

The Social Mission of Medical Education: Ranking the Schools

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Background: The basic purpose of medical schools is to educate physicians to care for the national population. Fulfilling this goal requires an adequate number of primary care physicians, adequate distribution of physicians to underserved areas, and a sufficient number of minority physicians in the workforce.

Objective: To develop a metric called the social mission score to evaluate medical school output in these 3 dimensions.

Design: Secondary analysis of data from the American Medical Association (AMA) Physician Masterfile and of data on race and ethnicity in medical schools from the Association of American Medical Colleges and the Association of American Colleges of Osteopathic Medicine.

Setting: U.S. medical schools.

Participants: 60 043 physicians in active practice who graduated from medical school between 1999 and 2001.

Measurements: The percentage of graduates who practice primary care, work in health professional shortage areas, and are underrepresented minorities, combined into a composite social mission score.

Results: The contribution of medical schools to the social mission of medical education varied substantially. Three historically black colleges had the highest social mission rankings. Public and community-

based medical schools had higher social mission scores than private and non-community-based schools. National Institutes of Health funding was inversely associated with social mission scores. Medical schools in the northeastern United States and in more urban areas were less likely to produce primary care physicians and physicians who practice in underserved areas.

Limitations: The AMA Physician Masterfile has limitations, including specialty self-designation by physicians, inconsistencies in reporting work addresses, and delays in information updates. The public good provided by medical schools may include contributions not reflected in the social mission score. The study was not designed to evaluate quality of care provided by medical school graduates.

Conclusion: Medical schools vary substantially in their contribution to the social mission of medical education. School rankings based on the social mission score differ from those that use research funding and subjective assessments of school reputation. These findings suggest that initiatives at the medical school level could increase the proportion of physicians who practice primary care, work in underserved areas, and are underrepresented minorities.

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Medical schools in the United States serve many functions, but one of their most basic purposes is to educate physicians to care for the national population. During the latter half of the 20th century, with federal and state support, medical education expanded to meet population needs (1). However, 3 specific interrelated issues challenged medical educators and policymakers: an insufficient number of primary care physicians, geographic maldistribution of physicians, and the lack of a representative number of racial and ethnic minorities in medical schools and in practice.

As early as the 1950s, commissions concerned with the medical workforce in the United States issued reports that raised these concerns (2–4). These reports helped launch legislation beginning with the Health Professions Educational Assistance Act of 1963 that provided support for expansion of medical education with particular attention to primary care,

physician distribution, and educational opportunities for minority medical students. The National Health Service Corps, created in 1970, provided scholarships for students who committed to practice in underserved communities. Of the 28 allopathic medical schools opened with the aid of substantial state and federal support between 1970 and 1982, the Association of American Medical Colleges designated 17 as community-based (Salsberg E. Personal communication).

Nevertheless, problems in these 3 areas remain. Evidence increasingly shows that primary care is associated with improved quality of care and decreased medical costs (5, 6). However, an insufficient number of primary care physicians has hampered efforts to provide expanded health care access in states, such as in Massachusetts (7), and business groups and insurers have begun to speak out about the need for increased access to primary care (8).

Rural communities have a chronic shortage of physicians (9, 10), and federally supported community health centers report major deficits in physician recruitment (11, 12). African-American, Hispanic, and Native-American physicians continue to be severely underrepresented in the U.S. workforce. Underrepresented minorities made up 28% of the general population in 2006 (13) but accounted for only 15% of medical students and 8% of physicians in practice (14). These minority physicians provide a disproportionate share of health care to the growing minority U.S. population (15).

See also:

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Web-Only

Appendix

Conversion of graphics into slides

Medical schools contribute numerous important public goods to society beyond training the future physician workforce. They generate new scientific knowledge, are the home of leading-edge clinical treatments, and often provide substantial health care to underserved communities through their university hospitals and affiliates. Medical schools, however, are the only institutions in our society that can produce physicians; yet assessments of medical schools, such as the well-known *U.S. News & World Report* ranking system, often value research funding, school reputation, and student selectivity factors (16) over the actual educational output of each school, particularly regarding the number of graduates who enter primary care, practice in underserved areas, and are underrepresented minorities.

As citizens and policymakers reconsider the U.S. health care system and seek “quality, affordable health care for every American” (17), the nature of the physician workforce is becoming a key concern (18, 19). Many people believe that medical schools are accountable to society for their actions and accomplishments (20–22). Beyond their general educational mission, medical schools are expected to have a social mission to train physicians to care for the population as a whole, taking into account such issues as primary care, underserved areas, and workforce diversity (23–26).

We describe the analytic method that we used to measure the output of U.S. allopathic and osteopathic medical schools in these historically linked and traditionally challenging dimensions. We constructed a social mission score to summarize overall school performance in these areas.

METHODS

Our analysis is based on the percentage of medical school graduates who practice primary care, work in health professional shortage areas (HPSAs), and are underrepresented minorities. The analysis was performed using data on graduates from 1999 to 2001 to capture the most recent cohort of graduates who had completed all types of residency training and national service obligations, such as the National Health Service Corps and the military’s Health Professions Scholarship Program, both of which may involve up to 4 years of service. These factors were essential to determine graduates’ actual choices of location and specialty rather than intermediary placements.

We analyzed multiple years to account for annual variations and included the 141 U.S. allopathic and osteopathic schools that graduated students between 1999 and 2001. We used the 2008 American Medical Association (AMA) Physician Masterfile to calculate the percentage of graduates practicing primary care and located in HPSAs. All physicians except for those listed as residents or fellows or those employed as administrators, primarily engaged in research or teaching, or who were no longer active (7.4% of the study group) were included. International medical

school graduates were excluded. We used publicly available data on the race and ethnicity of graduates from the Association of American Medical Colleges and the Association of American Colleges of Osteopathic Medicine (27) to calculate the percentage of graduates who were underrepresented minorities.

We obtained standardized values for each of the 3 measures, with a mean value of 0 (SD, 1).

Primary Care Measure

Primary specialty information from the AMA Physician Masterfile was used to calculate the percentage of primary care graduates for each medical school. Primary care physicians included those in family medicine, general internal medicine, general pediatrics, or internal medicine pediatrics.

HPSA Measure

The Health Resources and Services Administration identifies HPSAs on the basis of 3 primary criteria (population–provider ratios, poverty rate, and travel distance or time to the nearest accessible source of care) and several secondary criteria (including infant mortality and low-birthweight rates and proportion of the population younger than 18 years or older than 65 years). We calculated the percentage of graduates from each medical school with an address in an HPSA. Health professional shortage area geographic data were downloaded from the Health Resources and Services Administration’s Geospatial Data Warehouse (28). We geocoded addresses from the AMA Physician Masterfile by using the spatial mapping tool ArcGIS (ESRI, Redlands, California) to determine physician location within a primary care HPSA using geographic and population-based definitions of primary care HPSAs to determine the greatest number of graduates working in HPSAs.

This method probably overestimates the number of physicians practicing in underserved areas by including some physicians working in non-HPSA settings, such as academic health centers. For physicians with a preferred mailing address not identified as a work address, we used the alternative address, if available, to increase the likelihood of obtaining a work rather than home address (29).

Underrepresented Minority Measure

On the basis of conventions used by the Association of American Medical Colleges, we defined underrepresented minorities as African-American, Hispanic, and Native-American persons. For the medical school graduating classes of 1999 to 2001, we divided the total number of underrepresented minority graduates for each medical school by the total number of graduates to create a raw percentage of minority medical school graduates for each school. Because the percentage of underrepresented minorities among states varied substantially, we adjusted each school’s raw percentage.

Table 1. Medical School Rankings Based on Social Mission Score*

Rank	School	State	Social Mission Score†	Primary Care Physicians		Physicians Practicing in HPSAs	
				Total, %	Standardized Score‡	Total, %	Standardized Score‡
Highest 20							
1	Morehouse College	GA	13.98	43.7	1.20	39.1	1.40
2	Meharry Medical College	TN	12.92	49.3	2.00	28.1	0.14
3	Howard University	DC	10.66	36.5	0.19	33.7	0.78
4	Wright State University Boonshoft School of Medicine	OH	5.34	49.2	1.98	28	0.12
5	University of Kansas	KS	4.49	45.2	1.42	43.9	1.96
6	Michigan State University	MI	4.13	43.6	1.20	26.5	-0.05
7	East Carolina University Brody School of Medicine	NC	3.72	51.9	2.36	34.2	0.84
8	University of South Alabama	AL	3.15	42	0.97	52.7	2.97
9	Universidad de Puerto Rico en Ponce	PR	3.02	33	-0.31	43.8	1.94
10	University of Iowa Carver College of Medicine	IA	2.97	37.1	0.28	21	-0.69
11	Oregon Health & Science University	OR	2.93	43.8	1.22	43.8	1.94
12	East Tennessee State University Quillen College of Medicine	TN	2.88	53.5	2.58	32.7	0.67
13	University of Mississippi	MS	2.86	33.5	-0.24	62.5	4.11
14	University of Kentucky	KY	2.61	39.8	0.65	32.5	0.64
15	Southern Illinois University	IL	2.59	45	1.39	46.5	2.26
16	Marshall University Joan C. Edwards University	WV	2.51	46.8	1.64	20.9	-0.70
17	University of Massachusetts Medical School	MA	2.48	45.9	1.52	36.7	1.12
18	University of Illinois	IL	2.27	36.7	0.21	35.7	1.01
19	University of New Mexico	NM	2.25	46.7	1.63	30.7	0.43
20	University of Wisconsin	WI	2.24	35.7	0.07	19.3	-0.87
Lowest 20§							
1	Vanderbilt University	TN	-3.95	21.9	-1.86	20.8	-0.70
2	University of Texas Southwestern Medical Center	TX	-3.64	26.8	-1.18	15.1	-1.36
3	Northwestern University Feinberg School of Medicine	IL	-3.11	24.4	1.51	19.5	-0.86
4	University of California, Irvine	CA	-3.02	32.9	-0.32	14.2	-1.47
5	New York University	NY	-2.65	24.3	-1.53	22.1	-0.55
6	University of Medicine and Dentistry of New Jersey	NJ	-2.46	23.7	-1.61	17.8	-1.05
7	Uniformed Services University of the Health Sciences	MD	-2.36	29.6	-0.78	21.4	-0.64
8	Thomas Jefferson University	PA	-2.34	32.1	-0.42	20.6	-0.72
9	Stony Brook University	NY	-2.21	29.1	-0.85	20.4	-0.76
10	Albert Einstein College of Medicine of Yeshiva University	NY	-2.13	26.1	-1.28	24.8	-0.25
11	Boston University	MA	-2.12	26.7	-1.19	23.3	-0.42
12	Loyola University Chicago Stritch School of Medicine	IL	-2.06	33.7	-0.20	20.7	-0.72
13	University of Pennsylvania	PA	-2.03	19.1	-2.27	20.4	-0.76
14	Medical College of Wisconsin	WI	-2.02	33.5	-0.23	15.9	-1.28
15	University at Albany, State University of New York	NY	-2.00	30.7	-0.63	24.2	-0.32
16	Columbia University	NY	-1.98	20.3	-2.10	31.8	0.57
17	Texas A&M University	TX	-1.95	37	0.26	16.2	-1.24
18	Duke University	NC	-1.91	22.3	-1.82	23.9	-0.34
19	Stanford University	CA	-1.90	27.4	-1.10	16.2	-1.23
20	Johns Hopkins University	MD	-1.90	24.3	-1.53	26.7	-0.02

