The Application of Public Health Functions to Increase Access to Oral Health

by

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Abstract

Since the landmark report “Oral Health in America: A Report of the Surgeon General 2000”, the dental profession has responded with initiatives on many levels that address the need to reduce the barriers to oral health services and access to oral health to achieve improved oral health for all populations. The barriers are varied and range from public and professional misperceptions concerning the severity and susceptibility of across all populations to oral disease to complex social, biologic and environmental barriers which burden certain segments of the population disproportionately. The dental profession has used the core functions and essential services of public health to initiate a number of successful interventions that address these issues. Collaboration, leadership and education, key elements of the initiatives and core functions, have provided an ecological framework to increase capacity to serve, effectively identify and assign resources and achieve the goals and outcomes of the initiatives. Yet further work on these and related initiatives remains to be done. This paper highlights particular aspects of the core functions, essential services and leadership principles that helped achieve successful interventions in several key areas and proposes the continued expansion and use of the same to achieve progress in areas that lack momentum.
The dental profession’s ability to prevent oral disease and restore the dentition to full function and esthetics has made major advances in the last 50 years (U.S. Department of Health and Human Services, 2000). Fluoridation, sealants, fluoride varnishes and preventive oral health aides that target specific oral conditions such as periodontal disease, root caries and xerostomia have allowed many Americans to preserve their dentitions even with advancing age. For those people with access to oral health services and education, the dental profession has the scientific and technological ability to restore the most severely compromised dentition. Despite these advances, there are people for whom the benefits of oral health and its link to overall health and well being are unknown. For those who have little access to care, oral health is often equated with access to dental treatment. For them, oral health is a sporadic, expensive encounter, to be avoided until pain and infection become issues (W.K. Kellogg Foundation, 2002).

The barriers to oral health and the groups affected vary. In his May 2000 landmark report “Oral Health in America: A Report of the Surgeon General” (2000), David Satcher M.D. reported that “a silent epidemic of oral diseases is affecting our most vulnerable citizens- poor children, the elderly, and many members of racial and ethnic minority groups.” Similarly, the U.S Department of Health and Human Services report titled “A National Call to Action to Promote Oral Health” (2003) stated that “Health disparities are commonly associated with populations whose access to health care services is compromised by poverty, limited education or language skills, geographic location, age, gender, disability or an existing medical condition.” Commonly, such groups are exposed to multiple risk factors, thereby predisposing them to more severe oral and systemic

The dental profession's response to oral health access issues has been varied as well. There have been significant areas of progress since the Surgeon General's 2000 report. The profession has addressed topics such as workforce training and cultural competence (Henry K. Kaiser Family Foundation, 2003). The national professional organizations have provided the necessary media, monetary and supply resources for short term, intense national interventions, such as “Give Kids a Smile”, while local dental professionals provide the necessary hands-on services. Professional schools have supported increased presence in underserved communities by linking the need for their students' multicultural experience and the efforts of community advocates. Notably, each area of success is grounded in the core functions and essential services of public health. Each initiative operates within an ecological framework of health, that not only identifies the problem, but assesses the complex risk factors, engages the community, evaluates the effect of the services provided, redirecting its emphasis as necessary, and allocates the resources to implement the initiative (Turnock, 2004). Each has met with increased positive health outcomes for the target population.

Several current initiatives, however, seem to have limited success and seriously lack momentum (H.K. Kaiser Family Foundations, 2002). For example, although the ability to prevent common dental diseases at a primary level of prevention is readily available, dental professionals are still educated first and foremost to provide services at secondary and tertiary levels of prevention. The severity and susceptibility of the population to oral diseases are underestimated by both the profession and the public, although dental
science now links systemic disease with oral infection (W.K. Kellogg Foundation Community Voices, 2002). Service to underserved populations is considered an ethical obligation, but lacks implementation either by regulation or reward. Currently there is conflict within the profession concerning how to resolve the need for services to rural/remote areas (Benn 2004, Catalanatto 2004). Without leadership that provides negotiation among factions and understands the organizational cultural values, dynamics and biases of those concerned, there is no progress and the target population continues to suffer (Cocowitch, 2005).

Expanding the use of the core functions of public health to areas where improvement is necessary may assist in providing improved access and increased oral and general health for vulnerable populations. The purpose of this paper is to (1) describe the relationship of oral health to overall health and well being, and the need to change public perception of the link between the two, (2) describe barriers to oral health to the underserved, (3) describe how dental profession’s use of the core functions and essential services of public health have provided a framework for four highly successful initiatives to change these perceptions and reduce barriers to oral health, and (4) to describe several current issues where the use of public health leadership principles and the core functions may assist the profession toward successful outcomes where, to date, progress has failed.

**Oral health problems and perceptions**

Most individuals identify oral health with the presence or absence of periodontal disease or dental caries. Both diseases cause tooth loss and the loss of the supporting structures of the teeth and middle to lower face. Once established, dental caries requires treatment by a dentist to halt its progression. While methods to prevent this condition are available,
many people do not perceive dental caries as a serious infection, and underestimate their susceptibility (National Institute of Dental and Craniofacial Research, 2005); W.K Kellogg Community Voices, 2002). Statistically, however, across all populations, dental caries is the most common chronic childhood disease—five times more common than asthma and seven times more common than hayfever (U.S. Department of Health and Human Services, 2000). Periodontal disease (gingivitis and periodontitis) affects half of Americans ages 35 to 44, with increasing prevalence in advancing age. Twenty three percent of 65 to 75 year olds have severe periodontal disease and suffer tooth loss (U.S. Department of Health and Human Services 2000, U.S. Department of Health and Human Services 2003) Both diseases are considered progressive and cumulative (W.K. Kellogg 2002).

