Reviewer's report

Title: Is theatre utilization a valid performance indicator for NHS operating theatres?

Version: 1 Date: 13 June 2007

Reviewer: Robert Gibberd

Reviewer's report:

General
This paper presents an analysis of data from one hospital to determine whether the theatre utilisation measure used is valid. As expected it reveals serious problems, and hence is worth reporting. The paper is well written, and I have only a few suggestions that would be worth incorporating.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
1. The multiple regression analyses present the betas, and it is useful to include some text as to how these are to be read. The constant term is the utilisation score for the case where all reference values are used. In Table 2 it is low 38.124, while the reported average is about 70. This may be because the betas for the reference values are not 0, but in any case the Table needs to give the reference value and include it in the table. Eg 0.0* where * is a footnote saying Reference.
2. The beta values are important (more interesting than the discussion on p-values and R-square, and should be discussed. In Table 2, the surgeons changed the index from -13.2 to + 3.8 relative to surgeon 1. Similarly, the late starts reduced the index by -3 and -10.
3. The paper gives values with 2 decimal places: one is plenty, and this would simplify the Tables also.
4. Multifactorial linear regression could be simplified to Multiple regression.
5. The second paragraph in the “Theatre list utilisation rates” section belongs to the Methods section.

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

Discretionary Revisions (which the author can choose to ignore)

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
'I declare that I have no competing interests'