

## How Long Does it Take to Proceed from an MD Degree to a Medical School Faculty Appointment?

### Supplemental Material

The Graduation Questionnaire (GQ) administrations from the 1979–80 academic year to the 2003–04 academic year included the prompt: “Indicate your career intention from the different activities listed below.” During these years, respondents were provided with 10 options to report career intentions, with an 11th option added in 1985 and a 12th added in 1997. However, this *Analysis in Brief* (AIB) classifies responses into three broad categories. Supplemental Table A lists the 12 options that GQ respondents could select from and maps these 12 options to the three classifications used in this AIB. The classification “Faculty Ambitions” includes those who selected the response

option “Full-time University Faculty: Basic science teaching/research” and “Full-time University Faculty: Clinical teaching/research.”

This AIB relies on the sample of U.S. LCME-accredited medical school students who graduated with an MD degree between the 1979–80 and the 2003–04 academic years and who responded to the GQ prior to graduation. The number of graduates who responded to the GQ prior to graduation varied across academic years from a low of 10,157 in the 1979–80 academic year to a high of 14,281 in the 1999–00 academic year (see Supplemental Table B). The GQ

response rate also varied over this period from a 63.9 percent completion rate in the 1983–84 academic year to a 90.9 percent response rate in the 1999–00 academic year. While the GQ non-response rate varied over the period of observation, non-response was not related to the likelihood of becoming faculty (see Supplemental Table B). Furthermore, a survival analysis shows that GQ non-response is not related to time to becoming a faculty member (results not shown but are available from authors upon request). Finally, this AIB also focuses on GQ respondents who declared an intention to become a faculty member. The proportion within an academic year of the cohort members who responded to the GQ and declared an intention to become a faculty member varied from 20.9 percent in the 1979–80 academic year to 30.5 percent in the 1992–93 academic year.

Results in the AIB (Figure, Bottom Panel) show that within 10 years of completing the MD degree, almost 35 percent of the cohorts from the early millennial period with declared faculty career intentions had become full-time faculty. In contrast, cohorts from the early 1990s and the early 1980s had lower 10-year rates of becoming faculty members. However, each cohort had similar slowing of increases in the cumulative rate of becoming faculty after 11 years of receiving the degree.

Results are similar when the sample is no longer restricted to those who declared an intention to become a faculty member. MD-degree recipients from more recent academic years had a much higher 10-year rate of becoming faculty than did MD-degree recipients from

**Supplemental Table A: Career ambitions classifications for analysis and response options to the Medical School Graduation Questionnaire prompt: “Indicate your career intention from the different activities below.”**

| Classification in Analysis | Response Options in Graduation Questionnaire (GQ)              |
|----------------------------|--|
| Faculty Ambitions          | Full-time University Faculty: Basic science teaching/research  |
|                            | Full-time University Faculty: Clinical teaching/research       |
| Clinical Ambitions         | Full-time Clinical Practice: Solo practice                     |
|                            | Full-time Clinical Practice: In partnership with one physician |
|                            | Full-time Clinical Practice: In a group of three or more       |
|                            | Full-time Clinical Practice: Join a closed panel HMO           |
|                            | Full-time Clinical Practice: Salaried, hospital                |
| Other/Undecided            | Other: State or federal agency                                 |
|                            | Other: Medical/health care administration, without practice    |
|                            | Other: Non-university research scientist                       |
|                            | Other*   |
|                            | Undecided**  |
|                            | Non-respondent to GQ Career Intention prompt                   |

\* Added in 1985

\*\* Added in 1997

earlier academic years (see Supplemental Figure C and Supplemental Table C). However, all observed academic years have similar slowing after 11 years in the cumulative growth of the proportion of the cohort becoming faculty members.

