**Author's response to reviews**

**Title:** THE VAXED PROJECT: An Assessment of Immunization Education in Canadian Health Professional Programs

**Authors:**

Lorraine Pelly (lppelly@dal.ca)  
Donna M Pierrynowski MacDougall (dmacdoug@stfx.ca)  
Beth Halperin (Beth.Halperin@dal.ca)  
Robert Strang (strangra@gov.ns.ca)  
Susan Bowles (susan.bowles@cdha.nshealth.ca)  
Darlene Baxendale (darlene.baxendale@iwk.nshealth.ca)  
Shelly A McNeil (shelly.mcneil@cdha.nshealth.ca)

**Version: 2 Date:** 13 August 2010

**Author's response to reviews:** see over
Dear Ms. Morris,

RE: THE VAXED PROJECT: An Assessment of Immunization Education in Canadian Health Professional Programs (MS No. 6264836483208062)

Please find included in this submission the revised manuscript entitled “THE VAXED PROJECT: An Assessment of Immunization Education in Canadian Health Professional Programs” by Pelly, MacDougall, Halperin, Strang, Bowles, Baxendale, and McNeil, complete with track changes; this cover letter providing a point-by-point response to the reviewers’ comments; and, as requested, a copy of the questionnaire used to conduct the interviews.

The authors of this manuscript wish to thank the BioMed Central Editorial Team for granting us the extension required to complete the necessary revisions to this manuscript.

Reviewer 1: Zahra Ladhani

Major Compulsory Revisions

Results:

1. The response rate from medical colleges is only 18% which reduces the generalizability as its also pointed out by the authors themselves in the Limitation section, but since the medical college is one out of three categories assessed hence it is important that the results for medical colleges is calculated separately and must be presented as such without generalizing it.

AUTHORS’ RESPONSE:

We do agree with the reviewer that the response rate for the medical schools reduces generalizability and, as noted by the reviewer, this was addressed as a limitation by the authors. However, in response to the reviewer’s next comment, please note that the results for the medical schools were calculated and reported separately in the manuscript. Please refer to Figures 1, 2, and 3 and Table 1.
Minor Essential Revisions

Methods:

1. Author need to identify who were the key respondents in all the colleges? And method used to identify the key respondents?

   **AUTHORS’ RESPONSE:**
   
   As identified in the Methods section of the manuscript, the key respondents were those individuals responsible for the immunization programs for their respective schools. They were identified through publicly identified directories of each school/faculty and contacted directly.

2. Identify which nursing programs were included in the study (were all participating program similar? The programs assessed were all 4-Year Baccalaureate?)

   **AUTHORS’ RESPONSE:**
   
   All nursing programs included in the study were 4-year baccalaureate programs with similar program objectives.

3. The total number for all responding students are given together i.e. 353 health professional’s students responded to questionnaire, it would be helpful to provide number of participants separately for each health professional category.

   **AUTHORS’ RESPONSE:**
   
   The number of responding students by professional category is now included in the manuscript. See track changes in the Results section.

Results:

1. Fig 2: For each variable e.g. knowledge variables or clinical competence try to display results of all three categories of health professionals in one graph, the comparison will be clearer this way and also lesser number of graph will be needed to present the information instead of having various variables in one graph for each health professional category.

   **AUTHORS’ RESPONSE:**
   
   The authors did try to incorporate these data into a lesser numbers of graphs. However, as there are large amounts of data being reported within each program for each category, these efforts actually reduced readability and made it more difficult to make comparisons. Even though there are six graphs, it was ultimately determined by the authors that this was the clearest way to present the data.
Discretionary Revisions

1. Abstract: Provide reference/evidence for the first two lines.

AUTHORS’ RESPONSE:

As per Instruction for Authors, the references were not included in the Abstract. However, these statements are further addressed and referenced in the Background section of the manuscript.

2. Information on which vaccines are under discussion? Is it only related to influenza? If so then the title must reflect that.

