

Self-reported priorities and resources of academic emergency physicians for the maintenance of clinical competence: a pilot study

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ABSTRACT

Objectives: Medical licensing bodies and professional colleges require their members to maintain a broad spectrum of knowledge, skills and attitudes, which, when taken together, define a competent emergency physician (EP). The objectives of this pilot study were: 1) to determine the resources used by academic EPs to maintain competence and 2) to determine academic EPs' learning priorities.

Methods: Using a modified Dillman method, we surveyed EPs from 2 Canadian academic tertiary health sciences centres.

Results: Thirty-seven (68.5%) of 54 EPs responded. Of those responding, 14 (37.8%) attended grand rounds 3 times or more annually, and 34 (91.7%) attended a medical conference or course at least once annually. Thirty-three (89.2%) respondents read journal articles at least once monthly, with 22 (59.5%) of those reading synopses of original articles. Twenty-three (62.1%) received clinical updates via email, and 11 (29.7%) subscribed to an audio journal or podcast of reviews of original research. Among the CanMEDS roles, Medical Expert, Scholar and Manager were selected as top professional development priorities by more than one-third of respondents. The topics that were not selected as priorities by respondents included patient communication and charting (Communicator); conflict resolution skills and teamwork abilities (Collaborator); advocate for patient and promote health in emergency department populations (Health Advocate) and ethical conflict resolution (Professional).

Conclusion: The results of this pilot study suggest that in order to maintain clinical competence in emergency medicine, traditional formats of professional development (e.g., grand rounds, print media and original research) are being substituted for independent study, online media and reviews of original research. This study also suggests a strong preference for Medical Expert topics, while Professional, Health Advocate, Collaborator and Communicator topics are not a reported priority for professional development.

Keywords: professional development, emergency physician, competence, CanMEDS

RÉSUMÉ

Objectifs : Les instances responsables de la délivrance des permis d'exercice de la médecine et les collègues professionnels exigent que leurs membres maintiennent une vaste gamme de connaissances, d'aptitudes et d'attitudes qui, ensemble, définissent les compétences en médecine d'urgence. Les objectifs de cette étude pilote étaient de 1) déterminer les ressources utilisées par les médecins d'urgence en milieu universitaire pour le maintien de leurs compétences et 2) déterminer leurs priorités en matière d'apprentissage.

Méthode : On a utilisé une version modifiée de la méthode Dillman pour interroger des médecins d'urgence de 2 centres hospitaliers universitaires de soins tertiaires.

Résultats : Trente-sept (68,5 %) médecins d'urgence sur 54 ont répondu. Parmi les répondants, 14 (37,8 %) ont dit participer à des conférences scientifiques 3 fois l'an ou plus, et 34 (91,7 %) ont participé à une conférence ou à une séance de formation médicale au moins une fois l'an. Trente-trois (89,2 %) des répondants ont affirmé lire des articles de revues scientifiques au moins une fois par mois, 22 (59,5 %) d'entre eux lisant des sommaires d'articles originaux. Vingt-trois (62,1 %) ont dit recevoir des mises à jour cliniques par courriel et 11 (29,7 %) étaient abonnés à un journal audio ou à un service de baladodiffusion présentant des synthèses de recherches originales. Pour ce qui est des rôles CanMEDS, plus du tiers des répondants ont classé Expert médical, Érudite et Gestionnaire parmi leurs principales priorités en matière de formation professionnelle. Parmi les thèmes auxquels les répondants n'ont pas accordé la priorité, mentionnons la communication avec le patient et la tenue de dossiers (Communicateur), les habiletés en matière de résolution de conflit et de travail d'équipe (Collaborateur), la défense des intérêts des patients et la promotion de la santé dans les services d'urgence (Promoteur de

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la santé) ainsi que la résolution des conflits d'ordre éthique (Professionnel).

Conclusion : Les résultats de cette étude pilote donnent à penser que pour assurer le maintien des compétences cliniques en médecine d'urgence, les activités classiques de perfectionnement professionnel (p. ex., conférences scientifiques, médias imprimés et recherche originale) sont

délaissées au profit d'activités de formation individuelles, des médias en ligne et des synthèses de recherches originales. Cette étude indique également une nette préférence pour les thèmes relatifs à l'expertise médicale, tandis que le professionnalisme, la promotion de la santé, la collaboration et la communication n'ont pas reçu de statut prioritaire au chapitre du perfectionnement professionnel.

