Analysis IN BRIEF

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Supplemental Data for Changes in Medical Students' Intentions to Serve the Underserved: Matriculation to Graduation

A: Descriptive statistics

Tables A1 and A2 and Figure A1 provide descriptive data for the sample of medical school graduates. Table A2 shows that of the 42 percent of graduates (n=33,814) who responded to both the Matriculating Student Questionnaire (MSQ) and Graduation Questionnaire (GQ), 98.8 percent (n=33,393) had valid responses for the underserved question on both surveys. Therefore, all analyses were applied to a final sample of 33,393 medical school graduates.

Table A1: Percentages of medical school graduates responding to the Matriculating Student Questionnaire (MSQ) and Graduation Questionnaires (GQ), 2005–2009.

Graduation Year	No. of Graduates	Percentage of graduates who responded to the GQ	Percentage of graduates who responded to the MSQ	Percentage of graduates who responded to both the MSQ and GQ
2005	15,760	32.6	82.5	28.7
2006	15,927	51.5	75.6	41.2
2007	16,141	52.5	72.9	42.0
2008	16,169	71.0	68.7	53.0
2009	16,466	63.4	64.2	45.0
Total	80,463	54.4	72.7	42.0

Table A2: Numbers of graduates responding to the Matriculating Student Questionnaire (MSQ) and Graduation Questionnaires (GQ) and numbers (percentages) with valid responses, 2005-2009

Graduating Year	No. of graduates responding to both the MSQ* and GQ*	No. of graduates with valid responses on both surveys	Percentage of graduates with valid responses on both surveys
2005	4,522	4,360	96.4
2006	6,554	6,457	98.5
2007	6,771	6,715	99.2
2008	8,563	8,521	99.5
2009	7,404	7,340	99.1
Pooled sample	33,814	33,393	98.8

B: Race/ethnicity

There are three "race" categories and one "ethnicity" category. The race categories include those who provided only one response. Thus, "Asian" refers to those who only responded Asian (or one of the Asian subcategories). "Hispanic," however, includes all individuals who responded Hispanic/Latino on the ethnicity question, regardless of their race response.

C: Additional Data

In the AIB, we noted that "compared with white graduates, African-American graduates are 11 times more likely to respond '"yes"' than '"no"' and three times more likely to respond '"yes"' than '"undecided"' at graduation." This odds ratio is calculated as follows: 11 = (1,067 [56%] African Americans "yes" multiplied by 7,376 [33%] whites "no")/

(142 [7%] African Americans "no" multiplied by 5,000 [23%] whites "yes"). 3 = (1,067 [56%] African Americans "yes" multiplied by 9,693 [44%] whites "undecided")/(691 [36%] African Americans "undecided" multiplied by 5,000 [23%] whites "yes"). See Tables C2, C3, and C5 below.

Table C1 presents a cross-tabulation of students' responses on the MSQ and the GQ. Tables C2 to C5 present the cross-tabulations by the major race and ethnic groups.

Figures C1 and C2 complement Figure 1 of the *Analysis in Brief*. Figure C1 shows for each race and ethnic group the direction of aspirational change among those who responded "yes" at matriculation. Figure C2 shows for each race and ethnic group the direction of aspirational change among those who responded "no" at matriculation.

Table C1: Change in medical school graduates' intent to serve the underserved from matriculation to graduation, 2005–2009

		Graduation (Graduation Questionnaire)			
		NO	UNDECIDED	YES	**TOTAL**
Matriculation (Matriculating Survey Questionnaire)	NO	4,577	2,433	595	**7,605**
	%	60.2	32.0	6.9	100.0
	UNDECIDED	4,912	9,950	3,539	**18,401**
	%	26.7	54.1	19.2	100.0
	YES	708	2,202	4,477	**7,387**
	%	9.6	29.8	60.6	100.0
	TOTAL	**10,197**	**14,585**	**8,611**	**33,393**
	%	30.5	43.7	25.8	100.0

