Reviewer’s report

Title: Automated dose dispensing service for primary health care patients - A systematic review

Version: 1 Date: 5 August 2012

Reviewer: Susanna Maria Wallerstedt

Reviewer’s report:

Major Compulsory Revisions

1. The design of this systematic review and the choice of articles to be included need revision. The aim of the study was to review the influence of ADD on the appropriateness of medication use, medication safety, and costs in the primary health care. To achieve this aim, ADD users need to be compared with non-users, that is, a control group is required. Hence, I suggest all non-controlled studies to be omitted from the review, since they do not add any information as regards the aim of the manuscript. Indeed, the review would benefit from using the PICO approach, that is, to clearly define Patient (e.g. patients in primary care), Intervention (ADD), Comparison (not ADD/usual care), and Outcome (medication use, medication safety, and costs). Only studies that meet these criteria should be included in the review. Thus, the study by Kwint et al does not meet the inclusion criteria; the intervention investigated in that article was not ADD, but pharmacist-lead medication reviews. Consequently, I also suggest the discussion on medication reviews in the discussion to be omitted.

2. The conclusions need to reflect the findings more properly. Johnell et al. (reference 18) and Sjöberg et al.(reference 17), the only publications which concern medication use (prescribed drugs) within an ADD system, indicate safety concerns as regards ADD (see point 3 below), and this needs to be made clear. The main conclusion of the review could be something in line with: “ADD may involve drug safety concerns, since inappropriate drug use is more common among ADD users. However, no studies on patient outcomes and costs have been performed.” The present conclusion of the manuscript “The ADD service may improve medication safety in primary health care…” is inadequate, although I agree with the latter part of the sentence; that more evidence is needed. This also applies to the first paragraph in the discussion section and the last sentence of “Conclusions”.

Minor Essential Revisions

3. The following needs to be clarified: In the nation-wide study from Sweden (Johnell et al. reference 18), data were only obtained from SPDR and in an attempt to adjust for confounding factors, the results on quality indicators for drug use were adjusted for number of drugs used. The following regional study by Sjöberg et al. (reference 17) was performed to better control for confounding factors, than had been done in the previous one (the authors of the first article
were also involved in the second one). The article by Sjöberg et al. thus contains fewer individuals, but these are more alike when it comes to burden of disease, and SPDR-data were linked to other registers in order to control for relevant confounding factors such as burden of disease and residence.

4. The quality assessment could be further described. What were the criteria for a “good” and an “acceptable” study? (results, first paragraph)

5. In the abstract, the results of the quality assessment of the included articles could be reported, as well as the design (for example that no randomized controlled studies on outcomes of ADD have been performed).

6. In Table 2, an extension of the text in the fourth column of Sjöberg et al. (reference 17) is needed: “Data was collected from the SPDR in 2007, linked with register data on patient diagnoses and residence.” Furthermore, in Sjöberg et al. (reference 16), a multi-level analysis is performed, with drugs at the first level and individuals at the second one. This need to be clarified in the column “Population and data collection”. The third column (levels of ADD) needs further clarification. It seems strange that the levels of ADD differ between the publications from Sweden, since all patients in Sweden use the same system.

**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