However serious oral infection was or was not perceived by the public and profession, historically, experts believed oral diseases were localized conditions that rarely impacted the general health of the individual. With advancements in oral science this idea is changing. The oral bacteria that play a major role in the etiology of these diseases have now been implicated as contributing risk factors to low birth weight, stroke, coronary artery disease, and diabetes (Scanapiecio, 2003) —the leading causes of morbidity and mortality in the United States (Florida Charts 2005). Thus, the relative importance of controlling the most common oral diseases to enhance total health of the individual is becoming increasingly critical for all population groups.

Even those areas of oral pathology that are life threatening are considered rare and are often overlooked by the profession and public. More than 28,000 people die of oral cancer each year, and its 5 year prognosis remains at 50%, unchanged over the last
The effects of oral cancer on the surviving patient are debilitating and disfiguring. While screening for oral cancer is primarily the responsibility of the dental professional, only 14% of those who receive oral examinations report being checked for this condition. Many are left unaware of the behavioral risk factors, such as tobacco and alcohol use, leading to this condition (U.S. Department of Health and Human Services, 2000).

Practitioners overlook the presence of tempromandibular joint disorders, Sjogren’s Syndrome, genetic predisposition to cleft lip and palate for patients of child bearing age and nutritional deficiencies because they themselves are unfamiliar with the subject matter and their responsibility to screen for these conditions. Poor oral health has been shown to affect speech patterns, self-esteem, social interaction and emotional state (Maas, 2002, W.K. Kellogg Foundation 2005). The impact of oral disease, the risks it imposes if left untreated, and the need for oral health prevention and promotion paired with early detection of disease will remain unrecognized and separate from systemic health unless we educate and change the perception of other professionals and the public as to its importance.

The barriers to oral health care

The Surgeon General stated that the burden of oral disease is disproportionately borne by those who have the least access to care (U.S. Department of Health and Human Services, 2000). As previously stated the barriers to oral health are not limited to a single group within the population. Examples of barriers to care are age, socioeconomic status, sex, ethnic and racial minorities, geographic locations, education achievement and medical status (National Institute of Dental and Craniofacial Research, 2005). Many of these
barriers coexist and are based in complex cultural systems. In a recent study at the University of Florida, investigators studied the patterns of access to care of 703 randomly selected men and women living in either rural or urban counties in north Florida (Riley, 2005). Most rural residents, many of them Hispanic or black, had a problem-oriented approach to dental care. Few sought preventive services, and were at the greatest risk of needing pain related dental treatment. Generally there was a lack of ability to pay for services. In addition, few dentists were located in these rural areas; therefore, patients attempted to self medicate rather than spend money and time on transportation. Men in either urban or rural settings with one or more risk factors were twenty percent less likely to seek and receive any type of dental care even when suffering from severe oral pain.

This study is an example of the complexity and interrelationship of multiple barriers that may influence the perceptions and decisions of any group. Multiple barriers also play a role in the unfortunate statistic that poor children are twice as likely to have dental caries as their financially able peers and that their disease will remain untreated. Untreated dental disease directly causes more than 51 million lost hours of school attendance and is positively correlated with inattention and poor grades.(Maas, 2002) Dentists who do not understand the ecological view of health in terms of interrelated barriers and cultural factors of the individuals whom they serve negatively impact access to care (Turnock, 2004.). The WK Kellogg Foundation (2005) states that “providers’ biases about ethnic and racial groups can lead to culturally offensive or even racist behavior in the health care setting.” Such biases may include the assumptions that oral health is unimportant to the patient, thereby presenting the patient with fewer options to maintain his or her teeth,
or spending less time educating the patient on prevention assuming the patient is unlikely to follow their advice.

The provider's cultural biases do not go unnoticed by the recipient. In a study at the University of North Carolina School of Public Health, 77 caregivers of racially and ethnically diverse Medicaid-insured children were interviewed in a focus group setting to ascertain their experiences attempting to attain dental care for the child. Those caregivers, who successfully negotiated the limited numbers of providers and transportation issues to arrive at the appointment, were faced with additional barriers in the dental office setting. Many perceived "judgmental, disrespectful and discriminatory behavior from staff and providers because of their race and public assistance status." The investigators concluded that access to dental care will remain a problem until these behavioral barriers are addressed (Mofidi, 2002).

The cultural biases are not limited to racial and ethnic factors. The elderly experience similar behaviors from providers when it is assumed that the elderly person does not wish to maintain his teeth, or that esthetic restoration of the worn dentition is not desired because of age (U.S.Department of Health and Human Services, 2003). The elderly believe they are excluded from treatment discussions, with comments directed toward a son, daughter or other caregiver assuming the elderly adult's inability to comprehend the situation. Insensitive behavior based on stereotypical bias is unacceptable among dental professionals. It is incumbent upon the profession to achieve cultural competency through training and experience if we are committed to increasing access to care.

