EDUCATION

A survey of one CCFP-EM program's graduates: their background, intended type of practice and actual practice

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ABSTRACT

Objectives: Our primary objective was to survey the graduates of one residency program with respect to anticipated versus actual medical practice.

Methods: Using a modified Dillman technique, we surveyed all 83 physicians who had completed one year of residency training that led to certification of special competency in Emergency Medicine (CCFP-EM) at the University of Western Ontario (UWO) from 1982–2004. Respondents were asked what type of medicine they had thought they would practise before beginning their emergency medicine training. They were then asked to describe their employment from graduation to present time. Additional demographic information was collected. Correlation between demographic factors and other selected factors of influence upon career decisions was analyzed.

Results: Our response rate was 87% (72/83), with 71% (51/72) respondents being male. At the start of their CCFP-EM residency training, 50% of respondents intended to practise emergency medicine exclusively and 47% intended to blend family and emergency medicine. For each of the respondents' first 4 positions of employment, the greatest percentage were practising emergency medicine only (ranging from 72% in position 1 to 53% in position 4), while the number engaging in a blended family/emergency medicine practice never exceeded 20%. No demographic factors surveyed had significant correlation with intended or actual practice. In all positions of employment, "type of practice" was ranked as the most influential factor in choosing that position.

Conclusion: Most graduates of the UWO CCFP-EM program practise in emergency medicine only positions. Less than 20% are engaged in a blended family/emergency medicine practice. At training onset, one-half of the residents intended to practise emergency medicine exclusively. None of the demographic factors surveyed significantly correlated with intended or actual practice. Further examination of the practice patterns of all emergency medicine residency program graduates is an essential part of future planning for the specialty of Emergency Medicine in Canada.

Key words: medical education; survey; emergency medicine

RÉSUMÉ

Objectifs : Nous visions principalement à sonder les diplômés d'un programme de résidence au sujet de la médecine qu'ils avaient prévu pratiquer par rapport à celle qu'ils ont pratiquée en réalité.

Méthodes : Nous avons utilisé une technique Dillman modifiée pour sonder les 83 médecins qui

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avaient terminé une année de résidence qui leur a permis d'obtenir un certificat de compétence spéciale en médecine d'urgence (CCMF-MU) à l'Université Western Ontario (UWO), de 1982 à 2004. On a demandé aux répondants quel type de médecine ils avaient pensé pratiquer avant d'entreprendre leur formation en médecine d'urgence. On leur a demandé ensuite de décrire l'emploi qu'ils ont occupé entre le moment où ils ont obtenu leur diplôme et celui où ils ont répondu au questionnaire. On a recueilli des données démographiques supplémentaires et analysé le lien entre les facteurs démographiques et d'autres facteurs choisis qui exercent une influence sur le choix de carrière.

Résultats : Notre taux de réponse a atteint 87 % (72/83) et 71 % (51/72) des répondants étaient des hommes. Au début de leur résidence CCMF-MU, 50 % des répondants avaient l'intention de pratiquer exclusivement la médecine d'urgence et 47 % prévoyaient marier la médecine familiale à la médecine d'urgence. Dans le cas des quatre premiers postes occupés par chacun des répondants, le pourcentage le plus important pratiquait la médecine d'urgence seulement (de 72 % au poste 1 à 53 % au poste 4) tandis que le nombre de ceux qui ont pratiqué la médecine familiale et la médecine d'urgence simultanément n'a jamais dépassé 20 %. Aucun facteur démographique analysé n'a présenté de lien important avec la pratique prévue ou réelle. Dans tous les postes occupés, les intéressés ont classé le «type de pratique» comme le facteur qui a exercé le plus d'influence sur leur choix.

Conclusion : La plupart des diplômés du programme CCMF-MU de l'UWO travaillent en médecine d'urgence seulement. Moins de 20 % pratiquent la médecine familiale et la médecine d'urgence simultanément. Au début de la formation, la moitié des résidents avaient l'intention de pratiquer la médecine d'urgence seulement. Aucun des facteurs démographiques analysés ne présentait de lien important avec la pratique prévue ou réelle. Une analyse plus poussée des tendances de la pratique chez tous les diplômés de programmes de résidence en médecine d'urgence joue un rôle essentiel dans la planification future dans la spécialité médecine d'urgence au Canada.