Table C2: Change in African-American medical school graduates' intent to serve the underserved from matriculation to graduation, 2005–2009

		Graduation (Graduation Questionnaire)			
		NO	UNDECIDED	YES	**TOTAL**
Matriculation (Matriculating Survey Questionnaire)	NO	41	46	22	**109**
	%	37.6	42.2	20.2	100.0
	UNDECIDED	82	418	325	**825**
	%	9.9	50.7	39.4	100.0
	YES	19	227	720	**966**
	%	2.0	23.5	74.5	100.0
	TOTAL	**142**	**691**	**1,067**	**1,900**
	%	7.5	36.4	56.2	100.0

Table C3: Change in Asian medical school graduates' intent to serve the underserved from matriculation to graduation, 2005–2009

		Graduation (Graduation Questionnaire)			
		NO	UNDECIDED	YES	**TOTAL**
Matriculation (Matriculating Survey Questionnaire)	NO	808	430	84	**1,322**
	%	61.1	32.5	6.4	100.0
	UNDECIDED	908	1,838	530	**3,276**
	%	27.7	56.1	16.2	100.0
	YES	125	364	541	**1,030**
	%	12.1	35.3	52.5	100.0
	TOTAL	**1,841**	**2,632**	**1,155**	**5,628**
	%	32.7	46.8	20.5	100.0

Table C4: Change in Hispanic/Latino medical school graduates' intent to serve the underserved from matriculation to graduation, 2005–2009

		Graduation (Graduation Questionnaire)			
		NO	UNDECIDED	YES	**TOTAL**
Matriculation (Matriculating Survey Questionnaire)	NO	131	113	89	**283**
	%	46.3	39.9	13.8	100.0
	UNDECIDED	196	555	323	**1,074**
	%	18.3	51.7	30.1	100.0
	YES	45	163	495	**703**
	%	6.4	23.2	70.4	100.0
	TOTAL	**372**	**831**	**857**	**2,060**
	%	18.1	40.3	41.6	100.0

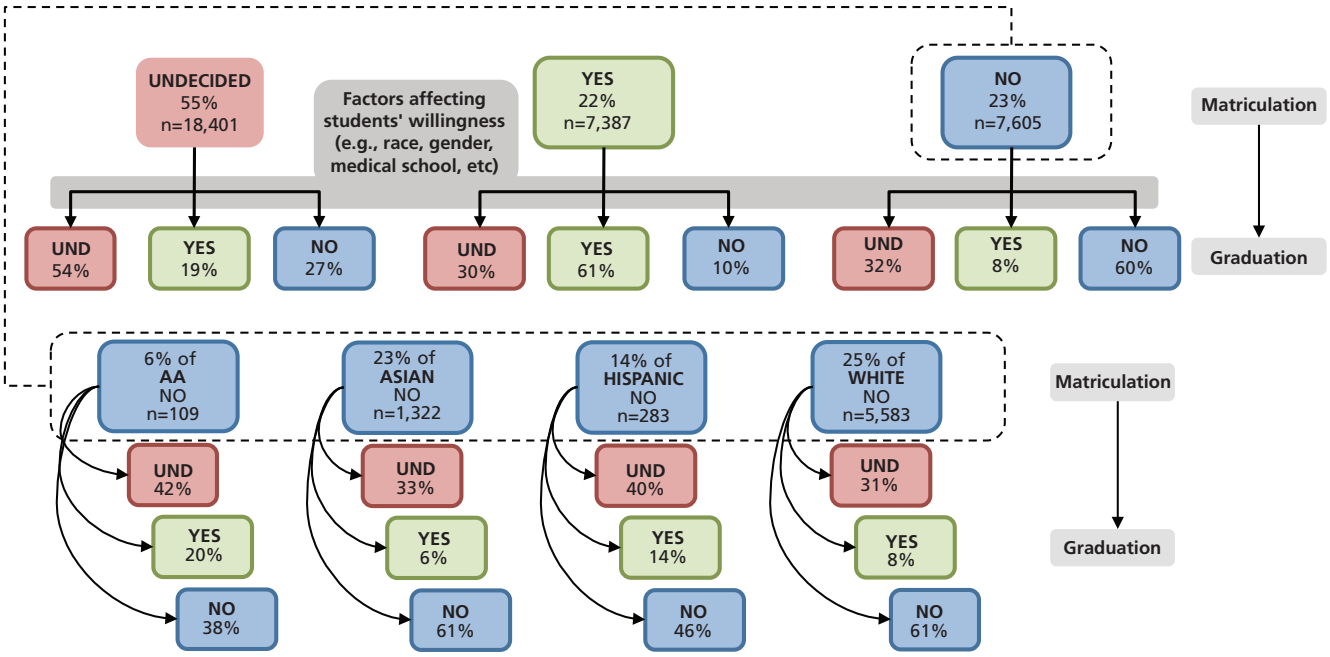
Table C5: Change in white medical school graduates' intent to serve the underserved from matriculation to graduation, 2005–2009

