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A NATIONAL DIALOGUE:
The Secretary of Education's Commission
on the Future of Higher Education

ISSUE PAPER

*Eighth in a series of Issue Papers released at the request of Chairman Charles Miller
to inform the work of the Commission*

PREPARING THE HEALTH WORKFORCE

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Introduction

At the request of Dr. Sullivan and the Chairman, I have engaged in a research project tangential yet still germane to the Commission's deliberations: the nexus between our system of higher education and the preparation of our health workforce. I have interviewed association heads and others in order to inform the Commission's work on the needs of the health professions as they relate to higher education. The purpose of this project is to inform you about the current status of our system of higher education in terms of preparing our physicians, nurses, dentists, and allied health professionals.

This memorandum is certainly not intended to encompass *all* aspects or perspectives of issues facing our health workforce—that topic could occupy another commission entirely; rather, this memo is intended to spark conversation and rumination about issues in the healthcare field that the Commission may want to address in the final report.

Background

A healthy nation depends on an adequate supply of well-educated and well-trained health professionals. As the demographics of the U.S. change with the baby-boom generation beginning to retire and the increasing cultural diversification of our society, the need for a stable or growing number of health professionals and a diverse workforce reflective of our population is increasingly important.

Many of the same access and affordability issues that the Commission has been studying also emerged in the interviews I conducted. The pipeline of physicians, nurses, dentists and other healthcare professionals is at times uneven, and may not meet the needs of the people who require care. Currently, there are shortages in certain physician specialties, a continued nursing shortage, and ongoing concerns about the future workforce's ability to meet the growing needs of the population.

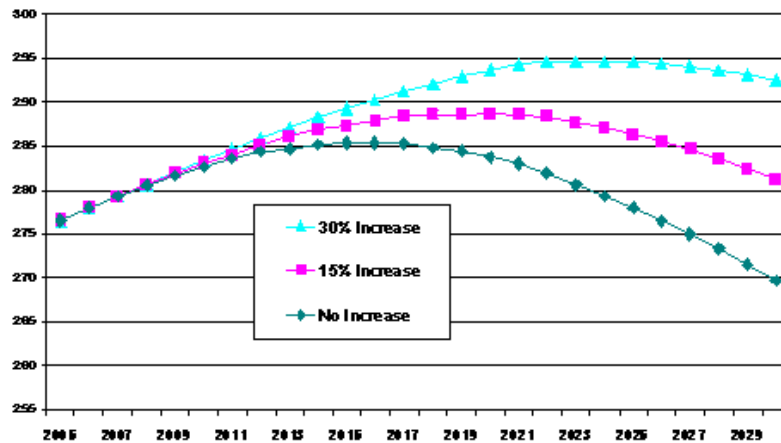
Discussion

The Bureau of Labor Statistics (BLS) projects that 16 of the 30 fastest growing jobs in the next decade will be in the health professions. There are several reasons for this—mainly demographic: 1) as the U.S. population ages there will be increased demand for health care services, 2) a wealthier population can pay for *more* health care services, and 3) new technologies can provide better diagnostic and treatment techniques (Hecker, 74). As highlighted in Appendix A, the demand for services in the following selected professions is expected to grow dramatically from 2004-2014: dentists: 13.5% increase; pharmacists: 24.6% increase; registered nurses (RNs): 29.4% increase; physicians: 24.0% increase.

Physicians

The Association of American Medical Colleges (AAMC), which represents accredited U.S. and Canadian allopathic medical schools, teaching hospitals, medical students, residents, and others, is concerned about a future physician shortage in the next decade because of demographic shifts in the U.S. population as well as demographic changes in the composition of the physician workforce (the major increase in medical school graduates beginning in the 1960s and 1970s is now nearing retirement). They have recommended to their membership that medical schools increase enrollment by 15% and are considering recommending a 30% increase by 2015 in order to meet the Nation’s future physician needs—as, they estimate, it can take approximately 15 years to affect the supply of physicians.¹

**Active Physicians per 100,000 Pop. 2005–2030
With and Without an Increase in MD Enrollment**



Includes residents and fellows.
Prepared by Center for Workforce Studies, AAMC, Mar 2008.

