

# ADEA Position Paper: Statement on the Roles and Responsibilities of Academic Dental Institutions in Improving the Oral Health Status of All Americans

(As approved by the 2004 ADEA House of Delegates)

## Background

Academic dental institutions are the fundamental underpinning of the nation's oral health. As educational institutions, dental schools, allied dental education, and advanced dental education programs are the source of a qualified workforce, influencing both the number and type of oral health providers. As centers of discovery, academic dental institutions ensure that oral health practice evolves through research and the transfer of the latest science. As providers of care, academic dental institutions are a safety net for the underserved, centers of pioneering tertiary care, and contributors to the well-being of their communities through accessible oral health care services. The interlocking missions of education, research, and patient care are the cornerstones of academic dentistry that form the foundation upon which the dental profession rises to provide care to the public.

## Need and Demand: Identifying Barriers to Oral Health Care

The surgeon general in his 2000 report, *Oral Health in America: A Report of the Surgeon General*, demonstrates the need for oral health care, the impact of poor oral health on individuals, communities, and society at large, and the disproportionate burden of oral diseases and conditions among the United States population.<sup>1</sup> As the term is used in this position statement, need for oral care is based on whether an individual requires clinical care or attention to maintain full functionality of the oral and craniofacial complex. The disproportionate burden of oral diseases and disorders indicates that specific population groups are in greater need of oral health care. Demand is generally understood as the amount of a product or service that users can and would buy at varying prices. The extent of oral health care disparities clearly indicates that many of those in

need of oral health care do not demand oral health care. While universal access to oral health care is frequently identified as an admirable goal, practical considerations often lead to the conclusion that it is, in fact, unattainable given present resources. Currently in the United States, the provision of health care services, including oral health care services, is treated like a manufactured commodity, with access, price, and quality subject to the incentives that dictate a competitive marketplace. In such a marketplace economy, the variety of factors influencing demand gives way to one major factor: the ability to pay for services rendered.

Health care, and by implication, oral health care, should be treated differently than marketplace commodities. First, oral health is a part of general health. Health is a human good experienced by all humans, vital to human flourishing and basic to the pursuit of life, liberty, and happiness. Secondly, the science and knowledge about oral health are not the property of any individual or organization; rather, society grants individuals the opportunity to learn at academic dental institutions with an assumed contract that this knowledge will benefit the society that granted the opportunity to obtain it. Thirdly, the practice of all health care is based on the commitment to the good of the patient. To ensure that those in need receive care, attention must focus on the variety of barriers that limit access to oral health care and thereby negatively affect demand—barriers such as knowledge and values, availability of care, ability to pay and lack of insurance, and state laws and regulations that unnecessarily restrict access to care.

The underlying barrier to good oral health for the underserved is an oral health care system that has changed little over the past century. The traditional model of oral and dental care, namely that of the solo practice dentist assisted by allied dental personnel providing care under the dentist's supervision, is no

longer adequate to address the nation's oral health needs. As academic dental institutions, the dental profession, policymakers, and other stakeholders reconsider the delivery system, the traditional model of oral and dental care will continue to serve an important role in meeting the nation's oral health needs, but a number of other models must be supported, developed, and employed to ensure oral health care for all Americans. The separation of oral health from systemic health in the U.S. health care system has resulted in a disciplinary chasm between oral health providers and the rest of medical care to the detriment of the patient, especially the underserved. This system must be challenged and changed. Academic dental institutions provide not only an alternative model through their clinics, but they also play a basic role in developing new models and recruiting future providers to work within these practice settings.

## Access to Oral Health Care: Guiding Principles for Academic Dental Institutions

The goal of ensuring access to oral health care for all Americans follows from the concept of the American society as a good society, from the role of academic dental institutions in meeting the common good, and from the moral responsibilities of the professional community of oral health providers. The good society can be understood as one that relies on a moral infrastructure—families, schools, communities, and other institutions—and informal social controls to promote substantive values.<sup>2,3</sup> Members of the good society are expected to contribute to causes that improve all of society rather than merely acting out of self-interest. Social institutions such as family and schools help to form the backbone of the good society. While the United States does not always meet these expectations, arguably it was the intention of the Founders and remains a national purpose that both our leaders and other members of society fulfill social responsibilities for the good of the whole.

