Reviewer's report

Title: Methods For Identifying Surgical Wound Infection After Discharge From Hospital: a systematic review

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Reviewer: Mary-Louise McLaws

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General
While they have made some of the changes (Table 3) I have listed items that the authors still fail to show their understanding by addressing:

1. Evaluating surveillance in a post-discharge patient care situation is not conducive to idea research yet the authors tone during the review and their discussion fails to understand this problem. The criticism of this manuscript by clinical practitioners when published will be that the authors’ perspective is ivory-tower.

2. The authors failed to acknowledge aspects of practicality. They do not understand that not all readers come from a healthcare system where patients return to the same hospital for follow-up, some countries patient do not return to any hospital or even their surgeon but go to a GP. Hence, in most countries that do not have the UK National Health the gold standard method the authors demand (page 11), that diagnosis of the wound for infection by the “new diagnostic method” is to be compared concurrently with the “gold standard” nurse, surgeon or physician can not be done (nor can the diagnosis of nil infection be done using concurrent evaluation as this would be unethical to expect a healthy patient to turn up to a GP office or surgeon’s office for review of a healthy wound where the patient is required to pay for the visit). I also reminded the authors in my last review that surveillance is an inaccurate “science” and that PDS should attempt to rule in as many positives as possible. The application of the CDC definition of wound infection can not be applied in most environments outside the hospitals as the requirement of a diagnosis by “surgeon or attending physician” does not include a GP, nor do GPs order microbiology on a swab, rather they will treat first. So the strict application of SSI definition can not be expected outside the hospital (what we can expect is to train the GP or give the GP clear guidelines but this will not always change practice of prescribing an antibiotic for “red, hot” wound).

3. The authors can not compare agreement, whether it is evaluated using intraclass, correlation or kappa, as the coefficient or kappa will be affected by (a) the homogenous patient selection “converse to logic where patients are more homogenous the correlation or kappa will be lower (b) expected random variation, which may be different between studies (c) the prevalence of the expected SSI. Therefore, the authors should not compare agreement.

4. the requirement of sensitivity and specificity “this is not as important as predictive value where patients are homogenous for risk of infection (ie same procedure).

5. Uniqueness. The authors have not considered that a system that can provide relatively moderate reliability is a good solution, or where a system is cost effective (unique, especially for countries where patients “return to the initial treatment hospital or NH can not track prescriptions for SSI). There will be no single method suitable unless point 2 and 3b-3c are similar.

6. The proposed three key components (page 16) for PDS are not practical “(1) “represents an appropriate clinical spectrum” is not cost effective as many procedures have small numbers of infection (1 to 10 in 100 procedures and some hospitals perform only a few hundred same type procedures per year) which would waste public money. (3) measuring the gold standard independently of new one “this is difficult if they are also proposing to perform the two tests concurrently where the patient does not return to the treating hospital.

7. Table 2. The authors assessment of Whitby for clear selection of patients “No is incorrect if they then go onto to report “patients included if had a surgical wound” this description provides a clearly selection to me. The third QUADA item should read “is an expert in SSI evaluating the wound”.
Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

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Discretionary Revisions (which the author can choose to ignore)