CAEP/AMUQ 1999 scientific abstract competition: results and future directions

Brian H. Rowe, MD; Nina Sukhrani, BSc (candidate); Andy Sher, BSc, MD (candidate)

ABSTRACT:
Objectives: To examine the 1999 CAEP/AMUQ research abstracts competition in a scientific fashion, and provide descriptive information about the present and future direction of Canadian emergency medicine (EM) research.
Methods: Using a standard evaluation form, 3 volunteer CAEP reviewers rated each submitted abstract in blind fashion. The authors of this report then combined abstract review scores with the following data: research topic, province of origin, status of first author (resident or attending physician), number of authors, adherence to submission guidelines, and acceptance status.
Results: Of 86 abstracts submitted, 80 (93%) originated in Canada. The primary author was a resident in 34 cases (40%), a staff physician in 50 cases (58%) and unspecified in 2 cases (2%). Overall, 77 abstracts (90%) were selected for presentation: 26 (29%) oral, 40 (47%) poster, and 11 (13%) for the Resident Research Competition. The most common topics were clinical care (17%), prehospital care (15%), education/administration (14%), and decision rules (13%). The most common reason for rejection was failure to adhere to submission guidelines.
Conclusions: Canadian EM research is growing rapidly, as witnessed by the interest in this competition, the publication of these abstracts, and the increased emphasis placed on research at the national meeting. Researchers must adhere to submission guidelines to increase their chances of abstract acceptance. Methods of promoting Canadian EM research are discussed.

RÉSUMÉ :
Objectifs : Examiner le concours de résumés de recherche 1999 de CAEP/AMUQ d'un point de vue scientifique et offrir une information descriptive quant à l'orientation présente et future de la recherche en médecine d'urgence au Canada.
Méthodes : À l'aide d'un formulaire d'évaluation standard, 3 réviseurs bénévoles de l'ACMU ont évalué à l'insu chaque résumé soumis. Les auteurs de ce rapport ont ensuite combiné leurs évaluations des résumés en considérant les données suivantes : sujet de recherche, province d'origine, statut de l'auteur principal (résident ou médecin en pratique), nombre d'auteurs, respect des directives de soumission et statut d'acceptation.
Résultats : Parmi 86 résumés soumis, 80 (93 %) provenaient du Canada. L'auteur principal était un résident dans 34 des cas (40 %), un médecin en pratique dans 50 des cas (58 %) et non spécifié dans 2 cas (2 %). En tout, 77 résumés (90 %) furent sélectionnés pour présentation : 26 (29 %) présentations orales, 40 (47 %) sur affiche et 11 (13 %) lors du concours de recherche pour les résidents. Les sujets les plus courants portaient sur les soins cliniques (17 %), les soins pré-hospitaliers (15 %), l'éducation/administration (14 %) et les règles de décision (13 %). La raison de refus d'un résumé la plus fréquemment invoquée était le non respect des directives de soumission.
Conclusion : La recherche dans le domaine de la médecine d'urgence au Canada croît rapidement, comme en font foi l'intérêt manifesté pour ce concours, la publication de ces résumés et l'importance grandissante accordée à la recherche lors du Congrès national. Les chercheurs doivent respecter les directives de soumission afin d'augmenter leurs chances de voir leur résumé accepté. Les méthodes de promotion de la recherche en médecine d'urgence sont discutées.

Division of Emergency Medicine, University of Alberta, Edmonton, Alta.

https://doi.org/10.1017/S1481803500004127 Published online by Cambridge University Press

Introduction

Emergency medicine (EM) is a rapidly growing and important clinical discipline. With health care restructuring and widespread bed closures in many parts of Canada, the emergency department (ED) is an increasingly important entry point to the health care system. Since the early 1980s, Canadian EM residency programs have produced competent career emergency physicians who have advanced clinical care and taught thousands of learners from many disciplines.[1] However, while we have established an important role in teaching and clinical care, our research productivity has been limited.[2–4]

Until recently, few EM physicians sought formal research training, and those who did seek formal training have encountered many obstacles. Protected time for EM researchers is rare, and specific funding for EM research is almost non-existent.[3–7] Many EM issues (e.g., thrombolysis for myocardial infarction) are still viewed as the "property" of other specialists (e.g., cardiologists); hence industry funding funnels toward the more established specialties.[2,4] Peer-reviewed grants tend to go to investigators with "track records," and it is difficult to establish a track record without funding (the "catch-22" of research). All these factors limit the potential quality and scope of EM research.[5,7]

While some have been critical of EM research,[7] others suggest the future is bright.[4,5] Institutions and funding agencies are learning more about our unique expertise and our research needs. Increasingly, important research is being designed, funded, and conducted by emergency physicians,[3,6] and published in EM-specific journals. For Canadian emergency physicians, keeping up with the latest research has historically meant attending international conferences and studying work performed in other health care systems by physicians with different clinical, medicolegal and fiscal concerns. It is the hope of CAEP and the CAEP Research Committee that this trend can be reversed by supporting Canadian EM research and promoting Canadian researchers at the annual CAEP Scientific Assembly.