HPSA = health professional shortage area.

* The ranking of all 141 schools is in the Appendix, available at www.annals.org.

† The sum of the primary care, HPSA, and underrepresented minority standardized scores.

‡ The standardized value calculated for each measure, with a mean value of 0 (SD, 1).

§ Ranked from lowest to highest (i.e., rank 1 is the lowest-performing school).

Public medical schools primarily admit students from within their states; therefore, we calculated the ratio of the proportion of underrepresented minorities graduated by the school to the proportion of underrepresented minorities living in the state. For private schools, which admit students from a more national pool, we calculated the ratio of the proportion graduated by the school to the national proportion. We calculated ratios for public and private Puerto Rican schools by using the proportion of underrepresented minorities in Puerto Rico because these schools

primarily recruit from and produce physicians who practice in Puerto Rico. To calculate the percentage of state and national underrepresented minorities, we used data from the U.S. Census Bureau.

Three historically black medical schools with a high proportion of graduates who are underrepresented minorities created a significantly skewed distribution. To normalize the skewed distribution, we calculated the standardized scores without these 3 schools, then reincluded them by using the calculated mean value and SD.

Table 1—Continued

School–State (Nation) Ratio of Underrepresented Minorities		Underrepresented Minorities in the School, %	Underrepresented Minorities in the State (Nation), %
Ratio	Standardized Score‡		
3.15	11.38	83.3	26.5
2.99	10.78	79.3	26.5
2.71	9.68	71.9	26.5
1.31	3.23	19.0	14.5
0.77	1.12	11.6	15.1
1.24	2.99	23.7	19.1
0.62	0.52	17.3	28.1
0.29	−0.78	8.2	28.7
0.84	1.38	82.5	98.8
1.35	3.38	8.1	6.0
0.43	−0.23	5.5	13.0
0.39	−0.37	7.6	19.5
0.23	−1.01	8.8	38.3
0.82	1.32	8.0	9.8
0.22	−1.06	6.1	28.3
0.89	1.58	4.2	4.7
0.44	−0.16	5.9	13.3
0.75	1.05	21.2	28.3
0.53	0.19	28.8	53.9
1.26	3.03	13.8	11.0
0.13	−1.38	3.6	26.5
0.21	−1.09	9.3	44.7
0.30	−0.74	7.9	26.5
0.17	−1.24	7.0	41.2
0.34	−0.57	9.0	26.5
0.54	0.20	14.8	27.7
0.24	−0.95	6.5	26.5
0.18	−1.19	4.8	26.5
0.33	−0.60	10.5	31.7
0.33	−0.60	8.8	26.5
0.35	−0.52	9.4	26.5
0.20	−1.14	5.2	26.5
0.74	0.99	19.5	26.5
0.36	−0.51	9.4	26.5
0.22	−1.06	5.7	26.5
0.37	−0.45	9.8	26.5
0.24	−0.97	10.6	44.7
0.55	0.24	14.5	26.5
0.59	0.43	15.7	26.5
0.40	−0.35	10.5	26.5

Composite Index and Aggregate Analysis

We constructed a composite score by using a simple sum of these 3 standardized measures. We also developed an alternative composite score comprising the sum of each school's within-component ranking on a theoretical scale from 3 (1 + 1 + 1) to 434 (141 + 141 + 141) (rank-sum approach). We reported results using the composite measure sum ranking because these findings were not very different from those using the rank-sum approach and because the simple sum measure preserves information about the magnitude of differences across schools for each measure.

We also analyzed schools in aggregate by geographic region, size of the metropolitan area of the school's main campus, private or public status, National Institutes of Health (NIH) support (30), allopathic or osteopathic status, and classification as a community-based school by the Association of American Medical Colleges and determined weighted mean scores for each classification (**Appendix**, available at www.annals.org). Because of the differences in school sizes, the numbers of graduates per school were weighted into the mean value. We obtained regional classifications from the U.S. Census Bureau (31) and county size classifications from the U.S. Department of Agriculture's Rural–Urban Continuum Codes (32). We used analysis-of-variance models to compare the composite scores and the 3 specific scores across different school characteristics.

Role of the Funding Source

This study was conducted as part of the Medical Education Futures Study, which is funded by the Josiah Macy, Jr. Foundation to examine the social mission of medical education during the current period of medical school expansion. The funding source had no role in the study design, data collection, or interpretation of results.

RESULTS

Table 1 shows the 20 schools with the highest and lowest social mission scores and the primary care, HPSA, and underrepresented minority measures on which the schools' composite scores were based. The ranking of all 141 schools is in the **Appendix** (available at www.annals.org).

Aggregate analyses (**Table 2**) suggest differences in social mission score and components by geographic region and the size of the metropolitan area in which the schools are located. No region was clearly advantaged in all 3 measures; however, the South, West, and Midwest had positive social mission scores, whereas the Northeast had a negative social mission score. Western schools produced more primary care physicians, and Southern schools produced more physicians who practice in underserved areas. Southern schools also had the largest percentage of underrepresented minorities among their graduates but, after correction for underrepresented minorities in the regional population, had the same relative representation of minorities as Midwestern schools. Schools in progressively smaller metropolitan areas produced increasingly more primary care physicians and physicians who practice in underserved areas but graduated fewer underrepresented minorities.

Compared with allopathic schools, osteopathic schools produced relatively more primary care physicians but trained fewer underrepresented minorities. Public schools scored higher on the composite social mission score and in all 3 component measures, although the differences between public and private schools were not statistically sig-

Table 2. Comparison of Social Mission Scores, by Location, School Type, and Funding*

Characteristic	Schools, n	Social Mission Score†	Primary Care Physicians		Physicians Practicing in HPSAs		School–State (Nation) Ratio of Underrepresented Minorities		Underrepresented Minority Graduates, %
			Total, %	Standardized Score‡	Total, %	Standardized Score‡	Ratio	Standardized Score‡	
Region§ 									
Midwest	37	0.14	36.0	0.12	25.5	−0.16	0.53	0.18	9.3
Northeast	34	−1.05	31.2	−0.55	23.8	−0.36	0.45	−0.13	11.4
South	49	0.46	35.4	0.03	28.6	0.19	0.54	0.23	14.8
West	18	0.12	38.6	0.49	24.1	−0.32	0.47	−0.04	13.8
P value¶		0.015		<0.001		0.027		0.417	
Rural–urban continuum§ 									
MSA >1 million persons	85	−0.38	33.6	−0.22	24.7	−0.26	0.51	0.10	13.3
MSA, 250 000–1 million persons	34	0.48	37.1	0.28	28.5	0.18	0.49	0.03	10.1
MSA <200 000 persons	15	1.10	38.8	0.51	28.8	0.21	0.58	0.38	8.8
Non-MSA	4	0.57	39.2	0.57	30.0	0.36	0.39	−0.36	6.1
P value¶		0.065		0.006		0.072		0.855	
Community-based (allopathic medical schools only)									
No	107	−0.20	33.4	−0.24	25.7	−0.14	0.53	0.18	13.4
Yes	17	1.47	39.8	0.66	28.4	0.17	0.64	0.64	19.7
P value¶		0.024		0.003		0.335		0.346	
School type									
Allopathic	124	−0.07	33.9	−0.17	25.9	−0.12	0.54	0.21	13.9
Osteopathic	17	0.08	39.9	0.67	26.7	−0.03	0.34	−0.57	8.3
P value¶		0.782		<0.001		0.710		0.029	
Funding									
Private	59	−0.58	32.7	−0.34	25.1	−0.21	0.47	−0.03	13.5
Public	82	0.37	36.3	0.17	26.7	−0.02	0.54	0.22	12.9
P value¶		0.009		0.001		0.244		0.255	
NIH support									
Quartile 1 (\$0–\$17 million)	36	0.15	38.9	0.53	27.0	0.01	0.39	−0.39	11.1
Quartile 2 (\$18–\$84 million)	35	0.64	35.1	−0.01	29.2	0.26	0.57	0.39	15.9
Quartile 3 (\$85–\$244 million)	35	−0.37	34.2	−0.14	24.2	−0.31	0.50	0.08	12.5
Quartile 4 (\$246–\$897 million)	35	−0.52	31.4	−0.54	24.2	−0.31	0.57	0.32	13.1
P value¶		0.090		<0.001		0.026		0.130	

HPSA = health professional shortage area; MSA = metropolitan statistical area; NIH = National Institutes of Health.

* Social mission scores and percentages and scores of primary care physicians, HPSAs, and underrepresented minorities are averages weighted by school size.

† The sum of the primary care, HPSA, and underrepresented minority standardized scores.

