Reviewer's report

Title: Can near real-time monitoring of Emergency Department diagnoses facilitate early response to sporadic meningococcal infection? - prospective and retrospective evaluations

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Reviewer: Raika Durusoy

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Review report

Can near real-time monitoring of Emergency Department diagnoses facilitate early response to sporadic meningococcal infection? - Prospective and retrospective evaluations

General points about the study

This is a study on a specific topic, and would be of considerable interest to scientists and practitioners working to improve surveillance systems.

1. Is the question posed by the authors well defined?
   - Yes, the question is well defined.

2. Are the methods appropriate and well described?
   - Generally, yes. However, a clarification on the total number of emergency departments would aid in the concretisation of the coverage or representativeness of both the NSW syndromic surveillance system and the EDDC.

   - Notifications are considered as gold standard but there might be true cases that are not notified. This issue is sufficiently addressed as a limitation of this study. A solution might be the acquisition of data like N.meningitidis culture positive cases from laboratories or other data from other source(s). This assessment might be done in another study.

3. Are the data sound?
   - The results section is very clear. Its organization with its sub-headings is very practical and easier to understand than the Methods.

   - Is there a possibility that the NDD has false positive notifications? Are they all true cases?

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
   - Yes, the manuscript adheres to the general standards of reporting scientific research and the instructions of the journal.

5. Are the discussion and conclusions well balanced and adequately supported
by the data?
- Yes, the findings are discussed - including an honest description of the limitations - and they are adequately supported by the data. Some more references might enrich the discussion, see under 7.

6. Are limitations of the work clearly stated?
- Yes, the major limitations of the study are clearly and honestly stated.

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
- Yes. The discussion could include further comparisons with other studies, like the ones below that I found with a quick PubMed search:
  to discuss other efforts on capturing meningitis data from EDs or to discuss the different findings among different diseases with syndromic surveillance studies like:

8. Do the title and abstract accurately convey what has been found?
- Yes, the title reflects the main questions (both sensitivity and timeliness) and methods of the study. The abstract comprehensively summarizes the study.

9. Is the writing acceptable?
- Yes, the writing is very good.

Discretionary Revisions
It is the first time that I encounter the usage “Neisseria meningitides”. When I searched in Google, I got 19,200 results but with the “Neisseria meningitidis” I got 374,000 results. It is strange to see two different usages of a scientific Latin name of a species. The –es suffix in Latin is to make the word ending with –is plural, so that might be wrong.

Minor Essential Revisions

Major Compulsory Revisions
1. Under the heading ‘The NSW syndromic surveillance system’ in the Methods section, the first sentence states that ‘In 2005, there were 15 EDs in the Sydney metropolitan area participating in the ED surveillance system.’ The total number of EDs in Sydney and in NSW in total would make the Methods section more precise.

2. The description of the first ED surveillance system could be carried under the
heading ‘prospective evaluation’ and the description of the second under ‘retrospective evaluation’. As someone who is not involved in Australia’s, and specifically NSW’s surveillance system, it would be easier to concentrate on the systems once and understand their procedures and evaluation altogether, than to learn about the system, read about ‘data collection and study design’ and then try to understand which one was evaluated in which manner. Because at a first pass/reading, it is hard to keep in mind the specific names and acronyms of the systems that we are totally unfamiliar with, so one feels the need to go back and read the description when reading the evaluation. So the ‘data collection and study design heading’ could be the first subheading of the methods section.

3. The inclusion of some more references would enrich the discussion.

4. The methods would benefit from a clarification on why only approximately 9 months were included for the prospective evaluation. It would have been better to include data on a whole year, due to seasonal trends of infectious diseases. And also November and December 2004 are included in both the prospective and retrospective evaluations. This would also benefit from an explanation.

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.