

Data Sources: Enrollment and Degree Trends in Graduate Education, Medicine, and Law

In September 2008, the Council of Graduate Schools released the results of the annual CGS/GRE Enrollment and Degrees Survey. The report, *Graduate Enrollment and Degrees: 1997 to 2007*, revealed 3% average annual growth in graduate enrollment between 1997 and 2007, increasing numbers of women and minorities pursuing graduate study in the United States, and a 9% increase in doctoral degree production between 2006 and 2007. The analysis that follows compares these statistics and graduate education data from the National Center for Education Statistics (NCES) and the National Science Foundation (NSF), with medical education statistics from the Association of American Medical Colleges (AAMC), and legal education statistics from the American Bar Association (ABA).

Enrollment Trends

The latest CGS/GRE Enrollment and Degrees Survey found consistent 3% average annual growth in graduate enrollment between 1997 and 2007. Looking back further, the growth in graduate enrollment over the last 20 years has far exceeded the growth in medicine and law. Between fall 1987 and fall 2007, total graduate enrollment increased 55% in the United States, from 1.45 million to 2.25 million, according to data from NCES. In contrast, total enrollment in medicine increased just 7% in the same time period, from 65,735 to 70,225, and total enrollment in law programs increased 20%, from 117,997 to 141,719.

Between 1987 and 2007, graduate enrollment increased by an average annual rate of 2.7%, according to NCES data, far outpacing the average annual growth in medicine (0.3%) and law (1.0%) over the same time period.

Growth in graduate enrollment has remained relatively steady over the past two decades, except for a slowdown in the rate of increase in the late 1990s (see Figure 1). The trends in law and medicine, however, are very different. Enrollment in medicine was virtually flat from 1987 to 2002, with annual percentage changes from the base year ranging from -1.1% to 1.8% throughout this time period. Then in 2002, enrollment in medicine began to climb steadily. In law, gains were seen in the late 1980s, but these increases gave way to a decade of stagnant enrollment in the 1990s, followed by a jump in enrollment from 2001 to 2004.

In addition to the growth in graduate enrollment, the number of institutions

enrolling graduate students also increased over the past 20 years, from 1,270 institutions in fall 1987 to 1,845 in fall 2007, a 45% increase. The number of medical schools in the United States, however, has remained nearly flat over the last two decades, increasing from about 122 in 1987 to 125 in 2007, and the number of law schools increased by just 14%, from 174 to 198.

Women and Minorities

CGS data reveal a slow, but steady, demographic shift in graduate education, with increasing numbers of women and minorities pursuing master's degrees and doctorates. The number of female graduate students grew by an average of 4% annually between 1997 and 2007, compared with a 2% increase for men. Among U.S. citizens and permanent residents, there was significant growth in the number of racial/ethnic minorities in the ten-year period. African Americans led in terms of growth, with an 8% average annual increase, followed by Hispanics (7%), Native Americans (6%), and Asians/Pacific Islanders (4%). In contrast, the average annual growth rate for non-Hispanic Whites over the ten-year period was just 1%.

Today, the representation of women is higher in graduate education than in either medicine or law (see Table 1). In fall 2007, 59% of all graduate students in the United States were women, according to CGS data. In medicine and law, women accounted for slightly less than half of all students, at 49% and 47%, respectively.

Within graduate education, the representation of women varies by institution type. At master's and specialized institutions, two-thirds (66%) of the students in fall 2007 were women, while at doctoral/research intensive institutions, 63% were women, and at doctoral/research extensive institutions, less than half (48%) were women, a percentage very similar to the representation of women in medicine and law.

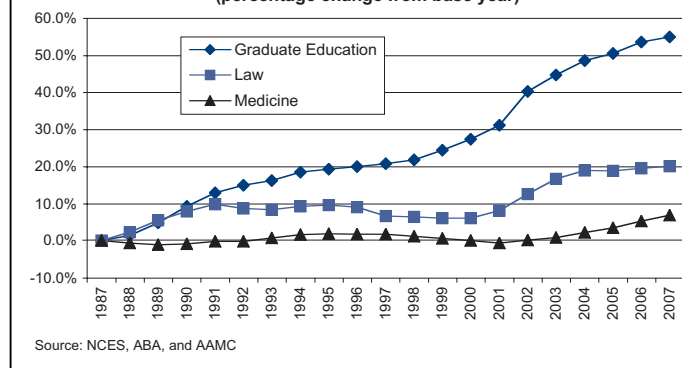
U.S. citizen and permanent resident minorities comprised about 22% of all students enrolled in graduate school in fall 2007, equal to the representation of minorities in law programs. In medicine, however, more than one-third of all enrollees in fall 2007 were minorities. The larger share for minorities in medicine is due entirely to the