INTRODUCTION

Contemporary models of clinical competence in emergency medicine (EM) include broad, interconnected roles that collectively influence physician practice. The Royal College of Physicians and Surgeons of Canada uses a framework of 7 “CanMEDS Roles” that define competence: Medical Expert, Communicator, Collaborator, Manager, Health Advocate, Scholar and Professional.¹ The College of Family Physicians of Canada uses a different framework, but captures the same ideas of competence within the 4 principles of family medicine: skilled clinician, community based, resource to a defined population and patient–physician relationship.²

Increasingly, physicians recognize that clinical competence is not static and must be maintained. The successful completion of an EM residency and initial certification by a professional college does not necessarily guarantee that an emergency physician (EP) will maintain clinical competence over the long course of their medical practice.³ Rather, licensing bodies and professional colleges require that, on an ongoing basis, physicians demonstrate their maintenance of a broad spectrum of knowledge, skills and attitudes that collectively define a competent EP. For example, in the United States, EPs are required to complete prescribed self-learning and self-assessment modules in combination with a recertification examination every 10 years.⁴

Research suggests that “need recognition,” “research endeavor,” “self-initiation,” “technical skills” and “personal motivation” are features of successful lifelong learning by physicians.⁵ However, the traditional formats used for continuing education may not lead to success. Interactive, educational workshops seem to result in moderate changes in practice, while attending didactic lectures or presentations are unlikely to alter clinical practice.⁶ The most effective strategies for changing physician practice appear to be “audit and feedback,” “academic outreach and detailing” and “clinical reminders.” The least effective strategies include “didactic presentations” and “distribution of print materials.”⁷

Faculty development and continuing medical educa-

tion initiatives within the EM community may benefit from an understanding of the perceived needs of practising academic EPs to maintain competence. In anticipation of this project, we performed a MEDLINE literature review using the medical subject headings “emergency medicine” and “education, continuing.” From 1966 to July 2008, no study was identified that addressed the maintenance of competence specific to EM.

The objectives of this pilot study were 2-fold. First, we sought to determine what resources were used by practising academic EPs to maintain competence. In an age of overwhelming information, we hypothesized that EPs rely heavily on second-order peer review (i.e., review articles or synopses of original research) to maintain a current practice. Second, we sought to determine the learning priorities of EPs in order to maintain their competence. Despite changes to postgraduate education and a broader conceptualization of clinical competence by society and licensing bodies, we hypothesized that practising EPs focus their professional development priorities toward the Medical Expert role with less emphasis on other competencies (e.g., Health Advocate).

METHODS

Between September 2007 and December 2007, all staff EPs from 2 Canadian academic tertiary hospital centres (Hamilton Health Sciences and St. Joseph's Hospital) were electronically surveyed using a modified Dillman method.⁸ An introductory letter was sent with subsequent follow-ups to nonresponders, according to prescribed time intervals. Part 1 of the survey addressed the resources used by practising EPs to maintain clinical competence. Part 2 addressed the professional development priorities of practising EPs. Participants scored 3 representative topics for each of the 7 CanMEDS Roles that inform clinical competence using a 7-point Likert scale.

Institutional research ethics board approval was granted from Hamilton Health Sciences/McMaster University Faculty of Health Sciences Research Ethics Board, and all respondents provided informed consent.

Investigators were blind to all data until they were pooled by a research assistant for analysis using Microsoft Excel software (Microsoft Corp.).

RESULTS

Thirty-seven (68.5%) of 54 EPs responded. Twenty-seven (73%) of the respondents were male. All respondents were board-certified in emergency medicine, 22 (59.5%) by the College of Family Physicians of Canada (19 through residency training and 3 through practice eligibility certification). The remaining 15 (40.5%) were residency-trained through The Royal College of Physicians and Surgeons of Canada. The average time in EM practice was 10.9 years.

Part 1: resources

The number of respondents attending grand rounds 3 or more times per year was 11 (37.8%). The top reasons cited for nonattendance were conflicting clinical responsibilities ($n = 29$, 78.4%), conflicting personal/family responsibilities ($n = 4$, 37.8%) and conflicting nonclinical professional responsibilities ($n = 9$, 24.3%).

Nearly all respondents ($n = 34$, 91.7%) attended a medical conference or course at least once per year, one-third of whom ($n = 12$, 32.4%) regularly attended the original research tracks.

