A Study of Resident Applicant Screening

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Despite the large and rapid growth in numbers of family practice residencies in the United States and Canada, there has been for many programs the problem of great numbers of applicants applying for residency positions. Prior to the 1979-80 academic year at The University of New Mexico, nearly 200 applicants interviewed annually for its family practice residency program. The great number of interviews generated by these applicants taxed faculty and resident time and resulted in considerable costs in time and travel funds for applicants.

In order to save faculty and resident time as well as applicant expenditures, a method was sought that would help predict in advance the higher priority applicants.

Methods

It was decided to exempt from the screening any candidate who (1) was graduating from The University of New Mexico, (2) was a New Mexico resident attending a school out of state, (3) was a student from out of state attending The University of New Mexico temporarily, or (4) was not invited for an interview but insisted on being interviewed.

Three teams of faculty and residents, and in one case, a family nurse practitioner, were assigned to prescreen all applicants and to develop a list of invitees. The evaluators reviewed the application and supporting materials.

Each applicant packet was randomly assigned to a two-member screening team to determine if the applicant should be invited. Each applicant's credentials were reviewed,* and a decision was made based upon the evaluators' prediction of how well the applicant would fit into the program.

The top ranking applicants by this selection process were then invited for formal structured interview visits. To evaluate the effectiveness of this method, ten applicants were selected at random from the "noninvited pool" and invited as validity checks on the prescreening. The purpose of this was to see how these ten fared in the final ranking. No one who participated in the interviewing or matching process knew who the ten were until the final ranking had been received from the National Resident Matching Program.

Results

Ninety applicants in 1979 and 91 in 1980 were invited for an interview, compared to 176 in 1977 and 182 in 1978. It was possible, therefore, to reduce the number of interviews by approximately 50 percent, translating to a reduction in interviewing time per year by 180 hours (90 persons × two interviews) at an expenditure of approximately 60 hours of prescreening time. One should also note, however, that the number of completed applications fell by approximately one third after this system was instituted, perhaps an indication that screening serves as a deterrent to some applicants.

Each year ten applicants were invited by the

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*Screening questionnaire may be obtained by request from the author.

0094-3509/82/020382-02$00.50

Table 1. Results of Prescreening

	Screened Applicants			
	Invited	Originally Not Invited	Exempt Applicants	Total
Matched	8	1	9	18
Ranked in top group but did not match	16	1	0	17
Not ranked in top group	124	18	31	173
Total	148	20	40	208

resident secretary as "validity checks." In 1979 two applicants appeared for interviews who had been initially screened out. In 1979 those ten applicants who served as validity checks were ranked on the National Resident Matching Program match list in the following positions: 2, 36, 42, 51, 55, 56, 57, 58, 78, and 79. The two self-invitees were ranked 21 and 63. In 1980 the ten applicants who served as validity checks were ranked 12, 44, 59, 61, 67, 70, 76, 81, 84, and 88. In 1979 the 10 matches were obtained from the top 16 applicants. In 1980 only 8 interns were chosen from the top 19 applicants. In each year, therefore, only one of the applicants who would have been screened out by this process could have eventually matched in The University of New Mexico program.

Table 1 shows a statistically significant relationship between the screening category and the outcome of the matching process ($\chi^2 = 16.02$, $P < .01$). The partitioning of chi-square into individual degree of freedom components shows a significant difference between screened and exempt groups in the proportion of top applicants actually matching. For the screening group, 9 of 26 (35 percent) top applicants match, and for the exempt group 9 of 9 (100 percent) top applicants match ($\chi^2=14.07$, $P < .001$). The exempt group, therefore, includes applicants who have a high probability of choosing this program if they are ranked in the top group of applicants.

Of the ten applicants invited each year as "validity checks," two ranked high enough to match in the program, appearing to give this group the same odds (2 out of 20) of matching as the total interviewed pool (18 out of 181). The mechanics of the selection process, however, are such that only the applicants in the top half of each year's pool, as determined by interview score, are given serious consideration in the ranking process.

Of the 20 "validity checks," only five ranked in the top half of the pool (numbers 2, 36, and 42 in 1979, and numbers 12 and 44 in 1980). This difference between observed (5) and expected (10) frequencies is significant ($\chi^2 = 4.05$, $P < .05$).

Comment

The group of persons who were initially exempt from screening had a slightly greater chance of being in the final "could have matched" group (26 out of 170 screened, 15 percent; 9 out of 36 exempt, 24 percent). When the match results were computed, however, 9 out of 9 of the applicants in the exempt group matched in this program, whereas 9 out of 26 of the screened applicants did so. Of the nine exempt applicants who matched, seven were students from The University of New Mexico. The data suggest that the prescreening process is weighted in favor of these students.

The screening process did not appear to affect the overall quality of the final selections. Those who were invited as "validity checks" proved to later be significantly different from the pool of potential match choices.

Last, the use of a screening procedure did save approximately 120 hours of interview time as well as many thousand dollars of applicant travel monies.