The composition of the dental workforce is another significant barrier. Dental professionals often return to practice in communities where the cultural characteristics of
the provider are similar to that of the local population. In 2004 The Institute of Medicine (IOM) report entitled “In the Nation’s Compelling Interest: Ensuring Diversity in the Health Care Workforce” stated that communities with higher percentages of racial and ethnic minorities in the population have greater utilization of services, lower no-show rates for appointments and rate their experiences with health care workers as satisfactory with fewer perceptions of discriminatory behavior when the professional is of similar racial or ethnic origin. For instance, the African American patient believes they are better understood and experience less judgmental behavior from dental providers and staff who are also African American. Still, only 61% of African Americans are ever treated by an African American dentist (Fox, 2005). The American Dental Education Association (ADEA) reports that there are only 15 African American dentists per 100,000 African Americans in the United States, a stark contrast to the 55.3 white dentists per 100,000 white people in the U.S. (Fox, 2005). It is also known that the choice to continue one’s schooling and the choice of profession are directly influenced by the familiarity and frequency of exposure the student has to those professionals with whom he interacts (ADA, 2004; Fox, 2005). Assessing the proportionate need to achieve racial and ethnic equity and subsequently providing positive experiences to attract promising students from these groups may assist the profession in reducing barriers for some groups toward achieving access to oral health.

In addition to the biologic and social factors that become barriers, for many groups, the ability to pay for services is the factor most commonly cited as the reason for not seeking dental care. 33% of those with socioeconomic barriers to dental care have at least one untreated carious tooth compared to 11% of those who have the means to pay for
treatment (U.S. Department of Health and Human Services, 2003). While Medicaid and Medicare provide comprehensive children's services, adult services are limited to emergency care. In addition, few practitioners elect to wade through the paperwork required to provide these services (Catalanatto, 2004, ADA 2004). Many cite the antiquated levels of fee reimbursement as a barrier to participation. As a result, even those with coverage have few places to go, or are required to travel long distances to provider offices. The out of pocket cost of preventive maintenance dental exams on an average is 50% higher than that of medical exams (Zapp, 1995). Practitioners cite the high cost of maintaining a dental practice as the basis for this variance, and studies support this claim (Guay, 2005; Zapp, 1995). For families living on limited or fixed incomes, however, oral health is a sporadic occurrence.

Lastly, few private practitioners choose to practice in rural or urban settings. Practitioners complain that the high cost of insurance, lack of personal safety and the inability or unwillingness of patients to keep appointments as the most common reasons for locating away from urban areas (National Institute for Dental and Craniofacial Research, 2005). Rural practitioners cite practice expenses, too few patients and the inability of these patients to pay as their barriers to remaining in rural practice settings. The barriers to oral health are multifactorial with complex interrelationships. Indeed, individual practitioners cannot solve the problem with one on one pro bono care. Professional advocacy and creative collaborative efforts may provide a part of the solution.

Successful interventions and the public health core functions
Since the Surgeon General’s Report in 2000, the dental profession has responded by increasing professional awareness of the access to oral health problem. National, and state professional associations and foundations organized fact finding missions, established new committees and broadened the scope of others to discuss the results of these missions and continued defining the profession’s role in access to care issues. There has been notable success in four areas. They are (1) the initiation of cultural competence training, (2) increased presence and services in underserved communities through partnerships with professional schools and the community, (3) advocacy for increased oral health services to children through intense short term interventions with sustainable long term follow-up and (4) the need to recruit more ethnic and racial minorities into the profession. The use of the principles of essential public health services framework is apparent in each initiative.

Training in cultural competence was at the forefront of national concern. Studies indicate those providers with training in cultural competence, or what is termed cross cultural education, are able to reduce negative perceptions and are more effective in engaging their patients resulting in better health outcomes. Professional schools have provided the vision and leadership for this issue by mobilizing the training of students and defining the skills needed to achieve cultural competence. It is believed that early exposure to such issues, with regular reinforcement of the associated values, has greater probability of permanently influencing the new professional’s attitudes and behavior when faced with such issues (Fox, 2005; Mofidi and others 2005). Most schools are expanding their training beyond racial and ethnic sensitivity to address multiple coexisting barriers to oral health. The IOM echoed its support for this effort in its 2004 health care workforce
diversity report where it is stated “incorporating diversity in higher education training settings is associated with better (training) outcomes for all students.” The Integrated Family Health course, at the University of Florida, is an example of the early opportunity for exposure to cultural issues. A portion of the coursework requires cross-disciplinary student groups to meet with a person or family that has multiple barriers to health, and propose and implement a solution to the most critical health barrier identified by the students. Many professional schools have similar courses.

Studies confirm that immersion into the culture assists in the process of achieving cultural competence; therefore, the classroom lectures and discussion are reinforced during the clinical years with personal experience in off-site settings. These early experiences during training, achieve varying but positive outcomes in cultural competence for most students. In a study by Mofidi, Strauss, Pitner and Sandler, student exit essays cited increased empathy and communications skills with their patients. In addition, the students challenged stereotypes, faced biases and raised complex ethical dilemmas. Contrary to most research, one African American student in this study was told by an African American patient she did not want treatment by an African American student. She believed the care would be substandard. This young man was shocked at the cultural bias he encountered, yet he came to realize stereotypes are not limited to one race or one set of circumstances.

