Reviewer's report

Title: An Observational Study of The Effectiveness of Practice Guideline Implementation Strategies Examined According to Physicians Cognitive Styles

Version: 1 Date: 7 February 2007

Reviewer: Jozé Braspenning

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General

The paper contributes to the debate on improving guidelines adherence by suitable interventions strategies. It is maintained that an intervention strategy should be linked to a cognitive style of a physician in order to become successful in implementing guidelines.

Based on three scales (Evidence, Pragmatic, Conformity) four cognitive styles have been distinguished in earlier work form the authors that is the ‘pragmatist’, the ‘receptive’, the ‘seeker’ and the ‘traditionalist’. Common intervention strategies have been classified into three classes: educational, motivation oriented and barrier-reduction.

In a multi-site study (42 sites) guideline adherence on prescribing behaviour was measured for 1174 diabetes patients with high blood pressure. These 1174 diabetes patients were treated by 163 physicians who got a cognitive typology.

Patients’ management was considered in adherence with the guidelines if any or more of the following criteria were met:
- Already on 3 or more blood pressure medication classes
- Having an increase in medication dose during the 6 months following the elevated reading
- Having another medication class added or medication class switch during the 6 months following the elevating reading
- Having a repeat blood pressure reading of , 140/90mmhg during the 6 months following the elevated reading

The guideline adherence was high 77.2% (variance unknown). The variations among the sites in intervention strategies used was small. Education was done on all sites and a minority (number unknown) of sites used a motivation oriented strategy or barrier reduction. Most physicians could be classified as ‘pragmatists’. A concordance score was calculated between the cognitive style of the physician and the interventions exposed.

The hypothesis that the concordance score could explain the degree of guideline adherence was not confirmed. Extra analysis showed that an intervention strategy based on barrier reduction did improve guideline adherence for physicians that scored low on the conformity scale.

major compulsory revisions (that the author must respond to before a decision on publication can be reached)

1. What is the rationale for one dependent variable (prescription management in case of high blood pressure in diabetic patients) on guideline adherence? Wouldn’t it be more appropriate to use more dependent variables? The variance in guideline adherence is unknown, but with a mean of 77.2% I would say it will be low. Most studies on guidelines adherence come up with a lower percentage and a lot of variance. This variance would be very helpful to test the hypothesis.
2. The concordance score is a very important measurement in the paper, but we have no information on the scores among the physicians. A little more information on its construction would also be appropriate.
3. The description of the cognitive style of the physicians was based on the number of available questionnaires (291), but only 163 of these physicians were taken into the statistical analyses. What was the difference in proportion of cognitive styles between these groups? This should be described in the paper.
4. The last sentence of the analysis section isn’t clear to me. I think, a third modelling took place, but the
rationale has been left out. And why was it based on six interventions from the motivational oriented class? 5. In the discussion all the variation problems should be more highlighted: little (?) variation in guideline adherence, hardly (?) any variation at site level, only three typologies (unequally spread). Perhaps the hypothesis shouldn’t be rejected; although it couldn’t be confirmed with these data! 6. In the conclusion it is stated that “the result suggest that we should focus more on organizational change”. I don’t see how the results can suggest this.

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

1. In the abstract, the background paragraph ends with “…. cognitive styles as measured on a psychometric instrument we have previously described”. I think the instrument should be named or otherwise the information can be left out.
2. Inconsistent and difficult terminology:
   a. Sometimes the three classes of interventions are described and sometimes some of the 27 interventions have been expressed without relating them to the classes, e.g. in the section on “Site level”
   b. Sometimes the typology is placed central and sometimes the scales (E,P,C).
   c. Second paragraph in discussion, last sentence, “… with certain characteristics”. I think the typology is meant?

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 importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.