PREFERENCES OF PROGRAM DIRECTORS FOR EVALUATION OF CANDIDATES FOR POSTGRADUATE TRAINING

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Abstract • Résumé

Objective: To determine the preferences of program directors for various grading systems and other criteria in selecting students for residency training positions through the Canadian Resident Matching Service (CaRMS).

Design: Questionnaire survey.

Participants: All 110 directors of residency training programs in Ontario.

Setting: Ontario medical schools.

Outcome measures: Weighting of importance of different screening tools (e.g., grading systems, personal interview, dean's letter) used during undergraduate training.

Results: Of the 110 directors 96 (87%) responded. Of the 92 who rated the various grading practices 35 (38%) preferred a numeric grading system, 26 (28%) a letter grading system, 23 (25%) an honours/pass/fail system and 8 (9%) a pass/fail system. Most of the respondents from each school favoured a grading system that was more discriminating than the one used at their location. The personal interview was regarded as the most important screening tool by 80 (83%) of the respondents; the dean's letter was considered to be very useful by only 16 (17%).

Conclusions: More value was placed by program directors on a numeric or other more discriminating grading system than on the pass/fail system. Although the grading system provides only one type of screening mechanism it raises the question of whether there should be a policy for uniform grading practices for all Canadian students.

Objectif : Déterminer les divers systèmes de notation et les autres critères que les directeurs de programme préfèrent utiliser pour choisir les étudiants qui occuperont des postes de formation en résidence par l'entremise du Service canadien de jumelage des résidents.

Conception : Sondage par questionnaire.

Participants : Les 110 directeurs de programmes de formation en résidence de l'Ontario.

Contexte : Facultés de médecine de l'Ontario.

Mesures des résultats : Pondération de l'importance de divers outils de sélection (p. ex., systèmes de notation, entrevue personnelle, lettre du doyen) utilisés au cours de la formation de premier cycle.

Résultats : Sur les 110 directeurs, 96 (87 %) ont répondu. Sur les 92 qui ont coté les diverses pratiques de notation, 35 (38 %) préféraient un système de notation numérique, 26 (28 %) un système de notation alphabétique, 23 (25 %) un système spécialisation/réussite/échec et 8 (9 %) un système réussite/échec. La plupart des répondants de chaque faculté préconisaient un système de notation plus différentiel que celui qu'on utilisait dans leur établissement. L'entrevue personnelle était considérée comme le moyen de sélection le plus important par 80 (83 %) des répondants et 16 (17 %) seulement considéraient la lettre du doyen comme très utile.

Conclusions : Les directeurs de programme ont accordé une plus grande valeur à un système de notation numérique ou à un autre système plus différentiel qu'au système réussite/échec. Même si le système de notation n'offre qu'un seul type de moyen de sélection, il faut se demander s'il devrait y avoir une politique de notation uniforme applicable à tous les étudiants du Canada.

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In English-speaking Canada selecting candidates for postgraduate residency training programs in the primary specialties occurs only through a national residency matching program, which students enter directly from medical school. In the first year of this process (1992–93) directors of the more popular programs found it very difficult to screen and select candidates because of the overwhelming number of applicants. In addition the problem-based curriculum in place at some schools, which involves self-learning by student groups with an expert or nonexpert tutor, does not lend itself to formal student evaluation. Therefore, these evaluations tend to be difficult to categorize, and students have come to request pass/fail evaluations only.

As noted by McLeod,[1] the question of whether Canadian medical schools should adopt a uniform grading system is one to which many educators would like to receive a positive response. "It is time for an organized, country-wide effort to develop a standardized, valid, reliable and portable clerk rating system."[1] In his analysis of the grading systems used for clinical clerks in Canada's 16 medical schools, McLeod recognized the difference between the systems, yet noted that "given the small number of schools in Canada, the task of developing uniformity seems to be only moderately complex." Others, however, may believe that the task of developing a uniform grading system in Canada would be quite difficult given the different curricula and traditions among the 16 medical schools and therefore may question the practicality of such standardization.

If program directors were considered to be employers, their objective would be to select the best candidates for the positions they oversee. However, the difficulties in selecting the best candidates are compounded by the large number of applicants for the relatively few positions in each residency training program (Table 1). As Table 1 suggests, each student will apply for many residency training positions, which therefore contributes to the large numbers of applicants program directors must screen. Screening tools, of which the grading system at each school is but one, therefore become very important. Dietrick, Weaver and Merrick[2] polled directors of general surgery residency programs and found that 81% thought that the evaluation system used by medical schools affected the student's ability to obtain the residency position of his or her choice. The results also indicated that the pass/fail system had an adverse effect on the selection process because it did not identify the students who performed best in the pass category.