Table 1: Total Enrollment in Graduate Education by Gender and Race/Ethnicity, Fall 2007

	Graduate Education	Medicine	Law
by Gender			
Male	41%	51%	53%
Female	59%	49%	47%
Minority Enrollment			
African American	10%	7%	7%
Hispanic	6%	8%	6%
Native American	1%	1%	1%
Asian/Pacific Islander	5%	21%	8%

Source: CGS, AAMC, and ABA

Figure 1: Enrollment Trends in Graduate Education, Medicine and Law, Fall 1987 to Fall 2007 (percentage change from base year)



Source: NCES, ABA, and AAMC

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significant representation of Asians/Pacific Islanders, who comprised 21% of all medical students. The Asian/Pacific Islander share was far greater in medicine than in graduate education and law (5% and 8%, respectively). African Americans accounted for a larger share of graduate students (10%) than medical and law students (7% each), while Hispanics accounted for a smaller share of the students in graduate education and law (6% each) than in medicine (8%).

Degrees Awarded

Doctoral degree production in the United States increased by 9% between 2006 and 2007, and by 2% each year on average between 1997 and 2007, based on data from CGS. Between 2006 and 2007, master's degree production increased by 4%, a smaller increase than at the doctoral level, yet still a considerable gain. Growth in degree production was stronger at the master's level than the doctoral level over the ten-year period, with a 4% average annual increase.

Similar to the trends seen in enrollment, degree production has increased much faster over the past two decades in graduate education than in medicine and law. In 2005-06 (the latest year for which doctoral data are available from NSF), 45,596 research doctorates were awarded in the United States, a 43% increase from 31,897 twenty years earlier in 1985-86 (see Figure 2). In medicine, 15,925 M.D.s were granted in 2005-06, a 1% decline from 16,117 in 1985-86, and in law, 42,673 J.D. and LL.B. degrees were awarded in 2005-06, a 16% increase from 36,829 in 1985-86. Far outpacing all three of these trends was degree production at the master's level, which increased 102% between 1985-86 and 2005-06, from 289,829 to 586,029.

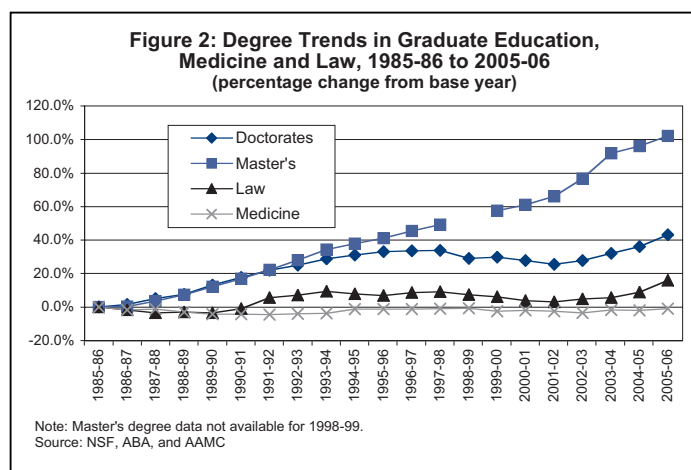
Between 1985-86 and 2005-06, master's degree production increased by an average annual rate of 5.1%, far greater than the average annual growth rate in doctoral degrees (2.1%), law degrees (0.8%), and medical degrees (-0.1%). Growth in master's degree production has remained steady throughout the past two decades (see Figure 2). The growth in doctoral degree production closely tracked the growth in master's degrees through the early 1990s, after which it slowed and/or declined for several years, before resuming an upward trend in recent years. In medicine, degree production was greater in 1985-86 than in any of the following 20 years. The increased enrollment in medicine in recent years had not impacted degree production by 2005-06. Degree production in law was relatively stable for much of the past two decades. Increases in the early 1990s mostly diminished by 2001-02, but as a result of the increases in enrollment from 2001 to 2004, some

gains have been seen since then, most notably in 2004-05 and 2005-06.

Summary

Increasing numbers of individuals are pursuing graduate education in the United States, with much of the growth being fueled by gains at the master's level and by increases in the numbers of women and minorities enrolled in graduate programs. These trends contrast sharply with medicine, where degree production has remained flat for two decades. Recent enrollment increases in medicine since 2004, however, indicate that degree production will likely increase in the

near future. The steady growth in graduate education, particularly in terms of master's degree production, also contrasts with the trend in law, where short periods of growth over the past two decades, both in terms of enrollment and degrees, have been followed by periods of plateau and/or decline. Recent increases in law and medicine may signify that graduate schools will need to be more proactive in their efforts to attract the best and brightest students.



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