Higher education in the United States was conceived as a social investment for the common good.<sup>4</sup> As professional schools, including academic dental institutions, became a part of universities, they too accepted the responsibility to serve the common good.<sup>5</sup> In recent years, this social purpose has come under scrutiny from the public who often perceive the university's self-interest as outweighing the concern for the public good.<sup>6-8</sup> The lack of an

identifiable, public good agenda is one reason for the public's loss of confidence in higher education. Both the university and the dental school and other academic dental institutions must establish goals for the common good, which, for the dental school, include improving access to and appropriate use of oral health care.<sup>9</sup>

The dental profession, including academic dental institutions, constitutes a "moral community," a community "whose members are bound to each other by a set of commonly held ethical commitments and whose purpose is something other than mere self-interest."<sup>10</sup> Moral purpose arises from the nature of the activity in which the members of the community engage. There are four aspects of medicine, which apply equally to dentistry, as a special kind of human activity that give moral status to individual members and collectively to the profession<sup>10</sup>:

1. **Vulnerability and inequality.** The vulnerability of the sick person and the consequent inequality that it produces in the provider-patient relationship is a fundamental result of illness. Without access to special knowledge and skill, the person in need loses freedom to pursue life's goals, to make his or her own decisions, and to help oneself. The provider has a professional and hence moral obligation to protect the patient in this vulnerable condition and to act in the best interest of the patient.
2. **The nature of medical decisions.** Medical decisions, including those made by dentists, are both technical and moral. In seeking the patient's good, the provider must respect the patient's moral beliefs and requests. At times, the provider is confronted with a conflict between the patient's physical well-being and the patient's values. Providing culturally competent care is an example of the unique interaction between technical skill and personal values that belongs to the healing professions.
3. **The nature of medical knowledge.** The nature of medical knowledge creates an obligation in those who acquire and possess it. First, it is practical knowledge for the express purpose of caring for the sick. Secondly, through health professions education, especially that in the context of clinical care and its accompanying risks and opportunities, society grants the health professional the privilege to obtain special knowledge. Society also funds health professions education in unique ways, substantially different from its funding of other areas of higher education and professional education. There is an assumed contract between

the learner and society that this knowledge will benefit the society that granted the opportunity. Lastly, as with the medical profession, the dental profession manages knowledge and its application through accreditation and by establishing standards and institutions that safeguard the public.

4. **Moral complicity.** Policies, regulations, and decisions affecting the patient are managed by the oral health provider, most often the dentist. In most settings the dentist is the final safeguard of the patient's well-being and thereby the de facto moral accomplice in whatever is done that affects the patient.<sup>10</sup> Such moral complicity characterizes the place of the dentist and any other oral health professional who might presently or in the future lead the oral health team.

As a part of this moral community, academic dental institutions play a fundamental role in inculcating values that frame the dental profession's societal obligations. Academic dental institutions must prepare students to enter the oral health care profession as a member of a moral community. Being a part of this community not only means placing the interest of the patient above economic self-interest, but also participating in the organized profession.

Guiding principles as a philosophy of oral health care have an enduring quality that transcends immediate problems and issues to shape the beliefs and values of the academic dental community and the professionals it educates. The following general principles are proposed to guide academic dental institutions in pursuit of their missions of education, research, and outreach to improve the oral health status of all Americans:

- **Access to basic oral health care is a human right.**

A human right is a claim that persons have on society by virtue of their being human. In the good society, individuals have a moral claim to oral health because oral health is a necessary condition for the attainment of general health, well-being, and the pursuit of other basic human rights acknowledged by the society as its aims and to which, therefore, the society is already committed. The corollary of a right is a duty. The duty to ensure basic oral health for all Americans is a shared duty that includes federal, state, community, public, and private responsibilities. The dental profession, including academic dental institutions, as the moral community entrusted by society with knowledge

and skill about oral health, has the duty to lead the effort to ensure access for all Americans.

- **The oral health care delivery system must serve the common good.**

Society grants the health professions a large degree of self-regulation and governance. In return, there is an implicit contract and obligation to serve the public good. Professionalism demands placing the interest of patients above those of the profession. Economic market forces, societal pressures, and professional self-interest must not compromise the contract of the oral health provider with society. The objective of the oral health care system should be a uniform basic standard of care accessible to all.

