

# Medical Education Digest



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## Projections Through 2025 Regarding the Supply and Demand of Physicians

If the continuation of current supply, use, and demand patterns is assumed, the supply of physicians will not be able to keep up with the projected increase in demand according to a November 2008 Association of American Medical Colleges (AAMC) study. The AAMC projects that by using these assumptions, by 2025 there will be a shortage of 124,000 physicians.

However, another plausible set of assumptions projects a shortage of 159,300 full-time equivalent physicians. Furthermore, while increasing the number of U.S. physicians is necessary, it will still not be sufficient even with the expected enrollment increases and expansions in graduate medical education (GME). Over time, the nation is likely to experience a physician shortage, and while the supply will increase, the demand for physicians will grow more sharply. Demand for specialties that predominantly serve older people (e.g., oncologists) also will increase dramatically.

Between 2006 and 2025, the U.S. population is projected to grow by more than 50 million, which will further increase demand for physicians. Demand could also double if patient visit rates by age continue to increase, especially with the more rapidly growing population age 75 and over. In addition, the AAMC report projects that universal health care could add an additional 4 percent to physician demand, increasing the number of physicians needed by another 31,000 or 25 percent.

The AAMC suggests that if physician assistants and nurse practitioners could play a larger role, they would reduce future demand for physicians. A major increase of GME capacity from 25,000 to 32,000 new entrants yearly would only reduce the projected 2025 shortage by 54,000 physicians. The AAMC recommends that efforts should continue to increase the capacity of medical schools and the availability of GME positions. The organization also suggests using non-physician clinicians and other health professionals more effectively. Providing more flexible scheduling and part-time work also should be considered. Finally, collaboration among health professions organizations on data and workforce studies is recommended in the AAMC study.

*(Dill MJ, Salsberg ES. The complexities of physician supply and demand through 2025-Center for Workforce Studies. Association of American Medical Colleges. November 2008.)*

## Communicating Impending Death to Patients

Regardless of the difficulty of end-of-life discussions, disclosure of cancer diagnoses to patients has been the "well-recognized norm since the 1970s" according to a November 2008 study in the *Journal of Clinical Oncology*. Nevertheless, 58 percent of respondents reported they had no formal education on prognosis communication. There can be many benefits for patients if they know their prognosis, say the study authors. Previous studies have shown that it can help with appropriate treatment choices, informed health care decisions, and less emotional distress. It was noted that the timeframe for communicating a prognosis occurs in a period of "some amount of anticipation," with median survival times of 9 to 12 months for many advanced cancer patient populations. Among 42 percent of 700 physician oncologists who reported receiving education on prognosis communication, training took place during residency (56 percent), subspecialty fellowship training (27 percent), continuing medical education (23 percent), medical school (8 percent), or in another setting (10 percent). Nearly one third of respondents (27 percent) said the teaching had been inadequate. Notably, the respondents overwhelmingly believed (96 percent) that education on prognosis communication should be part of cancer-care training.

*(Mulcahy N. Medscape Medical News. December 3, 2008.)*

# Fair Decisions for Medical School Faculty Promotion



**D**oes it make sense that criteria for faculty promotion be applied consistently for comparable faculty positions? Documents that describe institutional policies for appointment,

promotion, and tenure (APT) are generally titled guidelines or principles rather than rules. Among the questions are whether a faculty candidate's accomplishments should be evaluated the same way based on his/her suitability for advancement such as the number of peer-reviewed papers, number of courses developed, and number of invitations to speak at national conferences. Another method could be the faculty candidate's accomplishments addressing a set of goals such as innovation and intellectual leadership.

APT decision-making requires expert deliberation and professional judgment. This is based on one or more sets of overarching goals such as the traditional goals of scholarship and institution-specific goals. One set of rules does not encompass the complexity needed for judging accomplishments in research, clinical care, and current educational practice. Another question is whether fairness applies to the faculty member being assessed, the entire faculty, society, or the dean of the medical school. While one may answer yes to all of these, it may not always be possible to be fair to all these individuals or groups.

Perhaps the issue of fairness is best made by an experienced APT committee that can assess this set of complex issues. Another issue is the one of consistency and whether decisions can be made from a set of coherent integrated goals as opposed to predefined rules without exceptions. If a decision can be made simply by using an algorithm, then a committee really is not needed. APT committees would best be able to have a process that fosters creativity over conformity and rewards original thought, innovative ideas, and intellectual leadership. The process should cultivate the talent needed to advance knowledge in medicine and biomedical sciences. There also should be a process in place that includes a program where junior faculty members can observe a promotion committee meeting.

