

Entry of US Medical School Graduates Into Family Practice Residencies: A National Study

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No authoritative source has reported the percentage of each medical school's graduates who enter family practice residency programs. This study is the first of a series of reports from the American Academy of Family Physicians to report such data.

Approximately 12.8 percent of the 15,667 graduates of United States medical schools between July 1980 and June 1981 were first-year residents in family practice in December 1981. The West North Central region reported the highest percentage of medical school graduates who were first-year residents in family practice programs in December 1981; the New England and Middle Atlantic regions had the lowest percentages. Medical school graduates from publicly funded medical schools were twice as likely to be first-year residents in family practice in December 1981 as were graduates from privately funded medical schools.

Published data on the percentage of US medical school graduates entering family practice residencies each year are limited. Currently some sources provide a partial picture for consideration. The results of the National Resident Matching Program (NRMP) in 1981 indicate that 78 percent (1,858) of the 2,370 first-year residency positions offered in family practice were filled through the match.¹

For a number of reasons, the NRMP report does not provide a complete picture. Data from the American Academy of Family Physicians indicate that 2,602 positions in family practice were offered by residency programs in 1981—a clear indication that not all residencies list positions in

the match. Most notably, no military residency programs are listed in the match. It also must be noted that not all medical school graduates are placed through the match; some who enter are not matched by NRMP and scramble for residency slots on their own, and some who are matched do not enter the residencies to which they were matched.

A few studies have been performed to collect more complete data through questionnaires, but recent attempts have been less than adequate because of the low response.²

Difficulty is encountered in matching each year's medical school graduates with the first-year positions available for that particular year because not all medical school graduates enter a residency upon graduation. As a result, first-year positions are filled by medical school graduates of preceding years.

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To study the possible cause-effect relationship between the choice of a family practice residency and the administrative status of family practice in the medical school, accurate statistics must be produced for the percentage of each medical school graduating class who choose a family practice residency. This study by the American Academy of Family Physicians provides such a comparison between the 1980-81 graduate and the 1981-82 residency year. Reported is the percentage of each medical school graduating class for the year July 1980 through June 1981 who were first-year residents in an accredited family practice residency program in December 1981.

Methods

The American Academy of Family Physicians conducts a census of all residents in family practice residency programs in June of each year. The census is performed for the AAFP by the program directors, who list all first-year residents, as well as new residents, in their programs along with the residents' medical schools of graduation and month and year of graduation. The residency program directors also verify the second- and third-year status of residents originally reported in previous years.

The information from the census sheets is coded and then entered into a data file, which changes throughout the year as program directors report additions or deletions. Theoretically, it should be possible at any time to report the number and percentage of graduates from any medical school who enter family practice residency programs. Several problems make this enumeration a complicated process, however.

To obtain percentages of graduates entering family practice residency programs from each medical school, one must begin with the number of graduates from each medical school. The American Medical Association reports graduates from each medical school based upon a July 1 to June 30 graduation date. Since most medical students begin a residency in family practice in July, the AMA data on numbers of graduates from each medical school were used in this report.³

Because month and year of graduation from medical school assumed equal importance in com-

Table 1. Number of First-Year Residents in Family Practice by Type of School, December 1981

	Number	Percent
US medical school graduate (7/80-6/81)	2,001	80.2
US medical school graduate (outside 7/80-6/81)	124	5.0
Osteopathic school graduate	58	2.3
Foreign medical school graduate	313	12.5
Total	2,496	100.0

puting the percentages of interest, it was necessary to verify the exact graduation date of each resident as reported by the program director. Therefore, the resident file was sorted by medical school and each respective listing was sent to the appropriate chairman of the family practice department or division in the medical school (or the dean, where a department or division of family practice did not exist). The chairmen and deans were asked to verify that the first-year residents graduated from their schools in the months and years indicated. A response rate of 100 percent was achieved in this survey after two mailings.

A review of all returned forms showed that several first-year residents were identified as not graduating from the medical schools indicated previously by the program directors. These errors were corrected either by re-examining the census forms returned by the program directors or, as necessary, by telephoning the program directors or residents themselves to obtain the correct information. Changes in month or year of graduation reported by the chairmen or deans were also entered into the file at this time.

Of the 2,496 first-year residents in December 1981, 2,001 residents (80.2 percent) were identified as having graduated from medical schools in the United States between July 1980 and June 1981 (Table 1). There were 124 first-year residents (5.0 percent) who graduated from medical schools in the United States outside the reporting period. Fifty-eight residents (2.3 percent) graduated from schools of osteopathy, and 313 residents (12.5 percent) graduated from foreign medical schools.