- **The oral health needs of vulnerable populations have a unique priority.**

Every person has intrinsic human dignity. Oral health professionals must individually and collectively work to improve access to care by reducing barriers. The equitable provision of oral health care services demands a commitment to the promotion of public health, prevention, public advocacy, and the exploration and implementation of new models that involve each oral health professional in the provision of care.

- **A diverse and culturally competent workforce is necessary to meet the oral health needs of the nation.**

The workforce of the future must be prepared to meet the needs of a diverse population. Academic dental institutions have a distinct responsibility to educate dental and allied dental professionals who are competent to care for the changing needs of our society. This responsibility includes preparing providers to care for an aging population, a racially and ethnically diverse population, and individuals with special needs. In so doing, academic dental institutions can anticipate and address unmet oral health needs in underserved populations.

These guiding principles are reflected in the major considerations for improving the oral health status of all Americans that follow.

## Anticipating Workforce Needs

Over the past forty years, dental schools have responded to federal construction and capitation grants, perceived shortages and surpluses of dentists, and increases and decreases in dental school applicants. While the adequacy of the aggregate number of dentists to meet the nation's oral health needs is unclear,

disparities are prominently reflected in the geographical distribution of dentists. Dental schools and other academic dental institutions have responsibilities in ensuring a workforce of quality, size, composition, and distribution such that it has the capability of meeting the oral health requirements of all groups of society. While dental schools are a national resource, individually, the schools have a tendency to supply specific states with their dental workforce. Thus, dental schools manage the supply of dentists and influence the availability of care and access to care primarily in the areas they supply with dentists.

Anticipating and meeting workforce requirements and addressing disparities in access to care can best be approached by schools if they understand the workforce requirements of the areas they primarily supply, anticipate the resources necessary to fulfill expectations, and give leadership to the initiatives essential to achieving workforce goals over which they have a sense of responsibility and control. Allied dental education programs are likewise positioned to monitor workforce requirements in the areas they serve. Dental specialty programs and advanced programs must give careful attention to national trends, working closely with their parent institutions, the practicing community, accrediting bodies, and other stakeholders to meet the need for providers.

Traditionally, the primary focus of dental education is to prepare students to enter a private practice dental office. As academic dental institutions consider future workforce requirements, the curriculum should be examined in the light of different points of entry into dental practice. Such a process should include education about the needs of special groups such as the very young, the aging, the physically disabled, the medically compromised, and the underserved and how to render culturally competent care. The process should involve strong guidance in the professional socialization of future practitioners and encourage students to practice in underserved areas and to participate in outreach programs and community service.<sup>11</sup> Learning about public health issues and developing public health competencies are important components of the educational experience.<sup>12</sup> Practical steps include exposing students to the delivery of care in a community-based setting as early as possible in the educational process. Ideally, these community-based programs are a part of an integrated health system involving dental teams and nontraditional providers such as primary care physicians and nurses.

## The Patient Care Mission of Academic Dental Institutions

Patient care is a distinct mission of academic dental institutions. Academic dental institutions—dental schools, hospital-based and other advanced dental education programs not based in dental schools, and allied dental education programs—have played and will continue to play a vital role in reaching the underserved. Oral health care at academic dental institutions has grown from care incidental to students gaining clinical competence in a variety of entry-level procedures to the institutions' serving as providers of comprehensive dental care. As with medical schools and other parts of the academic health center, efficiently delivered patient-centered care is necessary for academic dental institutions to compete for and retain a patient pool for students and residents and to improve clinic and institutional productivity and revenues. At many academic dental institutions, patient care is a mandated responsibility of the parent institution as they are expected to more directly contribute to the benefit of the community as a whole, in part as exchange for the amounts of public dollars received from state and federal sources and in part as fulfilling the public trust society has granted the health professions. Academic dental institutions have moved to more efficient patient management systems, greater use of off-site clinic facilities and community-based programs of care, and an increased responsiveness to societal priorities.

