Author's response to reviews

Title:A focus group study of enteric disease case investigation: successful techniques utilized and barriers experienced from the perspective of expert disease investigators

Authors:

Stanley Ing (stanley.Ing@mail.utoronto.ca)
Christina Lee (Christina.Lee@oahpp.ca)
Dean Middleton (dean.middleton@oahpp.ca)
Rachel D Savage (Rachel.Savage@oahpp.ca)
Stephen Moore (Stephen.Moore@oahpp.ca)
Doug Sider (Doug.Sider@oahpp.ca)

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Author's response to reviews: see over
Dear Reviewers,

Thank you both for making the time and effort to review our paper. Please see our replies (R) to your respective comments below. I think the paper has improved as a result of your comments.

Sincerely,

Dean Middleton (on behalf of the authors)

Reviewer’s report

Title: A focus group study of enteric disease case investigation: successful techniques utilized and barriers experienced from the perspective of expert disease investigators
Version: 1 Date: 2 October 2014
Reviewer: Cameron Moffatt

Reviewer’s report:

MAJOR COMULSORY REVISIONS
Nil

N.B. I do not have a background in qualitative methods and analysis so I am unable to provide much comment on the study design. I have made the editors aware of this.

MINOR ESSENTIAL REVISIONS
Methods
Study design and ethical approval
Para 1 sentence 5. Could the authors define what "high quality" data is? I would consider data quality to include the factors listed in this sentence such as completeness, ability to identify a potential source (although I think this often requires greater knowledge of typing that may or may not be available to interviewers) and identifying cases that form outbreaks. Achieving a low loss to follow-up would be another marker too.

Reply (R) – The four factors listed (Line 177-182) were provided to the supervisors, managers etc., for guidance in nominating expert interviewers in their health units. Because this is what the supervisors, managers, etc., were provided, I don’t want to edit it for the purposes of clarification as it would deviate from the ‘Methods’ used in the study. By way of example, I agree that “Achieving a low loss to follow-up would be another marker too”, however, this was not used to guide the supervisors, managers, etc., decisions.

Line 86-89 was edited to hopefully add some clarity to the concern.

Discussion
Para 4 last sentence. It would be helpful to see some further discussion of what innate characteristics a successful interviewer might possess. Open-mindedness, analytical skills are mentioned but what else? Could this be expanded further please?
R – I don’t differ from your point that other skills could be mentioned, however, I’m reluctant to expand further if the items are not consistent with the purpose of the study.

“The purpose of this study was to describe, from the perspectives of expert investigators, techniques used and barriers experienced as well as the techniques to address these barriers, during investigation of enteric disease cases”.

Admittedly, I think the discussion point already strays from the purpose that is the perspective of the expert interviewers, “These examples speak to the importance of investigators having strong analytical abilities and an open mind to novel sources of illness” as the focus group participants did not mention strong analytic capabilities. Although not in the paper, they did mention having an open mind.

All of the above aside, some wording was added about open-ended and closed-ended questions to complement the point about strong analytical abilities, as the participants mentioned this in line 460-463.

Para 5 - last two sentences - It would be beneficial to see this expanded into a separate paragraph that discusses in more detail the single interviewer approach, especially as this is a recommendation.

R – The Single Interviewer Approach is defined and described in lines 652-654. Edits were made in lines 726-729 to clarify a bit more.

DISCRETIONARY REVISIONS

Background
Para 2 - last sentence - Would the data collected during case interviews not also be used to assist in compiling briefs of evidence, expert witness statements to aid, for example, the prosecution of food businesses, manufacturers etc., if cases were identified as part of an outbreak investigation? That could be mentioned.

R – Yes. Agreed. The sentence has been edited to make it more robust and inclusive, just stating that the documentation has to withstand legal scrutiny during litigation (L 89). Line 29 and 757 were also edited to add litigation.

Methods
Para 2, sentence 3. Are treating medical practitioners (physicians) not among the individuals with legal requirements to report to the Medical Officer of Health or is this effectively covered by laboratories who undertake for example stool testing at the request of a physician?

R – Indeed. You are correct. Physicians are required to report. (My omission!). The sentence was edited to include physicians.

Note: In practice, they rarely do. As you mention, they are covered by the lab reporting system.