Table 2. Number and Percentage of Medical School Graduates, by Medical School, Who Were First-Year Residents in Family Practice, December 1981

State by Medical School	Medical School Graduates July 1980 to June 1981* Number	Graduates Entering as First-Year Residents in Family Practice Programs	
		Number	Percent
<i>Alabama</i>			
Alabama, Univ of	164	20	12.2
South Alabama	67	8	11.9
<i>Arizona</i>			
Arizona, Univ of	86	9	10.5
<i>Arkansas</i>			
Arkansas, Univ of	136	28	20.6
<i>California</i>			
California, Davis	91	14	15.4
California, Irvine	89	15	16.9
California, Los Angeles	164	20	12.2
California, San Diego	90	8	8.9
California, San Francisco	161	25	15.5
Loma Linda	166	31	18.7
Southern California	150	21	14.0
Stanford	83	6	7.2
<i>Colorado</i>			
Colorado, Univ of	133	20	15.0
<i>Connecticut</i>			
Connecticut, Univ of	83	5	6.0
Yale	112	0	0.0
<i>District of Columbia</i>			
Georgetown	206	22	10.7
George Washington	147	20	13.6
Howard	113	8	7.1
<i>Florida</i>			
Florida, Univ of	119	17	14.3
Miami	175	13	7.4
South Florida	93	12	12.9
<i>Georgia</i>			
Emory	118	3	2.5
Georgia, Med Coll of	189	10	5.3
<i>Hawaii</i>			
Hawaii, Univ of	80	8	10.0
<i>Illinois</i>			
Chicago Medical	128	16	12.5
Chicago, Pritzker	108	5	4.6
Illinois, Univ of	320	25	7.8
Loyola, Stritch	167	14	8.4
Northwestern	175	4	2.3
Rush	126	23	18.3
Southern Illinois	72	12	16.7

*Source: American Medical Association³

Table 2. Number and Percentage of Medical School Graduates, by Medical School, Who Were First-Year Residents in Family Practice, December 1981 (Continued)

State by Medical School	Medical School Graduates July 1980 to June 1981* Number	Graduates Entering as First-Year Residents in Family Practice Programs Number	Percent
<i>Indiana</i>			
Indiana, Univ of	301	64	21.3
<i>Iowa</i>			
Iowa, Univ of	178	38	21.3
<i>Kansas</i>			
Kansas, Univ of	111	14	12.6
<i>Kentucky</i>			
Kentucky, Univ of Louisville	96	19	19.8
	142	28	19.7
<i>Louisiana</i>			
Louisiana, New Orleans	178	20	11.2
Louisiana, Shreveport	86	12	14.0
Tulane	152	4	2.6
<i>Maryland</i>			
Johns Hopkins	111	2	1.8
Maryland, Univ of	182	37	20.3
Uniformed Services Univ	67	8	11.9
<i>Massachusetts</i>			
Boston	145	9	6.2
Harvard	171	2	1.2
Massachusetts, Univ of	101	12	11.9
Tufts	166	14	8.4
<i>Michigan</i>			
Michigan, Univ of	237	28	11.8
Michigan State	95	18	18.9
Wayne State	248	35	14.1
<i>Minnesota</i>			
Mayo	39	8	20.5
Minnesota, Minneapolis	295	86	29.2
<i>Mississippi</i>			
Mississippi, Univ of	145	39	26.9
<i>Missouri</i>			
Missouri, Columbia	112	21	18.8
Missouri, Kansas City	60	11	18.3
St. Louis	148	14	9.5
Washington, St. Louis	141	6	4.3
<i>Nebraska</i>			
Creighton	112	18	16.1
Nebraska, Univ of	82	13	15.9
<i>Nevada</i>			
Nevada, Univ of	48	5	10.4
<i>New Hampshire</i>			
Dartmouth	62	8	12.9

*Source: American Medical Association³

Table 2. Number and Percentage of Medical School Graduates, by Medical School, Who Were First-Year Residents in Family Practice, December 1981 (Continued)