¹ An increase of 30% of capacity at medical schools would delay the point of maximum physician to population ratio peak for several years. This assumes that hours worked by younger physicians and retirement rates remain consistent with historical trends. If physicians retire earlier or if younger physicians work fewer hours, then the physician to population ratio will peak sooner. This also assumes continuation of the more than 6,000 international medical school graduates entering the U.S. medical care system each year (AAMC). In terms of time frames, it takes several years to add capacity (such as obtaining approval to increase enrollment, adding staff or space), plus 4 years of medical education and 3 to 8 years of training.

In addition, the projected physician shortage could be more acute if technological advancements in diagnostic machines, imaging systems and surgical instruments had not made the entire medical system increasingly efficient. One week to multi-week hospital stays have now been reduced to days or just outpatient procedures. Such technological leaps in efficiency might not occur in the future. The past and perhaps impending physician shortages have raised the stature and importance of physician assistants (PAs) and Nurse Practitioners (NPs). The BLS projects an increased demand for PAs by 49% in the next 8 years (see Appendix A). PAs work under the supervision of doctors and surgeons and often serve as primary care providers to rural, inner-city, and underserved communities. PAs are licensed to write prescriptions in 48 states and their training encompasses at least 2 years of college and passage of a national licensing exam.

Doctors of Osteopathic Medicine (DOs) are a small but growing percentage of doctors in the U.S.² Currently, they compose approximately 5 percent of the Nation's physician population but service approximately 10 percent of all primary care visits (AACOM, 2006). DOs, like MDs, attend 4 years of medical school and then complete a residency program, and there were approximately 2,900 DO graduates in 2005.

In addition to physician shortages, another issue in the medical community is the composition of the U.S. physician workforce. Currently, 25% of our physicians are graduates of international medical schools. Questions arise such as: To what extent should the U.S. be self-sustaining in providing healthcare workers for our own population? Do we have a moral imperative *not* to employ physicians from countries where their services and expertise are more desperately needed? Is the brain-drain of international physicians to the United States a severe hardship on their home countries?

Additionally, there has also been a huge increase of American students seeking training at off-shore, for-profit medical schools in the Caribbean and elsewhere (15 new schools in the past decade train approximately 2500 U.S. students annually). These schools accept Title IV funds but fall outside of the U.S. accreditation standards. Many of these students perform poorly on the U.S. medical licensing exam and are less likely to be board certified than other physicians. To what extent can we assure quality of education for these students?

Registered Nurses (RNs)

The United States has had a nursing workforce shortage since 1998 and it is the longest nursing shortage in modern times. The current shortage, like past shortages, has been characterized by classic economic factors: demand for nurses has increased, supply has not met the demand, and (thus) wages have risen. Additionally, nursing researchers note another economic factor that impacts nurses' staffing levels—the interplay of wage changes in the nurse labor market with changes in earnings and employment of an RN's spouse (Vanderbilt). The current shortage is (somewhat) more worrisome because part of the supply issue has been abated by an increase in older nurses returning to the workforce—rather than new, younger nurses filling the need. Younger nurses (age 35 and below) have not been entering the workforce at the same historical levels—

² Osteopathic medicine is a holistic approach to medicine which “promote[s] the body's innate ability to heal itself” (AACOM 2006). Approximately 60% of new osteopathic graduates go into allopathic graduate training.

partly because there are more career options for women and the nursing profession is still, mostly, composed of women.

The long-term projections for the nursing workforce are worrisome. The Department of Labor estimates that the United States will need 1.2 million new nurses by 2014—which will cause a shortfall between 400,000 and 800,000 nurses (Appendix A and Vanderbilt). Nursing schools have dramatically increased capacity in the last few years and many community college and university programs have *already* doubled capacity since 1999 when the nursing shortage garnered national attention. Both the American Association of Colleges of Nursing (AACN) and the American Association of Community Colleges (AACC) believe that the U.S. must expand capacity even further to meet the Nation's nursing needs. Three major impediments to increasing capacity are: a severe faculty shortage, lack of available clinical sites, and already filled admissions seats. Both of these organizations cite evidence of tens of thousands of qualified and interested nursing students who are turned away from programs due to lack of additional admissions slots and faculty shortages (over 38,000 from Bachelor of Science in Nursing (BSN) programs and 110,000 from Associate Degree in Nursing (ADN) programs) (AACN and National League of for Nursing (NLN)).