Introduction

In 1982, the College of Family Physicians of Canada launched the certification of Special Competence in Emergency Medicine – the CCFP-EM program. One of the primary objectives of this program is to enhance the emergency medicine skills of practising family physicians (FPs).[1] Twenty years later, Chan reviewed billing records from 345 FPs with emergency medicine certification and found that 56% were practising "almost all" or "mostly" emergency medicine.[2] There are no other published studies looking at the practice patterns of CCFP-EM graduates.

Our primary objective was to survey all graduates of the University of Western Ontario's (UWO) CCFP-EM residency program with respect to anticipated versus actual medical practice. We hypothesized that the majority of the graduates have been practising emergency medicine exclusively rather than combining it with family practice, and that they intended to do so from the start of their residency. A secondary objective was to determine if specific demographic factors influenced practice choices in this group.

Methods

Survey design

We developed a survey using a modified Dillman method[3] consisting of 9 multiple choice questions and 9 "fill in the blank" responses. An outline of the survey is displayed in Fig. 1. The survey was designed to collect information about the graduates' practice positions for all of the positions that they had held over time since graduating, up to a maximum of 8 positions. The full questionnaire is available from the corresponding author (L.G.S.).

Survey distribution

The survey was distributed to all 83 physicians who completed a CCFP-EM residency year at UWO from 1982–2004 inclusive. Addresses were obtained from the *Canadian Medical Directory* and the College of Physicians and Surgeons of Ontario Web site. Each physician received an introductory letter and self-addressed stamped envelope. Each survey was assigned an identification number for tracking purposes only, and confidentiality of responses was assured. Reminder cards were mailed 2 weeks after the first mailing to non-responders. A second survey was sent 2 weeks after the reminder card to the final group of non-responders.

Data analysis

Data were entered into Microsoft Excel 2002. Cross tabulation tables for all combinations of 2 characteristics/fac-

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tors from the data set were calculated. Chi-squared tests of independence were applied as the primary analysis tool.

Results

We received 72 survey responses for a response rate of 87.0%. Of the 72 respondents, 51 were male and 21 were female. Demographic data are summarized in Table 1. Additional training following the CCFP-EM year was undertaken by 9 of the respondents. One physician completed a pediatric fellowship, 5 completed additional sports medicine training and 3 completed a CCFP(Anaesthesia) special competence year. (One graduate completed both sports medicine and anesthesia training.)

At the start of their CCFP-EM residency training, 50% of respondents indicated that they had intended to practise exclusively emergency medicine and 47% intended to undertake a blended practice of family medicine and emergency medicine. The remaining 3% were unable to decide or could not recall their intention. None of the respondents intended to enter solely family practice following completion of the program. There were no significant relationships found between intended practice type and any demographic data examined, including gender, size of childhood community, or medical school attended.

For each employment position, the majority of respondents were practising emergency medicine only, ranging from 72% in position 1 to 53% in position 4, while the number of respondents with a blended family medicine/emergency medicine practice never exceeded 20% (Fig. 2). The majority of respondents in all positions chose to practise in regional centres, which for the purposes of this investigation was defined as having a population between 10 000 and 200 000 (Fig. 3). There were no significant relationships demonstrated between actual practice type and demographic variables studied.

Part 1: Demographics

- size of the community in which most time was spent until the age of 18
- gender
- location of medical school and year of graduation
- location of CCFP residency and year of graduation
- year completed CCFP-EM residency

Part 2: Practice patterns

- at the start of the CCFP-EM year of training, intended type of practice upon completion of the CCFP-EM program
- additional training
- practice positions 1 to 8:
  - location, size of city, length of time worked, type of practice, tertiary v. non-tertiary, teaching v. non-teaching
  - rating of factors of influence in position choice:
    - type of practice
    - adequate income
    - proximity to extended family
    - leisure and family time
    - size of community
    - familiarity with community
    - opportunity to join group practice
    - medical need in area
    - acceptable hours of practice

Note: Graduates were asked to rate the degree to which each of the above factors played a role in choice of position on a four-point scale from "very influential" to "not at all influential."

