Reviewer's report

Title: Classification of healthcare-associated infection: a systematic review 10 years after the first proposal

Version: 1 Date: 19 December 2013

Reviewer: Ruth Gilbert

Reviewer's report:

- Major Compulsory Revisions
None.

- Minor Essential Revisions

Methods

1. Page 9, Study selection:
CAI and HCAI definitions include the phrase “previous contact with healthcare service” – please could you specify the time period this refers to, e.g. within the last 3 months or within the last 1 year.

2. Page 9, Data extraction and quality assessment:
Justify why you only chose to look at MRSA, P. aeruginosa, Acinetobacter spp., S. maltophilia and ESBLs.

Results

3. Page 11, Paragraph 1, 1st sentence & Figure 1:
Of the total 49,405 there are 15,311 duplicates, but the remaining numbers of excluded studies do not add up to 33,828, they add up to 33,664 leaving 164 studies unaccounted for:

118 Non-humans
3,496 Pediatrics
5,966 HIV
1,866 Gynaecology & obstetrics
1,210 Vaccines
3,351 Infection prevention and control
2,122 Hospital-acquired
5,965 Non-related infections
9,570 Non-related subjects
33,664 Total
Of the 266 remaining articles, the text say that 108 studies did not meet the inclusion criteria – however Figure 1 mentions 117 studies that did not meet the inclusion criteria.

52 studies are mentioned here, however only 51 studies are referred to on the next page in the 5th paragraph of “Infections by Source” or the Results.

According to the sum of Table 1 and 2, 24/43 studies were about pneumonia, not 22 - please check the numbers.

It is difficult to determine whether all 5 criteria were met (outlined in the Methods section, page 10) so that all the outcomes were reported and there was no attrition bias. We suggest this statement in the discussion should either be deleted, or the difficulties in being sure that these 5 criteria were met should be acknowledged.

Table 1 and 2: I suggest you add an additional column for the year(s) of the study period in addition to the length of the study period already included. This will demonstrate more clearly any changes in definitions over time.

Table 1: Label the three sections (Bloodstream Infections, Pneumonia and Other Foci) as Table 1a, 1b and 1c respectively as they are separated from each other in the article anyway. Rename as appropriate in the text as well.

Table 2: Similarly rename as 2a, 2b and 2c respectively.

Table 2: Insert the “OTHER FOCI” heading – this is currently missing.

- Discretionary Revisions
1. Full stop at the end of the first sentence on page 14.

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