Reviewer’s report

Title: Development and evaluation of a computerised clinical decision support system for switching drugs at the interface between primary and tertiary care.

Version: 2 Date: 20 October 2012

Reviewer: Jamie Coleman

Reviewer’s report:

This article by Pruszydlo et al is a clearly written and informative description of an automated reconciliation tool (for switching drugs according to local drug availability on the hospital formulary) using a locally-developed CDSS tool at the hospital interface. With the increasing emphasis on medication safety and efficiency of care processes, particularly at interfaces of care, this is a valuable addition to the literature. What I think is helpful in this article is the clear narrative that combines clinical and technical descriptions of the development that will help others who are performing similar or related developments. I think that the figures of the algorithms and the pictures of the CDSS with examples are a useful addition to the description of the development process. This is backed up by a well-conducted evaluation that is again clearly described.

I have only minor and discretionary revision comments to make:

Minor Essential Revisions

1) Abstract – this is where I believe there is an error. In the results section it should read “… of 202 documented consultations (1,333 drugs)…” not 202 medications.

2) The sentence relating to the results of the first evaluation was a little confusing to me and I had to re-read it to understand what it meant. Assuming that I have assimilated the figures correctly, I would suggest that the authors change this to the same format used to describe the equivalent results from the second evaluation (which flows easier with the narrative). Thus instead of “The review of these differences by an expert revealed that in 42.0% of them both suggestions were appropriate and equivalent, in 27.1% the CDSS results and in 30.9% the initial switch by the pharmacist was considered superior” to “The review of these by an expert revealed that in 42.0% of these cases suggestions of pharmacists and CDSS were equivalent, in 27.1% the CDSS suggestion and in 30.9% the pharmacists’ suggestion was considered superior”.

3) Discussion – “switching may cause considerably differing exposures to the active compound” may be better than using the phrase “differing exposures with active compound”.

4) Discussion – when discussing contacting the pharmaceutical manufacturer when information is not available – I would leave out the word “helpful” – as this makes the example seem slightly pejorative (as though only unhelpful information was available).
Discretionary Revisions

5) The last point is that the system in Germany makes such a CDSS switching development essential, but this is in part driven by the fact that healthcare professionals cannot use patient’s own drugs during hospitalised care. The authors therefore hint at the wider applicability of such a system, but I think this could be brought out a little more clearly in the discussion. In the UK there is still a lot of requirements for formulary substitutions where for example patients are admitted as emergencies and do not have their own drugs or where there is insufficient quantity of medicine to support the whole of an inpatient stay. A brief sentence or two may just clarify applicability in different models of medicines provision between different countries.

Thank you for asking me to review this.

Level of interest: An article of importance in its field

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