Fig. 1. Outline of survey questions

Table 1. Demographic data for the 72 physicians who responded to the survey

Demographics	No. (and %)
No. of male respondents	51 (71)
Childhood community, population	
<10 000	6 (8)
10 000–200 000	31 (43)
>200 000	35 (49)
Training	
Completed MD at UWO	32 (44)
Completed CCFP at UWO	44 (61)

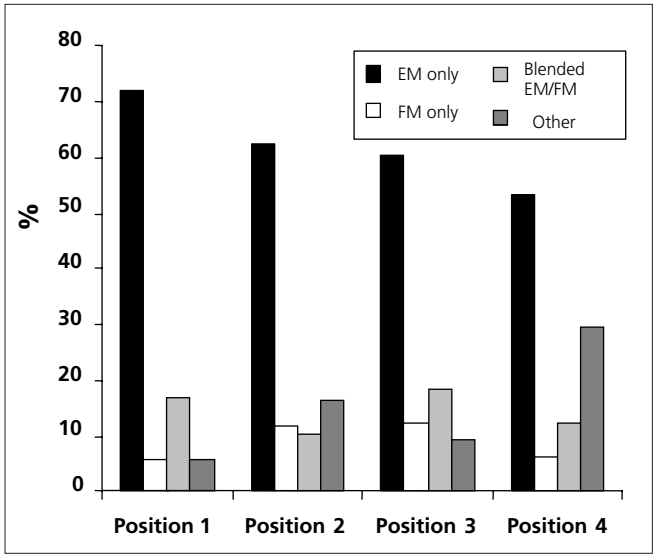

Fig. 2: Percent of respondents by practice type in the first 4 employment positions.

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The factors influencing the graduates' choices of employment positions are listed in Box 1. The relative importance of the factors for each position was determined by a ranking based on the number of individuals who indicated a particular factor was "influential" or "very influential" and is summarized in Table 2.

Discussion

This is the first published census of one CCFP-EM residency program describing the intended practice types and actual practice patterns of its graduates. The response rate of 87% was excellent and allowed valid interpretation of responses from the survey.

As predicted, the majority of graduates are working exclusively in emergency medicine. We suspect the production of emergency physicians via UWO's CCFP-EM program can be generalized to many if not all other programs in Canada — a situation that generates more questions than answers. These questions differ dramatically depending upon which side of the lens you are located. When viewed through the eyes of an FP, these CCFP-EM physicians are certainly much needed to ease the manpower crisis in emergency medicine and yet their defection only serves to increase the arguably even greater deficit in family medicine. Are these physicians occupying valuable CCFP residency positions for 2 years with little intent of ever becoming practising FPs?

Through the eyes of an emergency physician, the CCFP-EM graduates are desperately needed throughout the country and they are unapologetically encouraged to practise full-time emergency medicine. Ducharme states that most clinical positions in major centres can and should be filled by CCFP-EM physicians, with the Royal College of Physicians and Surgeons of Canada trained physicians absorbing more of the non-clinical roles.[4] In 2000, the number of Royal College residency positions was 5 times lower (per capita) than the number of US emergency medicine positions, and this situation has changed little in the past 4 years.[5] Steiner and colleagues suggest that this situation has caused the CCFP-EM program, by default, to become

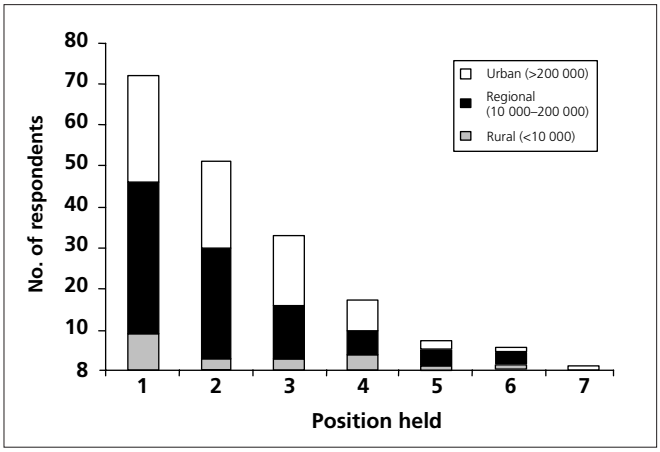

Fig. 3: The number of respondents practising in urban, regional and rural locations for each employment position number

Box 1. The factors measured according to their influence on the respondents' choice of employment positions

Type of practice
Adequate income
Proximity to extended family
Leisure and family time
Size of community
Familiarity with community
Opportunity to join group practice
Medical need in the area
Acceptable hours of practice

Table 2. Ranking of factors of influence for each position, based on the number of respondents who indicated the factor was "influential" or "very influential"

Position*	No. of responses	Most frequent factor and no. of responses					
		1st		2nd		3rd	
1	72	Type of practice	67	Income	52	Hours	51
2	50	Type of practice	46	Hours	40	Income	35
3	32	Type of practice	30	Hours	23	Income	22
4	16	Type of practice	15	Income	14	Hours	13
5	7	Type of practice	7	Hours	7	Income	6
6	5	Type of practice	5	Income	7	Hours	5
7	1	N/A		N/A		N/A	

*Each successive position can be viewed as a subset of the previous positions.

