Reviewer's report

Title: Using a practical molecular capsular serotype prediction strategy to investigate Streptococcus pneumoniae serotype distribution and antimicrobial resistance in Chinese local hospitalized children

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Reviewer: David Bean

Reviewer's report:

The manuscript builds on the “sequotyping” approach to determination of pneumococcal capsular type described by Leung et al (2012). This provides a simple method to predict serotype compared to traditional phenotypic tests and current multiplex PCR based molecular methods. Overall, I think this manuscript is a good addition to the data in this field and warrants publication.

I have no major compulsory revisions.

While the science is sound, the manuscript would benefit from some editorial attention before publication. This is fairly extensive, and I have marked up areas on a hard copy – I have no intention of transcribing them all here. I would expect there to be significant corrections before final publication.

Some examples of minor essential revisions (discretionary where indicated):

Line 78: The term “first-tier big city” is not one I was aware of previously – perhaps omit/change?
Line 96: “We hope…” better replaced with “The aim…” (or similar)
Line 109: Omit “were”
Line 110/199: “(include very severe pneumonia)”
Line 112: “similar” should probably be “identical”.
Line 118/213: “Isolates culture”
Line 206: Perhaps include “To our knowledge, it is the most…”
Line 226: It certainly represents a new ST, but far less likely to be a new serovar. The latter is a phenotypic description.
Line 239: mPCR – introduce the acronym in line 235.

The above list is far from exhaustive.

The paragraph beginning on line 213 is very important – yet very cumbersome to read. This should be better articulated. Perhaps augmented by a table?

It also presents some epidemiological data – and while this is certainly worthy of note, it does distract from what is the main message in the manuscript.
Consequently I would urge the authors to consider omitting tables 3 and 4. The former, for example, is also covered in a paragraph (lines 283-289) which could be summarised in a single sentence.

The authors often make the comment that the technique is designed for “resource-poor” regions. Such regions are unlikely to have the luxury of their own sequencing machine. I don’t think this is the best application of the technology. Rather it simplifies serotype designation, removes the need for costly antibody libraries and potentially hastens the procedure.

Other comments:

Supplementary Table 2: “We can’t decide it is 15F or 15A in the study, so the ST name is a temporary name and may change after decide the actual serotype.” This comment is should not be included - clarify the situation.

Supplementary Table 3: Gender is better expressed as male/female. Also this is ordered curiously – looks like it is roughly based on serotype – perhaps make this the first column and correct anomalies (such as 6B before 6A and put “unknown” last”.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

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.