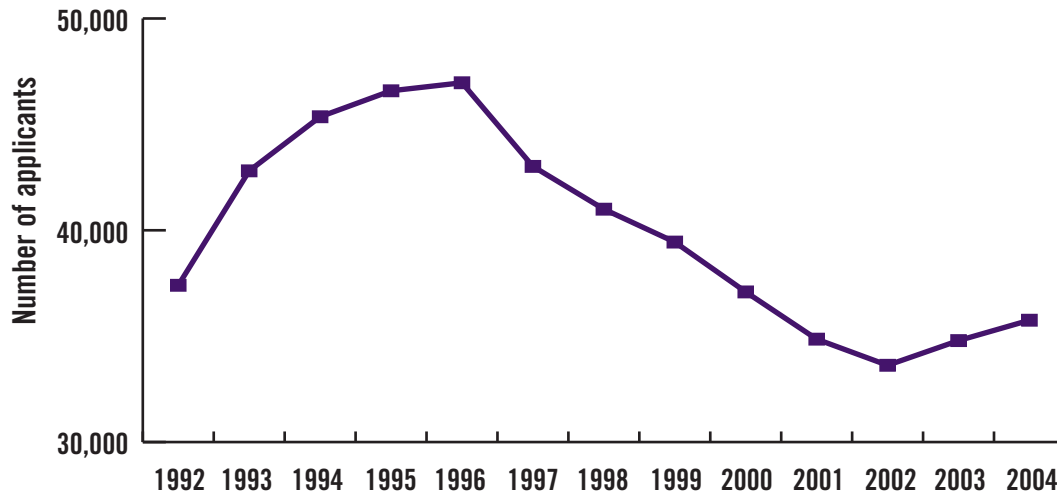


Medical education

Figure 4: Medical school applicants (1992-2004)



Source: Association of American Medical Colleges

In 2004, the number of medical school applicants continued to increase. Rising medical school debt, inability to attract a sufficient number of minorities—particularly Hispanic—and precarious financing of teaching hospitals continue to be major concerns that need to be addressed.

Trends

- The number of applicants to U.S. medical schools increased to 35,735 for the class entering in 2004, representing a 2.7 percent increase from 2003. Just over 50 percent of applicants were women. The total number of enrolled students, however, remained essentially unchanged (66,453 in 1993-1994 and 67,296 in 2004-2005).⁷²
- In 2004-2005, 49.5 percent of first-year enrollees were women. The qualifications of new medical students were slightly higher than in 1993. In 2004, the mean grade point average (GPA) was 3.62 and their mean Medical College Admission Test (MCAT) scores were 9.7 in verbal reasoning, 9.9 in physical sciences, and 10.3 in biological sciences compared with a mean GPA of 3.46 and mean MCAT scores of 9.4 in verbal reasoning, 9.4 in physical sciences, and 9.7 in biological sciences for the class entering in 1994.⁷³

- In 2004, minority enrollment in medical school increased after a downturn in 2003. Black enrollment increased by 2.5 percent and Hispanic enrollment increased by almost 8 percent. In 2003, black enrollment declined by nearly 6 percent, and the number of Hispanic enrollees dropped by nearly 4 percent. While minority enrollment in medical school is increasing, it does not reflect the demographics of the nation.⁷⁴
- The level of medical student debt continues to rise. According to the AAMC, the average total educational debt of indebted 2005 medical school graduates was \$120,280, as compared to \$99,089 and \$80,462 respectively for 2001 and 1997 graduates.⁷⁵
- The number of full-time medical school faculty continued to increase. In 2004-2005, 119,025 individuals held full-time faculty appointments, representing an increase of 32 percent since 1994-1995. One of the reasons for the substantial increase in faculty is that medical schools derive over 35 percent of their total revenue from faculty practice and over 32 percent from grants and contracts (including direct and facilities/administrative costs). Considerable medical faculty efforts are required to maintain these revenue streams.⁷⁶
- In the 2004-2005 academic year, the number of active residents was 101,291, the highest ever recorded by the National GME Census.⁷⁷
- The number of residency positions continues to be well above the number of U.S. medical school graduates. International medical graduates currently are filling these additional positions.
- For the first time since 1996-1997, the number of Doctors of Osteopathy in ACGME-accredited programs did not increase. The number of DO trainees decreased from 5838 in 2003-2004 to 5675 in 2004-2005.⁷⁸
- The number of IMGs who are U.S. residents is increasing. For the 2004-2005 academic year, of those for whom residency was known, 48 percent of the IMG physicians were U.S. citizens or permanent residents.⁷⁹
- While the U.S. Hispanic population is growing rapidly, the number of Hispanic native citizen resident physicians has not kept pace. Of resident physicians on duty August 1, 2004, 6.6 percent were of Hispanic origin.⁸⁰
- The proportion of medical students and resident physician education that takes place in ambulatory and community-based settings is increasing. However, the availability of community physicians to participate in teaching is being adversely affected by pressures for increased productivity and efficiency in practice.⁸¹
- An increasing proportion of graduating residents choose to continue their training: 27.2 percent in 1999, 29.6 percent in 2001, and 32.1 percent in 2003.⁸²
- A growing number of physicians and physicians in training are pursuing non-traditional medical careers.
- Major threats exist to the funding of medical education, such as the lack of managed care support for education or research and decreased reimbursement for services.
- Based on recommendations of the Medicare Payment Advisory Commission (MedPac) to include graduate medical education funding as part of patient care and the recent experience in the fragility of GME funding for Pediatric Residencies in children's hospitals, the overall funding for GME may be in jeopardy.