‡ The standardized value calculated for each measure, with a mean value of 0 (SD, 1).

§ These weighted averages exclude Puerto Rican schools.

|| These data were obtained from the U.S. Census Bureau.

¶ P values are obtained from analysis of variance comparing scores within categories.

nificant for the underserved area and underrepresented minority components.

Funding by the NIH was inversely associated with social mission score and with a school's output of primary care physicians and physicians practicing in underserved areas. Community-based schools scored higher than non-community-based schools in the composite social mission score and in all 3 component measures, although the differences between community-based and non-community-based schools were not statistically significant for the underserved area and underrepresented minority components.

School rankings obtained by using the social mission score in a secondary analysis based on the rank-sum ap-

proach were strongly correlated with rankings obtained by using the social mission score as a sum of composite score measures ($r = 0.971$). Fifteen of the top-20 schools in the composite-score sum rankings were also ranked among the top-20 schools when the alternative rank-sum scoring method was used. Giving greater weight to individual outliers with our composite measure caused some of these differences. For example, the University of Mississippi ranked 13th on social mission on the basis of composite score measures but 63rd in the alternative rank-sum ranking, because a very high percentage (62.5%) of the school's graduates practice in HPSAs; the school's relatively low percentage of graduates who practice primary care (33.5%) or are underrepresented minorities (school–state ratio,

0.23) contributed to its lower score compared with the sum of each school's within-component ranks.

DISCUSSION

Primary care physician output, practice in underserved areas, and a diverse physician workforce have persistently challenged the U.S. health care system and medical education. This analysis reveals substantial variation in the success of U.S. medical schools in addressing these issues.

Ranking schools is not new. Since 1983, *U.S. News & World Report* has published rankings of colleges and graduate schools (33) that are based on the amount of sponsored research at the schools; student selectivity criteria, such as Medical College Admission Test scores and grade point averages; and subjective assessments made by medical school deans and residency directors (34). In 1995, *U.S. News & World Report* added a primary care rating system that takes into account the percentage of graduates entering primary care residencies. However, their primary care rating continues to include faculty opinion and student-selectivity measures (17). Moreover, this system does not measure the actual number of graduates entering primary care practice after completing their residencies or score the number of graduates who practice in underserved areas or are underrepresented minorities. Because of these differences, our results vary considerably from the *U.S. News & World Report's* rankings. Our findings suggest numerous areas that are relevant to public policymakers and medical educators as they consider the design of new medical schools and the expansion of current ones.

The 3 historically black colleges and universities with medical schools (Morehouse College, Meharry Medical College, and Howard University) score at the top of the social mission rankings. These results are not unexpected, as 70% to 85% of each of these schools' graduating classes were underrepresented minorities compared with only 13.5% in all medical schools during the same period. The higher underrepresented minority scores alone significantly increase these schools' social mission scores. However, all of these schools also score in the top half of the primary care and underserved output measures.

Previous studies have shown that underrepresented minority physicians provide relatively more care to minority and underserved populations compared with non-minority physicians (35, 36). Our findings, in conjunction with these studies, suggest that expansion programs focused on the recruitment and training of underrepresented minority medical students could have disproportionately favorable effects on the geographic maldistribution of physicians and inadequate primary care workforce.

Public schools graduate higher proportions of primary care physicians. Public schools also seem to graduate greater proportions of physicians practicing in underserved areas and of minority physicians than private schools; how-

ever, the differences between public and private schools in these 2 components were not statistically significant. These findings indicate that public schools are more responsive to the population-based and distributional physician workforce needs that concern legislators, and suggest that enhanced support for medical education at the state level could address workforce needs more effectively than would investment in private schools.

Furthermore, the higher social mission score of community-based medical schools suggest that a school's explicit commitment to educate physicians who will pursue careers compatible with community needs has long-term effects on the career choices of its graduates. However, the difference between the high proportion of graduates practicing in underserved areas and that of minority physicians at these schools was not statistically significant compared with those of non-community-based colleges, and the successes of Morehouse College (1 of the 17 community-based colleges and a clear outlier in at least the underrepresented minority component) may have contributed to the higher social mission score for community-based colleges overall.

The level of NIH support that medical schools received was inversely associated with their output of primary care physicians and physicians practicing in underserved areas. High levels of research funding clearly indicate an institutional commitment to research and probably indicate missions that value technical medicine and specialization rather than training in primary care and practice in underserved areas. Our findings suggest that schools with smaller research portfolios are more likely to focus on training physicians for community and population needs, although schools in the lowest quartile of NIH funding also scored lower for underrepresented minority output than did schools with higher levels of NIH funding. Nevertheless, we propose that educational ranking systems that place significant weight on research funding may confuse discussions of national educational policy by conflating research values with national clinical needs.

Compared with other U.S. regions, the Northeast, with its preponderance of private, traditional, and research-intensive medical schools, had the lowest scores in the primary care and underserved areas components and a distinctly lower social mission score. The size of the metropolitan area in which schools are located also seems to affect the social mission score. For example, medical schools in less urban areas were more likely to produce primary care physicians and physicians practicing in underserved areas. These findings may be particularly useful for individuals or organizations considering building new schools or developing branch campuses of existing schools.

Our findings indicate that osteopathic schools continue to place substantially more graduates into primary care and marginally more graduates into underserved areas, suggesting that osteopathic medicine has continued to be influenced by its traditional focus on primary care and

rural practice (37–39). However, allopathic schools have recruited more underrepresented minorities than osteopathic schools. Osteopathic medicine has been creative in establishing new schools in nontraditional locations, such as Pikeville, Kentucky, and Harlem, New York, and in developing innovative community-based programs, such as A.T. Still University in Mesa, Arizona, where all clinical work is based at 1 of 10 community health centers. The outcomes of these programs need to be measured, but their flexibility and inventiveness commend them to planners concerned with training a broad-based physician workforce.

Our analysis also provides an opportunity to identify schools that defy the trends. Four large research institutions (University of Minnesota; University of Washington; University of California, San Diego; and University of Colorado) are in the top quartile of medical school recipients of NIH funding and of primary care output rankings. In addition, University of Washington and University of Minnesota are in the top quartile for overall social mission score. These findings invite questions about what factors influence graduates of these schools to choose primary care and whether those influences might be transferable to other schools. Our findings also raise questions about why some community-based public medical schools that seem well situated to have high social mission scores do not have them.

Our study has limitations. First, we used the AMA Physician Masterfile as a primary data source, although self-designation by physicians, inconsistencies in reporting work addresses, and a delay in information updates (40–42) raise concerns about its accuracy. Where possible, we addressed these problems by, for example, attempting to minimize location inaccuracy by preferentially using secondary addresses when the primary address was a home address. These shortcomings may cause some inaccuracies, but we did not clearly identify any likely systematic biases.

Second, we selected a 1999 to 2001 graduating class cohort to allow graduates to complete transitional placements in residency training and service obligations. Our findings therefore do not reflect changes in medical school policies in the past 10 years and social mission performance of newer medical schools. These factors suggest the need for future analyses, possibly on an ongoing basis, to monitor more recent performance or trends.

Third, our measurement of social mission may raise objections on the grounds that the values taught in medical school are subject to influences beyond the control of medical educators, such as specialty incomes, student debt, and lifestyle preferences. Although this concern is understandable, medical schools as an enterprise have enormous influence over the creation of physicians, including the location and mission of the school and its recruitment and admission practices, curriculum, and values that the faculty model for students. No other institution involved in creating physicians has as much influence as the medical school.

The variable career patterns of graduates of different medical schools, as shown here, seems to validate the premise that schools have considerable influence in the type of graduate that they produce.

Finally, our measure of social mission says nothing about the quality of education that medical schools provide or the quality of care that their students deliver 7 to 9 years after graduating. Standardization of competency is ensured in the U.S. medical education system through institutional and individual accreditation processes, such as the Liaison Committee on Medical Education and the United States Medical Licensing Examination, respectively, as well as through specialty certification processes by medical specialty boards meant to verify and maintain the quality of graduates. In this context, we propose that graduates of schools with strong social mission measures are likely to be among the most well-prepared practitioners for primary care and for the care of minority or underserved populations.

In conclusion, we found substantial variation in the success of individual U.S. medical schools in recruiting and educating students to address the social mission of medical education, defined as graduating physicians who practice primary care and work in underserved areas and recruiting and graduating young physicians who are underrepresented minorities. Some schools may choose other priorities, but in this time of national reconsideration, it seems appropriate that all schools examine their educational commitment regarding the service needs of their states and the nation. A diverse, equitably distributed physician workforce with a strong primary care base is essential to achieve quality health care that is accessible and affordable, regardless of the nature of any future health care reform.

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Appendix Table 1. Community-Based Medical Schools*

Medical School	Location
University of North Dakota	Grand Forks, ND
University of South Dakota Sanford School of Medicine	Sioux Falls, SD
Michigan State University	East Lansing, MI
University of Hawai'i John A. Burns School of Medicine	Honolulu, HI
University of Nevada	Reno, NV
Texas Tech University	Lubbock, TX
Eastern Virginia Medical School	Norfolk, VA
Southern Illinois University	Springfield, IL
Wright State University	Dayton, OH
Northeastern Ohio University	Rootstown, OH
University of South Carolina	Columbia, SC
Marshall University Joan C. Edwards University	Huntington, WV
Ponce School of Medicine	Ponce, PR
East Tennessee State University	Johnson City, TN
Universidad Central del Caribe	Bayamón, PR
Morehouse College	Atlanta, GA
Mercer University	Macon, GA

* List provided by the Association of American Medical Colleges. *Community-based medical school* is defined as a medical school that does not have an integrated teaching hospital, received full accreditation in 1972 or later, and is nonfederal. Florida State University meets these criteria but has been excluded from the list since it did not have graduates during the study period.

