ERAS Application Characteristics Influencing Successful Residency Matching in Neurosurgery

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Introduction

Applicants for U.S. neurosurgery residency programs through the National Resident Matching Program (NRMP®) often wonder what factors impact a successful match. Although previous studies have surveyed programs on factors they find important in ranking resident candidates, there appear to be no studies that objectively assess which candidate characteristics influence successful matching. Using data published by the NRMP for 2009-2014, we examined which components of the Electronic Residency Application Service (ERAS®) application correlated with successful residency matching.

Methods

Data was collected from the NRMP report "Charting Outcomes in the Match" from all years available for neurosurgery (2009, 2011, and 2014). The individual factors reported (number of contiguous ranks, research projects, publications and presentations, work experiences, and volunteer experiences; USMLE Step 1 and 2 score deciles, categorical data about AOA status, PhD Degree, other degree, and strength of medical school NIH funding) were aggregated for all three years. Categorical data was only available for US seniors. For ranked data, Spearman correlation was calculated for the proportion of candidates matched. For categorical data, chi-square statistics were run for each of these aggregates. Separate analyses were run for US seniors and independent applicants.

Results

For U.S. seniors applying to neurosurgery, the following factors were significantly associated ($p<0.05$) with proportion of applicants successfully matched: number of contiguous ranks, research projects and volunteer experiences, USMLE Step 1 and 2 scores, AOA status, and medical school NIH funding. For independent applicants, there were no factors significantly associated with matching other than USMLE Step 2 scores, although number of research projects and USMLE Step 1 score did nearly reach statistical significance (both $p=0.07$).

Conclusions

Students applying to neurosurgery residency should be aware of which factors are associated with success in the match. We believe that overall strength in the match is reflected in number of contiguous ranks. However, further analysis is needed to determine relative influence of these factors on outcome.

Learning Objectives

By reading this abstract/poster, audience members will objectively understand which characteristics aid with a successful match in the neurosurgery residency application process.

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