Results
Understanding contextual information

Para 1 - comment. Could the authors comment on whether interviewers routinely contact the case’s treating physician prior to interview? This approach is in my experience quite beneficial, particularly for obtaining demographic and contact details that may not be uniformly recorded by different pathology providers on reports. For example being able to obtain the name & relationship of a nominated next of kin for a child case or whether a case speaks English well or not at all are important in preparing for an interview and obtaining a successful / useful outcome. The clinician may also have access to alternate contact numbers or addresses that may not be routinely updated by pathology providers. There is also another dimension to clinician contact that I think is important and that is one of courtesy. While obtaining a clinician’s consent to speak with their case may not always be an absolute requirement because of competing public health need, it is useful to check with clinicians that they are happy for an interviewer to call. For example it can be inappropriate if a diagnosis is delivered by someone not directly involved in the case’s care. Contacting the clinician first gives them an opportunity to speak with the case as well as inform the case that public health investigators will likely contact them to discuss their illness further. A clinician can also answer whether there may be factors such as cultural, social or mental health issues that an investigator may need to be mindful of when interviewing.

R – The points are valid, however, these techniques were not mentioned by the Focus Group participants, and thus, I don’t feel that they can be include (i.e., I can only report on what was stated).

Note: It is not that frequent that an investigator has to call the physician. It would primarily be, as you mention, for information omitted by the lab provider. This is noted in line 301. There is no obligation for public health to call the physician. Public Health Investigators have legislated authority to contact Reportable Disease cases. Courtesy is not a consideration. A physician may call public health if they diagnose a Reportable Disease based on clinical signs alone, but I don’t think that happens very frequently with enteric diseases.

Establishing rapport, easing case anxiety

As per previous comments I’d suggest that by contacting treating physician and checking about the case having knowledge of the diagnosis and an awareness of public health investigator interest that this can assist with easing anxiety. The case will be hearing the news of their diagnosis, (if a lab confirmed infection) firstly from someone they know or have sought care from. It would seem that there is considerable local variation between public health units with respect to processes around contacting cases?

R – I don’t disagree with your point that it might be useful for public health to contact the physician first, however, the point was only mentioned by the Focus Group participants (L 301) in regard to inadequate information available on the lab slip, and thus it is not a finding of this study per se.

Note: Sometimes the physician will tell the person that public health will contact them if a pathogen is identified. Investigators have standard wording that they use to provide the case with the diagnosis if they reach the case prior to the physician. This is not uncommon. Further, I think that investigators would view contacting the physician as an extra, time-consuming step in their investigation.
Approaches to improving recall
As identified by authors in rapport section, an explanation of the interview purpose and I think structure is useful too. I think having structured interviews / questionnaires are essential as it gives the interviewer a degree of control and by outlining the structure initially, also provides a point to refer back to in those instances where cases have perhaps decided what’s made them sick and wish to cut to that point.

R – I don’t disagree with your point that structured interviews and outlining the structure are useful, however, the Focus Group participants did not mention this, and thus it is not a finding of this study.

Note: At the time of the study, the 36 health units in Ontario were using different case report forms/questionnaires that were based on their operational needs and predicated on risk factors provided by the province. (See the next comment as well).

Could the authors comment on whether there exists province-wide or nationally consistent questionnaires for enteric pathogens in Canada? It seems from results section that different tools and questions are asked between units. Some are mentioned as additional questions which I think should probably be standard (certainly for some foodborne conditions e.g. salmonellosis), including shopping habits, product brands, grocery stores etc. In my view the food history component (e.g. 3 day or 1 week) is best handled in a semi-structured fashion that enables individual meals to be broken down and described in more detail.

R – I thought this was covered implicitly. Line 671 states ...

“Participants expressed the need for a standardized case report form for use by all health units in Ontario in order to assist with identifying common sources of illness among health units and for managing outbreaks at the provincial and national level”.

Note: At the time of the study, there were no standardized questionnaires used in Ontario except a national Listeria questionnaire. Use of the Listeria questionnaire was voluntary, however. Efforts are underway in Ontario to standardize questionnaires.

Discussion
Para 4 - Authors could mention that other processes / methods that can be of use in identifying novel exposures include trawling and shot gun questionnaires.

R – See the reply in response to your comment on this paragraph above. I’m reluctant to mention items that the study group participants did not mention.

