientific research is key to further reduction in the burden of diseases and disorders that affect the face, mouth, and teeth.

The social impact of oral diseases in children is devastating to children and adults. Dental caries (tooth decay) is the single most common chronic childhood disease—five times more common than asthma and seven times more common than hay fever. Over 50 percent of five- to nine-year-old children have at least one cavity or filling and that proportion increases to 78 percent among seventeen-year-olds. Nevertheless, these figures represent improvements in the oral health of children compared to a generation ago. There are striking disparities in dental disease by income. Poor children suffer twice as much dental caries as their more affluent peers, and their disease is more likely to be untreated. These poor/non-poverty differences continue into adolescence. One out of four children in America is born into poverty, and children living below the poverty line (annual income of $17,000 for a single family of four) have more severe and untreated decay.

Tobacco-related oral lesions are prevalent in adolescents who currently use smokeless (spit) tobacco.

Unintentional injuries, many of which include head, mouth, and neck injuries, are common in children.

Intentional injuries commonly affect the craniofacial tissues.

Professional care is necessary for maintaining oral health, yet 25 percent of poor children have not seen a dentist before entering kindergarten.

Medical insurance is a strong predictor of access to dental care. Uninsured children are 2.5 times less likely than insured children to receive dental care. Children from families without dental insurance are three times more likely to have dental needs than children with either public or private insurance. For each child without medical insurance, there are at least 2.6 children without dental insurance.

Medicaid has not been able to fill the gap in providing dental care to poor children. Fewer than one in five Medicaid-covered children received a single dental visit in a recent year-long study period. Although new programs such as the State Children’s Health Insurance Program (SCHIP) may increase the number of insured children, many will still be left without effective dental coverage.

The social impact of oral diseases in children is substantial. More than 51 million school hours are lost each year to dental-related illness. Poor children suffer nearly twelve times more restricted-activity days than children from higher-income families. Pain and suffering due to untreated diseases can lead to problems in eating, speaking, and attending to learning.

Table 2. The burden of oral diseases and disorders: children

- Cleft lip/palate, one of the most common birth defects, is estimated to affect 1 out of 600 live births for whites and 1 out of 1,850 live births for African Americans.
- Other birth defects such as hereditary ectodermal dysplasias, where all or most teeth are missing or misshapen, cause lifetime problems that can be devastating to children and adults.
- Dental caries (tooth decay) is the single most common chronic childhood disease—five times more common than asthma and seven times more common than hay fever.
- Over 50 percent of five- to nine-year-old children have at least one cavity or filling and that proportion increases to 78 percent among seventeen-year-olds. Nevertheless, these figures represent improvements in the oral health of children compared to a generation ago.
- There are striking disparities in dental disease by income. Poor children suffer twice as much dental caries as their more affluent peers, and their disease is more likely to be untreated. These poor/non-poor differences continue into adolescence. One out of four children in America is born into poverty, and children living below the poverty line (annual income of $17,000 for a single family of four) have more severe and untreated decay.
- Tobacco-related oral lesions are prevalent in adolescents who currently use smokeless (spit) tobacco.
- Unintentional injuries, many of which include head, mouth, and neck injuries, are common in children.
- Intentional injuries commonly affect the craniofacial tissues.
- Professional care is necessary for maintaining oral health, yet 25 percent of poor children have not seen a dentist before entering kindergarten.
- Medical insurance is a strong predictor of access to dental care. Uninsured children are 2.5 times less likely than insured children to receive dental care. Children from families without dental insurance are three times more likely to have dental needs than children with either public or private insurance. For each child without medical insurance, there are at least 2.6 children without dental insurance.
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Culture and Disease

One cannot get to the roots of health disparities without understanding the critical role that culture plays in health and disease. The first article in this series, “Cultural Competency: Dentistry and Medicine Learning from One Another,” by Formicola, Stavisky, and Lewy, focuses on underlying mechanisms of health disparities gleaned from the Institute of Medicine (IOM) report on health disparities, Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care. Eliminating health disparities requires that we go beyond financial barriers and pay attention to social and cultural determinants of health. In an increasingly diverse society we must understand the impact of culture on perceptions of health, health behaviors, and practices. The IOM report draws a direct line between our behavior as providers and health disparities in minority populations—a line that begins in professional training.

