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Steven H. Crossman
VCU

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Development of a calculator for medical student residency applications

Steven Crossman, MD; Sharon Kaufer Flores, MS; Judy Gary, MEd

Background

- ❖ Number of medical students applying for residency increasing at a much faster pace than the number of residency slots
- ❖ Increased competition for residency positions
- ❖ Advisors suggesting students apply to a larger number of programs
- ❖ Residency programs receiving excessive numbers of applications

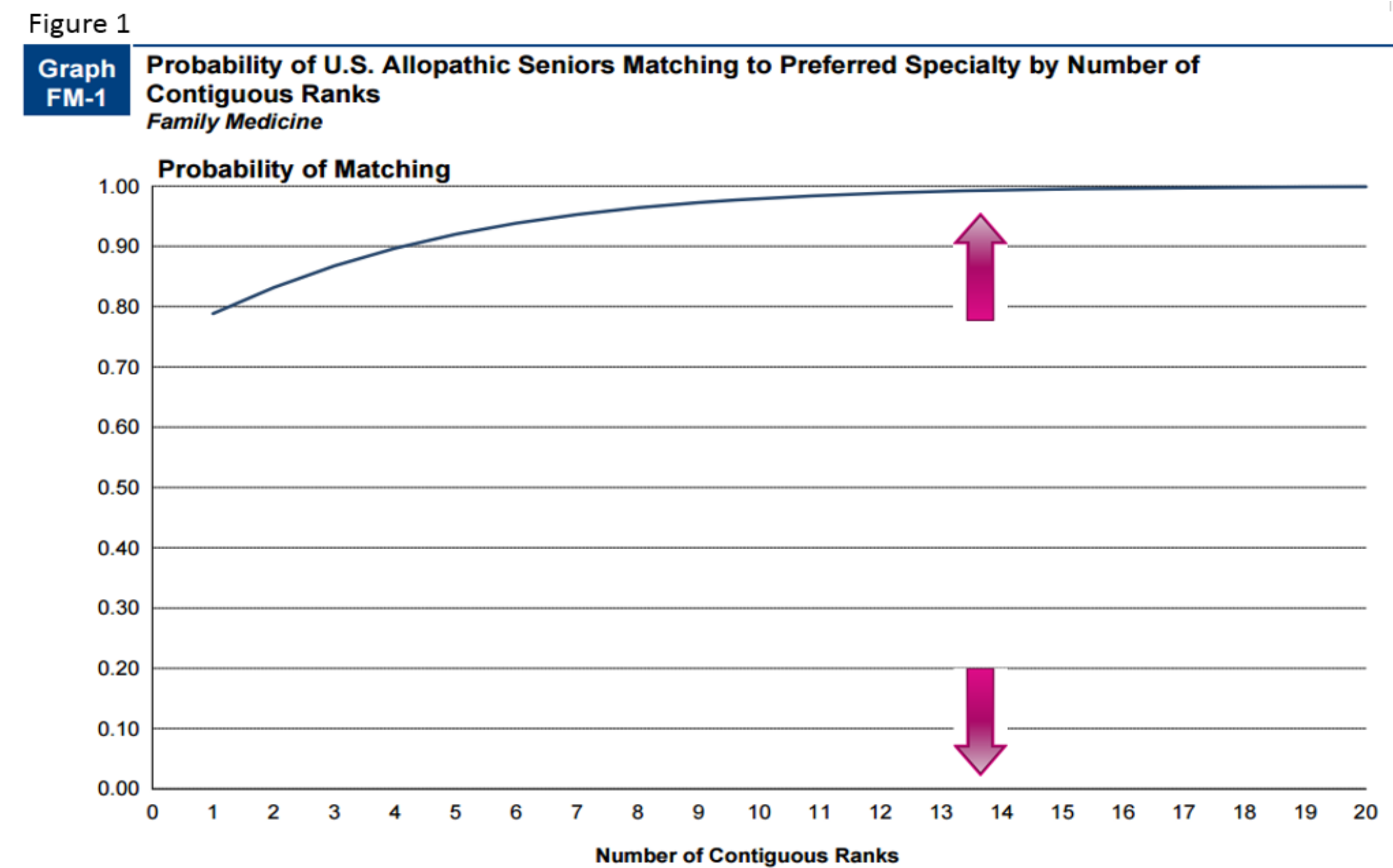
Process

Step 1: Completed a national survey asking respondents to agree or disagree with statements regarding how they rank applicants (Table 1)

Table 1: Survey Results. Frequency and percentage of Family Medicine Residency Programs (N=146) that responded "Agree" or "Strongly Agree" to Survey Questions.