AUTHORS’ RESPONSE:

As stated in the manuscript, the information collected deals with general vaccine knowledge, not specific to influenza; therefore the title does not need revision.

3. Vaccination rates of Canada to build the significance of the study.

AUTHORS’ RESPONSE:

Vaccination coverage rates vary across provinces and for each vaccine; specific rates are not readily available. Where there was Canadian data, it was referenced in the manuscript (see references 1–11) for readers to review if they wished. (It would have been much too cumbersome to include in the body of the manuscript.)

Reviewer 2: Paolo Bonanni

Major Compulsory Revisions

1. Although the Authors state the limitations of the present study, too little attention is given to the main of such limitations, i.e. the extremely low response rate of medical schools (only two respondents!), which makes the result very unlikely to be representative of the real general situation. This aspect should be further stressed and consideration be given to the possibility that the real situation might be even worse than that described based on the two responding schools (by the way, real numbers and not only percentages of responding schools should be reported also in the text and not only in figures and tables). Was any attempt made to find other sources of information on curricula regarding vaccines in non-respondent medical schools?

AUTHORS’ RESPONSE:

The authors agree that the low response rate from the medical schools is a serious limitation and this was addressed in a paragraph in the Discussion section of the manuscript. Due to space limitations, it was not possible to address this further.

Follow-up of the non-respondent schools consisted of a telephone call, an e-mail, and a second telephone call. If there was no response, no further attempt at contact was made. No other sources of information on curricula were obtained.

2. The Authors declare that the 77-item questionnaire (VaxEd) was validated by the Canadian Center for Vaccinology. Was such validation concerning the content of the
questions or also the suitability in length for the purpose of the study? I have serious doubts that a 77-item questionnaire is likely to be properly and cautiously filled in by a substantial proportion of subjects to which it is proposed. Can you comment on this?

AUTHORS’ RESPONSE:

Content validity testing was conducted and a satisfactory CVI rating of 8.0 was obtained. In addition, the survey was tested by a panel of experts for ease of completion. Questions asked included but were not limited to the following: Were the question items easy to understand? Did the items flow in a logical order? Were the directions clear and easy to follow? The length of the questionnaire was also addressed and feedback requested. As well, focus groups were conducted to explore the suitability of the questions in more depth, and rating forms were subsequently completed. Those individuals who participated in the validity testing did provide thoughtful, in-depth valuable feedback which led to the final revisions of the survey.

3. No explanation is given about the fact that 86% of respondent to the VaxEd were females. It can be hypothesized that this is due to the higher representation of nursing students in the responding subjects, but no information is given in the paper on the distribution of those to whom the questionnaire was sent according to kind of curriculum (nursing, medical or pharmacy schools), nor the percentage of respondents among those different student categories is reported. This information is crucial in order to understand the reliability of the responses to the questionnaire.

AUTHORS’ RESPONSE:

Please refer to the revised manuscript’s Results section for the percentage of respondents among the different student categories. Males were more likely to be students of Medicine or Pharmacy than Nursing. Because there was a higher representation of nursing students in the responding subjects, the reviewer is correct that this is the reason for the high number of female respondents.

4. Figure 3 (on mean knowledge scores) reports two different kind of nursing programs (Nursing 1 and Nursing 2). What are these two different programs? I have not been able to find the description of such 2 different programs in the text. Please explain.

AUTHORS’ RESPONSE:

There are two 4-year nursing baccalaureate programs in Nova Scotia: Dalhousie University and St. Francis Xavier University. Because they are both baccalaureate programs with similar program objectives, the decision was made to include both nursing schools in the study. See clarification in Methods section of the manuscript.
The authors would like to thank the reviewers for their thoughtful review of the manuscript. We trust that we have adequately addressed the points they have raised.

Sincerely,

Shelly A. McNeil, MD, FRCPC
Associate Professor of Internal Medicine
Division of Infectious Diseases
Dalhousie University