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a major training route for full-time urban emergency physicians — a situation that is unlikely to change in the foreseeable future.[5]

From either perspective, the need for further study — both prospectively and nationally — is warranted. Examination of where all emergency medicine graduates practise and why they make their choices is integral for future planning and development of the specialty.

Less than one-half of physicians entering this CCFP-EM program intended to engage in a blended emergency and family practice. A literature search revealed one other study examining the difference between Canadian family medicine residents' intended and actual practice type. The Ontario Family Medicine Residents Cohort Study[6] looked at all residents starting family medicine residency programs in Ontario over a 2-year period and the factors affecting their decisions to practise obstetrics. At entry into the residency programs 52% of the respondents expressed an intention to practise obstetrics, but only 16% were actually delivering babies 2 years later. Clearly, significant shifts occur during residency that shape the decisions about type of practice, and this warrants further study. We asked the graduates to recall their intended type of practice when they were starting their CCFP-EM year. However, a prospective look at what their intended type of practice was at the start of their family practice residency might yield some interesting results, particularly about changes occurring throughout the residency training.

How are, and how should, the candidates for the CCFP-EM program be selected? Should they be the strongest applicants or those most likely to engage in a blended family/emergency medicine practice? What caused the drop from 47% of graduates who, at the start of their CCFP-EM year, intended to maintain a blended practice, to less than 20% in actual practice? Can this be explained by a lack of role modelling in the CCFP-EM year? In our program at UWO, teachers almost exclusively practise emergency medicine. Arguing against this is the finding of Godwin and colleagues, who noted that delivering babies with FPs was not related to family medicine residents' intention of whether or not to practise intrapartum obstetrics.[6]

Nearly three-quarters of the graduates from UWO's CCFP-EM program since 1982 were men (71%). Interestingly, the number of women attending medical school in Canada is now approximately equal to the number of men,[7] and thus one might expect that the numbers of men and women graduating from UWO's CCFP-EM program would have begun to approach a 1:1 ratio. However, looking at the most recent 5 years of graduates, an identical 71% (22/31) of the respondents were male.

Woloschuk and Tarrant found that family medicine resident graduates who had a rural background were 2.5 times more likely to be involved with rural practice compared with their urban-raised peers.[8] We did not find a significant relationship between the size of our graduates' childhood communities and the size of the cities in which they practised. However, due to the small size of our study population, a larger study may reveal a significant relationship.

Study limitations

A significant limitation to our study was the small data set. Despite our excellent response rate we were only dealing with 72 responses, which was often insufficient for robust statistical conclusions. We were retrospectively asking for recall of respondent's intent, which is clearly subject to recall bias. As in any survey, the question of self-selection bias is raised. The 11 non-responders were not different from the responders in the demographic characteristics that we could measure. Nine of 11 were male. They completed the CCFP-EM program in the years between 1982 and 2003, with no clustering in either the early or later years. However, we cannot know for sure if their intended and actual practice patterns were different. Many responders held concurrent positions and were forced by the survey design to separate these into position numbers. This may have influenced our practice pattern results to some extent. Finally, a technical glitch prevented us from examining "partner influence" as a factor of influence in choosing a position. This was inadvertently left off the final copy of the survey. In other studies,[9] partner or spousal influence has been shown to influence location of practice.

Conclusions

The majority of graduates of the UWO CCFP-EM program have worked in emergency medicine only positions since graduation, and most intended to do so from the start of their special competency year of their training. No demographic factors surveyed had significant correlation with intended or actual practice. Most positions of employment were in regional and urban centres. Understanding the practice patterns of the graduates of the various emergency medicine programs is an important consideration in creating solutions to the current manpower crisis in both emergency and family medicine.

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