Survey Question	Frequency of "Agree"	Percentage "Agree"	95% CI
8: "still rank if failed Step 1 ONCE"	134	91.8%	87.3%, 96.2%
6: "honest about applying to >1 specialty imp"	126	86.3%	80.7%, 91.9%
3: "rotation at specific prog inc. rank"	124	84.9%	79.1%, 90.7%
5: "applying to >1 specialty dec. rank"	122	83.6%	77.6%, 90.0%
10: "still rank if failed Step 2 CK ONCE"	117	80.1%	73.7%, 86.6%
16: "more than one FM letter inc. ranking"	113	77.4%	70.6%, 84.2%
24: "post interview communication inc. rank"	108	74.0%	66.9%, 81.1%
17: "4 th year letter important"	102	69.9%	62.4%, 77.3%
14: "repeat M1 or M2 year - still rankable"	94	64.4%	56.6%, 72.2%
18: "personal tie to geographic area imp"	66	45.2%	37.1%, 53.3%
23: "FM research exp. does not inc. rank"	65	44.5%	36.5%, 52.6%
9: "still rank if failed Step 1 TWICE"	49	33.6%	25.9%, 41.2%

Step 2: Researched data on student rank list length and match rate into family medicine from the National Residency Match Program (Figure 1)



Source: NRMP Data Warehouse. Note: Probabilities calculated based on 2014-2016 applicants. Copyright ©2016 NRMP. Reproduction prohibited without the written permission of the NRMP. 66 Charting Outcomes in the Match for U.S. Allopathic Seniors, 2016

Step 3: Created a calculator using an Excel spreadsheet which generates a student specific number of programs for application (Figure 2)

STUDENT	Std.	Repeat M1/M2	1 Step 1 Fail	2 Step 1 Fails	1 Step 2 CK Fail	2 Step 2 CK Fails	1 Step 2 CS Fail	2 Step 2 CS Fails	West Coast	TOTAL CALC.	TOTAL ACTUAL	INT. OFF.
1	18	0	0	0	0	0	0	0	0	18	19	19
2	18	0	0	0	0	0	0	0	0	18	30	13
3	18	0	0	0	0	0	0	0	0	18	30	29
4	18	0	0	0	0	0	0	0	0	18	24	20
5	18	0	0	0	0	0	0	0	0	18	26	24
6	18	0	0	0	0	0	0	0	0	18	21	16
7	18	0	0	0	0	0	0	0	15	33	32	18
8	18	0	0	0	0	0	0	0	0	18	30	21
9	18	0	0	0	0	0	0	0	0	18	22	22
12	18	0	0	0	0	0	0	0	0	18	22	9
13	18	0	0	0	0	0	0	0	0	18	18	14
14	18	28	0	0	0	0	0	0	0	46	50	17
15	18	0	0	0	0	0	0	0	0	18	32	18
17	18	0	0	0	0	0	0	0	0	18	24	17
18	18	0	20	0	0	0	0	0	0	38	26	12
19	18	0	0	0	0	0	0	0	0	18	30	22
22	18	0	0	0	0	0	0	0	0	18	34	17
23	18	0	0	0	0	0	0	0	0	18	24	22
24	18	0	0	0	0	0	0	0	0	18	40	20
25	18	0	0	0	0	0	0	0	0	18	26	11
27	18	0	0	0	0	0	0	0	0	18	26	18

Results

Match Year	# Students	Rec apps	Actual apps	% actual/rec
2015	21	671	841	125.3%
2016	20	824	836	101.5%
2017	24	590	726	123.1%
App range per student:		Rec	Actual	
		18-169	5-191	

Discussion

- ❖ Data refers to US citizen, civilian seniors at LCME accredited medical schools
- ❖ No specific data for couples unless both matching in fam med
- ❖ Very helpful: discourage over-applying by students with no red flags
- ❖ Very helpful: encourage students with multiple red flags to apply broadly enough
- ❖ May repeat survey in 2020 when the Single Accreditation System merger complete
- ❖ Crucial to have all data points entered as close to September 15 as possible
- ❖ Only one student in past three years has failed to match two years in a row