The objective of this study was to revisit the grading practices and policies at the medical schools in Ontario, particularly in relation to the impact they have on the selection of students for residency training positions

now that entry to residency training is determined solely through the Canadian Residency Matching Service (CaRMS). We chose the medical schools in Ontario because most graduates of these schools undertake their postgraduate training in Ontario (Sandra Banner, CaRMS: unpublished data, 1993). It is hoped that this information will influence student grading practices and possibly prompt a discussion that might lead to standardization of grading across Canada.

METHODS

In June 1993 a questionnaire and a letter explaining the purpose of the survey was sent to the 110 program directors of residency training programs in Ontario. Program directors were asked to evaluate their academic requirements for student selection by answering 19 closed questions and providing additional written comments. Information detailed in this article therefore represents their personal opinions on the various grading systems and other screening tools such as dean's letters, reference letters, personal statements and interviews used to select students whom they considered to be the best candidates for their residency training positions. Responses were tabulated using the Quattro Pro 2.0 (Borland International, Scott's Valley, Calif.) and Excel 5.0 software programs (Microsoft Corp., Redmond, Wash.).

RESULTS

Of the 110 program directors 96 (87%) returned a completed questionnaire. The results were categorized by medical school and then summarized to provide an overall provincial view.

The grading practices used at the five medical schools during the 1993–94 academic year were as follows: University of Toronto: letter grade; University of Ottawa, University of Western Ontario and Queen's University: honours/pass/fail system; and McMaster University: pass/fail system.

Most of the program directors at each school indicated a preference for a grading system that was more discriminating than the one currently used at their school (Table 2). A numeric system was preferred by most at the universities of Toronto and Western Ontario (46% [11/24] and 63% [12/19] respectively), a letter grading system was preferred by most at the University of Ottawa and Queen's University (50% [10/20] and 43% [6/14] respectively), and an honours/pass/fail system was preferred by most at McMaster University (40% [6/15]).

For the province as a whole, 38% (35/92) of the program directors who responded to this question preferred a numeric grading system, 28% (26/92) a letter grading

system, 25% (23/92) an honours/pass/fail system and 9% (8/92) a pass/fail system.

Of the 92 program directors who indicated a preference, 66% (61) felt that students applying to their program from a school that used a pass/fail system would be at a disadvantage compared with students from schools that used a letter grade or numeric rating; 61 program directors also favoured an honours/pass/fail rating over a pass/fail one. However, 63% (58/92) did not feel that students from schools with an honours/pass/fail system would be disadvantaged compared with those from schools with a letter or numeric rating system. Although 79% (76/96) reported that they would consider students without an honours grade, the same number felt that it was important to distinguish between students with A, B and C grades. Only 3% (3/96) were of the opinion that grading of passing students beyond pass/fail was of no value.

Table 1: Number of applications to residency training programs in Ontario medical schools in 1993, by discipline

Specialty	University;* no. of applications					Total	Quota
	Ottawa	Queen's	Toronto	McMaster	Western		
Anatomic pathology	–	–	18	–	6	24	10
Anesthesia	29	32	52	31	33	177	27
Community medicine	5	–	6	6	–	17	6
Diagnostic radiology	25	28	44	33	27	157	20
Dermatology	–	–	33	–	–	33	2
Emergency medicine	–	–	25	20	23	68	4
General pathology	–	9	–	–	6	15	3
General surgery	88	92	105	85	80	450	24
Family medicine	815	332	383	446	314	2290	247
Hematologic pathology	–	–	5	–	–	5	0
Internal medicine	144	118	216	125	165	768	83
Laboratory medicine	7	–	–	10	–	17	6
Medical biochemistry	–	–	1	–	1	2	1
Medical genetics	–	–	4	–	–	4	1
Medical microbiology	–	–	5	–	1	6	2
Neurology	10	–	42	–	26	78	4
Neuropathology	–	–	2	–	–	2	0
Neurosurgery	17	–	18	–	15	50	5
Nuclear medicine	–	–	8	–	4	12	2
Obstetrics–gynecology	57	54	78	62	56	307	18
Ophthalmology	29	27	36	–	28	120	6
Orthopedic surgery	34	–	34	37	33	138	14
Otolaryngology	27	–	32	–	24	83	8
Pediatrics	71	42	92	61	70	336	23
Physical medicine and rehabilitation	10	8	16	17	–	51	8
Plastic surgery	–	–	38	–	35	73	6
Psychiatry	43	33	63	46	42	227	37
Radiation oncology	17	13	38	20	20	108	10
Urology	13	11	25	–	13	62	7
Total						5680	584

*Full names of the universities are University of Ottawa, Queen's University, University of Toronto, McMaster University and University of Western Ontario.

Most (90% [86/96]) of the respondents indicated that it was important to know both the class mean and median; the same number replied that it was important to know the proportion of students who obtained honours. The same proportion felt that they should know the marks in both the clerkship and preclerkship years.

Personal interviews were considered to be the most important selection criterion by 84% (80/95) of the program directors who answered this question. As for the value of dean's letters, only 17% (16/95) considered them to be very useful, and 83% (79/95) thought that they were either of no or moderate value.