The professional schools have partnered with local community advocates, national associations and philanthropic organizations to provide the resources necessary for initiating and sustaining these programs. An example is the establishment of the Pipeline Initiative, a funding opportunity provided by the Robert A Wood Johnson Foundation for
expansion of cultural competence training during the clinical years. Fifteen schools were able to tap into this resource to establish off site clinical experiences in diverse settings. The assessment of health risks, collaboration beyond the student’s chosen profession and providing linkage to health services or achieving risk prevention for the target family or group are each grounded in the core functions and essential services and have had a lasting effect on participating students as they go on to practice. Initiating cultural competence skills during professional school is an important part of dental training, yet it should be expanded and reinforced throughout our professional careers.

**Increasing the presence of oral health services**

Increasing the availability and access to oral health services in urban and rural areas is an initiative that is gathering momentum, mostly through the efforts of dental educational institutions. Dental schools and dental hygiene schools often provide increased access to care by providing lower cost care in return for the patient’s willingness to participate in the clinical educational process. However, many community dental health programs in U.S. dental schools have used their understanding of the barriers to underserved populations and increased the number of off site clinics in underserved areas in response to the need for cultural competency training for students as previously described, to broaden the students’ experiences in alternative practice settings (Mofidi and others 2003) and educate and engage residents in community building efforts through collaboration with local citizens, business owners, political and educational stakeholders in the target area. An example of such an effort is the establishment of 15 satellite clinics throughout rural and urban areas of Florida through the University of Florida Community Based Dental Programs. Dental students from the university and dental hygiene students
from local community colleges provide services through clinical rotations of varying length each semester during their clinical years. The clinical experience of the students is only a part of the picture. As the community engages in planning, realizes opportunities for training and employment and takes responsibility for sustainability, its residents experience a sense of ownership in providing creative solutions to community needs. This is precisely the scenario that occurred for an off site clinic in St. Petersburg, Florida. The newly remodeled Johnnie Ruth Clarke Health Clinic, in one of the poorest areas of St. Petersburg, is an example of capacity building for the city and the university, but are also examples community building partnerships working toward sustainable solutions to increase access to oral health services. (Appendix I ) As stated previously, individual professionals attempting to balance ethical practice obligations against prohibitive practice expenses can not hope to achieve oral health equity by providing one on one pro bono services. It is only within the framework of community engagement, through collective energy and organization and a culturally competent workforce that increased oral health services can be achieved across the populations.

**Community initiatives to increase access to care**

The third successful initiative uses the same principles of community engagement demonstrated in the previous intervention, but is unique in approach. The best efforts to achieve oral health require regular maintenance. One criticism lodged against the dental profession was that its nationally sponsored interventions, most notably “Give Kids a Smile” (GKAS), served more as an American Dental Association (ADA) public relations story for media attention during Children’s Dental Health Month than an intervention to address the preventive and restorative needs of the target population. The initial idea was
to offer nationally produced literature to local practitioners who would visit a classroom or other facility to offer oral health care instruction. Locally, many practitioners took this effort to heart and donated oral care supplies in conjunction with national oral health aids suppliers. There was limited community engagement, yet most practitioners addressed a single classroom, for less than 30 minutes without follow-up. Children at high risk benefited the least, since existing dental disease was neither identified nor referred.

Pressed to change the emphasis of GKAS, the ADA and its state constituents challenged local dental associations to partner with local stakeholders to assess community needs, identify children at high risk for dental disease and provide comprehensive care with long term follow-up (ADA 2006, Give Kids a Smile). These community interest groups met this challenge, many using community assessment tools similar to Mobilizing for Action through Planning and Partnerships (MAPP) to provide a community profile, identify the community needs and available resources, and to form a strategic plan, that could meet it goals and provide a sense of ownership and accountability for implementation of the intervention. From there, national and local sponsorship organizations, such as professional organizations, schools and suppliers, would provide the media and program materials with out cost to practitioners to achieve classroom-based prevention and nutrition instruction, screening for high risk children, and program assistance to organize one or two day community wide prevention and restorative clinics for children at greatest risk. Grants from health departments and local professional schools, ensured that each child treated on the GKAS restorative day that required additional treatment was offered a dental home by a volunteer dentist who would work with that family until all needs were met without charge. There are several
characteristics of the evolved GKAS that reflect the principles of public health. First was the depth and breadth of collaboration among community stakeholders. Parents, teachers, school nurses, school transportation officials and bus drivers, the health departments and professional schools partnered with the dental professionals to increase the capacity of the dental community to serve. In addition, as mentioned previously, one of the barriers to oral health is the idea that dental professionals tend to provide all dental services and practice apart from other community professionals. GKAS bridged this gap. Needs assessment was a community process. In Alachua County, Florida, for instance, CASEY Educational Systems provided training for school nurses and teachers to recognize the visual signs of dental disease and, in fact, school nurses successfully provided the initial screening for high risk children. The skills learned provided long term results that went beyond GKAS. Lastly, GKAS began as broad but intense short term intervention but provided an avenue for long term follow-up. National organizations provided resources during the expansive outset, which allowed the community to use its limited resources for initial secondary and tertiary health services and preventive follow-up care to its most needy participants. GKAS is a public health success story—people with varying interests, resources and skills coming together with specific goals and a strategic plan to address a community need. To date more than 2000 individual GKAS interventions nationwide have treated over 500,000 children (ADA, 2006, Give Kids a Smile).