Residency training clinics are a major source of dental services for underserved populations. The regulations that govern Graduate Medical Education (GME) funding for the training and education of dental residents in outpatient clinics also allow funding for stipends, benefits, and teaching costs for residents who work in community clinics. Currently, there are electronic distance education curricula under development that would allow community clinics to offer accredited programs without the need to develop a complementary didactic program, creating additional residency positions. Dental schools should encourage graduates to pursue a year of service and learning that would not only make the students more competent to provide increasingly complex care, but also serve to improve access to oral health care. ADEA should monitor the feasibility of requiring a year of advanced dental education for all dental graduates. If feasible, advocate that all dental graduates participate in a year of service and learning in an accredited PGY-1 program.

If regulatory bodies move further toward legislation that supports a year of postdoctoral education, as has recently happened in the State of New York, most of the new residency positions are likely to be created in community health centers, including rural health clinics, county health departments, and similar public health programs. These entities are a major source of oral health care for underserved populations. Dental education leaders must frequently inform and remind state legislatures of the importance of residency training in clinics where traditionally underserved populations seek care. ADEA, other organized dental associations, and academic dental institutions must continue to advocate for funding to increase dental residency positions and for loan forgiveness to ease the financial burden for dental graduates participating in these programs.

As academic dental institutions consider their patient care mission, there is one important caveat that they, the dental profession, policy makers, and other stakeholders must carefully consider: academic dental institutions alone cannot solve the access to care problems. Partners in addressing access must necessarily include the private practice community, community health centers, and state and federal policy makers. The role of academic dental institutions as a safety net should not diminish their academic purpose. Academic dental institutions have the unique role in society of educating oral health professionals, generating new knowledge, conducting and promoting basic and applied research, and providing patient care to advance education, research, and service to their communities. If forced to choose between their academic mission and their role as a safety net for the underserved, academic dental institutions must put more effort into their academic mission than in improving access. As a safety net for the underserved, academic dental institutions can be supported and even replaced by nonacademic providers and institutions. What others cannot replace is the defining academic purpose that dental schools and advanced dental education programs play in our society.

## Improving Access Through a Diverse Workforce

The racial and ethnic composition of the U.S. population is projected to change significantly over the next fifty years. By the middle of this century, the Black/African American population will increase from 12.1 to 13.6 percent, and Native Americans will

increase from 0.7 to 0.9 percent. Asian/Pacific Islanders will increase from 3.5 to 8.2 percent. The most significant increase will be in the Hispanic/Latino population, from 10.8 to almost 25 percent of the U.S. population. The White/Caucasian population will decline from about 73 to 53 percent.<sup>13</sup> Currently, about 14 percent of professionally active dentists are non-white, with almost 7 percent Asian/Pacific Islander, 3.4 percent Black/African American, 3.3 percent Hispanic/Latino, and 0.1 percent Native American. About 30 percent of dentists under the age of forty are non-white. However, less than one-half of these minority dentists under forty years of age are Black/African American, Hispanic/Latino, or Native American.<sup>14</sup>

Physician studies have shown that minority physicians can improve access to medical care and are “more likely than white doctors to serve in communities where there is a shortage of physicians, and to treat minority, sicker, and poorer patients.”<sup>15</sup> Other data corroborate that minority dentists are more likely to care for minority patients.<sup>16</sup> Presumably, minority patients are more comfortable seeing providers of the same ethnic and racial group. Perhaps this level of comfort is found in the ability of minority providers to give more culturally sensitive care. Assuming that increasing the number of minority health care providers will increase the use of health care services by minority groups,<sup>15,17-19</sup> actions must be taken to secure the oral health of the nation in the decades to come through a diverse workforce.

While the percentage of minority dental students has significantly increased since 1980, from about 13 to 34 percent, this increase is primarily due to the growth in the number of Asian/Pacific Islander students. The number of Asian/Pacific Islander students grew from 5 percent of first-year enrollees in 1980 to nearly 24 percent of the 1999 first-year enrollees. The number of underrepresented minorities, defined as racial and ethnic populations that are underrepresented relative to the number of individuals who are members of the population involved,<sup>20</sup> has grown less than three percentage points during the same time period. Year 2000 saw minor increases in the underrepresented minority student enrollment for both Black/African American (4.79 percent from 4.68 percent in 1999) and Hispanic (5.33 percent from 5.28 percent in 1999) students.<sup>21</sup> The only group that approached parity with its representation in the U.S. population is Native Americans. In 2000 this group was 0.65 percent of dental enrollment and 0.7 percent of the U.S. population.