Appendix Table 2. Medical School Primary Care Physician Output

Rank	School	State	Primary Care Physician Output	
			Total, %	Standardized Score*
1	East Tennessee State University Quillen College of Medicine	TN	53.5	2.58
2	East Carolina University Brody School of Medicine	NC	51.9	2.36
3	West Virginia SOM	WV	49.5	2.02
4	Meharry Medical College	TN	49.3	2.00
5	Wright State University Boonshoft School of Medicine	OH	49.2	1.98
6	Medical University of South Carolina	SC	48.2	1.84
7	North Texas COM	TX	47.3	1.71
8	Mercer University	GA	47.0	1.67
9	Marshall University Joan C. Edwards University	WV	46.8	1.64
10	University of New Mexico	NM	46.7	1.63
11	Des Moines COM	IA	46.7	1.62
12	Western COM	CA	46.4	1.58
13	University of Massachusetts Medical School	MA	45.9	1.52
14	University of Minnesota	MN	45.6	1.47
15	University of Kansas	KS	45.2	1.42
16	Southern Illinois University	IL	45.0	1.39
17	University of Washington	WA	44.6	1.33
18	New England COM	ME	44.2	1.27
19	Oregon Health & Science University	OR	43.8	1.22
20	Morehouse College	GA	43.7	1.20
21	Michigan State University	MI	43.6	1.20
22	University of Hawai'i John A. Burns School of Medicine	HI	43.2	1.14
23	University of Arkansas	AR	42.6	1.05
24	University of California, Davis	CA	42.3	1.01
25	University of South Alabama	AL	42.0	0.97
26	University of North Dakota	ND	41.5	0.90
27	Chicago COM Midwestern	IL	40.9	0.81
28	Eastern Virginia Medical School	VA	40.9	0.81
29	Nova Southeastern COM	FL	40.7	0.78
30	West Virginia University	WV	40.5	0.76
31	University of Kentucky	KY	39.8	0.65
32	University of California, San Diego	CA	39.5	0.61
33	University of Colorado	CO	39.2	0.58
34	University of Nebraska	NE	39.2	0.58
35	University of South Dakota Sanford School of Medicine	SD	39.1	0.56
36	University of Louisville	KY	38.8	0.51
37	New York COM	NY	38.7	0.50
38	A.T. Still University, Kirksville COM	MO	38.6	0.48
39	Lake Erie COM	PA	38.3	0.45
40	University of Texas, San Antonio	TX	38.3	0.45
41	University of Tennessee	TN	38.3	0.44

Appendix Table 2: Continued

Rank	School	State	Primary Care Physician Output	
			Total, %	Standardized Score*
42	Pennsylvania State University	PA	38.1	0.42
43	Medical College of Georgia	GA	37.6	0.34
44	University of Pittsburgh	PA	37.2	0.30
45	University of Iowa Carver College of Medicine	IA	37.1	0.28
46	Texas A&M University	TX	37.0	0.26
47	Ohio COM	OH	37.0	0.26
48	University of Southern California Keck School of Medicine	CA	36.9	0.25
49	Drexel University	PA	36.8	0.23
50	Kansas City COM	MO	36.7	0.22
51	University of Missouri, Kansas City	MO	36.7	0.22
52	University of Illinois	IL	36.7	0.21
53	Howard University	DC	36.5	0.19
54	University of Vermont	VT	36.4	0.17
55	University of Alabama	AL	36.3	0.16
56	University of Maryland	MD	36.3	0.16
57	Loma Linda University	CA	36.3	0.16
58	University of Connecticut	CT	36.2	0.15
59	Midwestern University Arizona COM	AZ	36.2	0.15
60	University of Missouri, Columbia	MO	36.2	0.15
61	University of California, San Francisco	CA	36.1	0.13
62	University of California, Los Angeles	CA	35.9	0.11
63	St. Louis University	MO	35.9	0.10
64	University of Toledo	OH	35.8	0.10
65	Texas Tech University	TX	35.8	0.09
66	University of Wisconsin	WI	35.7	0.07
67	Philadelphia COM	PA	35.5	0.05
68	University of Arizona	AZ	35.3	0.02
69	Michigan State University COM	MI	35.3	0.02
70	University of Texas, Galveston	TX	35.3	0.02
71	University of Miami Miller School of Medicine	FL	35.2	0.00
72	University of Cincinnati	OH	35.0	-0.02
73	Tufts University	MA	35.0	-0.02
74	Ohio State University	OH	35.0	-0.02
75	New York Medical College	NY	34.9	-0.04
76	Virginia Commonwealth University	VA	34.7	-0.06
77	University of Oklahoma	OK	34.4	-0.10
78	Creighton University	NE	34.2	-0.13
79	Indiana University	IN	34.1	-0.14
80	Dartmouth College	NH	34.1	-0.14
81	University of Virginia	VA	34.1	-0.15
82	University of Florida	FL	34.0	-0.17
83	Loyola University Stritch School of Medicine	IL	33.7	-0.20
84	Medical College of Wisconsin	WI	33.5	-0.23

Appendix Table 2: Continued

Rank	School	State	Primary Care Physician Output	
			Total, %	Standardized Score*
85	University of Mississippi	MS	33.5	-0.24
86	Oklahoma State COM	OK	33.5	-0.24
87	Temple University	PA	33.5	-0.24
88	University of Nevada	NV	33.3	-0.26
89	Wake Forest University	NC	33.2	-0.27
90	George Washington University	DC	33.1	-0.29
91	University of Buffalo	NY	33.0	-0.31
92	Ponce School of Medicine	PR	33.0	-0.31
93	University of California, Irvine	CA	32.9	-0.32
94	University of Utah	UT	32.5	-0.38
95	University of North Carolina, Chapel Hill	NC	32.4	-0.38
96	University of South Carolina	SC	32.4	-0.39
97	Brown University Alpert Medical School	RI	32.4	-0.39
98	Georgetown University	DC	32.3	-0.40
99	Emory University	GA	32.3	-0.40
100	Rosalind Franklin University Chicago Medical School	IL	32.3	-0.40
101	Thomas Jefferson University	PA	32.1	-0.42
102	Northeastern Ohio Universities	OH	32.1	-0.42
103	Louisiana State University, Shreveport	LA	31.9	-0.46
104	State University of New York Upstate Medical University	NY	31.9	-0.46
105	Rush University	IL	31.8	-0.48
106	Louisiana State University, New Orleans	LA	31.8	-0.48
107	University of Medicine and Dentistry of New Jersey SOM	NJ	31.6	-0.50
108	University of Michigan	MI	31.5	-0.51
109	Albany Medical College	NY	30.7	-0.63
110	Baylor University	TX	30.3	-0.69
111	Wayne State University	MI	30.1	-0.71
112	Universidad del Caribe	PR	30.1	-0.71
113	University of Texas, Houston	TX	30.1	-0.71
114	Tulane University	LA	30.0	-0.73
115	Uniformed Services University of the Health Sciences	MD	29.6	-0.78
116	Yale University	CT	29.3	-0.83
117	Stony Brook University	NY	29.1	-0.85
118	University of Rochester	NY	29.0	-0.87
119	Washington University in St. Louis	MO	28.4	-0.95
120	University of Medicine and Dentistry of New Jersey Robert Wood Johnson Medical School	NJ	27.7	-1.05
121	Stanford University	CA	27.4	-1.10
122	Case Western Reserve University	OH	27.0	-1.14
123	University of Texas Southwestern	TX	26.8	-1.18
124	Boston University	MA	26.7	-1.19

Appendix Table 2: Continued

Rank	School	State	Primary Care Physician Output	
			Total, %	Standardized Score*
125	Albert Einstein College of Medicine of Yeshiva University	NY	26.1	-1.28
126	Mount Sinai School of Medicine	NY	26.0	-1.29
127	State University of New York Downstate College of Medicine	NY	24.5	-1.51
128	Northwestern University Feinberg School of Medicine	IL	24.4	-1.51
129	Johns Hopkins University	MD	24.3	-1.53
130	New York University	NY	24.3	-1.53
131	University of South Florida	FL	23.8	-1.59
132	Mayo Clinic	MN	23.8	-1.60
133	University of Medicine and Dentistry of New Jersey, New Jersey	NJ	23.7	-1.61
134	Harvard University	MA	22.7	-1.76
135	University of Chicago Pritzker School of Medicine	IL	22.6	-1.77
136	Duke University	NC	22.3	-1.82
137	Universidad de Puerto Rico	PR	22.2	-1.82
138	Vanderbilt University	TN	21.9	-1.86
139	Columbia University	NY	20.3	-2.10
140	University of Pennsylvania	PA	19.1	-2.27
141	Weill Cornell Medical College	NY	18.5	-2.30

COM = College of Osteopathic Medicine; SOM = School of Osteopathic Medicine.

* The standardized value calculated for each measure, with a mean value of 0 (SD, 1).