A fourth area of progress is the recruitment of minority students into the dental profession. The racial or ethnic minority dental professionals with similar cultural identity may have greater empathy for the unique barriers to care encountered by their patients. The two largest racial and ethnic minorities in the United States have the lowest
numbers of practicing dentists. According to Dr. Jeanne Sinkford, Director of the American Dental Educator’s Center for Equity and Diversity, the white population in the U.S is declining, while the black and Hispanic populations are growing. It would follow that the numbers of minority dental student recruits should reflect this change in demographics, to increase access to care. This requires recruitment of 13,830 African American dentists to enter the profession and 16,383 Hispanic dentists to balance the current demographics with still larger numbers in the future. National professional organizations have answered this challenge. The ADEA and the ADA are exploring initiatives to recruit practitioners of diverse race and ethnicity. These programs range from individual personal initiatives such as mentoring promising recruits, to broad scale summer enrichment programs that expose promising racial and ethnic minority students to dentists and dentistry at an early point in their college experience. One such initiative is that grant money through the Robert A. Wood Johnson Foundation was used to establish training programs for college based pre-professional counseling programs with the specific task of informing counselors about the opportunities available for underrepresented men and women in the dental profession. To date, the participating schools have increased their percentages of minority students of the total freshman dental class from 7-20%. The ADA acknowledges that while this is significant, outreach to minority students must continue and efforts should be intensive and intentional to achieve racial and ethnic equity. Steps toward further implementation are slated as items for consideration during 2006-2007 through the ADA Council of Dental Education and Licensure’s Ad-Hoc Committee on Diversity to Attract Qualified Underrepresented Minorities into Dentistry (Fox, 2006). The recruitment of those best suited to bring oral
health services to the target population in areas of limited access demonstrates the use of essential services from all three areas of the core functions. The ADA and ADEA used a model that systematically identified stakeholders, resources and demographic data and produced a strategic plan through data analysis that set policy and implementation strategies for an effective recruitment program (ADA, 2004).

Dentistry has made significant progress in providing access to oral health care on multiple levels and with varied focus in its efforts. Support from the national professional organizations has provided coordination of efforts and media and financial support for selected areas of interest, while those at local levels have provided the services needed to reduce common barriers. This has provided increased access of thousands of patients for whom oral health would otherwise be unattainable.

**Areas for improvement**

Dentistry is an integral part of public health. Therefore, as a profession we have the obligation to use the principles of the core functions deliberately and systematically to resolve some of its more difficult issues whether the problem is access to care or professional conflicts that immobilize such efforts. As demonstrated, the profession has produced a number of successful interventions to reduce barriers to care using the framework of the core functions and essential services, however, there is more to be accomplished. As a profession, dentistry can expand and improve its methods of addressing these barriers on several fronts and provide leadership toward integrating oral health into the context of overall health producing better outcomes for all. The following areas should be addressed in the public health context.

**Assessment**
The assessment core function is frequently used by the larger professional associations and government agencies to assemble facts into summaries and communicate needs to the professional membership. In his book, Public Health: What it is and How it Works, Bernard Turnock states that this is one function most health organizations do very well (2004). The Surgeon General’s report in 2000 and the National Call to Action to Promote Oral Health in 2003 were a result of needs assessments. There is a wealth of information about oral health barriers. Local initiatives appear to have the best success at organizing this information, convening organizations and interest groups together and implementing initiatives to respond to community needs (Halverson and Mays, 2001). Broader initiatives often lack the capacity to identify and analyze data on critical oral health issues (assessment), prioritize information for policy development or to gauge the consequences that may influence the planning and implementation of a sustainable public health effort. As a result, efforts stall in the information stages or the resurfacing of an issue requires the organization to commit time and resources toward research and reporting without the information that evolved from past evaluation and experiences. Assessment, does not simply define the need. It reexamines the basis for policy and assurance responses and evaluates the process such that interventions remain on target or change as conditions warrant. It is committed to the concept of systems thinking and community action plans such as MAPP which evaluate the interconnectedness of strategies, actions and resulting consequences, and produces efficiency of process. The components of these models should be reviewed by these organizations. Historically, multiple assessments of barriers to care have taken place. The gaps to access to oral health care have not changed significantly since the 1950’s, but the demographics, ethical obligations and social
demands for creating change have evolved. For instance, the need to recruit minority students to the dental profession was recognized in the literature in 1969 (Dummett, 2004). Summer programs, mentoring and counseling programs were all in place at various times in the past 40 years, the emphasis of which was the need for desegregating professional schools rather than responding to evolving social equity and demographic change. Over the years, had new minority demographic data or cultural sensitivity indicators been consistently monitored and reviewed, the problem might not be presented as a new, unidentified problem, as was implied in the Report of the Surgeon General. The emerging data would have been open to ongoing analysis and programs to address these needs would have been redirected at an earlier stage, perhaps avoiding the epidemic neglect of oral health for some populations. This is not to diminish well intentioned efforts, but to increase their efficiency, identify the root causes of such problems, reevaluating new data and through feedback, ensure, in the words of Senge, that we are not simply “putting out brush fires” that create the most noise in our agendas (Senge, 1990). Assessment provides a process by which we identify a process of analysis and feedback toward sustainable solutions that change with emerging data and changing need, or we waste time and resources beginning again. Applying public health assessment tools helps guide the process of data evaluation toward specific achievable goals based on community needs with ongoing reevaluation of its efforts.

