Reviewer’s report

Title: Health Alliance for prudent antibiotic prescribing in patients with Respiratory Tract Infections - the impact of a multifaceted intervention programme

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Reviewer: Svein Gjelstad

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Review by Svein Gjelstad in collaboration with Morten Lindbæk:

Health Alliance for prudent antibiotic prescribing in patients with Respiratory Tract Infections - the impact of a multifaceted intervention program

Inappropriate and suboptimal antibiotic prescribing is a well-known problem in most countries. Primary care is responsible for the vast majority of antibiotic prescriptions, and is therefore the best arena for studies of prescription habits. There are several studies describing the effect of single- or multifaceted interventions with the aim of improving antibiotic prescription in general practice.

This study manuscript describes an international study performed by invited GP’s applying a multifaceted intervention involving both the GPs and their patients. The study is of particular interest because it describes the effect of the intervention in six different countries. It is imposing that the project group has managed to carry through such a large project in so many different countries and settings.

The study demonstrates significant changes in both total prescribing of antibiotics and a higher proportion of narrow spectrum antibiotics for RTIs. These are two main objectives in order to promote a more prudent antibiotic prescribing.

I have the following comments to the manuscript:

1. The object of the study is well defined and expressed in the abstract and in the article

2. The methods are well described in the published study protocol, and the protocol is referenced in the manuscript.

2a. The manuscript has a serious limitation in the fact that no control group is described in the manuscript. The protocol refers to a control group “not (be) exposed to any intervention activities, except performance of an audit cycle”. The lack of a control group seriously reduces the reliability of the results. This limitation is addressed in the discussion. Description of available control-group data would greatly improve the quality of the manuscript.

2b. The lack of randomization in the process of including GPs is another
methodological problem. The included GPs might well have participated because of a special interest in the topic of improving antibiotic prescription practice. This limitation is also addressed in the discussion.

2c. There is a possibility of bias in the methodology of doing the AUDIT registration, as focus on the prescription process during the consultation may affect the GP’s choice of treatment.

2d. There is no description of correction for cluster effects in the analyses. Each GP will act as a cluster in the treatment of his/her patients. STATA 11 has the option of compensating for a one-level cluster effect in the calculation of means, and this option might have been considered used in the analyses.

2e. The study has to a limited extent compared characteristics of the participating GPs with the whole group of GPs in each country. Such a comparison would possibly increase the external validity to some extent.

3. Because of the methodological limitations the study will have a limited external validity. However, the data material is large, and the differences found are probably of clinical significance.

4. The manuscript is nicely written, and adheres to the relevant standards for reporting and data deposition. The discussion is balanced and takes into account that the study has limitations. It would have been nice, though; if the authors gave the reader a greater knowledge of the factors that independently affects the change in prescription habits.

5. The title and the abstract conveys the findings of the study

Advice for major compulsory revisions:

• Results from the control group as described in the protocol should be added to the manuscript (see above point 2a).

• An adjustment for a cluster effect on the GP level should be added for the data in table 3 and table 4 (see above point 2d).

Advice for minor modifications:

• Addition of a comparison between the characteristics of the participating GPs against the whole group of GPs in the different countries (see above point 2e).

• The grey-scales in figure 1 should be altered in order to clearly identify the different RTI groups.

Oslo March 28, 2011
Svein Gjelstad

Level of interest: An article whose findings are important to those with closely
related research interests

**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.