

## **Impact of Length of Rank Order List on Match Results: 2004-2023 Main Residency Match**

This report outlines the average length of the rank order lists (ROL) of matched versus unmatched applicants, and filled versus unfilled programs, over a 20-year period.

While the data contained in this report are insightful and offer a landscape against which to assess trends, it is important to note that there are many factors that contribute to ranking decisions made by both applicants and programs. and, therefore, to the lengths of their respective ROLs. Those factors include the unique training needs and preferences of applicants and programs, the competitiveness of applicants for the programs and specialties pursued, the competitiveness of programs, competitiveness of preferred specialties, and the number of interviews completed. For detailed information about the factors applicants and programs consider when applying, interviewing, and ranking, please view the *Results of the Applicant Survey* and the *Results of the Program Director Survey*, both found on the [Residency and Data Reports page](#) on the NRMP website.

There was concern expressed ahead of the 2020-2021 application and Match cycle that the pivot to virtual interviewing, spurred by the Covid-19 pandemic, would result in more interviewing, longer ROLs, and potentially greater difficulty matching or filling positions. The NRMP's [Research Brief: Virtual Experience and Holistic Review in the Transition to Residency – An Examination of the 2021 and 2022 Main Residency Matches](#) takes a look at perceptions and experiences of applicants and programs with the virtual platform. This report shows that while the average ROL length spiked in 2021, it has plateaued if not declined for programs and several applicant types since then. Moreover, match and fill rates have held steady if not increased. See individual data profiles below for more information specific to the 2021-2023 cycles.

Overall, this report shows that matched applicants and filled programs consistently have longer ROLs than unmatched applicants and unfilled programs. The NRMP advises applicants and programs to include all acceptable choices on their rank order lists. A longer ROL in no way affects the chances of matching to choices higher on the ROL.

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## Program Data

Program data are based on the number of positions offered. Any program with one or more positions unfilled after the matching algorithm has been processed, regardless of the number of positions filled, is included in the unfilled program data. Programs that donated unfilled positions to other programs through reversions are considered unfilled, and the fill status of programs that received reverted positions is based on the original quota.

In 2021, with the onset of virtual interviewing, the average length ROL for filled programs increased by 12.15 ranks and for unfilled programs by .67 of a rank. However, the average length ROL for filled programs declined by 2.16 ranks in 2022 and by another 3.94 ranks in 2023. Unfilled programs saw an increase of another 1.12 ranks in 2022 before declining by .44 of a rank in 2023.

Over 20 years, the average length ROL for programs has increased 48.6 percent; however, the number of programs filled has increased 85 percent or 7.9 percentage points overall. In each year since 2007, 84 percent or more of programs have filled. The average length ROL for unfilled programs has increased by 26.6 ranks since 2020 although the percentage of unfilled has declined by approximately 1 percentage point.

Year	Filled Programs			Unfilled Programs		
	Number and % Filled	Average Length of ROL	Average Ranks per Position	Number and % Unfilled	Average Length of ROL	Average Ranks per Position
2004	2,936 (78.7%)	55.61	9.40	796 (21.3%)	27.93	4.85
2005	3,005 (79.4%)	55.66	9.35	779 (20.6%)	26.63	4.90
2006	3,159 (81.8%)	55.85	9.74	702 (18.2%)	25.31	4.65
2007	3,360 (84.1%)	56.80	9.96	635 (15.9%)	25.23	4.97
2008	3,410 (84.4%)	57.66	10.04	628 (15.6%)	29.50	5.37
2009	3,601 (87.3%)	58.94	10.52	526 (12.7%)	27.56	5.68
2010	3,614 (87.3%)	61.78	11.11	528 (12.7%)	27.68	5.64
2011	3,660 (87.1%)	63.35	11.33	542 (12.9%)	32.51	6.28
2012	3,767 (85.9%)	64.27	11.52	619 (14.1%)	30.52	6.63
2013	4,029 (87.9%)	68.12	11.11	555 (12.1%)	27.31	6.56
2014	4,041 (86.1%)	68.88	11.52	654 (13.9%)	32.42	7.28
2015	4,093 (86.8%)	70.72	11.64	623 (13.2%)	34.38	7.13
2016	4,191 (87.2%)	71.93	11.99	613 (12.8%)	36.01	7.54
2017	4,398 (87.5%)	72.50	12.35	630 (12.5%)	33.78	7.39
2018	4,623 (87.7%)	74.01	12.83	648 (12.3%)	34.02	7.46
2019	4,759 (85.6%)	75.81	13.12	799 (14.4%)	33.92	7.60
2020	4,975 (85.7%)	76.58	12.91	833 (14.3%)	34.61	7.52
2021	5,120 (86.6%)	88.73	15.35	795 (13.4%)	40.61	8.19
2022	5,191 (85.3%)	86.57	15.20	896 (14.7%)	51.20	9.31
2023	5,431 (86.6%)	82.63	12.97	839 (13.4%)	61.21	8.87

