Author's response to reviews

Title: Disseminating a cervical cancer screening program through primary care physicians in Hong Kong: a qualitative study

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Version: 2
Date: 27 November 2013

Author's response to reviews: see over
Manuscript Title: *Disseminating a cervical cancer screening program through primary physicians: a qualitative study in Hong Kong*

We greatly appreciate the reviewers’ insightful comments. We have revised accordingly and believe our manuscript is now stronger because of this process. Specific responses to each comment are below:

**Reviewer: Lisa Hess**

**Major revisions**

1. **There is no information about the qualitative research methodology used for this study. This should be added. Was the thematic analysis conducted by two independent reviewers? Did they correspond? There is a need to provide sufficient detail to ensure that accepted qualitative research methodology standards are met.**

   We have added detail to the Data Analysis section of the Methods (page 7) to describe the methods used more precisely:

   The first author coded each interview transcript and created code summaries, which were discussed with the second author. To increase study reliability, all of the interviews were double-taped, the transcripts were re-checked against the audiotape and post-interview contact summary notes as they were coded. Also, check-coding (i.e., recoding transcripts to check for consistency) was used periodically to assess for potential code drift [16]. In order to improve validity, interview summaries were examined for discrepant viewpoints. Quotes were used to illustrate themes and to present discrepant findings.

2. **There is a problem with the citation and use of reference number 17 which suggests the authors are not familiar with screening guidelines. There are no recommended screening options for ovarian cancer, very unlike colorectal cancer. This citation shows how physicians perform screening in the absence of recommendations, which is not correctly reflected in the document and suggests to the reader that the presented research is similar to the issues with ovarian cancer, when in fact they are the exact opposite (e.g. screening without guidelines vs. not screening with guidelines.).**

   Thank you for pointing out this inconsistency. We have replaced the previous citation with a more appropriate cervical cancer reference (page 14):


3. **Please be sure to refer to Roger’s DOI theory using the same language and cite this upon its first use in the methods.**
We have moved the reference to Rogers’ theory to the Introduction section (page 5) and cited it there. We also have revised to make the terminology consistent throughout the manuscript when referring to the theory.

4. Generalizability is a major limitation of this work and is not stated strongly enough. Qualitative work is never generalizable, it perhaps is hypothesis generating but no definitive statements can be made.

We agree and have added the following to the limitations paragraph in the Discussion section (page 15):

“Second, because our study was qualitative and exploratory, the results are not generalizable to other settings and programs. However, we believe the study could inform hypotheses for future studies focusing on the CSP participation rates, or adoption decisions of other programs.”

In addition we have made changes in the Conclusions section (page 16) to help ensure we are not overstating the implications of the results (e.g., change “demonstrate” to “suggest”).

Minor revisions

5. The work is not fully placed in the context of work surrounding DOI and cervical cancer screening.

We have provided additional context for this study in the Discussion section (p 13)

Both private and public health care systems have struggled to disseminate evidence-based screening programs among primary care physicians; however, although there Rogers DOI theory has been applied in such diverse fields as international development, education, and HIV [17] there is little evidence on the application of Rogers’ DOI on cancer screening guidelines. Glasgow et al.’s report [18] on a National Cancer Institute-sponsored workshop acknowledged the need to design dissemination into the planning stage of a policy and recommended that theories or models should guide implementation.

In England, physician adoption of a cervical screening program in the 1990’s was not broadly successful until motivators and incentives were aligned. Initially the program did not offer a financial incentive, but when it was added screening coverage rose from 42% to 85% from 1990 to 1998, with over 90% of physicians reaching a target of over 80% of their patients’ screened [19]. In the United States, although policy makers typically worked with the private sector to issue screening guidelines, surveillance of primary care physicians’ cervical screening practices shows that many physicians did not follow screening guidelines during the period 2005-2010 for similar clinical and business practice reasons to those shown in this study [20]. Furthermore, a 2011 survey of obstetrician-gynecologists reported that only approximately half of these specialists followed guidelines for Pap and HPV testing [21]. Demand-generating policies, such as the CDC’s National Breast and Cervical Cancer Early Detection Program, have had
some success in increasing targeted breast and cervical screening coverage by providing subsidies to the most underscreened [22].