**Assessment and Policy Development in changing perceptions**

The nature of most dental practices is to provide individual, billable dental services to patients and dentistry performs this function well. However, eradication of disease at the secondary and tertiary levels of prevention or care is inefficient and costly. While
treatment should remain the domain of the dental professional, identification of the determinants of oral health, its risk factors and dental health promotion should extend beyond the dental profession. This was addressed in the Journal of Dental Education (2004) by Mouradian, Huebner and De Paola who proposed that health disparities are best addressed through collaboration of professionals rather than addressed by a single profession. As a vulnerable population, poor children are most likely to see a pediatrician more regularly than a dentist. However, in another article by Mouradin, et al (2004) in the Journal of the American Medical Association the authors stated that in a national survey only nine percent of pediatricians were able to answer four basic questions on oral health (Maas, 2002). Periodontal disease may increase the risk of pneumonia in the elderly but is frequently missed as a possible etiologic factor during physician visits (Scannapieco, 1999). In addition, Head Start children experiencing pain from dental caries, were dismissed as inattentive or distracted by their teachers who did not recognize the problem (U.S Department of Health and Human Services, 2003). Once again, the problem is documented, but analysis of the data to recognize this as a critically overlooked area of concern and plan for its management and implementation to integrate oral health with systemic health was missing, lost because the process by which to proceed was unclear or responsibility went unassigned. If oral health is a national concern and impacts the overall health of all populations, it stands to reason that the parameters that define a healthy oral cavity and the signs and symptoms of oral disease should be integrated into the curriculum and continuing education of a broad range of professionals, especially those that interface with vulnerable populations (Hein, 2005; Mouradian and others, 2004). The medical connection may be obvious, but as
demonstrated by the “Give Kids a Smile” initiative, training in simple examination
techniques can raise awareness and literacy among teachers, school nurses, home health
or nurse’s aides and other professionals who work with susceptible populations. While
the technology exists, dental professionals in professional associations and dental training
institutions must provide leadership to form collaborative partnerships among groups and
associations outside the traditional confines of the dental profession who can assist in the
early detection and referral of dental disease and assist in the promotion of preventive
oral health measures for individuals and the public (Henry K. Kaiser Family Foundation,
2005). Creative strategies that provide input from community partners may assist in
reducing the barriers to oral health and integrating the impact of oral health on general

Policy and assurance core functions related to licensure

The policy development and assurance core functions framework may also assist the
access to care issue in a way that provides reward for participation for both the patient
and the practitioner. Dental licensure is regulated by individual states (American Dental
Association, 2006, Licensure) Each state dental board sets relicensure requirements,
usually by mandating a specific number of hours spent on continuing education, to ensure
maintenance and the update of dental practice skills and management. While there are
many topics from which to choose, dental public health training is rarely offered. Many
practitioners and indeed many associations and communities still believe the way to
increase access to care is to provide pro bono services “one child at a time”. Moreover,
practitioners often elect courses that increase their productivity. Therefore, simply
offering public health training courses through traditional CE avenues may be ineffective.
Instead, tying relicensure to public health training and activism may increase the practitioner’s understanding of the barriers to care by increasing yearly exposure to training and care in successful initiatives similar to those previously described. It would also distribute the ethical obligation to address the access to care issues more evenly over the profession. There are a variety of activities that may increase the practitioner competence and participation in such initiatives. Examples are assigning CE credit to public health study group discussions, cultural competence training programs and community volunteer care initiatives where practitioners interface with culturally unique populations. Offering workforce competence training as a part of the relicensure function emphasizes public health policy development as it promotes mobilization of new partnerships between dentistry and the community during public health service activities.

In addition, as the profession becomes more informed about access to care issues, it provides a collective framework of ideas and solutions to address longstanding problems of access to care (Turnock, 2004). The profession must go one step further. Professional associations and state boards already have the administrative capacity to assign minimum or maximum credit to specific types of advanced education and have the ability to track credits. Assignment of a minimum number of continuing education credits to public health dentistry education and practice per licensure cycle helps complete the ethical practice obligation of the dental profession to address the issues of the underserved. This change in policy supports the assurance function of public health that emphasizes the need for a competent public health workforce and provides for the delivery of health care when otherwise unavailable (Turnock, 2004).

Policy and assurance core functions in dental health prevention and promotion
The dental profession currently uses the tertiary medical model for delivery of services (W.K Kellogg Community Voices, 2002). Both dental professionals and patients judge their appointment's success by how satisfied each was with the delivery of a particular treatment. Patient education, especially prevention education, is often ignored in preference to completing a billable service. Insurance companies believe that prevention education should be done at no charge, which often means it is not done at all. Ironically, the dental diseases with the greatest prevalence are those we are able to prevent with simple inexpensive techniques that can be tailored to the patient's unique needs. To eradicate disease we must prevent it, and do so at the lowest cost for the greatest good (Turnock, 2004; W.K. Kellogg Foundation Community Voices 2002). Dental professionals must reaffirm their obligation as prevention educators. For the dental professional student, this should begin during the first years of professional training and follow through the succeeding years. Educational models that shift the emphasis to performing patient education, reviewing risk factors throughout the course of treatment, and self assessment of treatment goals for long term patient health can help the student understand the process of primary prevention rather than tertiary damage repair. Providing access to cross disciplinary discussion groups promotes the awareness and link that oral health has to other disciplines (Mofidi and others,2003: Mouradian, and others 2004). The promotion of creative, innovative field-based prevention techniques link the student and seasoned practitioner to new approaches to oral health education that reduce the need for one on one pro bono tertiary services. Methods long used by other disciplines, such as focus groups and new parent screening for health care skill and literacy during well baby checkups, have been ignored by dentistry in health promotion
(WK Kellogg, 2005). Teaching the students and practitioners to expand their oral health promotion skills to new audiences or using methods applied by other health disciplines may ignite interest in oral health population issues and help practitioners to reach the underserved people with greater efficiency and better health outcomes.

