

## Future Medical School Applicants, Part I: Overall Trends

Based on evidence that the nation will face a shortage of physicians in coming years, the AAMC recommended last June that U.S. medical schools increase enrollment 30 percent over the next decade.<sup>1</sup> The call to admit nearly 5,000 additional medical students per year over the 2002 matriculant total of 16,488 invites a question: will there be sufficient numbers of medical school applicants to meet the desired increase?

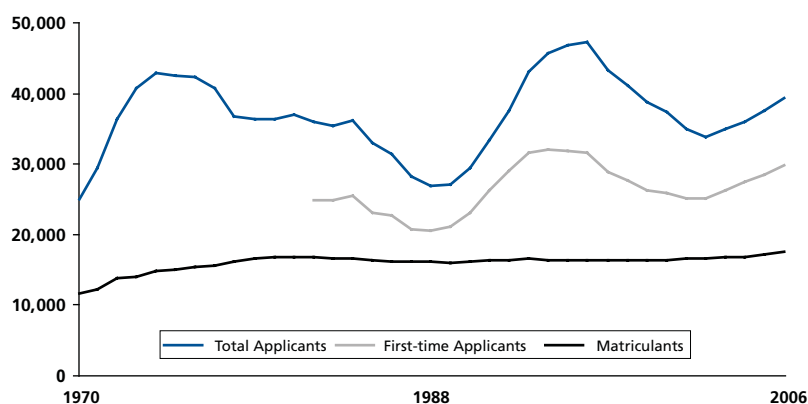
This *Analysis in Brief* examines U.S. undergraduate trends and projects numbers of medical school applicants to 2015. By comparing these projections to historic applicant-to-matriculant ratios—an important indicator of whether medical schools can fill their classes—we can predict whether enough new college graduates will be applying to medical school to sustain the recommended increase in class size.

### Applicant Ebb and Flow

Medical school applicants include both first-time applicants and those who reapply. We focus primarily on first-time applicants because admissions personnel are most concerned with the adequacy of this pool. The number of first-time applicants peaked at 31,903 in 1994 and then dropped to 24,886 in 2002 (Figure 1). Since 2002, the numbers of applicants have been on the rise again. Initial data from the American Medical College Application Service indicate 1,000 more first-time applicants in 2007 than in 2006, marking a fifth straight year of growth.

While applicant numbers have fluctuated, medical schools have admitted a

**Figure 1.**  
Total Applicants, First-time Applicants, and Matriculants, U.S. Medical Schools, 1970 to 2006



more constant number of new students, causing varied applicant-to-matriculant ratios. In the peak years of the mid-1970s and mid-1990s, the ratio of total applicants to matriculants approached three to one (3:1), and the ratio of first-time applicants to matriculants was nearly two to one (2:1). These two ratios hit lows in 1988 when they were 1.7:1 and 1.3:1, respectively.

### Projection: Steady Growth to 2015

The number of applicants to medical school depends largely on two variables: the number of new college graduates and the attraction of medicine for those graduates.

The National Center for Education Statistics (NCES) projects that the number of baccalaureate degrees conferred annually will keep rising through academic year 2015–16, when the number of degrees will surpass 1.7 million—26 percent more than in 2002–03.<sup>2</sup> How many of those

graduates will choose medicine as a career is more difficult to gauge.

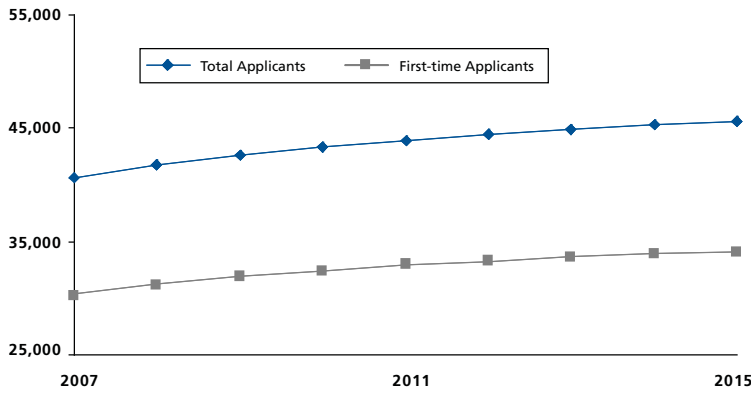
We assume a stable percentage of new graduates will apply to medical school. By averaging data from the past 10 years, we derived a steady “applicant yield” (first-time applicants divided by the number of B.A./B.S. degrees awarded nationwide) of 2 percent. This applicant yield is a conservative assumption—not just because applications to medical schools have been rising recently, but also because media attention on both the physician shortage and medical school expansion may strengthen medicine’s appeal to prospective applicants.