Associate Degree programs prepare approximately 60% of the Nation's new RNs each year and 63% of Allied Health Professionals (e.g. radiology technician, occupational therapist, audiologist, genetic counselor, etc.). Community Colleges and Associate Degree programs are often the entry point for many professionals in the health care field. For more than fifty years, the nursing community has debated what type of degree (BSN, Bachelor of Science (BS) or Associate Degree in Nursing (AND) is appropriate for practice as a registered nurse. Students who graduate with any of those degrees are eligible to sit for state licensing exams to become Registered Nurses upon successful passage of the exam.

Faculty

Both the nursing and dental communities are very concerned about the lack of professionals in their fields with advanced level degrees (Masters of Science in Nursing (MSN), PhD in nursing, PhD in dentistry) in order to train the next generation of students. In the nursing profession, AACN estimates that the vacancy rate for nursing faculty is 8.5% (or 817 positions); additionally, the average age of nursing faculty is 57—meaning that most of the current faculty will retire in the next decade (Vanderbilt). In short, there are too few nursing students who are pursuing MSN degrees or a doctorate (PhD or Director of Nursing Practice (DPN)) in nursing partly because there is a lack of financial incentive to become a nursing educator. One possible remedy for the nursing faculty shortage would be to provide incentives for qualified AA and BSN nurses to continue their nursing education by enrolling in RN to MSN programs. Currently there are 438 BSN to MSN programs (18-24 months), 143 RN to MSN programs (3 years) and 50 BSN to Doctoral programs (4-5 years) in the U.S.

The dental faculty shortage is due to several factors including: annual 10% turnover rate (approximately) among faculty, vacancies due to lack of response to position announcements, and budget/ salary limitations. Also, current faculty at dental schools will approach retirement in the next 10-15 years as both the mean and median ages of dental faculty are 52. Often if faculty positions cannot be filled, schools will eliminate the position altogether (Chmar et al, 189). The American Dental Education Association (ADEA) annually surveys the Nation's 56 dental schools—

and approximately half of the schools reported that they had difficulty fulfilling their mission due to the lack of dental faculty.

Diversity

A common currency of concern among the health professions is the continued lack of racial diversity of practitioners. The percentage of African-American, Hispanic, and Native-American health care practitioners is not close to proportional representation in the general population.

The lack of diversity can affect access to care and individual willingness to receive care. African-Americans, for instance, are the only racial/ ethnic group who are treated primarily by African-American dentists (Sinkford et al, 1999). ADEA believes that “without minority practitioners, access to care will be limited or absent in minority communities throughout the nation” (Sinkford et al, 1999). In short, there is a serious problem with under-representation and experts in the health professions recommended that more work needs to be done to increase the pipeline of minority students who apply to medical/ dental/ nursing school and persist in the health professions.

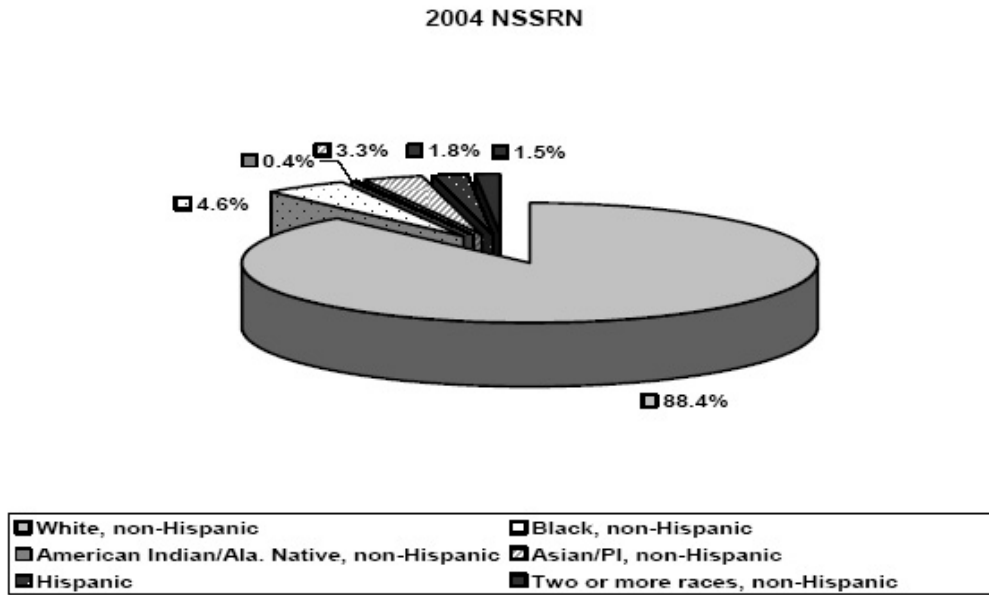
Minority³ dentists are approximately 5.8% of the active dental population (ADEA), minority nurses (please see chart below) are approximately 8.3% of the nursing population (BLS), and approximately 7% physicians are minorities (AAMC).⁴

All groups emphasized the urgent need to increase the minority participation rate of health care practitioners.