		Graduation (Graduation Questionnaire)			
		NO	UNDECIDED	YES	**TOTAL**
Matriculation (Matriculating Survey Questionnaire)	NO	3,416	1,745	422	**5,583**
	%	61.2	31.3	7.6	100.0
	UNDECIDED	3,489	6,641	2,168	**12,298**
	%	28.4	54.0	17.6	100.0
	YES	471	1,307	2,410	**4,188**
	%	11.3	31.2	57.6	100.0
	TOTAL	**7,376**	**9,693**	**5,000**	**22,069**
	%	33.4	43.9	22.7	100.0

Figure C1: Medical Students' Intention to Serve the Underserved: Direction of Aspirational Change from Matriculation to Graduation ("YES" by race and ethnic group)

Note: "AA" refers to African-American. The sum of "UND,", "YES,", and "NO" may not sum to 100% due to rounding.

Figure C2: Medical Students' Intention to Serve the Underserved: Direction of Aspirational Change from Matriculation to Graduation ("NO" by race and ethnic group)



Note: "AA" refers to African- American. The sum of "UND,", "YES,", and "NO" may not sum to 100% due to rounding.

D: Non-response bias and weighted results

A weight variable was created to ensure that accurate inferences can be made about the target population: medical school graduates who graduated between the years 2005 and 2009. This is especially important for this study since because the percent of graduates that who answered the "underserved" question on both the GQ and the MSQ was below 50%.

A post-stratification, or non-response, weight is created to compensate for lower response rates for certain groups. For example, it is well- known that men are less likely than are women to respond to surveys. A non-response weight compensates for this kind of bias. Each individual (case) has one weight value, and that value dictates how much that individual will count in any analyses. For example, if an individual has the weight of 2, then that individual will be counted 2 times.

Calculating a non-response weight for this study is relatively easy because population-level data, such as SRS or AMCAS data, are readily available. To create a weight for a nationally representative social survey, for example, one would have to obtain U.S. Census-based data for key socio-demographic characteristics of the U.S. population. Similarly, a survey of students from a university would have to obtain university-wide data for key socio-demographic characteristics of the university's student population.

To create the weight variable, we examined socio-demographic characteristics predicting the likelihood of a graduate answering both the MSQ and GQ. The dependent variable equals 1 if the graduate answered both the MSQ *and* GQ, or 0 if they did not answer the MSQ *and* GQ. The independent variables in the model include the typical socio-demographic characteristics used to create weight variables: sex, age (at graduation), region of medical school, and race and ethnicity.

The weight variable is then created by taking the inverse of the predicted probabilities from a logistic regression model; i.e., one divided by the selection probability of a graduate having answered both the MSQ *and* GQ, or 1/p(msqgq).

Although this *AIB* only examines the outcome variable by race and ethnicity, the use of a non-response weight to compensate for any potential bias showed that the results are almost identical to the unweighted results.