Current ADEA policy strongly endorses the continuous use of recruitment, admission, and retention practices that achieve excellence through diversity in American dental education.<sup>22</sup> However, in spite of concerted efforts to recruit underrepresented minorities to careers in dentistry, there has been little increase in the size of the underrepresented minority dental applicant pool over the last ten years. The challenge is made difficult because of a lower proportion of underrepresented minorities in post-secondary institutions, which in turn is caused by lower high school completion rates, attendance at primary and secondary schools with poor academic standards, lack of preparation in science and math, too few mentors, and the lack of access to other educational and career opportunities.

Among the strategies that require more attention are the early identification and development of students who are likely to pursue careers in the health professions. Major efforts are needed to strengthen the academic pipeline. National organizations must explore the development of a database of students who are successful achievers in math and science. Model programs such as the National Science Foundation program that focuses on strengthening math and science skills of middle and high school students should be duplicated. The Bureau of Health Professions' Health Careers Opportunity Program (HCOP), Centers of Excellence (COE), and the Kids into Health Careers Program provide excellent opportunities to inform minority and economically disadvantaged students and parents about careers in the health professions. Ultimately, this program should improve overall access to health for underrepresented minorities and other disadvantaged populations by increasing the minority applicant pool for health professions education. Academic dental institutions can promote dentistry through outreach and involvement of children and youth in their communities through early contact programs.

Each academic dental institution can help identify and share strategies in mentoring, recruitment, minority faculty development, admissions process review, and cultivating a better image of oral health professions among minority youth. Academic dental institutions and national dental associations in cooperation with partnering organizations, including other health professions organizations at the national, state and local levels, private foundations, special interest and advocacy groups such as the National Congress of Black Churches, the Congressional Hispanic Caucus, the Congressional Black Caucus, the Na-

tional Association for the Advancement of Colored People, public education, and the federal and state governments, must continue to promote the value of diversity as related to quality of care, to inform minority groups about the opportunities and rewards of a career in oral health care, and to encourage minority youth to prepare for and apply to dental school and other academic dental programs. Finally, as academic dental institutions, the practicing community, other stakeholders in the delivery of health care, and their national organizations interact with policy makers at both the state and federal level, there continues to be a need to reframe the argument for affirmative action based on the common good.

## Types of Oral Health Providers

The current oral health workforce has a reserve productive capacity through the utilization of allied dental professionals. As the ratio of dentists to population declines and as the demand for or need of dental services increases, in the national aggregate or through programs to bring oral health care to underserved population groups or areas, there will be need to draw upon this reserve capacity and even expand productive capacity through a more extended use of allied dental professionals. Tapping into this reserve capacity must not only include a more intensive utilization of allied dental personnel, but the examination of new roles and responsibilities, in a less restrictive delivery system, that would further augment the output of the dental team and extend the availability of oral health care. As has been well documented, extended utilization of allied health personnel is one way to increase the efficiency of health care delivery and the availability of care.<sup>23-29</sup>

One of the major obstacles to full utilization of allied dental professionals is state laws and regulations that limit practice settings and impose restrictive supervision requirements. The level of supervision should reflect the education, experience, and competence of the allied dental professional. At present, many state practice acts do not reflect what allied dental professionals have been educated to do competently. While academic dental institutions cannot themselves effect a change in the laws and regulations, they are often positioned to influence the elimination of regulatory language that unnecessarily restricts the services provided by allied dental professionals. More specifically, the leadership of academic dental institutions is positioned to inform legislative leaders and state board members about

ways that dental assistants, dental hygienists, and dental laboratory technicians can contribute to alleviating the access to oral health care problems in their communities and states. To ensure the competence of allied dental professionals, the academic dental education community must continue to support accredited programs and nationally recognized certification for dental assistants, dental hygienists, and dental laboratory technicians.