Notably, prior to the 1998–99 academic year, the proportion of a cohort transitioning to faculty positions varied little from cohort to cohort. However, when the 1998–99 graduating cohort graduates were eight years out from

completing their degree, this cohort had transitioned into full-time faculty positions in proportions that were unprecedented. Each subsequent cohort that was observed after the 1998–99 cohort (i.e., cohorts through the 2003–04 academic year) had progressively higher cumulative proportions of graduates who had transitioned to full-time faculty positions eight years after receiving their degree. The 10-year transition rates increased on average by 1.3 percentage points per year from 1997–98 until

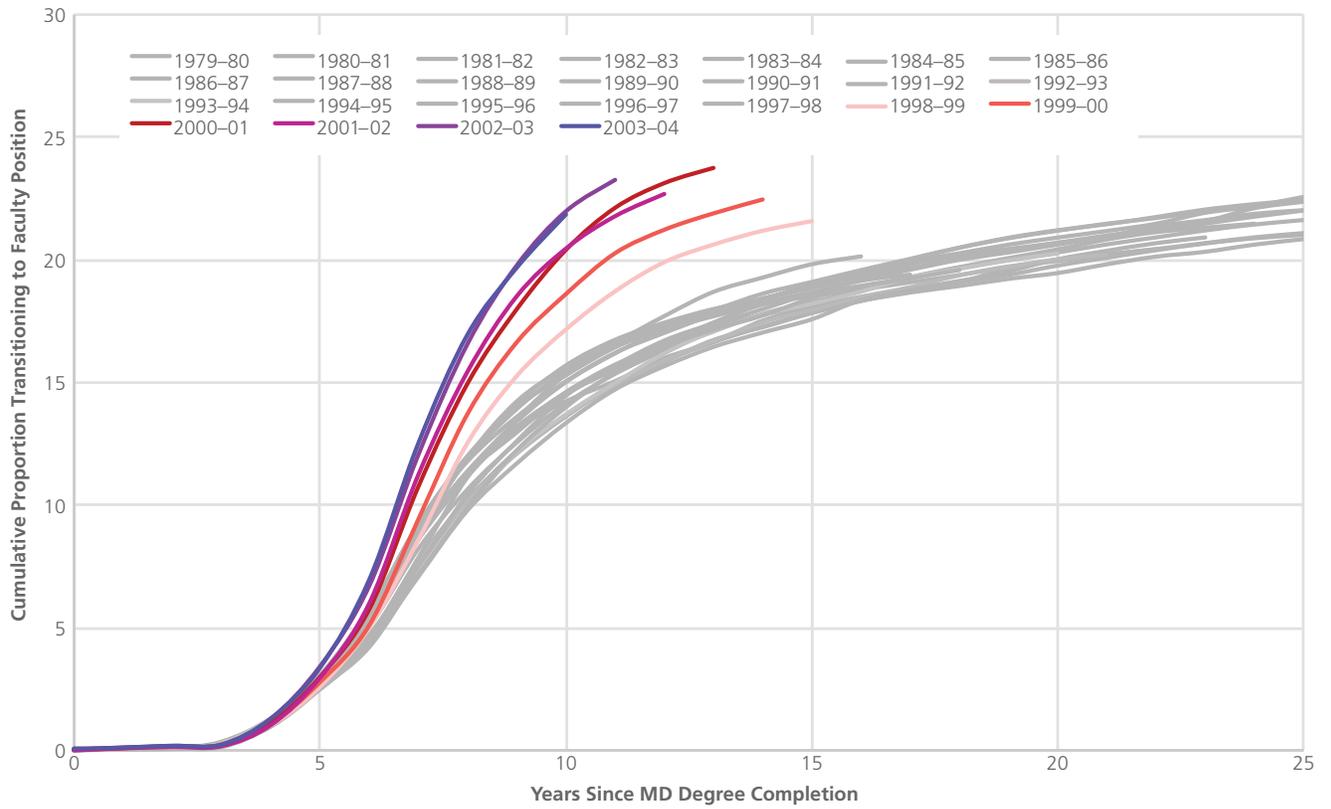
2002–03, when the transition rates peaked at 22.0 percent. On the other hand, of the 19 cohorts from the 1979–80 graduating class through the 1997–98 graduating class the cumulative proportion of a cohort who became full-time faculty 10 years after receiving a degree varied from a high of 15.7 percent to a low of 13.3 percent. Moreover, the variation within those 19 cohorts was not associated with cohort year (i.e., not trended).