6. What is the rationale for selecting DOI as the framework for this study?

_We have provided a clearer rationale in the Introduction section (page 5):_

“We drew upon Rogers’ Diffusion of Innovation (DOI) theory [15] to guide the study. Rogers defines adoption as “full use of an innovation as the best course of action available” and rejection as a decision “not to adopt an innovation” [15, p. 177]. Furthermore, he proposes five attributes or characteristics of innovation that influence the adoption process: relative advantage, compatibility, complexity, trialability, and observability. Our research questions drew upon these characteristics to explore the adoption decision: 1) What are the physicians’ perceptions of the specific benefits of the CSP? 2) What are the physicians’ perceptions of the program’s complexity? 3) How compatible is the CSP with the physicians’ established practices? 4) What is the perceived trialability of the CSP? and 5) How observable is a physician’s participation in the CSP to patients and other providers?”

**Reviewer: Julie Chen**

**Major Compulsory Revisions: None**

**Minor Essential Revisions:**

**Methodology**

1. Study participants – what was the sampling frame from which the purposive sample was drawn (e.g. HKAM mailing list? MCHK register?) and what were the inclusion/exclusion criteria for participants?

We have clarified the sampling frame on page 5:

“We used Hong Kong College of Community Medicine listing as the sampling frame to identify Hong Kong physicians whose practice included women in the screening target age.”

We also have clarified the inclusion/exclusion criteria (also on page 5):

“Physicians were included if they were general practice physicians or obstetrician/gynecological specialists, and excluded if they did not speak English at a level needed to conduct the interview.”

2. How was it determined that 16 participants were sufficient for the study? Were interviews conducted until there was saturation of themes?

We have clarified that data saturation was the factor for determining the number of participants (page 6):
“Data collection continued until data saturation was reached pertinent to the three themes identified.”

3. What was the relationship between the interviewer and interviewee and any potential bias? Were there any language issues which might affect the acquisition or interpretation of the interview data?

Thank you for identifying these issues. We have clarified this in the Methods (page 6)

“Furthermore, three physician leaders, two of which were known professionally to the lead author, were interviewed to explore their perceptions of their association members, as well as their own experiences with the CSP.”

We also have added this concern to the Limitations section (page 15):

“Finally, prior to the study, the primary author already knew two of the physicians interviewed. This professional relationship could have introduced bias. However, we do not believe such bias was an issue in our study because interviews with these physicians’ yielded data that was consistent with interviews of physicians who were not known to the researcher.”

4. Data analysis – What is Rogers theoretical framework and why was it selected to be used to formulate the conceptual structure?

We have clarified this issue in the Introduction section (page 5)

“We drew upon Rogers’ Diffusion of Innovation (DOI) theory [15] to guide the study. Rogers defines adoption as “full use of an innovation as the best course of action available” and rejection as a decision “not to adopt an innovation” [15, p. 177]. Furthermore, he proposes five attributes or characteristics of innovation that influence the adoption process: relative advantage, compatibility, complexity, trialability, and observability. Our research questions drew upon these characteristics to explore the adoption decision: 1) What are the physicians’ perceptions of the specific benefits of the CSP? 2) What are the physicians’ perceptions of the program’s complexity? 3) How compatible is the CSP with the physicians’ established practices? 4) What is the perceived trialability of the CSP? and 5) How observable is a physician’s participation in the CSP to patients and other providers?”

Results

5. What is the difference between “General Practice” and “Family Practice”? Some explanation of the nature of primary care in Hong Kong would be helpful for readers unfamiliar with the HK setting.

We have now explained this difference on page 4:
“In the primary care system, physicians with no specialty training are described as in General Practice, while those in Family Medicine have received fellowship certification in Family Medicine.”

Conclusions

6. There is a conclusion drawn regarding private physicians yet 5/16 of the participants were based in public (government/NGO) settings – any comment or conclusion regarding this portion of the study population?

This is an excellent point. The following has been added to the Discussion section (page 14):

“Also notable, however, is the lack of active participation among the physicians employed by semi-public clinics because their institutions managed most of the administrative aspects of the program. Like their counterparts in private practices, these physicians also reported low levels of CSP usage after their initial adoption decision. Therefore, even with the potential to mitigate the complexity of the program (Theme 2) and business priorities did not apply (Theme 3), the lack of perceived benefits (Theme 1) impeded their participation in the program.”

We also added the following to the Conclusions (p 16) to reinforce the point:

“Finally, even physicians in semi-public settings, without the same business needs of their private practice counterparts, are unlikely to embrace a program if the benefits are not observable and perceived as valuable.”