A key aspect of acquiring cultural competency is recognizing that culture is a part of everyone’s identity and perspective and not just the attributes of a particular minority. Cultural competency does not just mean acquiring facts about certain ethnic groups. Given the multitude of cultures and diversity of individuals within a culture, we must fall back on basic principles: self-awareness, respect for diversity, and sensitivity in communication. These are not only components of cultural awareness, but they are also part of quality health care in any setting. These components are important in primary care, where good patient-provider relationships are essential for successful promotion of health, prevention of disease, and management of problems; they are important in care of patients with chronic and special needs, who require trusting relationships with providers in the face of prolonged health problems or disability.

Our response to cultural differences should really be embedded in an appreciation of the vulnerability of all patients in health encounters. There are always inequalities in knowledge and power in patient encounters with health providers. These inequalities require us to act in the best interests of patients (our fiduciary obligation) and to honor the trust placed in us by patients and society as a whole. To carry out this obligation, we must take patients’ cultural context into account and at the same time recognize the role that our own biases may play in...
provision of health care. Thus cultural sensitivity is a required component of our basic professionalism.

A culturally sensitive approach is especially important in the care of patients from disadvantaged and marginalized groups, for whom the inequalities in the provider-patient relationship are magnified by social inequities. Disadvantaged families accessing dental care report experiencing “judgmental, disrespectful, and discriminatory behavior from staff and providers because of their race and public assistance status.”10 The challenge of cultural competency is heightened due to the extremely low proportion of minorities in dentistry: according to the Surgeon General’s report, African Americans make up 2.2 percent of the active dentists, Hispanics 2.8 percent, and American Indians 0.2 percent. The recent $2.4 million W.K. Kellogg Foundation award to the American Dental Education Association to support retention and recruitment of U.S. dental school faculty from underrepresented groups is a positive impetus in attaining this goal. A very large dental education initiative funded jointly by the Robert Wood Johnson Foundation and California Endowment will also increase diversity in the student body, as well as place dental students in off-site underserved community settings and enhance curricula in the area of cultural competency.

Since health disparities may act through health systems as well as provider behaviors, systems must be examined for their cultural and linguistic competency. In fact, it is suggested that institutional buy-in needs to be in place before effective training programs can develop. Institutions can begin with a definition of cultural competency: “a set of congruent behaviors, attitudes, and policies that come together in a system, agency or amongst professionals and enables that system, agency or those professionals to work effectively in cross-cultural situations.”11

Formicola et al. do a masterful job of taking us from the IOM report all the way down to practical constructs for clinicians interacting with culturally diverse groups (such as taking a social history, etc.). They review recent precedents in medicine and provide many other excellent resources to assist dental institutions in mounting changes. Finally, the moral and ethical obligations to confront disparities and their root causes are emphasized.

The discussion of cultural competency raises critical issues and many unanswered questions for both dentistry and medicine: How do we integrate cultural sensitivity into the already overburdened

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Table 3. Examples of action steps relevant to dental-medical educational collaborations

1. Change perceptions of oral health
   a. Review and update health professional educational curricula and continuing education courses to include content on oral health
   b. Train health care providers to conduct oral screenings as part of routine physical exams and make appropriate referrals
   c. Promote interdisciplinary training of medical, oral health, and allied health professional personnel in counseling patients about how to reduce risk factors common to oral and general health
   d. Encourage oral health providers to refer patients to other health specialists as warranted by examinations and history. Similarly encourage medical and surgical providers to refer patients for oral health care when medical or surgical treatments that may impact oral health are planned

2. Overcome barriers by replicating effective programs and proven efforts to
   a. Reduce disease and disability
   b. Improve oral health access
   c. Enhance health promotion and health literacy

3. Build the science base and accelerate science transfer
   a. Implement strategies that benefit all consumers especially those in poorest oral health or at greatest risk
   b. Routinely transfer oral health research findings into health professional school curricula and incorporating appropriate curricula from other health professions—medical, nursing, pharmacy, and social work—into dental education