**Supplemental Table B: Count of Graduating Medical Students Who Had Medical School Faculty Career Intentions by Year of MD Degree**

| Academic Year of Graduation | GQ Respondents          |                      |  | GQ Non-Respondents                                     | Career Intentions among GQ Respondents              |   |                                   |
|-----------------------------|-------------------------|----------------------|--|--|---|---|-----------------------------------|
|                             | Count of GQ Respondents | % of Total Graduates | Proportion of Cohort Who Became Faculty by August 2014 | Proportion of Cohort Who Became Faculty by August 2014 | Proportion of Cohort with Faculty Career Intentions | Proportion of Cohort with Clinician Career Intentions | Proportion All Other <sup>a</sup> |
| 1979–80                     | 10,157                  | 67.2                 | 22.5   | 23.2   | 20.9  | 66.5  | 12.6                              |
| 1980–81                     | 10,826                  | 69.2                 | 22.8   | 22.9   | 22.5  | 60.9  | 16.7                              |
| 1981–82                     | 10,887                  | 68.0                 | 22.7   | 21.6   | 21.9  | 60.8  | 17.4                              |
| 1982–83                     | 10,460                  | 66.2                 | 23.4   | 22.5   | 24.4  | 58.9  | 16.7                              |
| 1983–84                     | 10,426                  | 63.9                 | 23.4   | 22.9   | 23.7  | 60.0  | 16.3                              |
| 1984–85                     | 11,018                  | 67.4                 | 24.3   | 22.1   | 27.6  | 56.6  | 15.8                              |
| 1985–86                     | 10,707                  | 66.4                 | 23.0   | 23.2   | 27.8  | 57.1  | 15.1                              |
| 1986–87                     | 11,260                  | 71.1                 | 23.0   | 22.6   | 28.3  | 57.2  | 14.5                              |
| 1987–88                     | 10,390                  | 65.3                 | 22.9   | 22.3   | 29.9  | 55.9  | 14.2                              |
| 1988–89                     | 11,155                  | 71.4                 | 22.3   | 21.3   | 30.2  | 54.3  | 15.5                              |
| 1989–90                     | 11,598                  | 75.3                 | 21.7   | 21.0   | 30.1  | 56.3  | 13.6                              |
| 1990–91                     | 11,393                  | 73.9                 | 21.1   | 20.4   | 28.4  | 57.6  | 14.0                              |
| 1991–92                     | 12,063                  | 78.6                 | 20.3   | 20.9   | 30.0  | 56.0  | 14.0                              |
| 1992–93                     | 12,056                  | 77.9                 | 20.2   | 20.4   | 30.5  | 55.3  | 14.3                              |
| 1993–94                     | 12,815                  | 82.6                 | 20.4   | 19.8   | 29.1  | 56.1  | 14.8                              |
| 1994–95                     | 13,189                  | 83.0                 | 19.3   | 20.6   | 29.3  | 55.4  | 15.3                              |
| 1995–96                     | 13,192                  | 83.0                 | 19.6   | 19.7   | 26.7  | 51.3  | 22.0                              |
| 1996–97                     | 14,114                  | 88.8                 | 19.5   | 18.8   | 27.8  | 49.6  | 22.6                              |
| 1997–98                     | 14,018                  | 87.8                 | 20.3   | 19.4   | 26.4  | 47.5  | 26.1                              |
| 1998–99                     | 12,750                  | 79.7                 | 21.8   | 21.0   | 28.7  | 48.9  | 22.5                              |
| 1999–00                     | 14,281                  | 90.9                 | 22.7   | 20.2   | 26.6  | 49.2  | 24.2                              |
| 2000–01                     | 14,203                  | 89.9                 | 24.0   | 22.3   | 28.6  | 48.9  | 22.4                              |
| 2001–02                     | 14,198                  | 90.6                 | 23.0   | 20.4   | 29.0  | 47.3  | 23.8                              |
| 2002–03                     | 13,687                  | 88.1                 | 23.5   | 22.2   | 29.9  | 45.2  | 24.8                              |
| 2003–04                     | 10,926                  | 69.0                 | 22.2   | 21.6   | 28.9  | 45.7  | 25.4                              |

<sup>a</sup>All Other “Career Intentions” include those who indicated other preferences or undecided, or who did not respond to the GQ Prompt that asks about career preferences.