A majority of respondents ($n = 33$, 89.2%) indicated they read journal articles at least monthly. The journals most frequently read included *Canadian Journal of Emergency Medicine* ($n = 26$, 70.2%), *Canadian Medical Association Journal* ($n = 26$, 70.2%), *Annals of Emergency Medicine* ($n = 22$, 59.5%), *New England Journal of Medicine* ($n = 12$, 32.4%) and *Academic Emergency Medicine* ($n = 8$, 21.6%).

A majority of respondents ($n = 22$, 59.5%) indicated they regularly read reviews or synopses of original articles with 62.2% ($n = 23$) of respondents receiving these reviews by email. In addition, 59.5% ($n = 22$) used websites to receive electronic updates on clinical practice. Finally, 29.7% ($n = 11$) of respondents subscribed to an audio journal or podcast that provided reviews of original research.

Part 2: priorities

Table 1 shows the distribution of Likert scale responses for professional development priorities. The representative topics for Medical Expert, Scholar and Manager

were selected by over one-third of respondents as high, very high or top priorities for maintaining clinical competence. The Medical Expert topics were scored the highest. When asked in a separate question to rank the top 3 priorities for maintaining clinical competence, topics not selected or chosen by only a single respondent included patient communication (Communicator), charting (Communicator), conflict resolution skills (Collaborator), teamwork abilities (Collaborator), advocate for patient (Health Advocate), promote health in emergency department populations (Health Advocate) and ethical conflict resolution (Professional).

DISCUSSION

Part 1 of this survey reveals 3 themes about the maintenance of clinical competence by academic EPs. First, traditional group learning (e.g., grand rounds) is attended by a minority of respondents, who stated that clinical, professional and family scheduling conflicts prevent them from attending. This finding is consistent with other EM studies, but differs from other medical specialties in which nonattendance is unrelated to professional or personal conflicts.⁹ The 24-hour, 365-day scheduling, which requires EPs present in the emergency department, does not mesh easily with traditional 9 am to 5 pm academic scheduling.

This result appears to conflict with the greater than 90% of respondents who stated that they attend medical conferences or courses that are traditionally didactic in nature. Yet, this inconsistency may reflect confounding variables relating to conference or course attendance, such as other benefits (e.g., networking and associated vacation) and the discrete time period of a conference or course.

The limited commitment to traditional group learning identified in this study should not necessarily be viewed as a negative finding. Two excellent systematic reviews have previously found a limited ability of traditional, didactic educational strategies to change physician practice.^{6,10} Continuing education strategies should broaden the focus and consider new instructional methods.

It is noteworthy that the majority of respondents reported that they use electronic media to maintain clinical competence and access medical literature. This finding appears to be unique to EM, as the most recent physician study we could identify indicated that online resources were not preferable to in-person conferences or print material for professional development.¹¹ A recent study of paramedics indicated that using online

teaching is favoured within emergency health services education.¹²

Finally, although the majority of respondents regularly read journals and attended conferences, the focus of these activities was not necessarily directed toward original research. We did not measure the proportion of EPs who routinely access original research or their level of comprehension and critical appraisal skills. However, our results indicate that the majority of respondents relied upon reviews or synopses of original research findings supplied by journals and electronic media.

The utility of second-order peer review (e.g., research synopses) has been previously described.¹³ The overwhelming availability of information (particularly in this electronic age), confusing decisions about the quality and relevance of research studies, and conflicting recommendations on appropriate clinical management

make research review articles particularly attractive to busy clinicians. Our data suggests that academic EPs access synthesized information regarding original studies to maintain clinical competence.

Part 2 of this survey reveals that the professional development priorities of academic EPs are heavily focused on the Medical Expert, Scholar and Manager roles. Faculty development and continuing medical education initiatives may benefit from addressing the needs that result from this. However, further research is required to determine why the Communicator, Collaborator, Health Advocate and Professional roles were deemed less important.