4. Increase oral health workforce diversity, capacity, and flexibility
   a. Provide training in communication skills and cultural competence to health care providers and students
   b. Move toward optimal use of health professionals—all health care professionals need to be enlisted in local efforts to eliminate health disparities

5. Increase collaborations
   a. Strengthen collaborations among dental, medical, and public health communities for research, education, care delivery, and policy development


dental and medical undergraduate curricula? How can we measure attainment of cultural sensitivity in clinical settings and in the classroom? How do we create and maintain collaborations among social and public health scientists, basic researchers, and clinicians in order to address complex biological and social mechanisms underlying health disparities?
Formicola et al. conclude their discussion with the suggestion that dentistry and medicine work together to enhance understanding of health disparities through collaborative efforts and research. Important links among diabetes, nutrition/obesity, and oral health, for example, suggest areas for study of common risk factors in populations with health disparities.\textsuperscript{12}

**Rationale for Targeting Dental-Medical Collaborations**

One potential contributing factor to health disparities that is rarely discussed in this context is the separation of dental and medical systems and resultant gaps in the education of health professionals.\textsuperscript{13,14} If physicians do not screen for oral diseases such as caries, periodontal disease, or oral cancer because they have not received any oral health education, then it is likely that their patients who are at highest risk for oral disease and dental access problems—the more disadvantaged, less educated, or otherwise vulnerable groups—will be affected disproportionately. If dentists do not ask about overall health or attend to medications and behavioral factors in addressing oral disease due to dental educational gaps, then patient health outcomes can suffer. For example, the elderly and those with disabilities and other special needs often have coexisting health conditions that increase the risk of oral disease. Moreover, the elderly are the fastest growing segment of the population, and adults and children with disabilities and chronic health conditions are surviving longer. These concerns, as well as emerging data on important oral-systemic linkages, point to an increasing need for dental-medical collaboration and cross-training.\textsuperscript{15}

There is also a strong pragmatic rationale for training non-dental health professionals in oral health promotion: the shortage of dental professionals available to treat underserved populations. A declining number of dentists per capita has accentuated the difficulty disadvantaged groups experience in accessing dental care. One solution is to train medical providers to prevent oral disease. Yet as medical providers receive more training in oral health promotion, it is likely they will also identify more patients with oral disease. Paradoxically, the result may be that the shortage of dental professionals to accept these referrals may be felt even more acutely. One thing it is unlikely to do is decrease the demand for dentists and other dental professionals.

**Prioritizing Children’s Oral Health**

A logical implication of the workforce gap is to strongly emphasize disease prevention. A prime example of where dental-medical collaborations can target oral health disparities through prevention is in pediatric oral health. There are many moral and pragmatic reasons to prioritize children for special interventions in oral health: children are at the beginning of the life span when there is maximal opportunity for disease prevention and health promotion.\textsuperscript{16,17} As a group they are more likely to be poor and/or from ethnic minorities, both of which increase their risk for oral disease. Children are dependent upon their families for access to health care and home health practices, which may vary with cultural or social milieu.\textsuperscript{18} For instance, high-risk diet/feeding practices in some cultures, such as pre-chewing children’s food or high consumption of acid snacks, can be detrimental to teeth. Because children cannot advocate for themselves, special arrangements may be needed to ensure children receive needed care.\textsuperscript{19-21} Such arrangements include case management services for families who have difficulty getting to dental appointments and the promotion of children’s health wherever they are—in school, daycare, or, in this case, the primary care practitioner’s office.