Supplemental Figure C: Cumulative Proportion Transitioning from Medical School to Full-Time Faculty as a Function of Time (Years) by Academic Year of Degree Completion, U.S. LCME-Accredited Medical School Graduates: 1979-80 to 2003-04 Graduating Cohort (n=394,066)



**Supplemental Table C: Cumulative Proportion Transitioning from Medical School to Full-Time Faculty as a Function of Time (Years) by Academic Year of Degree Completion, U.S. LCME-Accredited Medical School Graduates: 1979–80 to 2003–04 Graduating Cohorts (n=394,066)**

| Cohort* | Years Since Receipt of MD Degree |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|---------|----------------------------------|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|         | 1                                | 2   | 3   | 4   | 5   | 6   | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   | 21   | 22   | 23   | 24   | 25   |
| 1979–80 | 0                                | 0   | 0.3 | 1.2 | 3.1 | 5.7 | 8.8  | 11.4 | 13.1 | 14.2 | 15.1 | 16   | 16.6 | 17.5 | 18   | 18.3 | 18.7 | 18.9 | 19.2 | 19.5 | 19.8 | 20.1 | 20.3 | 20.6 | 20.8 |
| 1980–81 | 0                                | 0.1 | 0.4 | 1.3 | 2.9 | 5.5 | 8.6  | 11.2 | 13.2 | 14.5 | 15.5 | 16.5 | 17.4 | 18.2 | 18.5 | 18.8 | 19.1 | 19.4 | 19.7 | 20   | 20.2 | 20.4 | 20.7 | 20.9 | 21.1 |
| 1981–82 | 0                                | 0.1 | 0.3 | 1.3 | 2.9 | 5.7 | 8.7  | 11.3 | 13.2 | 14.6 | 15.7 | 16.5 | 17.3 | 17.8 | 18.1 | 18.5 | 18.8 | 19.1 | 19.4 | 19.8 | 20.1 | 20.4 | 20.7 | 20.9 | 21   |
| 1982–83 | 0                                | 0.1 | 0.3 | 1.3 | 3   | 5.6 | 8.8  | 11.4 | 13.4 | 15   | 16.2 | 17.1 | 17.7 | 18.2 | 18.6 | 18.9 | 19.3 | 19.7 | 20   | 20.3 | 20.6 | 20.9 | 21.2 | 21.4 | 21.6 |
| 1983–84 | 0.1                              | 0.1 | 0.3 | 1.3 | 3   | 5.6 | 9.1  | 11.9 | 13.9 | 15.5 | 16.6 | 17.3 | 17.9 | 18.4 | 18.8 | 19.3 | 19.7 | 20.1 | 20.4 | 20.7 | 20.9 | 21.2 | 21.5 | 21.8 | 22   |
| 1984–85 | 0                                | 0.1 | 0.2 | 1.2 | 2.9 | 5.3 | 8.9  | 11.9 | 14.1 | 15.7 | 16.7 | 17.4 | 18   | 18.4 | 19   | 19.5 | 20   | 20.5 | 20.9 | 21.2 | 21.5 | 21.7 | 22.1 | 22.3 | 22.5 |
| 1985–86 | 0                                | 0.1 | 0.2 | 1.1 | 2.8 | 5.2 | 8.7  | 11.9 | 14.2 | 15.6 | 16.5 | 17.3 | 17.9 | 18.6 | 19.1 | 19.6 | 20   | 20.5 | 20.9 | 21.2 | 21.5 | 21.7 | 22   | 22.2 | 22.6 |
| 1986–87 | 0.1                              | 0.1 | 0.3 | 1   | 2.9 | 5.7 | 9.2  | 12   | 14   | 15.3 | 16.4 | 17.2 | 17.8 | 18.4 | 19   | 19.4 | 19.8 | 20.2 | 20.4 | 20.7 | 21   | 21.3 | 21.6 | 22.1 | 22.4 |
| 1987–88 | 0                                | 0   | 0.3 | 1.1 | 2.9 | 5.6 | 9.2  | 11.8 | 13.6 | 15   | 16.2 | 17   | 17.8 | 18.4 | 18.9 | 19.5 | 19.9 | 20.3 | 20.6 | 20.9 | 21.2 | 21.5 | 21.9 | 22.2 | 22.5 |
| 1988–89 | 0                                | 0.1 | 0.2 | 1.1 | 3   | 5.6 | 8.8  | 11.3 | 13   | 14.6 | 15.7 | 16.6 | 17.3 | 18   | 18.6 | 19.2 | 19.6 | 20   | 20.3 | 20.6 | 21   | 21.4 | 21.6 | 21.9 | 22   |