To our knowledge, this is the first study to identify this variation in described priority in EM professional development. The data do not infer whether topics were rated poorly because of presumed competence in

Table 1: The professional development priorities of practising academic emergency physicians

| CanMEDS role | % of respondents | | | | | | |
|-------------------------------------|------------------|-------------------|--------------|-----------------|---------------|--------------------|--------------|
| | Not a priority | Very low priority | Low priority | Medium priority | High priority | Very high priority | Top priority |
| Medical Expert | | | | | | | |
| Current literature/research* | — | — | 2.9 | 2.9 | 40.0 | 37.1 | 17.1 |
| Interpretation of diagnostic tests* | — | — | 8.6 | 25.7 | 45.7 | 17.1 | 2.9 |
| Improve procedural skills* | 2.9 | — | 11.4 | 45.7 | 28.6 | 5.7 | 5.7 |
| Scholar | | | | | | | |
| Critical appraisal skills* | — | 8.6 | 31.4 | 22.9 | 31.4 | — | 5.7 |
| Bedside teaching* | — | 5.7 | 11.4 | 37.1 | 37.1 | 8.6 | — |
| Assess/feedback to learners* | — | — | 8.8 | 44.1 | 32.4 | 14.7 | — |
| Manager | | | | | | | |
| Billing strategies* | 8.6 | 2.9 | 20.0 | 28.6 | 22.9 | 11.4 | 5.7 |
| Patient flow strategies* | 2.9 | 2.9 | 20.0 | 37.1 | 25.7 | 11.4 | — |
| New information technology* | — | — | 8.6 | 40.0 | 34.3 | 17.1 | — |
| Professional | | | | | | | |
| Ethical conflict resolution | — | 11.4 | 25.7 | 45.7 | 14.3 | 2.9 | — |
| Legal knowledge | — | 11.4 | 14.3 | 54.3 | 5.7 | 14.3 | — |
| Balanced life | 2.9 | 17.1 | 11.4 | 37.1 | 20.0 | 8.6 | 2.9 |
| Health Advocate | | | | | | | |
| Advocate for patient | 2.9 | 2.9 | 25.7 | 48.6 | 17.1 | 2.9 | — |
| Health in ED populations | 2.9 | 5.7 | 31.4 | 48.6 | 11.4 | — | — |
| Change health care system | 5.9 | 17.6 | 20.6 | 23.5 | 26.5 | 2.9 | 2.9 |
| Collaborator | | | | | | | |
| Conflict resolution skills | 5.7 | 2.9 | 25.7 | 34.3 | 31.4 | — | — |
| Teamwork abilities | 8.6 | 11.4 | 37.1 | 31.4 | 11.4 | — | — |
| Leadership skills | 8.8 | 2.9 | 20.6 | 41.2 | 20.6 | 5.9 | — |
| Communicator | | | | | | | |
| Patient communication | 5.9 | 5.9 | 35.2 | 50.0 | 2.9 | — | — |
| Charting | 2.9 | 14.3 | 22.9 | 45.7 | 11.4 | 2.9 | — |
| Oral presentation skills | 5.7 | 2.9 | 25.7 | 34.3 | 31.4 | — | — |

ED = emergency department.
*Chosen by more than one-third of respondents as high, very high or top priority.

the role or because these roles are not deemed by EPs as important for competent clinical practice.

Of note, a recent study identified a similar trend related to the provision of feedback (and associated teaching) to EM residents by EPs.¹⁴ Similar to our results, this study found Medical Expert was heavily favoured while other competencies (e.g., Health Advocate) were discussed with significantly less frequency. Our findings suggest that academic EPs not only focus their resident feedback and education around topics skewed toward the Medical Expert role, but they also prioritize their own continuing education with the same predilection.

Limitations

Our study has 2 particular limitations. First, the small sample size and unique sample demographics limit the generalizability of our findings. The number of respondents and the academic environment of this pilot study prevent broad extrapolation of our findings to all practising EPs. Further research needs to be conducted to determine if our results reflect broader trends in EP maintenance of competence.

Second, although investigators were blinded and data was anonymized, it is possible that professional (i.e., social) desirability bias may have influenced the results. We suspect that the strong skew toward Medical Expert topics may be even stronger than our findings suggests. However, respondents may have felt compelled to represent themselves in a balanced fashion, identifying professionally desirable topics that are poorly attended in the study institutions.

CONCLUSION

The results of this pilot study add to the professional development literature in 2 principle areas. Our findings suggest that traditional formats of professional development (e.g., grand rounds, print media and original research) are being substituted for independent study, online media and reviews of original research to maintain clinical competence in EM. This study also suggests a strong predilection toward Medical Expert topics by academic EPs, while Professional, Health Advocate, Collaborator and Communicator topics are not a priority for professional development. Further research, using a larger and more diverse sample, is required to confirm these pilot findings.

Competing interests: None declared.

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