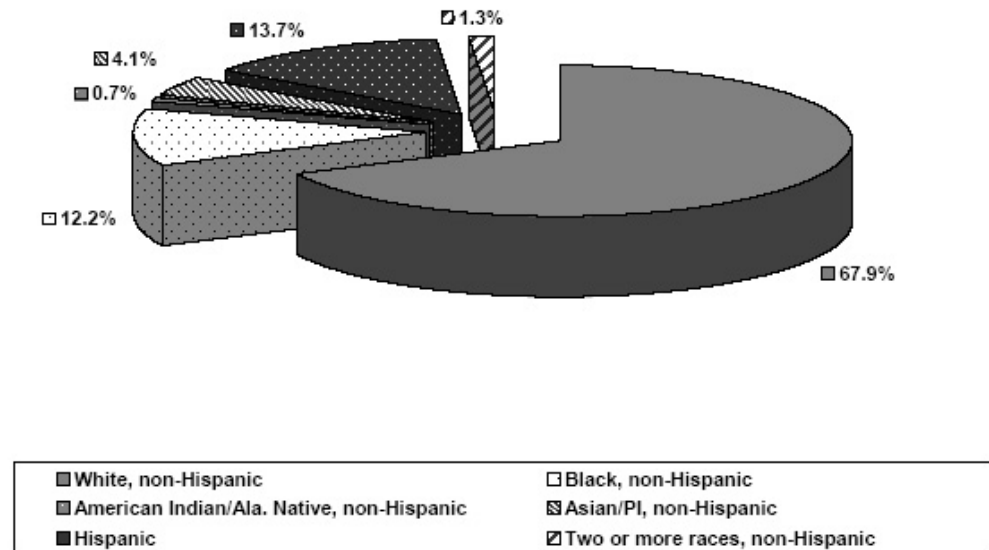
³ Minority groups in these statistics are: African-Americans, Native Americans, and Hispanics.

⁴ This number excludes the 25% of the physician workforce that is internationally trained. This number reflects American trained students who are currently practicing.

Chart 5. Distribution of Registered Nurses and the U.S. Population by Racial/Ethnic Background, 2004.



U.S. Population



**Source - Table 3: Annual Estimates of the Population by Sex, Race and Hispanic or Latino Origin for the United States: April 1, 2000 to July 1, 2004 (NC-EST2004-03). Population Division, U.S. Census Bureau. Release Date: June 9, 2005.*

Final Thoughts

To close, here are a couple of final thoughts on increasing access and confronting affordability issues in the health professions. Many groups posited the idea of expanding the National Health Service Corps and their loan repayment/ scholarship program to include more and other needed practitioners. This would, in their view, encourage more people to enter the health professions, help offset the cost because of the loan forgiveness program, and help expand access to needy people in the U.S. by placing these practitioners in critical areas.

Another specific recommendation involved a mechanism to expand access to funds for potential nursing faculty. Currently, there is little flexibility for allocation of funds in Title VIII of the Public Health Service Act (PHSA) for graduate education. Part of Title VIII forbids the Secretary of Health and Human Services from providing more than 10 percent of funding for traineeships to students pursuing doctoral degree programs in the nursing profession. Due to the severe faculty shortage in nursing, many nurses feel as though this would be an appropriate and needed change.