The purpose of this report is to examine the 1999 CAEP/AMUQ research abstracts and provide a descriptive overview of the present and future direction of Canadian EM research.

Methods

A call for abstracts was published in the Winter 1998/99 *CAEP Communiqué* [8] and on the CAEP home page (www.caep.ca). Abstract submission forms and explicit instructions were available from CAEP head office and on the home page. The submission deadline was May 1, 1999. The CAEP Research Committee identified and approached qualified reviewers from across the country. Each abstract was distributed to 3 reviewers who were blinded to the authors and institutions of origin. Reviewers used specific scoring forms and evaluated abstracts based on the following criteria: relevance to emergency medicine, validity of methods, adherence to abstract submission guidelines, and overall quality. Reviewers then used a second classification to prioritize abstracts for oral or poster presentation. Review results were recorded in a central database and an overall score was tabulated for each abstract. Final abstract selection was based on overall scores and the investigator's preference for oral or poster presentation.

Two researchers (BR, NS) independently extracted the following data for each abstract: province of origin, number of authors, status of primary author (resident or attending physician), research topic, adherence to submission guidelines, acceptance status and review scores. Data extraction was compared and kappa values were calculated for inter-observer agreement beyond chance. Categorical data are reported as counts or percentages and compared using χ^2 statistics. Continuous variables are reported as means with standard deviations and compared using analysis of variance (ANOVA) techniques or unpaired *t*-tests. A logistic regression model was developed to identify factors associated with abstract acceptance.

Results

Of 86 abstracts submitted, 34 (40%) came from residents, 50 (58%) came from attending physicians and 2 (2%) were undesignated. Most of the submissions came from Ontario, Alberta and BC (Table 1). Fifteen (17%) dealt with clinical care issues, 13 (15%) with EMS or prehospital care, 12 (14%) with education and administration, 11 (13%) with decision rules, 7 (8%) with airway or respiratory problems,

Table 1: Province of origin and status of primary author (resident or attending)

Region	Resident	Attending MD	Totals
Maritime Provinces	0	2 (4%)	2 (1%)
Quebec	4 (12%)	5 (10%)	9 (10%)
Ontario	17 (50%)	21 (42%)	38 (44%)
Manitoba/Saskatchewan	0	0	0
Alberta	9 (26%)	9 (18%)	18 (21%)
British Columbia	4 (12%)	9 (18%)	13 (15%)
International	0	4 (8%)	6 (7%)*
Totals	**34 (40%)**	**50 (58%)**	**86 (100%)**

* = 2 international submissions were submitted without an identifying author or any contact information.

https://doi.org/10.1017/S1481803500004127 Published online by Cambridge University Press

6 (7%) with cardiovascular emergencies, 2 (2%) with basic science and 20 with "other" topics.

Seventy-two abstracts (84%) conformed to submission guidelines. One (1%) was excluded because it was a duplicate submission, 6 (7%) failed to meet a "reasonable" submission deadline, and 1 of these was rejected because it was more than 4 weeks overdue. Overall, 37 abstracts (43%) were accepted for oral presentation, 40 (47%) were accepted for poster presentation and 9 (10%) were rejected. The mean score for "oral" abstracts was 32.3 (SD = 2.5), for posters, 26.5 (SD = 3.9), and for rejected abstracts, 24.3 (SD = 6.4) ($p < 0.001$). Univariate analysis showed that acceptance was most strongly related to abstract scores ($p < 0.001$), adherence to submission guidelines ($p = 0.002$), and Canadian origin of abstract ($p = 0.001$). Acceptance was unrelated to topic, number of authors, and status of primary author. In logistic regression modeling, average abstract score was the only significant factor in acceptance (0.012). Interobserver agreement for data extraction was high (kappa > 0.8).

Discussion

The primary goal of the CAEP Research Committee is to provide leadership in the advancement of knowledge through research. One way to accomplish this is to facilitate the presentation of high quality Canadian EM research at the Scientific Assembly. Based on the results of this abstract competition, the 1999 CAEP/AMUQ Scientific Assembly will achieve this goal.

A stronger research focus reflects an important change in direction for the CAEP annual conference. There are several reasons for this shift. First, interest in the research competition has increased. For example, at the 1998 (Vancouver) International Conference in Emergency Medicine, 60 Canadian abstracts were presented; at the 1999 Quebec meeting, 86 will be presented, reflecting an increase of almost 50%. Second, the abstracts are published in *CJEM*. This provides wide exposure, adds credibility to the competition, and makes abstract citation possible. Finally, by scheduling the abstract presentations as a "track" within the main part of the conference, the conference organizers have placed an increased importance on research presentations. Our hope is that this will heighten registrants' interest in EM research and improve attendance at the research presentations.