Para 5 - sentence 1 - This sentence is a confusing to read, it potentially gives an impression there were both focus groups and expert investigator focus groups. Weren’t all participants ‘expert’ by definition? Could this be reworded?

R – Agreed. The sentence is confusing. The sentence was edited to hopefully provide further clarification.
Sentence 2 - Regarding the challenges of culture and language the development of culturally specific food modules for specific groups could be another aid. Requires engagement with these communities to develop such tools.

R – Yes. I agree. The study group participants did not mention this though, and thus, it is not a finding of this study.

MINOR ISSUES NOT FOR PUBLICATION
Background
Para 1, sentence 2 - delete 'was' & change to "... for the years 2007 to 2009 were ..."

R – I checked with our grammar expert. The correct grammar is “The number ... was ...”. Number is singular.

For ‘were’ it would be “The numbers ... were ...”.

Para 2, sentence 2 - delete from 4) "if the definitive source is not identified" to read "4) determining the source or sources of the disease causing agent; .."

R – I differ. In general, there is only one source of the disease-causing agent. Further, it is very challenging to identify “the” source of a sporadic case. If the definitive source cannot be identified, then the next best thing would be to identify the possible sources (e.g., food items), given that there is likely more than one. This allows for frequency analysis of those possible sources (risk factors) when there are two or more cases. Frequency analysis is frequently used at the provincial level for generating hypotheses for pathogens when the numbers are increased above expected.

As suggested, the sentence “4) determining the source, or possible sources, of the disease-causing agent” loses that important nuance.

Methods
Data collection and analysis
Para 3, sentence 8 and sentence 12 - remove brackets for sentence beginning "Exclusion refers ..." and sentence ending "... healthcare setting or childcare." I don't think necessary to enclose in brackets.

R – Okay. Parenthesis removed.

Results
Para 1 - last two sentences - suggest merging. "... compared to the non-participating health units, with the participating units serving approximately 75% ..."

R – I checked with our grammar expert. The sentences preceding “The participating health units serve approximately 75% of Ontario’s population” compare the participating health units with the non-participating health units. If the last two sentences were joined it would not keep the distinction clear and introduce the potential for confusion.
Reviewer’s report
Title: A focus group study of enteric disease case investigation: successful techniques utilized and barriers experienced from the perspective of expert disease investigators
Version: 1
Date: 7 November 2014
Reviewer: Benjamin Gregory Polkinghorne

Reviewer’s report:

Thank you for the opportunity to review this paper. It is clearly written and addresses an important aspect of communicable disease control. I am not aware of a previous similar study. However I feel the Results are currently too long and the Discussion too short.

Minor Essential Revisions
1. The quotes provide great colour but many are far too long. The target audience (interviewers/epidemiologists) will be more interested in what was said than how it was said. E.g. the quote at P26, L557-L562 could be cut to: “When you’re speaking with someone basically paid by the hour, where they don’t get benefits, they don’t get sick time, they’re very...reluctant to stay home...” and still get the whole point across.

Reply (R) – I agree with your point. We were concerned about the degree to which we could cut out wording without changing the message of the speaker.

The suggested cuts were done. Other deletions from quotes were made at line 323, 377, 382, 391, 396, 403, 421, 449, 488, 508, 536, 544, 548, 576, 619, and 662. Again, I do agree with your point and hopefully the deletions will not be viewed as altering the message of the speaker, as noted in L234-235.
2. The Discussion needs more exploration of some of the pitfalls of the interview techniques mentioned. Eg. P13 mentions using a person’s surname to guess culture/ethnicity. This is a common tactic but making assumptions can backfire. Also listening in on interviews (P28, L596) has confidentiality issues etc.

R – I don’t differ with your comments that the “Results are too long and the Discussion too short”, and the comment about the Discussion needs more on the pitfalls of interview techniques. I thought the Discussion, second paragraph (L 685), covered the numerous small challenges that collectively create the overall, high-level challenge of interviewing enteric disease cases. If I address the numerous small challenges, then the Discussion becomes longer but just repeats what is stated in the Results.

I took the statement on P13 (now line 281) “look at the person’s name to get a gauge of their ethnic background” at face value, i.e., “get a gauge”. I agree that it could backfire. I think interviewers walk a fine line in the discussion of various issues with cases and this point is communicated at a high level in the second paragraph.