Access to remote/rural populations.

Currently the dental profession is divided within itself on how to increase the access to oral health services, especially in rural or remote areas. Dentists, dental hygienists and dental assistants perform specific oral health services assigned to their profession by the state dental board. Dental hygiene and dental assisting professional associations firmly believe that they should be assigned a broader range of activities in order to increase the access to care to those in less accessible areas. While this has been an issue for more than twenty years, it came back into the political spotlight, following a change in the Alaska dental law that allowed high school graduates to be trained to perform invasive procedures (extractions, root canals, and restorations) on people in remote villages where oral care by a dentist was not available. These procedures were well beyond the traditional procedures performed by dental hygienists and assistants. The state argued that this program was successful in New Zealand and Australia, and in fact, arranged for their initial recruits to take their training in these countries. (Appendix II). The ADA reacted immediately with a lawsuit to ban such training, stating this would significantly endanger the oral health of the Alaskan population. (Appendix III) The American Dental Hygienist’s Association (ADHA) took an opposing stance, but stated those responsibilities should be reassigned to their newly defined Advanced Dental Hygiene Practitioner. The ADA, ADEA, ADHA, and state organizations have lobbied heavily in
Congress concerning how to approach the problem and who will perform which duties if the laws change at all. The dental professions must put aside their protectionism, and commit themselves to resolving a serious need to increase the profession’s collective capacity to serve a critically underserved population. Forming a national coalition based in the core functions to address this conflict within the profession as well as achieve progress on the national issue of health care access to remote areas may help resolve these conflicting viewpoints, provide mediation to achieve progress and the guide the profession toward an equitable answer. It has worked before. However, the first step is to recruit leaders with the vision of a unified profession working toward reducing the barriers to rural/remote oral health who can guide this process.

**Leadership to resolve conflict**

The essential services of public health emphasize collaboration within the workforce as well as within the community to be served. Formation of a coalition requires the selection of key leaders representing all stakeholders to manage the process on which the core functions and essential services are based. Management during conflict entails listening and weighing differing viewpoints, understanding the complex cultures, attitudes, and biases of those involved, and being able to guide the delicate process of negotiation (Cocowitch, 2005). These key leaders must recognize that while their personal goals may conflict with the coalition’s goals, it is paramount to put aside personal differences to achieve resolution of the issue. New strategies, compromise, consolidating limited resources to increase capacity and expanding the duties of the existing workforce for policy and program development can’t be accomplished unless the goal is to serve the community first, and personal needs as possible (Mouradian et al. 2004). Once the
leadership accepts responsibility and accountability for arriving at an equitable solution, the processes inherent in the core functions of the most successful initiatives can move ahead.

Conclusion

Access to oral health care services and the reduction of barriers to oral health are ongoing concerns to the dental profession. While some progress toward equity in oral health access has been achieved, it will take continued profession-wide commitment and leadership to implement initiatives that address the many facets of this problem. As demonstrated, the barriers to oral health are multifactorial and rarely identical within a community, neighborhood or even a family. Additionally, the dental profession and oral health concerns are traditionally segregated from other health disciplines and non-health related professionals. Isolating oral health from overall health is inconsistent with dental science and research, and the efforts of one profession to resolve the broad issues of oral health access and barrier reduction is unfeasible. Division and protectionism within the profession is still more counterproductive. Collaboration, leadership and education, integral parts of the public health core functions and essential services, are the keys to change. When collaboration occurs and the core functions and essential services of public health practice are used as the framework, oral health initiatives provide successful approaches to national regional and local issues as demonstrated. Continuing education in public health issues can provide creative, innovative approaches to resurfacing concerns and ignite practitioners' interests beyond private practice skills and management. Dental professional organizations, professional schools and oral health advocacy groups have the opportunity to expand their successes by analyzing information, prioritizing and
planning initiatives and choosing models that assist leaders in formulating goals and outcomes to achieve the reduction of barriers to oral health services and a better oral and systemic health for all. Leadership in the areas of cultural competence, minority recruitment and increased service to high risk populations should serve as examples of successful collaborative efforts based in the essential services. It is possible to do more, but not alone. When oral health fully integrates with systemic health and the profession reaffirms its role as an educator with prevention of oral disease, the health community can improve the oral health of all Americans and reduce the health disparities we now face.


Appendix I

Retrieved from the St. Petersburg Times
Midtown Hospital Given New Life

The site of a former hospital for the city's African-American community will again become a center for health and dental care, the St. Petersburg City Council decided Thursday.

The Mercy Hospital building in the 1300 block of 22nd Street S provided medical care to black residents during segregation. It has stood vacant for more than 30 years.

The council voted 7-1 to give a 25-year lease for three acres to Community Health Centers of Pinellas for $1 per year, as Mayor Rick Baker recommended. The group operates the Johnnie Ruth Clark Health Center nearby.

