Reviewer's report

Title: Characteristics of Evidence-Based Medicine Training in Royal College Emergency Medicine Residencies - A National Survey of Program Directors

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Reviewer: Jo-Ann Talbot

Reviewer's report:

I commend the authors on their description of the methods used to educate the residents in the Canadian RCPSC EM training programs on the principles and practice of evidence-based medicine. The return rate on their surveys was phenomenal. I would love to know their secret in this day of survey burnout. This is the first time I have seen such a detailed description of EBM training in these programs. The data amassed is informative and may help some programs improve their EBM teaching.

Discretionary comments:

1. When referring to the residency programs it would be preferable to use the term Canadian Royal College of Physician and Surgeons Emergency Medicine residency training program, which I would then abbreviate as RCPSC EM residency training programs. I think the term RC-EM is not well recognized outside of Canada. I recommend that this be used in the title and throughout the paper rather than RC EM.

2. In the second para under the background, the two papers quoted were on US residency programs which is not clear until the end of the paragraph. I think it would be better to write “A recent survey of the Council of Emergency Medicine Residency Directors in the United States indicates…” and later “Kuhn and colleagues reported only 22% of United States EM program directors...”

3. The last para of the background states the primary objective is to establish a baseline with respect to EBM education in the residency programs and then lists the three secondary objectives. This statement differs slightly with the abstract and I would like to see it state the same thing. This helps to remind me of where we are going. In the abstract the “primary objective was to describe the methods of EBM training in Canadian Royal College (RC) EM residencies.” I would use the same terminology in the background. The secondary objectives have been consolidated from 4 in the abstract to 3 in this para. I think it is easier to follow if there are only three and would change the abstract to combine exploring attitudes regarding educational practice and attitudes toward web based EBM resources into one objective as you have in this para “(i) explore attitudes regarding current educational practices, including e-learning”.

4. Having done this I think the Results section of the abstract would flow better if you switched one of the sentences around. Since the description of the
educational methods is your primary outcome, I would lead your abstract by fully describing the program, then I would get into attitudes, barriers and desire for national collaboration. To do this I would move the third sentence “Program directors attributed highest importance to two core goals in EBM…” to after the other descriptors of the program. This would place it just after “54% of programs operated educational websites with EBM resources.” This is the last of a series of sentences, which describes the program. The next sentence about the podcasts and blogs is also an attitudes statement on the merit of web-based resources.

This would really help me to follow your paper better.

5. In the results section I would follow the same logic. Lead with the data on your primary objective, which is to describe the methods of EBM training. The second para discusses attitudes or values and I would move it to after the 4th para which ends with “Oxford critical appraisal worksheets (1/9)[16][17].”

6. As a result you would have to relabel the figures so that figure 1 becomes “Frequency of Teaching Modalities in Evidence-Based Medicine Curricula” as part of the primary objective and figure 2 then becomes “Core Values in Evidence-Based Medicine Curricula” which is a statement of attitudes and a secondary objective.

7. I would probably include the first line of para 5 “Sessions were held at staff residences or university sites in most cases (38% and 48% respectively), with only 2 programs (15%) holding journal club at public venues” in para 4 above it because it is an ongoing description of the format of journal club whereas the remainder of the para talks about possible barriers.

Minor Essential Revisions:

8. In para 6 of the results there is an extra parenthesis which I think should be a comma “((5, 38%) rating “4”, (5 (38%) rating “5”, 1 -no merit, 5 - strong merit.

Major Compulsory Revisions:

9. The authors’ comment in para 5 of the results that “respondents identified narrow focus on critical appraisal and lack of EBM expert leadership as potential limitations of journal club“.

I don’t see how their data supports this statement. The data seem to suggest about 1/3 think it is not significant, 1/3 think it may be significant and 1/3 think it is in the neutral category. I recognize these are rough numbers but with the small sample size it seems to me there would be no difference between these categories based on the data.

10. I think that the authors then contradict themselves at the end of the third para in the discussion by stating, “Despite these growing concerns, few respondents in our survey identified the narrow focus on critical appraisal as a potential limitation to their journal clubs or EBM curricula.”

11. In the limitations the authors comment on the possibility of a type II error due to the small sample size. I would add that a type I error is also possible. It is
important to keep this in mind and avoid attributing too much significance to some of the findings.
Overall, I found this study to be very interesting and relevant to EBM education in Canada, as well as informative to other educational systems. Congratulations to the authors.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I have no competing interests.