| 1989–90 | 0.1                              | 0.1 | 0.3 | 1.1 | 2.8 | 5   | 8.2  | 10.6 | 12.6 | 14.1 | 15.4 | 16.3 | 17.1 | 17.8 | 18.3 | 18.7 | 19.3 | 19.7 | 20.1 | 20.4 | 20.8 | 21.1 | 21.3 | 21.5 |      |
| 1990–91 | 0.1                              | 0.1 | 0.2 | 1.3 | 2.7 | 4.7 | 7.5  | 10.2 | 12.2 | 13.6 | 14.9 | 15.8 | 16.7 | 17.3 | 17.8 | 18.3 | 18.8 | 19.1 | 19.5 | 20   | 20.4 | 20.7 | 20.9 |      |      |
| 1991–92 | 0                                | 0.1 | 0.2 | 1   | 2.6 | 4.6 | 7.8  | 10.2 | 12.1 | 13.6 | 14.9 | 15.9 | 16.6 | 17.3 | 17.8 | 18.3 | 18.8 | 19.1 | 19.7 | 20   | 20.2 | 20.4 |      |      |      |
| 1992–93 | 0.1                              | 0.1 | 0.2 | 1   | 2.5 | 4.5 | 7.7  | 10.1 | 12.1 | 13.7 | 14.8 | 15.9 | 16.7 | 17.5 | 18   | 18.5 | 18.9 | 19.4 | 19.7 | 20   | 20.2 |      |      |      |      |
| 1993–94 | 0.1                              | 0.1 | 0.3 | 1.3 | 2.8 | 4.5 | 7.2  | 9.9  | 12.2 | 13.7 | 15   | 16.2 | 17.1 | 17.8 | 18.2 | 18.7 | 19.3 | 19.6 | 20   | 20.3 |      |      |      |      |      |
| 1994–95 | 0.1                              | 0.1 | 0.2 | 1.2 | 2.5 | 4.3 | 7.1  | 9.8  | 11.7 | 13.3 | 14.7 | 15.7 | 16.5 | 17   | 17.6 | 18.4 | 18.8 | 19.1 | 19.4 |      |      |      |      |      |      |
| 1995–96 | 0.1                              | 0.1 | 0.2 | 1   | 2.5 | 4.2 | 7.2  | 9.9  | 12.2 | 14   | 15.4 | 16.5 | 17.2 | 17.7 | 18.4 | 18.9 | 19.2 | 19.6 |      |      |      |      |      |      |      |
| 1996–97 | 0                                | 0.1 | 0.2 | 1   | 2.5 | 4.4 | 7.5  | 10.4 | 12.6 | 14.5 | 15.7 | 16.7 | 17.4 | 18.2 | 18.7 | 19.1 | 19.4 |      |      |      |      |      |      |      |      |
| 1997–98 | 0.1                              | 0.1 | 0.1 | 1   | 2.6 | 4.6 | 7.9  | 11.1 | 13.5 | 15.3 | 16.6 | 17.7 | 18.7 | 19.3 | 19.8 | 20.1 |      |      |      |      |      |      |      |      |      |
| 1998–99 | 0.1                              | 0.1 | 0.2 | 1   | 2.6 | 5   | 8.6  | 12.5 | 15.3 | 17.2 | 18.7 | 19.9 | 20.6 | 21.2 | 21.6 |      |      |      |      |      |      |      |      |      |      |
| 1999–00 | 0.1                              | 0.1 | 0.2 | 1.1 | 2.8 | 5.1 | 9.4  | 13.7 | 16.6 | 18.6 | 20.3 | 21.2 | 21.9 | 22.5 |      |      |      |      |      |      |      |      |      |      |      |
| 2000–01 | 0.1                              | 0.2 | 0.2 | 1.1 | 3   | 5.7 | 10.8 | 15   | 18   | 20.4 | 22.1 | 23.1 | 23.8 |      |      |      |      |      |      |      |      |      |      |      |      |
| 2001–02 | 0.1                              | 0.1 | 0.2 | 1   | 3   | 6   | 11.2 | 15.4 | 18.5 | 20.5 | 21.8 | 22.7 |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2002–03 | 0.1                              | 0.2 | 0.2 | 1.3 | 3.4 | 6.7 | 12.1 | 16.6 | 19.8 | 22   | 23.3 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2003–04 | 0.1                              | 0.2 | 0.2 | 1.3 | 3.4 | 7   | 12.5 | 17   | 19.7 | 21.9 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |

\* Academic Year of Graduation.