Appendix Table 3. Medical School HPSA Physician Output

Rank	School	State	Physicians Practicing in HPSAs	
			Total, %	Standardized Score*
1	University of Mississippi	MS	62.5	4.11
2	University of South Alabama	AL	52.7	2.97
3	University of South Florida	FL	48.1	2.44
4	University of Florida	FL	47.3	2.35
5	Southern Illinois University	IL	46.5	2.26
6	University of Alabama	AL	45.0	2.08
7	University of Missouri, Columbia	MO	44.7	2.06
8	University of Kansas	KS	43.9	1.96
9	Oregon Health & Science University	OR	43.8	1.94
10	Ponce School of Medicine	PR	43.8	1.94
11	Oklahoma State COM	OK	41.8	1.72
12	Louisiana State University, New Orleans	LA	40.8	1.60
13	University of Utah	UT	39.4	1.43
14	Morehouse College	GA	39.1	1.40
15	University of Missouri, Kansas City	MO	38.8	1.37
16	Louisiana State University, Shreveport	LA	38.4	1.32
17	University of South Carolina	SC	37.4	1.21
18	University of Massachusetts Medical School, Worcester	MA	36.7	1.12
19	University of Miami Miller School of Medicine	FL	36.4	1.09
20	Nova Southeastern COM	FL	36.2	1.07
21	Kansas City COM	MO	36.0	1.05
22	University of Illinois	IL	35.7	1.01
23	A.T. Still University, Kirksville COM	MO	34.8	0.91
24	Universidad de Puerto Rico	PR	34.7	0.90
25	Medical College of Georgia	GA	34.3	0.85
26	East Carolina University Brody School of Medicine	NC	34.2	0.84
27	Medical University of South Carolina	SC	34.0	0.82
28	University of Vermont	VT	34.0	0.82
29	Howard University	DC	33.7	0.78
30	Mercer University	GA	33.6	0.77
31	Harvard University	MA	33.3	0.74
32	East Tennessee State University Quillen College of Medicine	TN	32.7	0.67
33	University of Kentucky	KY	32.5	0.64
34	University of Nevada	NV	31.9	0.58
35	Columbia University	NY	31.8	0.57
36	Washington University in St. Louis	MO	31.7	0.55
37	Yale University	CT	31.4	0.52
38	University of Maryland	MD	31.3	0.51
39	University of New Mexico	NM	30.7	0.43
40	Rush University	IL	30.5	0.42
41	Dartmouth College	NH	30.3	0.39
42	University of Connecticut	CT	29.7	0.32

Appendix Table 3: Continued

Rank	School	State	Physicians Practicing in HPSAs	
			Total, %	Standardized Score*
43	University of Chicago Pritzker School of Medicine	IL	29.3	0.28
44	Des Moines COM	IA	29.3	0.27
45	Michigan State COM	MI	28.9	0.23
46	Universidad del Caribe	PR	28.8	0.22
47	Tulane University	LA	28.5	0.18
48	St. Louis University	MO	28.5	0.18
49	Midwestern University Arizona COM	AZ	28.3	0.15
50	University of Colorado	CO	28.2	0.15
51	Meharry Medical College	TN	28.1	0.14
52	Wright State University Boonshoft School of Medicine	OH	28.0	0.12
53	Tufts University	MA	27.8	0.10
54	New England COM	ME	27.7	0.09
55	University of Buffalo	NY	27.7	0.09
56	Western COM	CA	27.5	0.07
57	Loma Linda University	CA	27.2	0.03
58	Mount Sinai School of Medicine	NY	27.2	0.04
59	Johns Hopkins University	MD	26.7	-0.02
60	Michigan State University	MI	26.5	-0.05
61	University of Rochester	NY	26.3	-0.07
62	West Virginia SOM	WV	26.3	-0.07
63	Creighton University	NE	26.1	-0.10
64	University of Oklahoma	OK	26.0	-0.11
65	University of Tennessee	TN	25.9	-0.12
66	Brown University Alpert Medical School	RI	25.7	-0.14
67	State University of New York Downstate College of Medicine	NY	25.4	-0.17
68	Ohio COM	OH	25.4	-0.18
69	University of Arizona	AZ	25.3	-0.19
70	George Washington University	DC	25.0	-0.22
71	University of Louisville	KY	24.9	-0.24
72	University of Arkansas	AR	24.9	-0.23
73	Emory University	GA	24.8	-0.24
74	Albert Einstein College of Medicine of Yeshiva University	NY	24.8	-0.25
75	Mayo Clinic	MN	24.8	-0.25
76	State University of New York Upstate Medical University	NY	24.4	-0.29
77	Weill Cornell Medical College	NY	24.4	-0.30
78	Lake Erie COM	PA	24.3	-0.30
79	Albany Medical College	NY	24.2	-0.32
80	University of North Carolina, Chapel Hill	NC	24.1	-0.32
81	Virginia Commonwealth University	VA	24.1	-0.32
82	Duke University	NC	23.9	-0.34
83	Boston University	MA	23.3	-0.42
84	University of Washington	WA	23.0	-0.46
85	Eastern Virginia Medical School	VA	22.6	-0.50

Appendix Table 3: Continued

Rank	School	State	Physicians Practicing in HPSAs	
			Total, %	Standardized Score*
86	University of Minnesota	MN	22.6	-0.50
87	Chicago COM Midwestern	IL	22.2	-0.54
88	Case Western Reserve University	OH	22.2	-0.55
89	New York University	NY	22.1	-0.55
90	Wake Forest University	NC	22.0	-0.56
91	Northeastern Ohio University	OH	21.9	-0.58
92	Baylor University	TX	21.7	-0.60
93	Pennsylvania State University	PA	21.6	-0.62
94	University of Texas, San Antonio	TX	21.6	-0.62
95	University of Texas, Galveston	TX	21.5	-0.63
96	Drexel University	PA	21.4	-0.64
97	Uniformed Services University of the Health Sciences	MD	21.4	-0.64
98	University of Michigan	MI	21.2	-0.66
99	University of Pittsburgh	PA	21.2	-0.66
100	Rosalind Franklin University Chicago Medical School	IL	21.1	-0.67
101	University of Iowa Carver College of Medicine	IA	21.0	-0.69
102	Georgetown University	DC	20.9	-0.69
103	Marshall University Joan C. Edwards University	WV	20.9	-0.70
104	Vanderbilt University	TN	20.8	-0.70
105	New York Medical College	NY	20.8	-0.71
106	Temple University	PA	20.7	-0.72
107	Loyola University Stritch School of Medicine	IL	20.7	-0.72
108	Thomas Jefferson University	PA	20.6	-0.72
109	University of California, San Francisco	CA	20.6	-0.73
110	University of Toledo	OH	20.5	-0.74
111	University of Virginia	VA	20.4	-0.75
112	University of Pennsylvania	PA	20.4	-0.76
113	Stony Brook University	NY	20.4	-0.76
114	Texas Tech University	TX	20.3	-0.76
115	North Texas COM	TX	20.3	-0.77
116	West Virginia University	WV	20.3	-0.77
117	Ohio State University	OH	20.1	-0.78
118	University of South Dakota Sanford School of Medicine	SD	19.6	-0.85
119	Northwestern University Feinberg School of Medicine	IL	19.5	-0.86
120	Philadelphia COM	PA	19.4	-0.87
121	University of Wisconsin	WI	19.3	-0.87
122	Wayne State University	MI	18.5	-0.98
123	University of North Dakota	ND	18.2	-1.00
124	University of California, Davis	CA	18.1	-1.02
125	Indiana University	IN	18.0	-1.03
126	University of California, San Diego	CA	17.8	-1.05
127	University of Medicine and Dentistry of New Jersey	NJ	17.8	-1.05
128	University of Texas, Houston	TX	17.2	-1.12

Appendix Table 3: Continued

Rank	School	State	Physicians Practicing in HPSAs	
			Total, %	Standardized Score*
129	University of Southern California Keck School of Medicine	CA	17.0	-1.15
130	University of Medicine and Dentistry of New Jersey Robert Wood Johnson Medical School	NJ	17.0	-1.15
131	University of California, Los Angeles	CA	16.9	-1.16
132	University of Nebraska	NE	16.2	-1.23
133	Stanford University	CA	16.2	-1.23
134	Texas A&M University	TX	16.2	-1.24
135	University of Medicine and Dentistry of New Jersey SOM	NJ	16.0	-1.26
136	Medical College of Wisconsin	WI	15.9	-1.28
137	University of Cincinnati	OH	15.8	-1.28
138	New York COM	NY	15.7	-1.30
139	University of Texas Southwestern	TX	15.1	-1.36
140	University of Hawai'i John A. Burns School of Medicine	HI	14.9	-1.39
141	University of California, Irvine	CA	14.2	-1.47

COM = College of Osteopathic Medicine; HPSA = Health Professional Shortage Area; SOM = School of Osteopathic Medicine.

* The standardized value calculated for each measure, with a mean value of 0 (SD, 1).

Appendix Table 4. Medical School Rankings Based on Underrepresented Minorities in the Schools

Rank	School	State	School–State (Nation) Ratio of Underrepresented Minorities		Underrepresented Minorities in the School, %	Underrepresented Minorities in the State (Nation), %
			Ratio	Standardized Score*		
1	Morehouse College	GA	3.15	11.38	83.3	26.5
2	Meharry Medical College	TN	2.99	10.78	79.3	26.5
3	Howard University	DC	2.71	9.68	71.9	26.5
4	University of Iowa Carver College of Medicine	IA	1.35	3.38	8.1	6.0
5	Wright State University Boonshoft School of Medicine	OH	1.31	3.23	19	14.5
6	University of Wisconsin	WI	1.26	3.03	13.8	11.0
7	Michigan State University	MI	1.24	2.99	23.7	19.1
8	University of North Dakota	ND	1.07	2.29	8	7.5
9	Pennsylvania State University	PA	1.01	2.07	14.1	14.0
10	Universidad de Puerto Rico	PR	1.01	2.05	99.4	98.8
11	Marshall University Joan C. Edwards University	WV	0.89	1.58	4.2	4.7
12	Universidad del Caribe	PR	0.88	1.54	86.6	98.8
13	Ponce Medical College	PR	0.84	1.38	82.5	98.8
14	University of Kentucky	KY	0.82	1.32	8	9.8
15	University of Vermont	VT	0.79	1.20	2.1	2.7
16	University of Michigan	MI	0.77	1.12	14.7	19.1
17	University of Kansas	KS	0.77	1.12	11.6	15.1
18	Weill Cornell Medical College	NY	0.76	1.09	20.2	26.5
19	University of Illinois	IL	0.75	1.05	21.2	28.3
20	University of Cincinnati	OH	0.74	1.02	10.8	14.5
21	University of Pennsylvania	PA	0.74	0.99	19.5	26.5
22	Ohio COM	OH	0.73	0.98	10.7	14.5
23	University of Miami Miller School of Medicine	FL	0.73	0.97	19.4	26.5
24	Harvard University	MA	0.73	0.96	19.3	26.5
25	University of Medicine and Dentistry of New Jersey SOM	NJ	0.72	0.92	19.9	27.7
26	University of Medicine and Dentistry of New Jersey Robert Wood Johnson Medical School	NJ	0.71	0.87	19.5	27.7
27	University of North Carolina, Chapel Hill	NC	0.70	0.84	19.6	28.1
28	Yale University	CT	0.69	0.81	18.3	26.5
29	Drexel University	PA	0.69	0.79	18.2	26.5
30	University of Texas, Galveston	TX	0.69	0.79	30.6	44.7
31	University of Southern California Keck School of Medicine	CA	0.68	0.78	18.1	26.5
32	University of Washington	WA	0.68	0.77	9.9	14.6
33	University of Toledo	OH	0.67	0.74	9.8	14.5
34	Wayne State University	MI	0.67	0.71	12.7	19.1
35	West Virginia University	WV	0.66	0.70	3.1	4.7
36	Baylor University	TX	0.65	0.65	17.3	26.5
37	University of Louisville	KY	0.65	0.65	6.4	9.8
38	Mount Sinai School of Medicine	NY	0.65	0.63	17.1	26.5
39	University of Tennessee	TN	0.64	0.62	12.5	19.5
40	Western COM	CA	0.63	0.57	16.7	26.5
41	Temple University	PA	0.62	0.55	16.5	26.5
42	Mayo Clinic	MN	0.62	0.53	16.4	26.5
43	University of Maryland	MD	0.62	0.52	20.5	33.2
44	East Carolina University Brody School of Medicine	NC	0.62	0.52	17.3	28.1