## Applicant Data

Applicant data are based on the primary rank order lists of all applicant types combined. Data do not include couples.

The number of applicants matched has grown steadily over the past 20 years. Percentages matched have fluctuated, reaching a nadir of 71.9 percent in 2010 and a peak of 81.8 percent in 2023. The average length ROL for matched applicants also has steadily grown over time.

With respect to the introduction of virtual interviewing, the average length ROL for matched applicants in 2021 was 1.06 ranks longer than 2020, the biggest jump in the 20-year period, and with negligible adjustments up or down since then. The average length ROL for unmatched applicants has remained relatively static.

Year	Matched Applicants		Unmatched Applicants	
	Number and % Matched	Average Length of ROLs	Number and % Unmatched	Average Length of ROLs
2004	18,808 (78.5%)	7.44	5,156 (21.5%)	4.40
2005	19,234 (79.7%)	7.65	4,901 (20.3%)	4.48
2006	19,484 (76.4%)	7.81	6,011 (23.6%)	4.51
2007	20,042 (75.1%)	8.23	6,660 (24.9%)	4.64
2008	20,167 (74.0%)	8.52	7,094 (26.0%)	4.32
2009	20,458 (72.3%)	8.74	7,854 (27.7%)	4.46
2010	20,797 (71.9%)	9.25	8,130 (28.1%)	4.50
2011	21,363 (73.7%)	9.53	7,608 (26.3%)	4.38
2012	21,745 (73.5%)	9.75	7,855 (26.5%)	4.69
2013	24,186 (74.5%)	9.81	8,299 (25.5%)	4.58
2014	24,660 (76.1%)	10.30	7,760 (23.9%)	4.71
2015	24,918 (75.9%)	10.41	7,913 (24.1%)	4.78
2016	25,481 (76.3%)	10.60	7,903 (23.7%)	4.66
2017	26,186 (77.7%)	10.71	7,533 (22.3%)	4.24
2018	27,424 (78.9%)	10.91	7,349 (21.1%)	4.02
2019	29,044 (80.2%)	11.22	7,180 (19.8%)	4.21
2020	30,582 (81.3%)	11.29	7,050 (18.7%)	4.32
2021	31,546 (78.7%)	12.35	8,514 (21.3%)	4.47
2022	32,305 (80.6%)	12.58	7,798 (19.4%)	4.42
2023	33,112 (81.8%)	12.43	7,360 (18.2%)	4.15

## U.S. MD Seniors Data

U.S. MD seniors' data are based on applicants' primary rank order lists. Data do not include couples.

U.S. MD seniors historically have had the highest match rate and the longest average ROLs. Year-to-year variations occur within a narrow range, 92-95 percent of U.S. MD seniors matching each year. In 2021, the average length ROL for matched U.S. MD seniors spiked by 1.16 ranks. That length increased by .33 of a rank in 2022 before declining by .13 of a rank in 2023. U.S. MD seniors matched increased by .8 of a percent in 2023, mirroring pre-pandemic levels recorded in 2020.

Although the average length ROL for matched U.S. MD seniors has increased 77.5 percent in 20 years, it is still well below the 20 ranks offered in the standard Match registration fee. Average length ROL has increased 37.6 percent for unmatched U.S. MD seniors. The number unmatched has declined by 200 since 2021.

