Author's response to reviews

Title: Medical informatics in an undergraduate curriculum: A qualitative study

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PDF covering letter
Dear Enitan Sawyerr,

Thank you for providing us with the opportunity to respond to the reviewers’ comments and revise our manuscript. A revised manuscript is included as a separate file (with changes shown in boldface), and point-by-point responses to the comments are included in this file.

Regards,

David Buckeridge

Vivek Goel
Reviewer: Prof Jochen Moehr

I am not sure why the authors chose not to reveal the institution in which they conducted their investigation. It is very likely that it was the University of Toronto Faculty of Medicine. Making that clear would in my view enable the reader to assess somewhat the claim that the results are representative of North American Medical Faculties in General. This statement is otherwise unsubstantiated.

The reviewer is correct - the study was carried out at the University of Toronto Medical School. Our initial thought in writing the manuscript was to not reveal this information to avoid the possibility that a reader might introduce bias into their understanding of the study due to their background knowledge of the study location. However, as this reviewer points out, and the other reviewer also notes, the location is very important information for a qualitative study, especially if one wishes to make any claims about the generalizability of findings. We have therefore clearly indicated in the methods section where the study took place, and modified the discussion section in order to make clear that the results provide a rich picture of the situation at one location, but the generalization of the findings is another step that may require further study to substantiate.

I am in general very much in agreement with the authors' interpretation of their findings of obstacles and incentives to incorporation of MI education in the undergraduate Medical Curriculum, and with the recommendations they derive for ameliorating the situation. One recommendation in particular seems to me to be worth emphasizing: The inclusion of MI content in existing medical curricular offerings. This allows to cover the MI core meaningfully and beyond the mere familiarization of students with a limited set of informatics applications. In fact this route was pursued for some time in Europe, namely since the seventies. References to related papers might enforce this point and point to a very practical solution:

- CL Tuinstra: Integration of Medical Informatics with Other Courses in the Medical Curriculum. Meth. Inform. Med. 28 (1989) 243-245

A number of other papers are included in the same special issue of Methods of Information in Medicine that might provide useful models.

We thank the reviewer for pointing out this additional literature to support a recommendation made in our discussion section. The experience of other regions with this approach has been noted in the revised discussion section.

The authors consistently use "Medical informatics". I would tend to either use initial capital letters for both words or for neither.

This inconsistency has been corrected in the revised manuscript.
Reviewer: Dr S Andrew Spooner

I think this is a paper that should be published once there are some more data. I have no problems with the methodology or the analysis, but I would recommend that the authors spend more time administering their questionnaire to a larger and better-defined group of people. Perhaps speaking to the deans for academic affairs at a group of, say, 20 medical schools would help provide some generalizability. If the same results are found in a larger cross-section of North American medical schools, there are some clear implications for those of us who profess the value of medical informatics education.

A study noting similar findings across a number of medical schools would certainly provide evidence that is more likely to be generalizable across North American medical schools. However, demonstrating this degree of generalizability was not the goal of our study, and some of the confusion around this may be due to our initial decision to not reveal the location of the study.

The goal of our study was to develop a rich understanding of the issues facing incorporation of medical informatics into a single undergraduate medical curriculum. A qualitative study design is well suited to achieving this goal due to the unstructured nature of the questioning, sequential interviewing, and refining of themes over time. Unfortunately, a drawback of a qualitative design is that considerable resources are required for in-depth interviews, so less interviews can be conducted than would be possible with a more quantitative approach based on closed-ended questions.

We feel that the results of our study are likely to be generalizable to some extent to other medical schools in North America, but we in no way mean to suggest that our study provides an unbiased picture of the problems facing medical informatics education at all North American medical schools. To facilitate the ability of readers to judge the generalizability of our findings for themselves, we have modified the methods section to clearly reveal the location of the study. In addition, we have modified the discussion section to make clear our position on the generalizability of the findings.

Returning to the goal of the study, we conducted this study in order to develop a deep understanding of the problems faced at a single location. The results are valuable, as they constitute a model of the problems facing incorporation of medical informatics education into an undergraduate medical curriculum. This model can now be used in future qualitative studies at other locations (e.g., to compare in-depth descriptions of the problems), or as the basis for developing a quantitative questionnaire to be administered across a number of locations (e.g., to determine at a more superficial level if the same problems are seen in most locations). We have added some clarifying comments on potential applications of our results to the revised discussion section.