*(Kanter SL. Does the consistent application of criteria for faculty promotion lead to fair decisions? Academic Medicine. 8(10):891-892;2008.)*

# Proposed "Grand Challenges" for AAMC Medical Education

**T**he Association of American Medical Colleges (AAMC) November 2008 Annual Meeting in San Antonio, Texas, included a session on Grand Challenges in Academic Medicine. These are statements of problems thought to be solvable in a foreseeable time period through applying increases in knowledge and/or major breakthroughs in technical capacity. They encompass the full spectrum of academic medicine, including

- fundamental precepts
- far-reaching policy
- organ systems
- sociocultural systems
- understanding our past to shaping the future

Among the proposed challenges noted by the AAMC were issues involving education policy and practice, health and science policy, institutional policy, management and values, research practice, and clinical practice. The challenges within education policy and practice address the improvement of K-12 education with an emphasis on critical thinking and problem-solving as opposed to knowledge. Admissions had a focus on student selection looking at emotional and personal qualities. Concern regarding the cost of medical education addressed a number of issues. The most addressed was curriculum and training. Among the challenges in this area was the use of adult principles in medical education so there is a learner-centered environment and training in critical-thinking skills. Another area was the issue of reconsidering the four-year curriculum. The encouragement of students to be more independent and teachers to be more dispensable was also addressed.

In addition, the notion of patients and their families conceptualizing, teaching, and evaluating curricula so medical students learn patient-centered knowledge, skills, and attitudes was listed as a proposed challenge. The proposed challenges also identified the importance of opportunities for interdisciplinary education to create teams with an understanding of their respective needs. Evaluating individual students reliably using practical methods also was a focus. Finally, being able to have an infrastructure to allow the tracking of students up to and including practice was proposed.

*(Kramer SI. Question of the year: what are the grand challenges in academic medicine today? Editor's Notepad. AAMC. December 2008.)*

# Analyzing Medical School Applicant Data

**M**edical schools granting the M.D. (allopathic) and D.O. (osteopathic) degrees in the United States are undergoing enrollment increases, which are projected to lead to a 21 percent expansion in enrollment for M.D. schools and 22 percent for D.O. schools by 2012-2013. More than a dozen new M.D. and a number of new D.O. schools are either in development or in discussion. Not surprisingly, there is some concern about the number and quality of the applicant pool to support this expansion and the potential difficulty in filling international, D.O., and M.D. classes.

In 2006, there were 42,191 U.S. medical school applicants of whom 32,453 applied to M.D. schools only, 3,083 to D.O. schools only, and 6,655 to both M.D. and D.O. schools. There were 858 U.S. applicants applying to international medical schools only. Of the 3,083 applicants to D.O. schools only, 1,083 had applied to one or more M.D. schools in a prior year. In 2006, 17 percent of U.S. allopathic schools applicants applied to a D.O. school compared to 8 percent in the early 1980s. Approximately two thirds of D.O. applicants also applied to M.D. schools in recent years compared to almost three quarters in the mid-1990s. Only 59 percent of 2006 applicants to M.D. schools applied to this type of school for the first time and 85 percent for the first time to D.O. schools. In 2007, the applicant pool to M.D. schools was 2.25 applicants per available place compared to 2.57 applicants per available place to D.O. schools.

MCAT scores and grade-point averages are at an all-time high for allopathic schools and continue to rise for osteopathic colleges. It is noted that 72 percent of first-time U.S. applicants to foreign medical schools had never applied to a U.S. allopathic or osteopathic school. As a result of reports about the creation of new medical schools and the expansion of existing institutions, additional interest in medical education may be stimulated. However, it is recommended that it is wise to continue to monitor current trends.

*(Jolly P, Garrison G, Boulet JR, Levitan T, Cooper RA. Three pathways to a physician career: applicants to U.S. MD and DO schools and U.S. citizen applicants to international medical schools. Academic Medicine. 83(12):1125-1131;2008.)*

## Resident Duty Hours and Patient Safety



**A**fter a report was issued by the Institute of Medicine (IOM) regarding resident duty hours and patient safety, Darrell G. Kirch, M.D., who serves as president and CEO of the Association of American Medical Colleges (AAMC), indicated the organization's endorsement of the findings. The AAMC disclosed that it is necessary to examine duty hours as one of the factors in both quality of care and patient safety. The report indicated the role the AAMC has had in developing and supporting duty hour standards with the Accreditation Council for Graduate Medical Education (ACGME). Further noted by the AAMC was that since 2003 when duty hour restrictions for residents were instituted, efforts have been introduced to ensure that optimal learning environments for residents have been created that maintained supervision and a proper balance between education and patient care.