State by Medical School	Medical School Graduates July 1980 to June 1981* Number	Graduates Entering as First-Year Residents in Family Practice Programs	
		Number	Percent
<i>New Jersey</i>			
CMDNJ-New Jersey	136	10	7.4
CMDNJ-Rutgers	93	8	8.6
<i>New Mexico</i>			
New Mexico, Univ of	75	15	20.0
<i>New York</i>			
Albany	126	4	3.2
Columbia	146	6	4.1
Cornell	107	4	3.7
Einstein	172	16	9.3
Mount Sinai	126	2	1.6
New York Medical	197	11	5.6
New York Univ	178	4	2.2
Rochester	106	6	5.7
SUNY, Buffalo	145	14	9.7
SUNY, Downstate	216	14	6.5
SUNY, Stony Brook	57	9	15.8
SUNY, Upstate	141	25	17.7
<i>North Carolina</i>			
Bowman Gray	107	20	18.7
Duke	119	14	11.8
East Carolina	28	12	42.9
North Carolina, Univ of	160	18	11.3
<i>North Dakota</i>			
North Dakota	39	5	12.8
<i>Ohio</i>			
Case Western Reserve	149	15	10.1
Cincinnati	196	20	10.2
Northwestern Ohio	42	6	14.3
Ohio State	224	35	15.6
Ohio, Toledo	129	23	17.8
Wright State	44	13	29.5
<i>Oklahoma</i>			
Oklahoma, Univ of	173	20	11.6
Oral Roberts	0	0	0.0
<i>Oregon</i>			
Oregon, Univ of	114	11	9.6
<i>Pennsylvania</i>			
Hahnemann	177	23	13.0
Jefferson	224	31	13.8
Pennsylvania, Med Coll of	121	18	14.9
Pennsylvania, Univ of	156	10	6.4
Pennsylvania State, Hershey	95	12	12.6

*Source: American Medical Association³

Table 2. Number and Percentage of Medical School Graduates, by Medical School, Who Were First-Year Residents in Family Practice, December 1981 (Continued)

State by Medical School	Medical School Graduates July 1980 to June 1981* Number	Graduates Entering as First-Year Residents in Family Practice Programs	
		Number	Percent
<i>Pennsylvania, continued</i>			
Pittsburgh	132	16	12.1
Temple	179	21	11.7
<i>Puerto Rico</i>			
Puerto Rico, Univ of	148	5	3.4
<i>Rhode Island</i>			
Brown	67	9	13.4
<i>South Carolina</i>			
South Carolina, Medical Univ of	166	44	26.5
South Carolina, Columbia	22	5	22.7
<i>South Dakota</i>			
South Dakota, Univ of	46	19	41.3
<i>Tennessee</i>			
East Tennessee State	0	0	0.0
Meharry	112	7	6.3
Tennessee, Univ of	181	25	13.8
Vanderbilt	102	3	2.9
<i>Texas</i>			
Baylor	181	22	12.2
Texas, Galveston	199	31	15.6
Texas, Houston	149	30	20.1
Texas, San Antonio	137	26	19.0
Texas, Southwestern	198	17	8.6
Texas, A & M	32	5	15.6
Texas Tech	42	11	26.2
<i>Utah</i>			
Utah, Univ of	97	14	14.4
<i>Vermont</i>			
Vermont, Univ of	84	15	17.9
<i>Virginia</i>			
Eastern Virginia	76	17	22.4
Virginia, Med Coll of	168	32	19.0
Virginia, Univ of	132	24	18.2
<i>Washington</i>			
Washington, Univ of	173	57	32.9
<i>West Virginia</i>			
Marshall	18	2	11.1
West Virginia, Univ of	85	11	12.9
<i>Wisconsin</i>			
Wisconsin, Med Coll of	149	18	12.1
Wisconsin, Univ of	152	26	17.1
Total	15,667	2,001	12.8

*Source: American Medical Association³

Results

The medical schools of East Carolina and the University of South Dakota accounted for the highest percentages of graduates who were in family practice residency programs as first-year residents in December 1981, with 42.9 percent and 41.3 percent, respectively (Table 2). The medical schools of the University of Minnesota, the University of Indiana, and the University of Washington graduated the highest numbers of medical students who later were first-year residents in family practice in December 1981, with 86, 64, and 57, respectively. Of the 15,667 graduates of medical schools between July 1980 and June 1981, 12.8 percent were first-year residents in family practice in December 1981.

The census region with the highest percentage

of medical school graduates who were first-year residents in family practice in December 1981 was the West North Central region with 18.6 percent (Table 3). The New England and Middle Atlantic regions had the lowest percentages, 7.5 percent and 8.7 percent, respectively.

A higher percentage of graduates from publicly funded medical schools than from privately funded medical schools were first-year residents in family practice in December 1981, 15.5 percent compared with 8.8 percent (Table 4).