Year	Matched Applicants		Unmatched Applicants	
	Number and % Matched	Average Length of ROLs	Number and % Unmatched	Average Length of ROLs
2004	12,731 (93.8%)	7.99	843 (6.2%)	5.34
2005	12,975 (94.7%)	8.25	726 (5.3%)	5.29
2006	13,285 (94.7%)	8.40	748 (5.3%)	5.26
2007	13,486 (94.7%)	8.90	756 (5.3%)	5.62
2008	13,406 (95.0%)	9.26	699 (5.0%)	5.63
2009	13,560 (94.0%)	9.59	858 (6.0%)	6.27
2010	13,920 (94.0%)	10.17	896 (6.0%)	6.83
2011	14,466 (94.7%)	10.55	817 (5.3%)	6.36
2012	14,477 (95.6%)	10.93	670 (4.4%)	6.52
2013	15,099 (94.2%)	11.04	929 (5.8%)	6.58
2014	15,117 (95.0%)	11.68	796 (5.0%)	6.80
2015	15,512 (94.3%)	11.72	940 (5.7%)	7.15
2016	15,714 (94.3%)	11.97	950 (5.7%)	7.11
2017	15,950 (94.7%)	12.14	889 (5.3%)	6.61
2018	16,165 (94.7%)	12.49	911 (5.3%)	6.84
2019	16,392 (94.0%)	12.91	1041 (6.0%)	6.90
2020	16,606 (93.8%)	12.82	1,089 (6.2%)	7.40
2021	16,935 (92.7%)	13.98	1,325 (7.3%)	7.25
2022	17,064 (93.0%)	14.31	1,288 (7.0%)	7.40
2023	17,061 (93.8%)	14.18	1,125 (6.2%)	7.35

## U.S. DO Seniors Data

U.S. DO seniors' data are based on applicants' primary rank order lists. Data do not include couples.

For U.S. DO seniors, participation rates have increased dramatically since 2016, largely in response to the creation of a single accreditation system that led to the establishment of a Single Match in 2020. Increased participation rates among DO seniors likely have contributed to faster growth in average ROL length than among U.S. MD seniors or applicants overall.

Since 2016, mean ROL length among matched U.S. DO seniors has increased 37.3 percent, but has only fluctuated modestly among unmatched U.S. DO seniors. Specific to 2021, the average ROL length among matched U.S. DO seniors increased by 1.86 ranks and among unmatched U.S. DO seniors by 0.47 of a rank compared to 2020. The average length has increased nominally for matched applicants since then - .28 of a rank in 2022 and .03 of a rank in 2023 - while match rates have continued to rise. Among unmatched applicants, mean ROL length increased by 0.01 in 2022 but declined by 0.12 of a rank in 2023.

Since 2016, the number of matched U.S. DO seniors has grown 186 percent. While the number of unmatched has increased by 58.6 percent during the same time period, the percentage of unmatched has declined by 5.7 percentage points overall. Over 80 percent of U.S. DO seniors have matched every year since 2009 and over 85 percent since 2015. The percent of U.S. DO seniors matched now approaches historical match rates for U.S. MD seniors.

Year	Matched Applicants		Unmatched Applicants	
	Number and % Matched	Average Length of ROLs	Number and % Unmatched	Average Length of ROLs
2004	1,076 (85.2%)	6.11	187 14.8%	3.74
2005	1,037 (83.6%)	6.16	203 16.4%	3.92
2006	976 (82.2%)	6.14	211 17.8%	3.87
2007	1,082 (82.0%)	6.62	237 18.0%	3.92
2008	1,304 (82.9%)	6.96	269 17.1%	4.15
2009	1,352 (80.6%)	7.05	325 19.4%	4.78
2010	1,365 (81.2%)	7.82	316 18.8%	4.52
2011	1,494 (81.6%)	8.18	338 18.4%	4.73
2012	1,664 (83.4%)	8.39	332 16.6%	4.80
2013	1,894 (82.6%)	8.84	399 17.4%	4.85
2014	2,030 (86.1%)	9.57	328 13.9%	4.98
2015	2,180 (85.5%)	9.57	369 14.5%	5.08
2016	2,220 (86.2%)	9.92	355 13.8%	5.63
2017	2,706 (87.0%)	9.83	405 13.0%	5.45
2018	3,453 (85.9%)	10.15	566 14.1%	5.73
2019	4,567 (89.1%)	10.89	559 10.9%	5.69
2020	5,531 (90.8%)	11.45	559 9.2%	5.81
2021	5,927 (89.3%)	13.31	708 10.7%	6.28
2022	6,211 (91.7%)	13.59	564 8.3%	6.29
2023	6,350 (91.9%)	13.62	563 8.1%	6.17

## U.S. IMG Data

U.S. IMGs' data are based on applicants' primary rank order lists. Data do not include couples.