Chairwoman Rene Flowers, a former Johnnie Ruth Clark employee, was the only member to vote against the idea. She objected to the city providing the property essentially for free. She wanted the charity to buy the land and for the city to use the proceeds to redevelop other sections of 22nd Street S.

Community Health Centers will use $3.75-million in funding from the U.S. Congress obtained by Rep C.W. Bill Young to build a 21,000-square-foot clinic next to the former hospital building. It will move into that new building, where it expects to serve many more patients.

Former City Council member David Welch spoke passionately in favor of the project.

"It's a no-brainer to me," he said. "This council should not sit here and bicker about $1 a year and not meet the needs of the community."

"I think it does have the support of the community," council member Bill Foster said. "And I do look forward to this continued partnership. It's not really about rental payments. It's about meeting needs."

At the end of the lease, the city will own the new building, a factor many council members said makes up for the low rent. The city also retains ownership of another 3.82 acres of vacant land around the former hospital, which it can sell to encourage further redevelopment.
"The remainder of the site will certainly increase in value, and we will get more money than if this project weren't there," council member Richard Kriseman said.

As part of the project, the city committed to allocate $450,000 in federal Community Development Block Grant money to renovating the Mercy Hospital building. It will house a museum of African-American city history and a community resource center.
Appendix II

Retrieved from the American Dental Association Website
American Dental Association, Alaska Dental Society File Suit To End Unlicensed Practice of Dentistry

ANCHORAGE, January 31, 2006 — The American Dental Association (ADA), the Alaska Dental Society (ADS) and several individual dentists filed a lawsuit today in state Superior Court, seeking to stop the unlicensed practice of dentistry and dental surgery by non-dentists.

The complaint asks the court to declare the Alaska Native Tribal Health Consortium and its dental health aide therapists (DHATs) in violation of state dental licensing laws.

"I want to make it clear that the ADA supports every other aspect of the dental health aide program, said Robert M. Brandjord, D.D.S., ADA president. "That means we support education, prevention, oral health literacy programs, water fluoridation, sealant programs, nutrition programs, literally anything and everything that helps prevent dental disease."

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"All of us in the dental community regret terribly that the situation has deteriorated to the point of litigation. But we cannot and will not stand by while non-dentists perform irreversible dental surgery on Alaska Natives and others, procedures that other Americans receive only from fully trained, licensed dentists who operate under the safety and accountability standards set by state dental boards."

DHATs receive only 18 to 24 months training in a foreign dental school, and generally have only a high school education or its equivalent. The procedures at issue include extracting and drilling teeth and performing root canal-like surgery on primary teeth—surgical procedures for which the skills of fully trained, licensed dentists are absolutely essential.

ADA Offers to Drop Lawsuit if DHATs Stop Irreversible Surgical Procedures

The ADA has tried for more than two years to reach accord with the ANTHC, but the Tribal health corporation repeatedly rejected these proposals.

"I have made this offer in private to Tribal health authorities, and I say it now in public" said Dr. Brandjord. "If the therapists and those employing them will agree to stop performing surgical procedures, we will gladly drop our lawsuit. We urge the Tribal health authorities to work with us to create a viable, long-term system of dental care for Alaska Natives." He emphasized that the dental organizations will continue to work on alternative solutions to getting dental care where it is needed in rural Alaska, regardless of the progress of the lawsuit.

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The ADA/ADS alternative proposal to improve Alaska Natives' oral health includes:

- Placing a dental health aide in every village to provide educational and preventive services;
- Creating local training programs for dental auxiliaries so that Alaska Natives and others interested in dental careers need not leave the state for training;
- Securing full funding to enable the Indian Health Service to fill its vacant dental positions and prevent the Tribal health authorities from having to lay off additional dentists;
- Establishing an educational pipeline for qualified young Alaska Natives to attend dental schools, become fully qualified, licensed dentists and return to provide care in their home communities;
- Exploring new models for dental auxiliaries like the community oral health provider; and
- Jump-starting the whole process by placing volunteer dentists in the villages immediately, while the other elements of the program take shape.
Appendix III

Retrieved from the American Dental Association Website
Dental Health Aide Therapist Training

Dental Health Aide Therapists (DHATs) do not meet the qualifications or the training required to obtain a dental license in the state of Alaska or anywhere else in the United States. The qualifications and training required of a DHAT are far less than those required of Alaska dentists.

- A DHAT candidate needs only a high school diploma to qualify for training.

- The only known prerequisite to be a DHAT candidate, prior to being “trained” in New Zealand, is that the candidate need only possess “no less than sixth grade math and reading skills,” according to the Community Health Aide Program Certification Board Standards and Procedures, sec.5.10.040 (Trainees Selection Process).

- A DHAT candidate is only required to attend school for 18 to 24 months in New Zealand for training. The New Zealand program is not certified or accredited by any body or entity recognized in Alaska or the United States.

- The adequacy of the New Zealand program is judged not by American accreditation standards, but by comparison to foreign standards.

- A DHAT candidate does not take an examination administered independently from the DHAT program itself. Rather, a “Certification Board” under the very auspices of the DHAT program judges the adequacy of its own program’s candidates.

By comparison, dentists, generally after earning a bachelor’s degree, spend a minimum of four years in graduate-level training in dental school, and many dentists then continue on for specialty training.

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