Finally, the summary Table (Figure 3) was inserted after L 730, consistent with your recommendation #9 below.

Also listening in on interviews (P28, L596) has confidentiality issues etc.

R – You may have a point. I don’t differ with your comment that confidentiality may be an issue. On the one hand, the staff all have authority to access personal health information (PHI), but they should only access PHI that they need to access. The participant makes the point that overhearing the conversations assists with linking cases, and thus this may be a ‘public good’ if commonalities are identified. On the other hand, if confidentiality is an issue, then the employer would have to provide the appropriate workspace, and likely incur an additional expense, so that telephone interviews are not overheard.

3. The two recommendations made on P30 should be explicitly explored in the Discussion with comparisons to Canadian and international practice e.g. Australia has standard interview forms for many enteric diseases see: www.hnehealth.nsw.gov.au/hneph/foodborne_diseases/resources_for_ozfoodnet_investigators

R – We agree that, intuitively, a standardized questionnaire would provide many benefits when compared with a non-standardized questionnaire. Further, I recognize that a number of notable jurisdictions use standardized questionnaires as standard practice. The one constraint with mentioning this as an evidence-based finding is that there are no studies that show that a standardized questionnaire provides any benefits when compared with non-standardized questionnaires.

As a result of this study, Ontario is developing standardized questionnaires and training for investigators (for the second recommendation). Training is proving to be a difficult issue. It turns out that our training will, to a great extent, be a repeat of the focus groups except for all investigators in the health unit rather than just the “expert interviewers”. In other words, we had difficulty figuring out what exactly to train them on. They already know about all the techniques that they might watch on a video, etc. So we are just bringing the investigators together to have them discuss various issues among themselves. For this reason, I’m reluctant to discuss training because it is a lot more complex than a didactic approach.
After consideration, we thought that the statement in L 760 “A number of recommendations, if implemented, could improve the process of enteric case investigation in the Ontario context which include; development of educational training and resources, standardized interviewing tools (i.e., case report forms), strategies to address culture and language barriers, and the implementation of the single interviewer approach” would cover the issue to the extent that we were comfortable with for the scope of the paper.

4. The thematic analysis using “both an inductive and deductive approach” requires some more explanation. I retrieved reference 22 and I believe it describes using either an inductive or deductive approach not both?

R – The “qualitative” authors were consulted on this comment. Their response is below. The sentence was edited based on their comment.

Upon further review, we can revise the statement to say “used a deductive/theoretical approach” as the follow-up sentence fits more in line with our research methodology (developing a framework a priori). The rationale for stating that we used a hybrid approach was based on our discussions with our qualitative consultant, in that we developed a framework (deductive approach) but allowed for themes to develop based on the data (inductive). However, as we did “fit” the responses within our framework and we coded based on specific research questions, it would make sense to just indicate deductive approach.

5. Figure 2 (P11) is nice but does not serve as a stand-alone element. It could be improved by either including explanatory text summarised from page 10, or by changing to a text box summary of main points of the framework.

R – Agree. Summary text is added in Line 241-242.

6. Typos: P5, L95 “empathic”;

R – Indeed. Corrected.

P12, L243 “. . .”;

R – Yes. Corrected.

P20, L41 “Non-jugmental”

R – Agree. Corrected.

P30, L650 “entric”
R – Agree. Corrected. (Apologies for these typos).

7. Local references need a short explanation or definition for an international audience: P7, L148 “public health inspectors” and “public health nurses” P14, L284 “411.ca”

R – “(known as Environmental Health Officers in some jurisdictions)” was added for public health inspectors. I didn’t know what to write for public health nurses as I thought it was fairly intuitive. 411.ca certainly had to be clarified.

Discretionary Revisions
8. P5, L92-L101 is a very long run-on sentence. I believe it will read better if each point became a numbered dot point. This would also help to break up the dense text. I also believe that P7, L143-146 and P9, L165-L169 would benefit from the same approach.

R - Agree. Edited.

9. As someone who has experienced the same difficulties in interviews there are some real gems in this paper that can assist novices and experienced interviewers alike. Consider including a text box summary in the Discussion of common barriers and techniques to overcome these.

R – Agree. Good point. Added in L 730.

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 declare that I have no competing interests.