Appendix Table 4: Continued

Rank	School	State	School–State (Nation) Ratio of Underrepresented Minorities		Underrepresented Minorities in the School, %	Underrepresented Minorities in the State (Nation), %
			Ratio	Standardized Score*		
45	George Washington University	DC	0.61	0.49	16.1	26.5
46	Ohio State University	OH	0.60	0.44	8.6	14.5
47	Stanford	CA	0.59	0.43	15.7	26.5
48	Michigan State COM	MI	0.59	0.42	11.3	19.1
49	University of Minnesota	MN	0.59	0.41	5.1	8.7
50	Brown University Alpert Medical School	RI	0.57	0.33	15	26.5
51	University of California, San Francisco	CA	0.56	0.30	23.1	41.2
52	Duke University	NC	0.55	0.24	14.5	26.5
53	West Virginia SOM	WV	0.55	0.24	2.6	4.7
54	University of Medicine and Dentistry of New Jersey	NJ	0.54	0.20	14.8	27.7
55	University of New Mexico	NM	0.53	0.19	28.8	53.9
56	Emory University	GA	0.53	0.18	14	26.5
57	University of California, Los Angeles	CA	0.52	0.15	21.6	41.2
58	University of Rochester	NY	0.51	0.12	13.6	26.5
59	Nova Southeastern COM	FL	0.51	0.12	13.6	26.5
60	University of Arizona	AZ	0.50	0.07	17.2	34.2
61	Case Western Reserve University	OH	0.49	0.03	13.1	26.5
62	University of Connecticut	CT	0.49	0.03	9.7	19.7
63	Oklahoma State COM	OK	0.49	0.01	11.6	23.8
64	University of Texas, Houston	TX	0.49	0.01	21.7	44.7
65	University of South Florida	FL	0.48	0.00	15.8	32.5
66	New York COM	NY	0.48	0.00	12.8	26.5
67	University of Utah	UT	0.48	-0.02	6.2	12.9
68	State University of New York Downstate College of Medicine	NY	0.47	-0.07	14.8	31.7
69	University of Virginia	VA	0.46	-0.09	11.7	25.4
70	University of Colorado	CO	0.46	-0.10	10.7	23.2
71	University of Oklahoma	OK	0.45	-0.13	10.8	23.8
72	University of Massachusetts Medical School, Worcester	MA	0.44	-0.16	5.9	13.3
73	University of South Carolina	SC	0.44	-0.17	14.4	32.6
74	University of Florida	FL	0.43	-0.20	14.1	32.5
75	Oregon Health & Science University	OR	0.43	-0.23	5.5	13.0
76	Dartmouth College	NH	0.42	-0.24	11.2	26.5
77	University of Chicago Pritzker School of Medicine	IL	0.42	-0.25	11.2	26.5
78	Indiana University	IN	0.42	-0.25	5.5	13.0
79	Virginia Commonwealth University	VA	0.42	-0.26	10.7	25.4
80	University of South Dakota Sanford School of Medicine	SD	0.41	-0.32	4.6	11.2
81	University of Hawai'i John A. Burns School of Medicine	HI	0.40	-0.33	11.7	28.8
82	Louisiana State University, New Orleans	LA	0.40	-0.32	14.5	35.8
83	Tulane University	LA	0.40	-0.34	10.5	26.5
84	University of Alabama	AL	0.40	-0.35	11.4	28.7
85	Johns Hopkins University	MD	0.40	-0.35	10.5	26.5
86	University of Arkansas	AR	0.40	-0.35	8.1	20.5
87	Washington University in St. Louis	MO	0.39	-0.36	10.4	26.5
88	East Tennessee State University Quillen College of Medicine	TN	0.39	-0.37	7.6	19.5

Appendix Table 4: Continued

Rank	School	State	School–State (Nation) Ratio of Underrepresented Minorities		Underrepresented Minorities in the School, %	Underrepresented Minorities in the State (Nation), %
			Ratio	Standardized Score*		
89	University of Missouri, Kansas City	MO	0.39	–0.38	5.7	14.8
90	Georgetown University	DC	0.39	–0.39	10.3	26.5
91	Rosalind Franklin University Chicago Medical School	IL	0.38	–0.41	10.1	26.5
92	Columbia University	NY	0.37	–0.45	9.8	26.5
93	University of Texas, San Antonio	TX	0.36	–0.49	16.1	44.7
94	Tufts University	MA	0.36	–0.50	9.5	26.5
95	Medical College of Wisconsin	WI	0.36	–0.51	9.4	26.5
96	Boston University	MA	0.35	–0.52	9.4	26.5
97	New York University	NY	0.34	–0.57	9.0	26.5
98	North Texas COM	TX	0.34	–0.59	15	44.7
99	Stony Brook University	NY	0.33	–0.60	10.5	31.7
100	Albert Einstein College of Medicine of Yeshiva University	NY	0.33	–0.60	8.8	26.5
101	Wake Forest University	NC	0.33	–0.61	8.7	26.5
102	University of California, San Diego	CA	0.33	–0.62	13.5	41.2
103	Creighton University	NE	0.33	–0.62	8.7	26.5
104	University of Missouri, Columbia	MO	0.33	–0.63	4.8	14.8
105	Loma Linda University	CA	0.32	–0.64	8.6	26.5
106	Rush University	IL	0.31	–0.68	8.3	26.5
107	University of Nebraska	NE	0.30	–0.74	3.4	11.3
108	Northwestern University Feinberg School of Medicine	IL	0.30	–0.74	7.9	26.5
109	University of Pittsburgh	PA	0.29	–0.75	7.8	26.5
110	Philadelphia COM	PA	0.29	–0.76	7.7	26.5
111	New York Medical College	NY	0.29	–0.77	7.7	26.5
112	University of South Alabama	AL	0.29	–0.78	8.2	28.7
113	Northeastern Ohio Universities	OH	0.28	–0.82	4.0	14.5
114	Eastern Virginia Medical School	VA	0.27	–0.85	6.8	25.4
115	University of Nevada	NV	0.26	–0.88	7.7	29.6
116	Texas Tech University	TX	0.26	–0.89	11.6	44.7
117	Uniformed Services University of the Health Sciences	MD	0.24	–0.95	6.5	26.5
118	Texas A&M University	TX	0.24	–0.97	10.6	44.7
119	University of California, Davis	CA	0.24	–0.98	9.8	41.2
120	St. Louis University	MO	0.23	–0.99	6.2	26.5
121	Chicago COM Midwestern	IL	0.23	–0.99	6.2	26.5
122	University of Mississippi	MS	0.23	–1.01	8.8	38.3
123	Albany Medical College	NY	0.22	–1.06	5.7	26.5
124	Southern Illinois University	IL	0.22	–1.06	6.1	28.3
125	University of Texas Southwestern	TX	0.21	–1.09	9.3	44.7
126	Medical University of South Carolina	SC	0.21	–1.10	6.7	32.6
127	Louisiana State University, Shreveport	LA	0.20	–1.13	7.1	35.8
128	State University of New York Upstate Medical University	NY	0.20	–1.13	6.2	31.7
129	Loyola University Stritch School of Medicine	IL	0.20	–1.14	5.2	26.5
130	University of Buffalo	NY	0.19	–1.16	6.0	31.7
131	Thomas Jefferson University	PA	0.18	–1.19	4.8	26.5

Appendix Table 4: Continued

Rank	School	State	School–State (Nation) Ratio of Underrepresented Minorities		Underrepresented Minorities in the School, %	Underrepresented Minorities in the State (Nation), %
			Ratio	Standardized Score*		
132	University of California, Irvine	CA	0.17	–1.24	7.0	41.2
133	Vanderbilt	TN	0.13	–1.38	3.6	26.5
134	Medical College of Georgia	GA	0.13	–1.38	4.6	34.7
135	Mercer University	GA	0.13	–1.40	4.5	34.7
136	Des Moines COM	IA	0.12	–1.43	3.2	26.5
137	Midwestern University Arizona COM	AZ	0.12	–1.43	3.2	26.5
138	Lake Erie COM	PA	0.08	–1.59	2.2	26.5
139	A.T. Still University, Kirksville COM	MO	0.07	–1.62	1.9	26.5
140	New England COM	ME	0.07	–1.63	1.9	26.5
141	Kansas City COM	MO	0.07	–1.63	1.9	26.5

COM = College of Osteopathic Medicine; SOM = School of Osteopathic Medicine.

* The standardized value calculated for each measure, with a mean value of 0 (SD, 1).