This study highlights regions and topics that are well-represented, and others where opportunity abounds. Overall, it suggests that the condition of Canadian EM research can be upgraded to "stable and improving." Table 1 shows that EM researchers are active across the country,[4,5] and that Canada is ready for the multi-centre collaborations now being planned by the CAEP Research Consortium.[9] These data also suggest that most ongoing research focuses on clinical medicine rather than basic science, and that clinical practice, EMS, education, administration, and clinical decision rules dominate the Canadian research agenda. The surprising paucity of infectious disease, toxicology, epidemiology and injury prevention submissions indicates that there are many niches available for new investigators.

We found that, despite Web- and journal-based advertising, a significant minority of investigators missed the competition deadline or failed to comply with submission guidelines. Hopefully, to avoid missing future opportunities, researchers will not make the same mistakes again.

Limitations

There are several limitations to this study. First, while we hope Canadian EM researchers will increasingly see the CAEP Scientific Assembly as "their meeting," we recognize that some have elected to forgo this competition for a competing venue; therefore we cannot claim that this collection of abstracts reflects all EM research activity in Canada. Second, there was surprisingly poor agreement between reviewers on overall abstract scores, suggesting that more reliable measures of abstract quality are necessary. Finally, given the nature of the study, the effect of other factors such as study funding, investigator training, previous experience, and other factors known to influence abstract quality could not be evaluated.

Conclusions

The 1999 CAEP/AMUQ scientific abstract presentations will provide an opportunity for conference registrants to see the important EM research now being carried out in Canada. The success and rapid progress being made by Canadian EM researchers should be a source of pride and inspiration for all Canadian emergency physicians; nevertheless, we still have a long way to go. An accelerated EM research agenda will help us improve patient care and advance our specialty.

Acknowledgements: We would like to thank the following abstract **reviewers**: Drs. Riyad Abu-Laban, Marc Afilalo, Michael Bullard, Jim Christenson, Chris Denny, Marcia Edmonds, Harold Fisher, Grant Innes, Steven Lloyd, Kirk Magee, Laurie Morrison, Howard Ovens, Nikki Scheibel, Michael Shuster, Anthony Taylor and Andrew Travers. We would also like to thank the **CAEP Research Committee**: Drs. Laurie Morrison, Riyad Abu-Laban, Chris Denny, Eric Grafstein, Patrick Ling, Steven Lloyd, and Howard Ovens.

Finally, we wish to thank Ms. Diane Milette for her organizational skills and for assisting with manuscript preparation, Dr. Jim Thompson for assistance with abstract advertising on the CAEP Web site, Dr. Grant Innes for assisting with *CJEM* abstract publication, Drs. Tim Allen and Claude Topping for facilitating the research component of the CAEP/AMUQ Meeting, and Mrs. Susan Norrington for her patience and dedication.

This project was funded by the Division of Emergency Medicine Research Fund (Ms. Sukhrani) and a Summer Studentship Grant from the Alberta Heritage Foundation for Medical Research, Edmonton, Alta. (Mr. Sher).

References

1. Steiner IP, Yoon P, Goldsand G, Rowe BH. Resource contributions by faculties of medicine to support and develop the discipline of emergency medicine in Canada [abstract 006]. CJEM 1999;1(3): 172.
2. Society for Academic Emergency Medicine. Position paper: research directions in emergency medicine. Acad Emerg Med 1996;3:274-6.
3. Ernst AA, Houry D, Weiss SJ. Research funding in the four major emergency medicine journals. Am J Emerg Med 1997;15:268-70.
4. Biros M. Emergency medicine research: Where are we now and where do we need to be? Acad Emerg Med 1997;4:1101-3.
5. Handler TA, Freid CF. The state of emergency medicine research. Acad Emerg Med 1998;5:745.
6. Wright SW, Wrenn K. Funding in emergency medicine literature: 1985 to 1992. Ann Emerg Med 1994;23:1077-81.
7. Singer AJ, Homan CS, Stark MJ, Werblud MC, Thode HC, Hollander JE. Comparison of types of research articles published in emergency medicine and non-emergency medicine journals. Acad Emerg Med 1997;4:1153-8.
8. Call for abstracts. Demande de résumés analytiques. CAEP/ACMU Communiqué 1998–99;Winter:26.
9. Rowe BH, Bota GW, Pollack CV, Emond SD, Camargo CA. Management of acute asthma among adults presenting to Canadian versus US emergency departments. Ann Emerg Med 1998;32(3 part2):S2-S3.

Correspondence to: Dr. Brian Rowe, Room 1G1.63 WMC, 8440–112 St., Edmonton AB T6G 2B7; brian.rowe@ualberta.ca