The AAMC reminded that it has been quite complex to put the 2003 ACGME standards into practice. It also mentioned it will take significant time and resources for the planning and implementation of additional changes. As advocated by the IOM, additional research is needed to better understand the impact of the current resident duty hour limits as well as any future modifications. The AAMC indicated it intends to continue to work with the IOM as well as other stakeholders to make additional improvements to the processes governing the well being, supervision, and workload of residents.

The IOM report stated that among a series of changes that have been made recently, including limiting residents to an 80-hour workweek and 30-hour shifts, these reforms were not enough. It indicated caps on work hours are often not enforced, resulting in residents not getting enough sleep and placing patients and doctors at risk for fatigue-related mistakes. In fact, 43 percent reported they work more than 80 hours weekly. In its November 2008 report, the IOM recommends residents get at least 5 hours of sleep after working 16 hours. These work rules for residents are considerably more restrictive than those of its 2003 report.

*(AAMC reacts to new IOM report on resident duty hours. AAMC Newsroom. December 2, 2008.)*

# An Overview of Genetics Objective Structured Clinical Examinations (GOSCEs)



**A** program designed to train third-year pediatric residents in genetics was developed at Maimonides Infants and Children's Hospital of Brooklyn that culminated with the completion of an assessment tool called a Genetics Objective Structured Clinical Examination (GOSCE). This program is to further enhance the residents' genetic knowledge and counseling skills. It includes ethical dilemmas such as predictive versus diagnostic genetic testing of minors and describing to parents the etiology and variability in prognosis of a child with a genetic disorder.

Third-year residents already have a familiarity with genetic disorders, with about a third of them having completed an elective in genetics at that time. Prior to the GOSCE, the residents attend a two-hour interactive workshop given by a geneticist and two genetic counselors. They explore with the residents dysmorphism and genetic syndromes, including their impact on families. Residents also are provided with a video demonstration that illustrates communication strategies as well as counseling principles.

The GOSCE includes a two-minute period when residents review the instructions at each of the five stations in which they will be encountering a standardized patient. Each standardized patient encounter is 10 minutes in duration with feedback provided by faculty observers and the standardized patients. Faculty members complete a 13-item form for each station in which the residents have a standardized patient encounter. The form includes six general communication items and two-to-four counseling skills items, as well as one global rating of overall medical genetics performance. The eight stations developed include termination of pregnancy, genetics referral, communication of bad news, Down syndrome, genetic testing of a minor Huntington disease, genetic testing of a minor Gaucher disease, visual diagnosis/dysmorphism, and autism.

For all but the dysmorphism station, they used the following four-point scale: **1**=not done, **2**=partly done, **3**=done, and **4**=well done.

*(Altshuler L, Kachur E, Krinspim S, Sullivan D. Genetics objective structured clinical exams at the Maimonides Infants and Children's Hospital of Brooklyn, New York. Academic Medicine. 83:1088-109;2008.)*

## Increase of Women Who Become Urologists

**I**n 1962, Elisabeth Pickett, M.D., became the first woman to become a board-certified urologist. However, there were only 22 women urologists by the mid-1980s. Three women made up an entire recent graduating class of urology residents at Columbia University Medical Center. A 1997 survey of female urologists conducted by Christine L. Bradbury, M.D., at the University of Utah School of Medicine revealed that 44 percent of those who responded were discouraged from applying for a residency in urology. Jennifer Gruenfelder, M.D., a California, urologist, said the dean of her medical school, who was a female, indicated to her that applying for the specialty of urology was a "bad idea." Today, 20 percent of those who are in urology training programs are now women. There currently are 300 members of the Society of Women in Urology. Harriette M. Scarperio, M.D., of Vanderbilt University, who serves as president of the society, said her urology mentors were superb doctors and excellent teachers. It was acknowledged by some of the women urologists that special issues of modesty exist when they examine men patients. However, just as there have been male gynecologists for decades, there are now female urologists.

*(Lerner BH. Urology field slowly altered, by women. New York Times. September 9, 2008 (D6).)*



Health Professions Division  
College of Osteopathic Medicine  
3200 South University Drive  
4th Floor, Room 1495  
(954) 262-1469  
Fort Lauderdale, FL 33328-2018  
<http://medicine.nova.edu>

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#### Editor

Leonard Levy, D.P.M., M.P.H.  
Associate Dean

#### Associate Editor/Art Design

Scott Colton, B.A.  
Director of Medical Communications