This rationale of using the primary care practitioner’s office is also consistent with the science of caries transmission, which indicates the need for intervention in the first two years of life.\textsuperscript{22} Well-child visits to primary care providers begin early in infancy and occur regularly, so oral health counseling could be integrated into anticipatory guidance (health education) and children referred for dental care.\textsuperscript{23} Almost 90 percent of poor children have a usual source of medical care, and 74 percent of poor children nineteen to thirty-five months of age receive all their vaccines.\textsuperscript{24,25} By contrast, only about 22 percent of all children under age six receive dental care.\textsuperscript{26} However, gaps in medical training prevent primary care providers from delivering this preventive oral care and counseling.\textsuperscript{27}
Two Partnerships for Prevention

In the project described by Rozier et al. in a subsequent article in this issue, primary care medical providers in North Carolina were trained to perform oral health risk assessment, provide anticipatory guidance to families, apply fluoride varnish, and refer young Medicaid-eligible children (up to three years) to dentists. Since 2001, this statewide effort has trained more than 1,500 physicians (pediatricians and family physicians), nurses, nurse practitioners, and physicians’ assistants using a one-and-a-half-hour continuing medical education protocol supplemented by a tool kit of resources for offices. Preliminary outcomes indicate that access to important preventive dental services for young children in North Carolina has increased dramatically in young children—a powerful impact from utilizing the primary care medical safety net to promote children’s oral health. Almost 40,000 visits for preventive oral health dental visits occurred in medical offices in 2002. Increased physician involvement in oral health promotion was not associated with a decrease in the number of dental visits. This statewide project builds on years of successful community collaborations and constituency-building in children’s oral health and brings together academic, community, state, and federal resources. Studies are in progress to evaluate children’s oral health outcomes and the effectiveness of various training strategies employed.

In another program described by Mouradian et al. in a subsequent article in this issue, pediatric oral health curricula were developed for family practice residents and faculty in a network of community-based training sites in the WWAMI (Washington, Wyoming, Alaska, Montana, and Idaho) region through the University of Washington Affiliated Family Practice Residency Network. This training project targeted children aged up to five years and covered normal dental development, the caries process, management of simple oral emergencies, and oral health in children with special health care needs. Training consisted of five hour-long modules supplemented with hands-on training in oral screening exam and application of fluoride varnish. Community dental practitioners (often from ABCD programs28) were also recruited to help with the trainings and to accept referrals of children with identified disease. Preliminary data show enhancement in knowledge and established baseline attitudes and self-efficacy in children’s oral health care. Longer-term outcomes will target Medicaid billings and residency follow-up surveys. To date, the trainings have reached five residency programs in two states.

While the two projects discussed by Rozier et al. and Mouradian et al. cross a range of settings and approaches, there are similarities that may hold lessons for others mounting parallel efforts. Both projects stressed prevention and the value of prioritizing care for infants and young children. With this focus the investigators were able to draw on state-specific data on children’s oral health disparities and gather broad support. Each program built on pilot efforts, considered barriers and opportunities for target audiences, and tailored curricula appropriately. Both projects involved academic faculty as well as community practitioners and other important stakeholders including dental and medical societies, Medicaid, and other public health agencies/clinics. Each considered the pragmatic and logistical issues primary care offices would face in actually translating their training into clinical practice. Differences include level of medical providers targeted (that is, residents versus practitioners); outcomes being assessed; and commitment of local dental practitioners to accept physician referrals. A significant difference between the projects is a much superior reimbursement for providing oral health services within the North Carolina program. This could allow physicians time to schedule a separate visit for oral health promotion as opposed to fitting it into an overburdened well-child exam (about four times the rate provided in Washington and Idaho).29

Will such partnerships improve children’s oral health status? What kind of training and practical support is sufficient to sustain oral health preventive practices in primary care? What level of reimbursement will keep primary care practitioners involved in children’s oral health? These are important questions that must await longer term outcomes from these projects.

Infant Oral Health and Dental Education

An important related question is whether there will be a sufficient number of community dentists ready to see the infants and young children referred
by medical providers. Due to gaps in dental training, general dentists may not be prepared to care for young children. Unlike pediatric dentists, general dentists may not receive training in the social, environmental, and developmental context of child health. They may not be ready to counsel parents on behavioral and cultural factors in oral disease. The Washington project piloted the placement of pediatric dental residents in a medical clinic to support oral health activities and to learn about other aspects of comprehensive pediatric care. While such collaborative efforts can help address gaps in dental as well as medical training, they do not address underlying issues. ABCD programs target this problem at a community level with continuing education for dentists, but such efforts only underscore the more general problem of gaps in undergraduate dental education.

