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The impact of visiting student electives on surgical Match outcomes



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ABSTRACT

Background: Residency applicants commonly complete visiting student electives (VSEs) hoping to increase their odds of matching at host institutions. Existing evidence on Match outcomes for applicants who complete VSEs is limited. As VSEs involve monetary and opportunity costs to students and administrators, data on their utility are vital for student well-being, preparedness for residency, and, ultimately, success in the Match. We investigated the utilization and impact of VSEs for all applicants. We hypothesized that completion of VSEs would increase the likelihood of matching at a host institution.

Materials and methods: A retrospective review was conducted of academic records and National Resident Matching Program outcomes for the graduates of one institution and visiting students to that institution over the course of 7 y.

Results: Utilization of VSEs varied significantly among specialties. Across all specialties and in general surgery, applicants were more likely to match into host programs than others. The size of the effect of VSEs on outcomes varied by specialty. Host programs were applicants' top choice for residency in 48% of cases.

Conclusions: Completion of VSEs may give surgical applicants increased control over Match outcomes. Our findings may assist future students in strategic decision making when determining whether and where to use VSEs.

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1. Introduction

More than 7000 residency applicants accepted offers to complete "audition" or visiting student electives (VSEs) in 2013 [1]. Applicants view these electives as opportunities to increase the likelihood of matching at desired programs, an attitude reciprocated by program directors [2,3]. However, past work has called the value of VSEs into question based

on an apparent lack of efficacy. These studies determined that VSE utilization did not increase applicants' odds of matching at host institutions [4,5]. As VSEs involve monetary and opportunity cost to students and administrators, current data on their efficacy are vital for student well-being, preparedness for residency, and, ultimately, success in the Match [6–8]. In light of limited up-to-date evidence and recent developments, such as the centralized Visiting

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Student Application Service and Extramural Electives Compendium, further investigation of the impact of VSEs on Match outcomes is warranted [9,10].

The overarching goal of this study was to provide information to surgical residency applicants to inform their decision to use VSEs. Previous work concluded that utilization of VSEs by general surgery applicants involves opportunity cost that must be balanced with potential benefits as VSEs preclude completion of other electives essential to preparation for a surgical internship [7,11]. However, unless they duplicate the content of prior electives, VSEs offer unique opportunities for personal and academic growth. Moreover, with adequate planning, it is possible for applicants to complete VSEs without significant opportunity cost [12]. If implemented strategically, data on the impact of VSEs on the Match could assist in resolving these issues in fourth year curricula.

We collected data on VSE utilization and residency application demographics from students at, and applicants to, our institution. As the use of VSEs anecdotally varies by specialty, we chose to first investigate differences in utilization of VSEs by applicants in each specialty. Our second aim was to determine the impact of VSE completion on Match outcomes in surgical specialties. We developed the hypothesis that applicants are more likely to match into programs that hosted them as visiting students compared with other programs that did not.

2. Methods

2.1. Outgoing applicants

To illustrate the relative rates of VSE utilization and Match outcomes among specialties, we analyzed application data from graduates of our institution. This first arm of our study is henceforth referred to as the “outgoing applicant” group. Applications were submitted to numerous programs. A portion of these programs were VSE host sites, whereas the remainder were nonhosts. Only one successful match is possible per applicant, and matches at host versus nonhost sites are mutually exclusive.

2.1.1. Subject selection, data acquisition, and baseline characteristics

The Office of Medical Student Programs at a large tertiary academic center has maintained a deidentified database of official academic records, including medical school grade point average (GPA), United States Medical Licensing Examination exam scores, and sites of VSE completion for the purposes of this study since 2008. Post-graduate year 2 specialty and institution as determined by the National Residency Matching Program results were also included in this database. The number of Electronic Residency Application Service applications submitted per applicant were downloaded from Electronic Residency Application Service. The database was queried in a retrospective review for VSE completion and Match results from the institution’s graduating classes from 2008 to 2014. All graduates from the classes of 2008–2014 were included in our analysis.

2.1.2. Utilization

Utilization is defined as a proportion: the number of all applicants that completed one or more VSE divided by total applicants.

2.1.3. Match at the home program

To investigate the relationship between VSE completion and match at the home program, match results were compared between applicants who completed one or more VSEs and those who did not. The primary outcome was the percentage of students matching into residency at the institution where they had graduated from medical school.

2.1.4. Impact of VSEs on application effectiveness

Application effectiveness was defined as the number of applications resulting in a match divided by total applications submitted. To test our hypothesis, this metric was compared between two groups: (1) the VSE+ group included applications submitted to former VSE host programs and (2) the VSE– group included applications to all other programs, which were necessarily nonhosts.

2.1.5. Travel requirements

To determine the need for travel and lodging during VSEs, geographic location relative to the home institution was taken into account. VSEs were classified as “local” if the host institution was within 50 miles of subjects’ home institution. Host programs farther than 50 miles away were classified as “distant” programs.

2.2. Impact of VSEs on match rates in incoming applicants

The second arm of our study included all applicants to the categorical general surgery residency program at our institution, including graduates of many institutions. This arm was included to add external validity to our hypothesis test and is henceforth referred to as the “incoming applicant” group. Records of students who completed VSEs at our institution were kept on file at the Office of Medical Student Programs during the study period. These records were cross-referenced with housestaff rosters to identify former visiting students who matched into our program. The average number of applications received each year by our program was collected by the program coordinator.

The primary outcome of this arm was a proportion: the site-specific match rate, or the number of applicants that matched into our program as a categorical resident, divided by total applicants. To test our hypothesis, this metric was compared between two groups: (1) applicants who completed a VSE at our program and (2) those who did not.

2.3. Applicant preferences

In our study of student rank list preferences, an online survey was sent to all members of the classes of 2014 and 2015 via e-mail addresses kept on record in the Office of Medical Student Programs. Graduates were invited to complete the survey only if they had completed a VSE during the fourth year of medical school. The principle outcome was the single “yes” or “no”

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