As pressure mounts on policy makers to improve access to oral health care, it is likely that state practice acts will become less restrictive, especially for dental hygienists who have graduated from accredited programs and are licensed. Academic dental institutions, including those community and technical colleges, should monitor how these developments are evolving in the states they serve. Educational programs should anticipate these changes so that allied dental graduates will be prepared to provide expanded care in unconventional settings. For example, dental hygienists should be prepared to assume new roles as oral health educators, providing educational services, oral health training programs, and oral health screenings without supervision. Dental hygienists have new roles to play in the treatment of periodontal disease. Dental assistants should carry out extended functions that can further increase the productivity of the dental team and facilitate access to oral health care. Dental laboratory technicians must be prepared for emerging roles in the light of scientific advances in biomimetics and bioengineering. The evolving roles of allied dental professionals underscore the need for quality education through accreditation and the recognition of professional competence through certification.

The attitudes and behaviors of superior team performance are learned best in the context of the provision of care with other health care professionals. Interdisciplinary courses and activities, especially with dental students and even with nontraditional providers such as physicians and other primary care providers, and greater involvement in community health care delivery systems are critical steps to prepare the future allied dental workforce. Students should experience integrated care in an efficient delivery system.

## **Nontraditional Providers of Oral Health Care**

Of the fifty-five accredited U.S. dental schools, forty-four are part of academic health centers. Spe-

cialty programs, general dentistry and Advanced Education in General Dentistry programs, and allied programs are well ensconced in a variety of settings that provide opportunities for interaction with other health professions. Academic dental institutions are well positioned to educate other health professionals about oral health. One way to foster this integration is to provide students with clinical experiences in public dental clinics that are integrated into larger medical clinics. Dental schools could initiate interaction among dental students, medical students, and other primary care practitioners not merely in the basic sciences, but also in clinical practice. Not only must primary care practitioners learn to be a part of the oral health team, dentists must become more involved in assessing the overall health of their patients through screening, diagnosis, and referral. No single health profession, including dentistry, can solve the access to oral health care problem alone.

## **Summary of Roles and Responsibilities**

With the communities of dental education, regulation, dental practice, and other health professions working together, in conjunction with public and private policy makers and partnerships, the oral health care needs of the underserved will be met, thereby ensuring access to quality oral health care for all Americans. In summary, academic dental institutions can work to this end most effectively by discharging these roles and responsibilities:

- Preparing competent graduates with skills and knowledge to meet the needs of all Americans within an integrated health care system;
- Teaching and exhibiting values that prepare the student to enter the profession as a member of a moral community of oral health professionals with a commitment to the dental profession's societal obligations;
- Guiding the number, type, and education of dental workforce personnel to ensure equitable availability of and access to oral health care;
- Contributing to ensure a workforce that more closely reflects the racial and ethnic diversity of the American public;
- Developing cultural competencies in their graduates and an appreciation for public health issues;
- Serving as effective providers, role models, and innovators in the delivery of oral health care to all populations; and

- Assisting in prevention, public health, and public education efforts to reduce health disparities in vulnerable populations.