Overall, 64% (61/96) of the respondents reported that because of the recent change in licensure requirements in Canada and the abolition of rotating internships undergraduate marks were now more important to them for student selection than they had been in the past.

Discussion

We sought only to describe how program directors in Ontario value grading systems as one of the criteria for selecting students into residency training programs. The answers reflect a personal bias, but they may help to define the difficulties program directors face when trying to choose the best candidates for their programs from the large number of applicants. Some indicated that they interview only those with the highest student ranking, (i.e., honours, an A grade or a numeric mark above 80%). The use of the pass/fail system may hinder this selection and may put some students at a disadvantage and others at an advantage. It should not be inferred that program directors do not value other aspects of the selection process, especially the personal statement letter and the interview. Personal discussions with program directors seem to indicate that the students most likely to be ranked highest in the CaRMS match are those who have a high academic standing in medical school, perform well in an interview and are perceived by the program directors to be well-rounded individuals.

Most of the program directors in our survey favoured personal interviews for resident selection; the next most important criterion was an appropriate grading system. Reference letters and personal statement letters were reported to be less useful, and dean's letters were the least useful. These findings are in keeping with those from other studies in which interviews, letters of reference and dean's letters did not play a consistently useful role in the selection process.[3-8] If grading practices are to be useful as a screening mechanism before interviews, medical schools must ensure that evaluation methods are sufficiently reliable to be discriminating. The distinction between evaluation methods and grading practices is often unclear, particularly in relation to the role of evaluation. Students will frequently discuss their concerns with a grading practice; however, the emphasis of their frustration is often placed on the evaluation method used. Since evaluation methods and grading practices may be seen as interrelated, the validity of any grading system would seem to depend on the reliability of the evaluation methods used and sometimes on the evaluators themselves.

With many medical schools moving toward a problem-based curriculum, it is necessary to educate those involved with the evaluation of students in order to achieve more uniform assessments. Emphasis should be placed on reducing subjectivity and increasing objectivity. Evaluations by committees, which have good communication with students and faculty and well understood discriminator boundaries, may be preferable to individual judgements. In 1989 Reznick and associates[9] studied the reliability of different grading systems used in evaluating surgical students; their results favoured the use of a letter grading system, which required only five raters to achieve a mean rating with the commonly recommended reliability of 0.80.

Class medians and means and the proportion of honours students need to be defined on transcripts if inflation of marks is to be taken into account. In some schools over two thirds of the class may obtain honours, which surely devalues the scale. Program directors perhaps need

| | University; no. (and %) of directors | | | | | |
System	Ottawa n = 20†	Queen's n = 14	Toronto n = 24	McMaster n = 15†	Western n = 19	Total n = 92
Numeric	6 (30)	3 (21)	11 (46)	3 (20)	12 (63)	35 (36)
Letter	10 (50)	6 (43)	7 (29)	2 (13)	1 (5)	26 (27)
Honours/pass/fail	4 (20)	4 (29)	4 (17)	6 (40)	5 (26)	23 (24)
Pass/fail	0	1 (7)	2 (8)	4 (27)	1 (5)	8 (8)

Table 2: Grading systems preferred by residency program directors*

*Existing grading system in 1993–94: University of Toronto: letter; Ottawa University, University of Western Ontario and Queen's University: honours/pass/fail; McMaster University: pass/fail.
†One of the 21 respondents at the University of Ottawa and 3 of the 18 respondents at McMaster University did not complete this item.

to look elsewhere for screening and selection criteria if an honour or high numeric grade cannot be used.

Finally, in our study the program directors favoured a more discriminating method of grading than a simple pass/fail system. As indicated by Newman,[3] "people who evaluate transcripts really want to know how well the student performed and to be told this information in a readily understandable language." Most of the program directors in our study favoured a grading system that rated students within the pass category. This preference may be seen as a means of identifying not only the high achiever, but also the struggling student. With postgraduate training positions at a premium, this bias is not irrelevant for students, who appear to be caught in a difference of opinion between undergraduate and postgraduate teachers about grading practices.[10] Now that the new licensure requirements in Canada entail direct entry into residency training programs from medical school, the onus on program directors to select the best students is considerable. Therefore, an appropriate screening system is needed so that program directors do not have to interview 10 or more students for each position and students do not have to travel across the country for unnecessary and unsuccessful interviews. Should all schools not adopt a grading policy other than pass/fail to prevent students from being at a disadvantage in the selection process?

CONCLUSION

This survey indicates the value directors of residency training programs in Ontario place on numeric or other grading systems that are more discriminating than the pass/fail system. Although grading systems provide but one possible screening tool, which in most cases is not used alone, the fact that the numeric grading system found such favour in Ontario may encourage others to pose similar questions and consider the benefits of a national, uniform grading system.

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