Infant oral health care requires a preventive rather than interventionist viewpoint, a medical rather than surgical paradigm, and more attention to the psychosocial dimensions of health care. Other important modifications in dental education will be needed to advance a preventive agenda for children and families. Scientific discoveries in the area of early caries diagnosis, biofilms, and microbial assays are changing our concept of pediatric oral health care. Dental educators must be prepared to train to the emerging science and to include approaches such as risk assessment, medical management of caries, and principles of evidence-based care. This information must also be made available to community dental practitioners. If care of children is to be prioritized and prevention is to start early, then infant oral health care must be a part of every undergraduate’s dental education.

Leadership in Dental Education

Clearly there are significant gaps in dental education that must be addressed to eliminate disparities in vulnerable groups. We see the need for leadership in dental education in at least three critical areas: cultural competency, infant oral health, and ethical and professional values. First, the training of future dental professionals must address the complex cultural and social roots that foster health disparities. Likewise, infant oral health must be integrated into the undergraduate dental curriculum and advances in science disseminated to dental practitioners. Third, a strengthened ethical framework will support our mandate to address cultural issues and to ensure that children and other vulnerable groups profit from the new science. Moreover, these issues interact: children are the most diverse segment of the population, and the impact of cultural differences is likely to be strongest in this population. Finally, an appreciation of the professional obligations of dental educators, practitioners, and the profession of dentistry can add resolve to this new prioritization. Insofar as any health profession has a right to exist, it is to serve the public good.

To address these areas will require collaborations outside of dentistry. For if dentistry is the source of oral health knowledge that must be integrated into the training of other health professionals, then medicine, nursing, social work, pharmacy, and public health have other critical roles in unraveling the complexities of existing health disparities and share the common mandate of reducing them. These professions have strengths in systemic health, behavioral and social sciences, bioethics, epidemiology, and other disciplines that can contribute to the mission of dental institutions. For example, a strong infant oral health program will partner with primary care practitioners, nurses, psychologists, social workers, and others who have long-term experience working with infants and families.

We believe it is time to revisit the importance of such collaborations in the interest of eliminating health disparities and to take a long hard look at what we are doing to integrate dentistry and medicine and other health sciences. Why has this agenda initiated by the Institute of Medicine and others stalled? What will it take in the way of dental leadership to prioritize this it? As this series of articles in the Journal of Dental Education unfolds, presenting areas where collaboration of dentistry with medicine and other health professions serves the public good, we hope others will ask these questions too and contribute to a much-needed dialogue on this topic.

Summary and Conclusions

Eliminating health disparities will rest, in part, on our ability to work together at academic, community, and policy levels to integrate oral health into overall health care. Partnerships that put dental, medical, and other health professionals and trainees
closer together will serve the health of all individuals, but especially those of children and other vulnerable populations. Given the historical lack of attention to oral health, it will take all health professions to deliver consistent messages so all individuals and families—including those at highest risk for oral disease—can develop lifelong oral health. In essence, oral health needs to be viewed as a part of overall health, and all health providers need to promote it. To accomplish this will require broad efforts that simultaneously integrate oral health promotion into medical care, while training dentists in skills needed to treat underserved patients, especially infants and young children. To be successful these efforts must also consider the cultural context and be family-centered.

The two projects highlighted provide examples of collaborative efforts in which dental and medical professionals have partnered to address children’s oral health disparities through prevention. The public will benefit from more dental and medical collaborations as they extend to important areas of scientific research, policy, and clinical care. While such collaborations, given our historical distance, may take time, they can accomplish significant advances for the public’s health. A landmark example in the policy arena is the recently released Policy Statement on Oral Health from the American Academy of Pediatrics, developed collaboratively by pediatric dentists and pediatricians, which calls for early oral health screening of infants to identify disease risk and refer for oral health care.

As the IOM report on the future of dental education stresses, greater integration of dentistry with medicine and the health care system makes increasing sense with advancing science and technology and dwindling health care budgets. The reasons for integration continue to increase. And the stakes—for patients—continue to grow higher. The dental-medical divide is one root of disparities we can do something about, if we work together.

REFERENCES