## REFERENCES

1. Oral health in America: a report of the surgeon general. Rockville, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Institute of Dental and Craniofacial Research, 2000.
2. Etzioni A. Law in civil society, good society, and the prescriptive state. *Chicago Kent Law Review* 2000;75:355–77.
3. Etzioni A. The good society. *J Political Philosophy* 1999;7:88–103.
4. Rudolph A. *The American college and university: a history*. Athens: University of Georgia Press, 1990.
5. Valachovic RW, Machen B, Haden NK. The value of the dental school to the university. In: Haden NK, Tedesco LT, eds. *Leadership for the future: the dental school in the university*. Washington, DC: American Association of Dental Schools, 1999:6–13.
6. Bok D. Reclaiming the public trust. *Change*, July/August 1992:13–9.
7. Alfred RL, Weissman J. Higher education and the public trust: improving stature in colleges and universities. ASHE-Eric Higher Education Research Report, No. 6, 1987.
8. Delattre EJ, Bennet WJ. Education and the public trust: the imperative for common purposes. Washington, DC: Ethics & Public Policy Center, January 1988.
9. DePaola D. Beyond the university: leadership for the common good. In: Haden NK, Tedesco LT, eds. *Leadership for the future: the dental school in the university*. Washington, DC: American Association of Dental Schools, 1999:94–102.
10. Bulger RJ, McGovern JP, eds. *Physician philosopher: the philosophical foundation of medicine—essays by Dr. Edmund Pellegrino*. Charlottesville, VA: Carden Jennings, 2001.
11. “Dental education institutions and programs should . . . Provide students with formal instruction in ethics and professional behavior, and make the students aware of acceptable professional conduct in instructional and practice settings. Institutions and programs should ensure that student clinical experiences foster ethical patient care . . . Offer programs that encourage students to serve in areas of oral health care need . . . Encourage students to participate in outreach programs and, upon graduation, to participate in community service.” ADEA Policy Statements, revised and approved by the 2001 House of Delegates. *J Dent Educ* 2002;66(7):840.
12. National Academy of Sciences, Institute of Medicine. *Unequal treatment: confronting racial and ethnic disparities in health care*. Washington, DC: National Academy Press, 2002.
13. Statistical abstract of the United States. Washington, DC: U.S. Department of Commerce, Economics and Statistics Administration, Bureau of the Census, 1998.
14. ADA Commission on the Young Professional. *A portrait of minority and women dentists*. Washington, DC: Decision Demographics, 1992.
15. Supernaw J. Fewer med school-bound minorities nationwide. *The Yale Herald, Inc.*, 1997. At: [www.yaleherald.com/archive/xxiv/11.14.97/news/med.html](http://www.yaleherald.com/archive/xxiv/11.14.97/news/med.html). Accessed: November 27, 2002.
16. 1996 dentist profile survey. Chicago: American Dental Association, 1997.
17. Canto JD, Miles EL, Baker LC, Barker DC. Physician service to the underserved: implications for affirmative action in medical education. *Inquiry* 1996;33:167–80.
18. Komaromy M, et al. The role of black and Hispanic physicians in providing health care for underserved populations. *N Engl J Med* 1996;16:1305–10.
19. Solomon ES, Williams CR, Sinkford JC. Practice location characteristics of black dentists in Texas. *J Dent Educ* 2001;65:571–8.
20. U.S. Health Resources and Services Administration, *Federal Register*, December 4, 1985.
21. Sinkford JC, Harrison S, Valachovic RW. Underrepresented minority enrollment in U.S. dental schools: the challenge. *J Dent Educ* 2001;65:564–70.
22. “The American Dental Education Association strongly endorses the continuous use of recruitment, admission, and retention practices that achieve excellence through diversity in American dental education. Dental education institutions should identify, recruit, and retain underrepresented minority students; identify, recruit, and retain women and underrepresented minorities to faculty positions; and promote women and underrepresented minorities to senior faculty and administrative positions. Dental education institutions should accept students from diverse backgrounds, who, on the basis of past and predicted performance, appear qualified to become competent dental professionals.” ADEA Policy Statements, revised and approved by the 2001 House of Delegates. *J Dent Educ* 2002;66(7):839.
23. Bureau of Primary Health Care. *Dental care access*. Washington, DC: HRSA, Office of State and National Partnerships, 2001. At: <http://bphc.hrsa.gov/OSNP/DentalCare.htm>. Accessed: November 27, 2002.
24. Position paper: access to care, 2001. American Dental Hygienists’ Association. At: [www.adha.org/profissues/access\\_to\\_care.htm](http://www.adha.org/profissues/access_to_care.htm). Accessed: November 27, 2002.
25. Chapko MK, Milgrom P, Bergner M, Conrad D, Skalabrin N. Delegation of expanded functions to dental assistants and hygienists. *J Dent Hygiene* 1993;67:249–56.
26. Cooper MD. A survey of expanded duties usage in Indiana: a pilot study. *J Public Health Dent* 1984;44:22–7.
27. Sisty NL, Henderson WG, Paule CL, Martin JF. Evaluation of student performance in the four-year study of expanded functions for dental hygienists at the University of Iowa. *Am J Public Health* 1978;68(7):664–8.
28. Illinois Center for Health Workforce Studies. *Access to dental care for low-income children in Illinois—report summary*, December 2000.
29. WWAMI Center for Health Workforce Studies. *Distribution of the dental workforce in Washington state: patterns and consequences—project summary*, November 2000.