- Medical schools and academic medical centers are increasingly dependent on the income generated from clinical practice. However, revenue from clinical practice is under pressure from managed care.⁸³
- Public support for biomedical and clinical research is high, but managed care has put pressure on physician time and on the patient and financial resources needed to conduct research.
- Financing of teaching hospitals is becoming more precarious due to decreases in payments for patient care and cuts in support to graduate medical education from Medicare. This is impacting the numbers and types of residents trained at some institutions.⁸⁴
- The Accreditation Council for Graduate Medical Education's (ACGME) new residency duty hours standards went into effect for the 2003-2004 academic year. Residents can now work a maximum of 80 hours a week. ACGME reported that many programs and sponsoring institutions have added physician assistants and nurse practitioners to their staffs and created night float schedules in order to comply.⁸⁵
- Academic facilities face increased competition as the availability of tertiary care outside of academic health centers increases.
- The IOM reports on the occurrence of medical errors, the quality chasm for the delivery of health care, and the failure of the health care safety net cite deficiencies in the current system that will require adjustments in teaching and the practice of medicine.
- Employers of physicians report that new graduates need more preparation for some aspects of practice in today's health care environment. Some areas in which additional physician training is needed include: population-based medicine, cost effective medical care, working in teams, and cultural sensitivity/patient communication skills.⁸⁶

Trends: Physician continuing professional development

- The importance of CME will grow as physicians are increasingly being held accountable by the public, by payers, and by the government for their clinical competence.
- Overall financial support of continuing medical education is threatened by a lack of support by managed care, a reduction in discretionary funds available to individual physicians, and a pharmaceutical industry shift of dollars into direct-to-consumer advertising instead of support of professional education.
- The profession's policies and practices regarding the ethics of gifts from industry have come under increasing scrutiny by the pharmaceutical industry, the general public, government agencies, and physicians themselves. Management of this issue will directly affect how the CME activities will be funded in the future, and the extent to which they will continue to be self-regulated by the profession.
- Continuing medical education has evolved from a voluntary to an increasingly mandatory activity for most physicians. Thirty-six states currently require a CME component for licensure maintenance, the JCAHO requires specialty-specific CME for hospital privileges, many specialty organizations require CME for membership, and some states even have topic-specific CME licensure requirements.
- Advances in information technology have the potential to enhance the efficiency and effectiveness of the delivery of virtual medical education across the continuum (undergraduate, graduate, and continuing medical education).
- Specialty Boards are becoming more involved in CME.
- State licensing boards are becoming more active in continuing professional development.

Predicted impacts for patients

- The medical student population's lack of diversity could have implications for access to services for certain groups of underserved patients.
- The health care safety net for patients is in jeopardy because many poor and underinsured obtain their health care from teaching facilities that are experiencing financial difficulties. The availability of medical resources in the inner city and some rural communities, in particular, are threatened.
- As the cost of medical education continues to increase and medical students feel forced to choose more lucrative specialties over primary care, patients will find it more difficult to obtain primary care.

Predicted impacts for physicians

- The number of full-time clinical faculty has been increasing, but clinical faculty are being pressured to spend more time in patient care to help support the institution financially, leaving less time for education and research.
- There will be increasing competition between “town” and “gown,” that is, between community hospitals/physician practices and academic health center physicians. This could affect the availability of community physicians to serve as teachers for medical students and resident physicians.
- The increased requirements for supervision have decreased the ability of trainees to have meaningful hands-on clinical educational experiences and the requirements for documentation have decreased the time available for attending physicians to teach.
- Physicians are going to be more accountable for providing ongoing proof of their clinical competence (i.e., ABIM's proposed ongoing clinical competency evaluation process).
- Public outcry and media attention on medical errors and physician competency coupled with the wide availability of medical information (accurate or not) to the general public will intensify demands that physicians demonstrate current mastery of their fields via professional education.
- Physicians are less likely to travel to traditional CME offerings, putting traditional CME providers (e.g., specialty societies and university CME departments) at risk. As live CME programs become too expensive, more physicians will access CME via the Internet.
- Technology and time constraints are transforming CME activities into more personalized and interactive events that are self-initiated by the physician. CME is moving closer to a “just-in-time” or “point-of-care” format.

Predicted impacts for medical schools

- Medical schools/academic health centers increasingly will be required to be more accountable for how their funds are spent (e.g., will engage in mission-based budgeting, creating a separate budget line for education, research, and patient care).
- Medical schools will have to identify sources of funding to support education outside the academic medical center. Sources of monetary and non-monetary compensation for “volunteer” faculty will need to be identified.

- Increased competition from other tertiary centers will impact the financing of both medical schools and teaching hospitals. It also will affect the access to patients to support the education of medical students and resident physicians.
- There will be increasing competition for residency positions in some specialties and geographic locations.
- In addition to basic biomedical research, medical schools will have to move into other areas of research (clinical research, behavioral research, health services research).
- New ways to ensure that medical students and resident physicians acquire professional values are being developed.

Predicted impacts for the profession

- The profession will be called upon to validate the competence of individual physicians during their training and while they are in practice. New tools and services will be required.
- Global demand for standardized, accessible continuing medical education or continuing physician professional development activities will continue to grow as technical and political barriers are reduced.