Appendix A

APPENDIX: Continued—Employment by occupation, 2004 and projected 2014

[Numbers in thousands]

2004 National Employment Matrix code and title	Employment				Change		Total job openings due to growth and net replacements, 2004-14 ¹
	Number		Percent distribution		Number	Percent	
	2004	2014	2004	2014			
27-4014 Sound engineering technicians	13	16	.0	.0	2	18.4	6
27-4021 Photographers	129	145	.1	.1	16	12.3	42
27-4030 Television, video, and motion picture camera operators and editors	49	56	.0	.0	8	16.0	18
27-4031 Camera operators, television, video, and motion picture	28	32	.0	.0	4	14.2	10
27-4032 Film and video editors	20	24	.0	.0	4	18.6	8
27-4099 Media and communication equipment workers, all other	19	23	.0	.0	3	17.0	7
29-0000 Healthcare practitioner and technical occupations	6,805	8,561	4.7	5.2	1,756	25.8	3,047
29-1000 Health diagnosing and treating practitioners	4,190	5,330	2.9	3.2	1,140	27.2	1,960
29-1011 Chiropractors	53	64	.0	.0	12	22.4	22
29-1020 Dentists	150	171	.1	.1	20	13.5	46
29-1021 Dentists, general	128	145	.1	.1	17	13.5	39
29-1022 Oral and maxillofacial surgeons	6	7	.0	.0	1	16.2	2
29-1023 Orthodontists	10	11	.0	.0	1	12.8	3
29-1024 Prosthodontists	1	1	.0	.0	0	13.6	0
29-1029 Dentists, all other specialists	5	6	.0	.0	1	12.2	1
29-1031 Dietitians and nutritionists	60	69	.0	.0	9	18.3	22
29-1041 Optometrists	34	40	.0	.0	7	19.7	16
29-1051 Pharmacists	230	267	.2	.2	57	24.6	101
29-1050 Physicians and surgeons	567	702	.4	.4	135	24.0	212
29-1071 Physician assistants	62	93	.0	.1	31	49.6	40
29-1091 Podiatrists	10	12	.0	.0	2	16.2	4
29-1111 Registered nurses	2,394	3,096	1.6	1.9	703	29.4	1,203
29-1120 Therapists	509	647	.3	.4	138	27.1	237
29-1121 Audiologists	10	11	.0	.0	1	9.1	3
29-1122 Occupational therapists	92	123	.1	.1	31	33.6	43
29-1123 Physical therapists	155	211	.1	.1	57	36.7	72
29-1124 Radiation therapists	15	19	.0	.0	4	26.3	7
29-1125 Recreational therapists	24	26	.0	.0	1	5.7	7
29-1126 Respiratory therapists	94	120	.1	.1	27	28.4	57
29-1127 Speech-language pathologists	96	110	.1	.1	14	14.6	38
29-1129 Therapists, all other	24	28	.0	.0	4	15.0	9
29-1131 Veterinarians	61	71	.0	.0	11	17.4	25
29-1199 Health diagnosing and treating practitioners, all other	72	88	.0	.1	16	22.5	32
29-2000 Health technologists and technicians	2,494	3,066	1.7	1.9	592	23.7	1,038
29-2010 Clinical laboratory technologists and technicians	302	371	.2	.2	69	22.7	150
29-2011 Medical and clinical laboratory technologists	156	188	.1	.1	32	20.5	74
29-2012 Medical and clinical laboratory technicians	147	183	.1	.1	37	25.0	76
29-2021 Dental hygienists	158	226	.1	.1	68	43.3	82
29-2030 Diagnostic related technologists and technicians	287	353	.2	.2	75	26.3	129
29-2031 Cardiovascular technologists and technicians	45	60	.0	.0	15	32.6	23
29-2032 Diagnostic medical sonographers	42	57	.0	.0	15	34.8	23
29-2033 Nuclear medicine technologists	18	22	.0	.0	4	21.5	7
29-2034 Radiologic technologists and technicians	182	224	.1	.1	42	23.2	76
29-2041 Emergency medical technicians and paramedics	192	244	.1	.1	52	27.3	74
29-2050 Health diagnosing and treating practitioner support technicians	514	641	.4	.4	127	24.8	194
29-2051 Dietetic technicians	25	30	.0	.0	5	19.1	8
29-2052 Pharmacy technicians	258	332	.2	.2	74	28.6	107
29-2053 Psychiatric technicians	61	63	.0	.0	2	3.2	10
29-2054 Respiratory therapy technicians	25	26	.0	.0	1	3.3	4
29-2055 Surgical technologists	84	109	.1	.1	25	29.5	36
29-2056 Veterinary technologists and technicians	60	81	.0	.0	21	35.3	29
29-2061 Licensed practical and licensed vocational nurses	726	850	.5	.5	124	17.1	262
29-2071 Medical records and health information technicians	159	205	.1	.1	46	28.9	69
29-2081 Opticians, dispensing	66	75	.0	.0	9	13.6	21

See footnotes at end of table.

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