The average ROL length for matched U.S. citizen students and graduates of international medical schools (U.S. IMGs) has grown over the past twenty years by 61.1 percent while the average length ROL for unmatched U.S. IMGs has declined by 18.7 percent. Percentages matched have fluctuated over time, ranging from 47.7 percent in 2010 to 67.8 percent in 2023.

Average length ROL for matched U.S. IMGs has increased by 1.19 ranks since the pivot to virtual interviewing for 2020-2021.

Year	Matched Applicants		Unmatched Applicants	
	Number and % Matched	Average Length of ROLs	Number and % Unmatched	Average Length of ROLs
2004	1,101 56.4%	6.20	852 43.6%	4.01
2005	1,153 56.2%	6.68	900 43.8%	4.41
2006	1,245 52.0%	6.72	1,149 48.0%	4.04
2007	1,342 50.9%	7.47	1,295 49.1%	4.62
2008	1,513 52.7%	8.03	1,356 47.3%	4.35
2009	1,582 48.2%	7.98	1,703 51.8%	4.28
2010	1,707 47.7%	8.31	1,870 52.3%	4.45
2011	1,840 50.2%	8.42	1,825 49.8%	4.17
2012	2,041 49.1%	8.23	2,113 50.9%	4.71
2013	2,636 53.1%	8.63	2,326 46.9%	4.47
2014	2,690 53.8%	8.84	2,308 46.2%	4.68
2015	2,575 53.2%	8.87	2,266 46.8%	4.55
2016	2,774 54.0%	9.02	2,362 46.0%	4.18
2017	2,695 54.8%	9.22	2,223 45.2%	3.83
2018	2,821 57.4%	8.91	2,095 42.6%	3.43
2019	2,908 58.8%	9.20	2,037 41.2%	3.54
2020	3,056 61.1%	8.80	1,948 38.9%	3.33
2021	3,069 59.7%	9.49	2,072 40.3%	3.51
2022	3,021 61.8%	9.49	1,870 38.2%	3.70
2023	3,271 67.8%	9.99	1,553 32.2%	3.26

## Non-U.S. IMG Data

Non-U.S. IMGs' data are based on applicants' primary rank order lists. Data do not include couples.

In contrast to other applicant types, the average length of ROL for non-U.S. international medical graduates (non-U.S. IMGs) has remained relatively stable over time. Also in contrast, the average length ROL for matched non-U.S. IMGs has declined since the pivot to virtual interviewing beginning in fall 2020. Match rates have fluctuated from a low of 40.4 percent in 2010 to a high of 61.8 percent in 2020, with rates increasing by 4.5 percentage points specifically during the pandemic years. The average length ROL for unmatched non-U.S. IMG applicants has shrunk by 1.33 ranks over the 20 years covered by this report.

Year	Matched Applicants		Unmatched Applicants	
	Number and % Matched	Average Length of ROLs	Number and % Unmatched	Average Length of ROLs
2004	2,957 53.1%	6.69	2,610 46.9%	4.46
2005	3,089 56.4%	6.75	2,389 43.6%	4.53
2006	3,112 49.2%	6.83	3,215 50.8%	4.68
2007	3,206 46.6%	6.92	3,671 53.4%	4.60
2008	3,097 42.9%	6.90	4,116 57.1%	4.15
2009	3,119 42.5%	6.89	4,224 57.5%	4.24
2010	2,887 40.4%	6.81	4,257 59.6%	4.06
2011	2,712 41.3%	6.47	3,849 58.7%	4.05
2012	2,776 41.3%	6.46	3,939 58.7%	4.44
2013	3,574 48.1%	6.96	3,863 51.9%	4.14
2014	3,655 50.6%	6.83	3,568 49.4%	4.24
2015	3,643 50.4%	7.30	3,586 49.6%	4.26
2016	3,726 51.2%	7.19	3,556 48.8%	4.25
2017	3,795 53.3%	7.19	3,326 46.7%	3.69
2018	3,902 56.5%	7.27	3,002 43.5%	3.20
2019	3,968 59.1%	7.11	2,747 40.9%	3.32
2020	4,172 61.8%	7.53	2,584 38.2%	3.36
2021	4,283 55.3%	7.52	3,459 44.7%	3.51
2022	4,466 58.2%	7.48	3,209 41.8%	3.51
2023	4,933 59.8%	7.22	3,310 40.2%	3.13