Appendix Table 5. Medical School Rankings Based on Social Mission Score*

Rank	School	State	Social Mission Score*	Primary Care Physicians		Physicians Practicing in HPSAs		School–State (Nation) Ratio of Underrepresented Minorities		Underrepresented Minorities in the School, %	Underrepresented Minorities in the State (Nation), %
				Total, %	Standardized Score†	Total, %	Standardized Score†	Ratio	Standardized Score†		
1	Morehouse College	GA	13.98	43.7	1.20	39.1	1.40	3.15	11.38	83.3	26.5
2	Meharry Medical College	TN	12.92	49.3	2.00	28.1	0.14	2.99	10.78	79.3	26.5
3	Howard University	DC	10.66	36.5	0.19	33.7	0.78	2.71	9.68	71.9	26.5
4	Wright State University Boonshoft School of Medicine	OH	5.34	49.2	1.98	28.0	0.12	1.31	3.23	19.0	14.5
5	University of Kansas	KS	4.49	45.2	1.42	43.9	1.96	0.77	1.12	11.6	15.1
6	Michigan State University	MI	4.13	43.6	1.20	26.5	−0.05	1.24	2.99	23.7	19.1
7	East Carolina University Brody School of Medicine	NC	3.72	51.9	2.36	34.2	0.84	0.62	0.52	17.3	28.1
8	University of South Alabama	AL	3.15	42.0	0.97	52.7	2.97	0.29	−0.78	8.2	28.7
9	Ponce Medical College	PR	3.02	33.0	−0.31	43.8	1.94	0.84	1.38	82.5	98.8
10	University of Iowa Carver College of Medicine	IA	2.97	37.1	0.28	21.0	−0.69	1.35	3.38	8.1	6.0
11	Oregon Health & Science University	OR	2.93	43.8	1.22	43.8	1.94	0.43	−0.23	5.5	13.0
12	East Tennessee State University Quillen College of Medicine	TN	2.88	53.5	2.58	32.7	0.67	0.39	−0.37	7.6	19.5
13	University of Mississippi	MS	2.86	33.5	−0.24	62.5	4.11	0.23	−1.01	8.8	38.3
14	University of Kentucky	KY	2.61	39.8	0.65	32.5	0.64	0.82	1.32	8.0	9.8
15	Southern Illinois University	IL	2.59	45.0	1.39	46.5	2.26	0.22	−1.06	6.1	28.3
16	Marshall University Joan C. Edwards University	WV	2.51	46.8	1.64	20.9	−0.70	0.89	1.58	4.2	4.7

Appendix Table 5

Rank	School	State	Social Mission Score*	Primary Care Physicians		Physicians Practicing in HPSAs		School–State (Nation) Ratio of Underrepresented Minorities		Underrepresented Minorities in the School, %	Underrepresented Minorities in the State (Nation), %
				Total, %	Standardized Score†	Total, %	Standardized Score†	Ratio	Standardized Score†		
17	University of Massachusetts Medical School, Worcester	MA	2.48	45.9	1.52	36.7	1.12	0.44	-0.16	5.9	13.3
18	University of Illinois	IL	2.27	36.7	0.21	35.7	1.01	0.75	1.05	21.2	28.3
19	University of New Mexico	NM	2.25	46.7	1.63	30.7	0.43	0.53	0.19	28.8	53.9
20	University of Wisconsin	WI	2.24	35.7	0.07	19.3	-0.87	1.26	3.03	13.8	11.0
21	Western COM	CA	2.23	46.4	1.58	27.5	0.07	0.63	0.57	16.7	26.5
22	West Virginia SOM	WV	2.19	49.5	2.02	26.3	-0.07	0.55	0.24	2.6	4.7
23	University of Vermont	VT	2.19	36.4	0.17	34.0	0.82	0.79	1.20	2.1	2.7
24	University of North Dakota	ND	2.18	41.5	0.90	18.2	-1.00	1.07	2.29	8.0	7.5
25	University of Miami Miller School of Medicine	FL	2.06	35.2	0.00	36.4	1.09	0.73	0.97	19.4	26.5
26	University of Florida	FL	1.99	34.0	-0.17	47.3	2.35	0.43	-0.20	14.1	32.5
27	Nova Southeastern COM	FL	1.97	40.7	0.78	36.2	1.07	0.51	0.12	13.6	26.5
28	University of Alabama	AL	1.90	36.3	0.16	45.0	2.08	0.40	-0.35	11.4	28.7
29	Pennsylvania State University	PA	1.87	38.1	0.42	21.6	-0.62	1.01	2.07	14.1	14.0
30	University of Washington	WA	1.64	44.6	1.33	23.0	-0.46	0.68	0.77	9.9	14.6
31	University of Missouri, Columbia	MO	1.58	36.2	0.15	44.7	2.06	0.33	-0.63	4.8	14.8
32	Medical University of South Carolina	SC	1.56	48.2	1.84	34.0	0.82	0.21	-1.10	6.7	32.6
33	Oklahoma State COM	OK	1.50	33.5	-0.24	41.8	1.72	0.49	0.01	11.6	23.8
34	University of Minnesota	MN	1.38	45.6	1.47	22.6	-0.50	0.59	0.41	5.1	8.7
35	University of Missouri, Kansas City	MO	1.21	36.7	0.22	38.8	1.37	0.39	-0.38	5.7	14.8
36	University of Maryland	MD	1.19	36.3	0.16	31.3	0.51	0.62	0.52	20.5	33.2
37	Universidad de Puerto Rico	PR	1.12	22.2	-1.82	34.7	0.90	1.01	2.05	99.4	98.8
38	Ohio COM	OH	1.06	37.0	0.26	25.4	-0.18	0.73	0.98	10.7	14.5

Appendix Table 5

Rank	School	State	Social Mission Score*	Primary Care Physicians		Physicians Practicing in HPSAs		School–State (Nation) Ratio of Underrepresented Minorities		Underrepresented Minorities in the School, %	Underrepresented Minorities in the State (Nation), %
				Total, %	Standardized Score†	Total, %	Standardized Score†	Ratio	Standardized Score†		
39	Universidad del Caribe	PR	1.05	30.1	−0.71	28.8	0.22	0.88	1.54	86.6	98.8
40	University of Utah	UT	1.04	32.5	−0.38	39.4	1.43	0.48	−0.02	6.2	12.9
41	Mercer University	GA	1.03	47.0	1.67	33.6	0.77	0.13	−1.40	4.5	34.7
42	University of Tennessee	TN	0.94	38.3	0.44	25.9	−0.12	0.64	0.62	12.5	19.5
43	University of Louisville	KY	0.92	38.8	0.51	24.9	−0.24	0.65	0.65	6.4	9.8
44	University of South Florida	FL	0.85	23.8	−1.59	48.1	2.44	0.48	0.00	15.8	32.5
45	Louisiana State University, New Orleans	LA	0.80	31.8	−0.48	40.8	1.60	0.40	−0.32	14.5	35.8
46	West Virginia University	WV	0.68	40.5	0.76	20.3	−0.77	0.66	0.70	3.1	4.7
47	Michigan State COM	MI	0.66	35.3	0.02	28.9	0.23	0.59	0.42	11.3	19.1
48	University of South Carolina	SC	0.65	32.4	−0.39	37.4	1.21	0.44	−0.17	14.4	32.6
49	University of Colorado	CO	0.62	39.2	0.58	28.2	0.15	0.46	−0.10	10.7	23.2
50	University of Connecticut	CT	0.50	36.2	0.15	29.7	0.32	0.49	0.03	9.7	19.7
51	Yale University	CT	0.49	29.3	−0.83	31.4	0.52	0.69	0.81	18.3	26.5
52	University of Arkansas	AR	0.47	42.6	1.05	24.9	−0.23	0.40	−0.35	8.1	20.5
53	Des Moines COM	IA	0.47	46.7	1.62	29.3	0.27	0.12	−1.43	3.2	26.5
54	Drexel University	PA	0.38	36.8	0.23	21.4	−0.64	0.69	0.79	18.2	26.5
55	North Texas COM	TX	0.35	47.3	1.71	20.3	−0.77	0.34	−0.59	15.0	44.7
56	University of Texas, Galveston	TX	0.17	35.3	0.02	21.5	−0.63	0.69	0.79	30.6	44.7
57	University of North Carolina, Chapel Hill	NC	0.13	32.4	−0.38	24.1	−0.32	0.70	0.84	19.6	28.1
58	University of Toledo	OH	0.10	35.8	0.10	20.5	−0.74	0.67	0.74	9.8	14.5
59	Dartmouth College	NH	0.01	34.1	−0.14	30.3	0.34	0.42	−0.24	11.2	26.5
60	George Washington University	DC	−0.03	33.1	−0.29	25.0	−0.22	0.61	0.49	16.1	26.5
61	University of Michigan	MI	−0.05	31.5	−0.51	21.2	−0.66	0.77	1.12	14.7	19.1
62	Harvard University	MA	−0.06	22.7	−1.76	33.3	0.74	0.73	0.96	19.3	26.5
63	University of Arizona	AZ	−0.09	35.3	0.02	25.3	−0.19	0.50	0.07	17.2	34.2

