Reviewer’s report

Title: Determinants of the range of drugs prescribed in general practice: a cross-sectional analysis

Version: 1 Date: 11 January 2007

Reviewer: wim verstappen

Reviewer’s report:

General
First I will give some general comments on this manuscript and then I’ll comments more in detail per section:

I’m not impressed by the results of this paper and, although well defined, I don’t consider their research questions as innovative or new. I don’t know what knowledge this paper adds to the existing scientific knowledge. The authors’ general hypothesis seems to be that restriction of the range of drugs available for GPs, overall and per therapeutic group, means more quality in prescription and less societal costs. But their research can’t give the answer to this hypothesis and, among other reasons therefore, results don’t underpin this hypothesis. And they therefore focus more on the GP’s prescription behaviour in general rather than on the quality of that prescription behaviour.

Further, the patient seems to have no role in the GPs’ prescribing behaviour. For example, in for hormonal contraconceptsives, I think the role of what a woman wants is important. Public advertising campaigns, for example when a new pill is introduced or about contra-indications, side effects can have a major impact.

Finally, I don’t think the references are up-to-date. Especially the last two years many papers about this subject were published.

In their introduction and discussions section often statements are given which I disagree as a practising Dutch GP. Here below, I will deal with them in my comments per section.

The English writing is acceptable, I think more acceptable than my review.

TITLE:
OK, it conveys the paper accurately.

ABSTRACT:
Gives a clear overview of the content. But as a reader the abstract doesn’t provoke to read the paper.

Background: I think this section can be shortened. In the background section the authors state that 75% of all drugs are prescribed by GPs. I don’t know the situation in other countries, but I think it is necessary to inform the reader about the maybe typical Dutch situation that many prescriptions of hospital specialists are prescribed by GPs. I’m convinced that this has important implications for the conclusions of this research.

In their hypotheses section the authors state that gender is not to be directly related to the range of drugs prescribed. I found it very surprising to see that the range of prescriptions for female GPs was significantly lower than for male GPs. Is that because female GPs more often work in group practices, health centres, or because there are less female GPs with dispensing practices or because female GPs have less contacts with representatives of the pharmaceutical industry? What does it mean that this variable is used as a control variable?

Of almost all determinants it is not very clear in which direction they relate with the dependent variable. And I don’t agree with the conclusions concerning working in group practices: there is much evidence that working in that kind of practices means better adherence to guidelines, better cooperation between GPs. Further, I always thought that data from dispensing practices show more variation in prescription ranges than non-dispensing practices.

Finally, I’m not sure that more prescriptions always result in a broader range of prescriptions.

METHODS:
The data are retrieved from a large database, and the seem sound and well controlled.

It is a pity that the explanatory analysis is only done for the overall score. There are some interesting therapeutic subgroups, e.g. the subgroups with low ranges or with larger ranges.

Because of readability, is it not possible to make a table of all explanatory variables?

In the analysis section the authors state that Pearson’s correlations are tested one-tailed (except one in table 2). As argued above I don’t agree because for all characteristics knowledge about the direction of the hypothesis is insufficient and for more variables than the one that was tested two-tailed, the possible direction probably is both ways. So, the statistical test has to be done two-tailed for all variables.

Does ‘to be unidimensional in HOMALS-analysis and factor analysis’ mean that it is allowed to test the
hypothesis by multiple regression analysis one-tailed. If not, I also think that these analyses have to be done with two-tailed tests.

RESULTS:
The sentence ‘the fact that the percentage of available drugs........ not imply little variation between GPs.’ is not a result but more a statement or conclusion. I can give pro and contra arguments about this statement.

I don't think table 3 gives much information, so it can be skipped.
I think some analyses have to be done again, see my earlier remarks under methods.

DISCUSSION:
I disagree with the authors’ remarks in the second discussion paragraph. This cross-sectional research can’t give clues for this relationship and I argue that, as I wrote before, higher volumes of prescriptions means a broader drug repertoire. In this particular point I’m interested in the consequences of what the GP prescribes for the hospital specialists. I think much variation is a result because specialist in general don’t adhere to prescription guidelines, at least worse than GPs. I certainly don’t have the opinion that ‘broader drug repertoire could increase the inclination to prescribe’???

The paragraph about the GPs working in group practices also differs from my opinion. I really don’t understand the sentence about ‘the implication would be that GPs in group practices........, leading to a broader range.’

I worked in such a group practice, and I know that is a N=1 argument, but I can’t follow the authors’ line of reasoning.

CONCLUSION
I don’t agree that the range of drugs prescribed is a promising concept in addition to prescribing volume in research into prescription behaviour. When prescribing volume is used, that range is already being used.
I agree with the conclusion that restriction of the range of drugs needs more research before using that as a quality tool.

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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)

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