Assuming a 2 percent yield, we can apply NCES undergraduate graduation projections to predict that first-time applicants would exceed 34,000 by 2015 (Figure 2). This prediction enables us to test whether the growth in college graduates will be

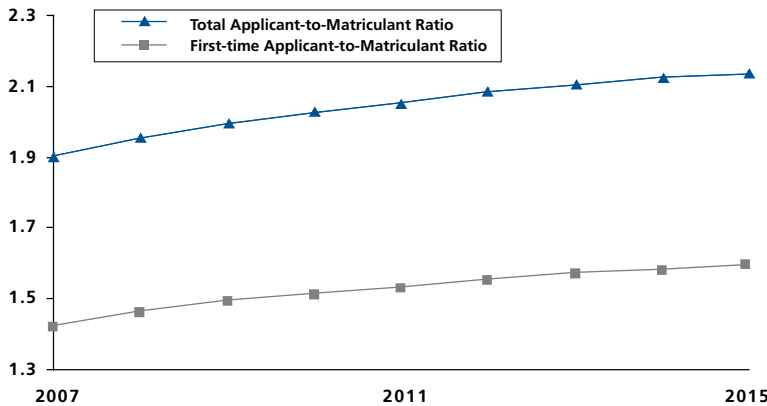
<sup>1</sup> AAMC Statement on the Physician Workforce. June 2006. [www.aamc.org/workforceposition.pdf](http://www.aamc.org/workforceposition.pdf)

<sup>2</sup> Hussar, William J. (2006). *Projections of Education Statistics to 2015 (34th Edition)*. Washington, DC: U.S. Department of Education, National Center for Educational Statistics, Table 28.

**Figure 2.**  
Projected Total Applicants and First-time Applicants, U.S. Medical Schools, 2007 to 2015, Assuming 2 Percent Yield



**Figure 3.**  
Projected Total Applicant-to-Matriculant Ratios and First-time Applicant-to-Matriculant Ratios, U.S. Medical Schools, 2007 to 2015, Assuming 21,434 Matriculants



sufficient to sustain a medical school enrollment increase of 30 percent.

**Can Applicant Growth Sustain Higher Enrollment?**

We noted earlier that total and first-time applicant-to-matriculant ratios hit lows of 1.7:1 and 1.3:1 in 1988. Through personal communications, we know that several schools at that time did not fill their classes, judging that they had insufficient numbers of qualified applicants. The problem was felt particularly at state-supported schools constrained to accept a minimum proportion of their

class from state residents. The concern of the broader medical school community was obvious. The AAMC convened a June 1988 conference on “The Declining Applicant Pool,” and Robert G. Petersdorf, AAMC president, published an article under the same title.<sup>3</sup>

The problem recurred, though less acutely, in 2001. Again, through personal communications, we know of two schools that exhausted wait-lists to fill their classes. Applicant-to-matriculant ratios nationally were 2.1:1 and 1.5:1 that year. We posit, therefore, that

a total applicant-to-matriculant ratio of 2:1 and a first-time applicant-to-matriculant ratio of 1.5:1 are useful measures to judge the minimally acceptable size of the applicant pool. These measures are consistent with the finding by Cooper (2003)<sup>4</sup> of a minimum 1.5:1 ratio of first-time applicants to acceptances. Below this minimum, some schools will have problems filling their classes.

Would future increases in class size force applicant-to-matriculant ratios below the minimum? By our projections, no. In Figure 3, we have hypothesized a 30 percent increase in medical school class size beginning in 2007. Even with that immediate increase in class size, the minimum ratios would be achieved in only three years (2010). We project, therefore, that a 30 percent increase in class size is feasible. (Actual applicant-to-matriculant ratios observed for the 17,361 who entered medical school in 2006 were 2.3:1 and 1.7:1.)

**Conclusion**

We believe future applicant pools should be large enough to sustain a national first-year medical school enrollment of 21,434 students, equal to a 30 percent increase over the matriculating class of 2002. If 2 percent of college graduates continue to apply to medical school, the projected growth in numbers of college graduates will likely swell applicant pools by 2010 to levels needed to meet the minimum applicant-to-matriculant ratios that have sustained medical school admissions in the past.

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<sup>3</sup> Petersdorf, R.G. (1988). The Declining Applicant Pool. *Transactions of the American Clinical and Climatological Association* 100, 39–46.

<sup>4</sup> Cooper, R. A. Impacts of Trends in Primary, Secondary, and Postsecondary Education on Applications to Medical School. I: Gender Considerations. *Academic Medicine* (2003)78:855–864.