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				Total, %	Standardized Score†	Total, %	Standardized Score†	Ratio	Standardized Score†		
64	University of Southern California Keck School of Medicine	CA	−0.12	36.9	0.25	17.0	−1.15	0.68	0.78	18.1	26.5
65	Medical College of Georgia	GA	−0.20	37.6	0.34	34.3	0.85	0.13	−1.38	4.6	34.7
66	Brown University Alpert Medical School	RI	−0.20	32.4	−0.39	25.7	−0.14	0.57	0.33	15.0	26.5
67	A.T. Still University, Kirksville COM	MO	−0.23	38.6	0.48	34.8	0.91	0.07	−1.62	1.9	26.5
68	New England COM	ME	−0.26	44.2	1.27	27.7	0.09	0.07	−1.63	1.9	26.5
69	Louisiana State University, Shreveport	LA	−0.27	31.9	−0.46	38.4	1.32	0.20	−1.13	7.1	35.8
70	University of Cincinnati	OH	−0.28	35.0	−0.02	15.8	−1.28	0.74	1.02	10.8	14.5
71	University of California, San Francisco	CA	−0.30	36.1	0.13	20.6	−0.73	0.56	0.30	23.1	41.2
72	University of Oklahoma	OK	−0.34	34.4	−0.10	26.0	−0.11	0.45	−0.13	10.8	23.8
73	Kansas City COM	MO	−0.36	36.7	0.22	36.0	1.05	0.07	−1.63	1.9	26.5
74	Ohio State University	OH	−0.37	35.0	−0.02	20.1	−0.78	0.60	0.44	8.6	14.5
75	Temple University	PA	−0.40	33.5	−0.24	20.7	−0.72	0.62	0.55	16.5	26.5
76	Tufts University	MA	−0.42	35.0	−0.02	27.8	0.10	0.36	−0.50	9.5	26.5
77	Loma Linda University	CA	−0.45	36.3	0.16	27.2	0.03	0.32	−0.64	8.6	26.5
78	Emory University	GA	−0.47	32.3	−0.40	24.8	−0.24	0.53	0.18	14.0	26.5
79	Eastern Virginia Medical School	VA	−0.54	40.9	0.81	22.6	−0.50	0.27	−0.85	6.8	25.4
80	University of Nevada	NV	−0.56	33.3	−0.26	31.9	0.58	0.26	−0.88	7.7	29.6
81	University of Hawai'i John A. Burns School of Medicine	HI	−0.56	43.2	1.14	14.9	−1.39	0.40	−0.33	11.7	28.8
82	University of South Dakota Sanford School of Medicine	SD	−0.60	39.1	0.56	19.6	−0.85	0.41	−0.32	4.6	11.2

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				Total, %	Standardized Score†	Total, %	Standardized Score†	Ratio	Standardized Score†		
83	Mount Sinai School of Medicine	NY	−0.62	26.0	−1.29	27.2	0.04	0.65	0.63	17.1	26.5
84	Baylor University	TX	−0.64	30.3	−0.69	21.7	−0.60	0.65	0.65	17.3	26.5
85	Virginia Commonwealth University	VA	−0.64	34.7	−0.06	24.1	−0.32	0.42	−0.26	10.7	25.4
86	University of Texas, San Antonio	TX	−0.66	38.3	0.45	21.6	−0.62	0.36	−0.49	16.1	44.7
87	St. Louis University	MO	−0.71	35.9	0.10	28.5	0.18	0.23	−0.99	6.2	26.5
88	Chicago COM Midwestern	IL	−0.72	40.9	0.81	22.2	−0.54	0.23	−0.99	6.2	26.5
89	Rush University	IL	−0.74	31.8	−0.48	30.5	0.42	0.31	−0.68	8.3	26.5
90	Washington University in St. Louis	MO	−0.77	28.4	−0.95	31.7	0.55	0.39	−0.36	10.4	26.5
91	New York COM	NY	−0.80	38.7	0.50	15.7	−1.30	0.48	−0.00	12.8	26.5
92	Rochester University	NY	−0.82	29.0	−0.87	26.3	−0.07	0.51	0.12	13.6	26.5
93	University of Medicine and Dentistry of New Jersey SOM	NJ	−0.83	31.6	−0.50	16.0	−1.26	0.72	0.92	19.9	27.7
94	Creighton University	NE	−0.86	34.2	−0.13	26.1	−0.10	0.33	−0.62	8.7	26.5
95	Tulane University	LA	−0.90	30.0	−0.73	28.5	0.18	0.40	−0.34	10.5	26.5
96	University of California, Los Angeles	CA	−0.90	35.9	0.11	16.9	−1.16	0.52	0.15	21.6	41.2
97	Wayne State University	MI	−0.97	30.1	−0.71	18.5	−0.98	0.67	0.71	12.7	19.1
98	University of California, Davis	CA	−0.99	42.3	1.01	18.1	−1.02	0.24	−0.98	9.8	41.2
99	University of Virginia	VA	−1.00	34.1	−0.15	20.4	−0.75	0.46	−0.09	11.7	25.4
100	University of California, San Diego	CA	−1.06	39.5	0.61	17.8	−1.05	0.33	−0.62	13.5	41.2
101	University of Pittsburgh	PA	−1.12	37.2	0.30	21.2	−0.66	0.29	−0.75	7.8	26.5
102	Midwestern University Arizona COM	AZ	−1.13	36.2	0.15	28.3	0.15	0.12	−1.43	3.2	26.5
103	Mayo Clinic	MN	−1.32	23.8	−1.60	24.8	−0.25	0.62	0.53	16.4	26.5

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				Total, %	Standardized Score†	Total, %	Standardized Score†	Ratio	Standardized Score†		
104	University of Medicine and Dentistry of New Jersey Robert Wood Johnson Medical School	NJ	–1.33	27.7	–1.05	17.0	–1.15	0.71	0.87	19.5	27.7
105	University of Buffalo	NY	–1.38	33.0	–0.31	27.7	0.09	0.19	–1.16	6.0	31.7
106	University of Nebraska	NE	–1.40	39.2	0.58	16.2	–1.23	0.30	–0.74	3.4	11.3
107	Indiana University	IN	–1.42	34.1	–0.14	18.0	–1.03	0.42	–0.25	5.5	13.0
108	Lake Erie COM	PA	–1.44	38.3	0.45	24.3	–0.30	0.08	–1.59	2.2	26.5
109	Wake Forest University	NC	–1.45	33.2	–0.27	22.0	–0.56	0.33	–0.61	8.7	26.5
110	Georgetown University	DC	–1.48	32.3	–0.40	20.9	–0.69	0.39	–0.39	10.3	26.5
111	Rosalind Franklin University Chicago Medical School	IL	–1.48	32.3	–0.40	21.1	–0.67	0.38	–0.41	10.1	26.5
112	New York Medical College	NY	–1.52	34.9	–0.04	20.8	–0.71	0.29	–0.77	7.7	26.5
113	Weill Cornell Medical College	NY	–1.54	18.5	–2.34	24.4	–0.30	0.76	1.09	20.2	26.5
114	Texas Tech University	TX	–1.55	35.8	0.09	20.3	–0.76	0.26	–0.89	11.6	44.7
115	Philadelphia COM	PA	–1.58	35.5	0.05	19.4	–0.87	0.29	–0.76	7.7	26.5
116	Case Western Reserve University	OH	–1.66	27.0	–1.14	22.2	–0.55	0.49	0.03	13.1	26.5
117	University of Chicago Pritzker School of Medicine	IL	–1.74	22.6	–1.77	29.3	0.28	0.42	–0.25	11.2	26.5
118	State University of New York Downstate College of Medicine	NY	–1.75	24.5	–1.51	25.4	–0.17	0.47	–0.07	14.8	31.7
119	Northeastern Ohio Universities	OH	–1.83	32.1	–0.43	21.9	–0.58	0.28	–0.82	4.0	14.5
120	University of Texas, Houston	TX	–1.83	30.1	–0.71	17.2	–1.12	0.49	0.01	21.7	44.7

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				Total, %	Standardized Score†	Total, %	Standardized Score†	Ratio	Standardized Score†		
121	State University of New York Upstate Medical University	NY	–1.89	31.9	–0.46	24.4	–0.29	0.20	–1.13	6.2	31.7
122	Johns Hopkins University	MD	–1.90	24.3	–1.53	26.7	–0.02	0.40	–0.35	10.5	26.5
123	Stanford University	CA	–1.90	27.4	–1.10	16.2	–1.23	0.59	0.43	15.7	26.5
124	Duke University	NC	–1.91	22.3	–1.82	23.9	–0.34	0.55	0.24	14.5	26.5
125	Texas A&M University	TX	–1.95	37.0	0.26	16.2	–1.24	0.24	–0.97	10.6	44.7
126	Columbia University	NY	–1.98	20.3	–2.10	31.8	0.57	0.37	–0.45	9.8	26.5
127	Albany Medical College	NY	–2.00	30.7	–0.63	24.2	–0.32	0.22	–1.06	5.7	26.5
128	Medical College of Wisconsin	WI	–2.02	33.5	–0.23	15.9	–1.28	0.36	–0.51	9.4	26.5
129	University of Pennsylvania	PA	–2.03	19.1	–2.27	20.4	–0.76	0.74	0.99	19.5	26.5
130	Loyola University Stritch School of Medicine	IL	–2.06	33.7	–0.20	20.7	–0.72	0.20	–1.14	5.2	26.5
131	Boston University	MA	–2.12	26.7	–1.19	23.3	–0.42	0.35	–0.52	9.4	26.5
132	Albert Einstein College of Medicine of Yeshiva University	NY	–2.13	26.1	–1.28	24.8	–0.25	0.33	–0.60	8.8	26.5
133	Stony Brook University	NY	–2.21	29.1	–0.85	20.4	–0.76	0.33	–0.60	10.5	31.7
134	Thomas Jefferson University	PA	–2.34	32.1	–0.42	20.6	–0.72	0.18	–1.19	4.8	26.5
135	Uniformed Services University of the Health Sciences	MD	–2.36	29.6	–0.78	21.4	–0.64	0.24	–0.95	6.5	26.5
136	University of Medicine and Dentistry of New Jersey	NJ	–2.46	23.7	–1.61	17.8	–1.05	0.54	0.20	14.8	27.7
137	New York University	NY	–2.65	24.3	–1.53	22.1	–0.55	0.34	–0.57	9.0	26.5
138	University of California, Irvine	CA	–3.02	32.9	–0.32	14.2	–1.47	0.17	–1.24	7.0	41.2

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				Total, %	Standardized Score†	Total, %	Standardized Score†	Ratio	Standardized Score†		
139	Northwestern University Feinberg School of Medicine	IL	-3.11	24.4	-1.51	19.5	-0.86	0.30	-0.74	7.9	26.5
140	University of Texas Southwestern	TX	-3.64	26.8	-1.18	15.1	-1.36	0.21	-1.09	9.3	44.7
141	Vanderbilt University	TN	-3.95	21.9	-1.86	20.8	-0.70	0.13	-1.38	3.6	26.5

COM = College of Osteopathic Medicine; HPSA = health professional shortage area; SOM = School of Osteopathic Medicine.

* The sum of the primary care, HPSA, and underrepresented minority standard scores.

† The standardized value calculated for each measure, with a mean value of 0 (SD, 1).