Comments

This analysis is not purported to be a study of medical students who enter family practice residency programs. This study is limited to first-year

Table 3. Number and Percentage of Graduates from Medical Schools Who Were First-Year Residents in Family Practice by Census Region and State of Medical School, December 1981

Region by State	Medical School Graduates July 1980 to June 1981* Number	Graduates Entering as First-Year Residents in Family Practice Programs	
		Number	Percent
East North Central	3,062	400	13.1
Illinois	1,096	99	9.0
Indiana	301	64	21.3
Michigan	580	81	14.0
Ohio	784	112	14.3
Wisconsin	301	44	14.6
East South Central	1,009	149	14.8
Alabama	231	28	12.1
Kentucky	238	47	19.7
Mississippi	145	39	26.9
Tennessee	395	35	8.9
Middle Atlantic	3,030	264	8.7
New Jersey	229	18	7.9
New York	1,717	115	6.7
Pennsylvania	1,084	131	12.1
Mountain	439	63	14.4
Arizona	86	9	10.5
Colorado	133	20	15.0
Idaho	—	—	—
Montana	—	—	—

*Source: American Medical Association³

Table 3. Number and Percentage of Graduates from Medical Schools Who Were First-Year Residents in Family Practice by Census Region and State of Medical School, December 1981 (Continued)

Region by State	Medical School Graduates July 1980 to June 1981* Number	Graduates Entering as First-Year Residents in Family Practice Programs	
		Number	Percent
Mountain, continued			
Nevada	48	5	10.4
New Mexico	75	15	20.0
Utah	97	14	14.4
Wyoming	—	—	—
New England	991	74	7.5
Connecticut	195	5	2.6
Maine	—	—	—
Massachusetts	583	37	6.3
New Hampshire	62	8	12.9
Rhode Island	67	9	13.4
Vermont	84	15	17.9
Pacific	1,361	216	15.9
Alaska	—	—	—
California	994	140	14.1
Hawaii	80	8	10.0
Oregon	114	11	9.6
Washington	173	57	32.9
South Atlantic	2,601	351	13.5
District of Columbia	466	50	10.7
Florida	387	42	10.9
Georgia	307	13	4.2
Maryland	360	47	13.1
North Carolina	414	64	15.5
South Carolina	188	49	26.1
Virginia	376	73	19.4
West Virginia	103	13	12.6
West North Central	1,363	253	18.6
Iowa	178	38	21.3
Kansas	111	14	12.6
Minnesota	334	94	28.1
Missouri	461	52	11.3
Nebraska	194	31	16.0
North Dakota	39	5	12.8
South Dakota	46	19	41.3
West South Central	1,663	226	13.6
Arkansas	136	28	20.6
Louisiana	416	36	8.7
Oklahoma	173	20	11.6
Texas	938	142	15.1
Puerto Rico	148	5	3.4
Total	15,667	2,001	12.8

*Source: American Medical Association³

Table 4. Number and Percentage of Graduates from Medical Schools Who Were First-Year Residents in Family Practice by Type of Medical School, December 1981

Type of Funding of Medical School	Graduates July 1980 to June 1981* Number	Graduates Entering as First-Year Residents in FP Programs	
		Number	Percent
Public (74)	9,250	1,437	15.5
Private (48)	6,417	564	8.8
Total	15,667	2,001	12.8

*Source: American Medical Association³

residents in family practice, December 1981. There are several reasons why such an all-encompassing study is not possible at this time.

The AAFP relies on the program directors to classify residents by program year. In some circumstances, however, program directors may find it difficult to classify by program year new residents who graduate from medical school in months other than May or June and enter the program several months prior to July, when most residents begin their graduate medical education. Therefore, there may have been a few second-year residents in family practice programs in December 1981 (as defined by program directors) who graduated from medical schools in the United States between July 1980 and June 1981. These residents would not have been included in this study. The response burden placed upon the department and division chairmen or deans to verify medical education of all first-, second-, and third-year residents in family practice was deemed too excessive to allow for a complete census.

One improvement can be made to the study methodology to ensure a higher degree of accuracy on the months and years of graduation. Instead of sending the AAFP listings to the chairmen or deans, the mailing more appropriately should be sent to the student records' office or registrar's office of each medical school, which is the authoritative source of such information.

The AAFP will continue for a second year this study on graduation rates of medical students en-

tering family practice programs as first-year residents. Although the graduation data on first-year residents will be the object of verification in the third year of the study, graduation data on all three years of residents then will have been verified. In that third year, the study will be properly designated as a report on the number of graduates from each medical school who enter family practice residency programs.

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