Author's response to reviews

Title: A comparison of hospital readmission rates between two general physicians with different outpatient review practices.

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PDF covering letter
Follow-up in the general medical outpatient clinic does not reduce the demand for acute hospital beds.

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Reviewer: Dr Xavier Castells

Version 1. Date 3 Dec 2001
Level of interest: A paper of limited interest
Advice on publication: Unable to decide on acceptance or rejection until the authors have respond to the compulsory revisions.

REVIEW OF: FOLLOW-UP IN THE MEDICAL OUTPATIENT CLINIC DOES NOT REDUCE THE DEMAND FOR ACUTE HOSPITAL BEDS

Major comments:
1.- The study is interesting because it analyzes a relevant problem: hospital readmission in chronic diseases. However, the health system intervention should, probably, be different for each pathology. It is necessary to discuss this aspect.

A discussion of the applicability of the type of outpatient follow up is included in the background section and in the discussion.

2.- The authors should demonstrate that "there was no difference in the HGR, age or sex distribution between the consultants" or "physician with the same case-mix" (in abstract) with an appropriate statistical test. If pathology, age and sex are variables associated with readmission risk, it is very important to analyze the differences between physicians.

The comparison of patients between the two consultants is now described in a new table (table 1) and compared using logistic regression analysis.

3.-It is very important to comment that the probability of death was different by physician (probability physician A / pro. physic.B: 0.0718/0.0537=1.337). Probably, this difference was due to the difference in case-mix, but it is necessary to discuss whether the probability of death is an outcome of the type of care (number of visits after discharge).

The number of deaths between the two consultants is not relevant to the analysis as only patients discharged alive have been compared. This is now made clear in the methods and results sections. Data on the death rate following discharge of patients alive from hospital is not available and not relevant to this study.

4.- However, the more important problem of manuscript is that the design of the study is not appropriate for the objective defined by the authors. The analysis should be by patient rather than by physician. An analysis by physician outlines the problems of ecological analysis. That is, it could be possible that patients with hospital readmissions were not reviewed in the outpatient clinic, independently of the physician. The authors should analyze the probability of readmission for each patient (dependent variable) according to outpatient clinic review (to calculate the Relative Risk, RR). In this model, the 'physician' variable is analyzed as a confounding factor. Odds Ratios adjusted by confounding factors are calculated through a logistic regression model. Other confounding variables are age and pathology (HRG).
The data has now been reviewed by an expert statistician and more details of statistical analysis have been included in the methods section. It is not appropriate to use outpatient clinic review as an independent variable in such an analysis as the decision whether to review the patient or not is highly dependent upon case mix and age. It is further complicated by the variation in time of the outpatient review following discharge, which will interact with the timing of re-admission.

The objective of the study has now been described more clearly i.e. that we are comparing two consultants with different outpatient follow up policies. This is not intended to be a case control study of patients seen or not seen in the clinic or of two different types of outpatient clinic intervention.

5.- It is necessary to calculate a statistical test to demonstrate no differences in readmission risk and length of stay.

The re-admission risk has now been tested using logistic regression analysis.

Minor comments:
1.- Title: Probably the title should describe the study objective more than announce the conclusion.

The title has now been altered to describe the study objective.

2.- Abstract: It is necessary to include numerical results to make it easier to understand.

Numerical results have now been included.

Results (page 5 par. 4): Table 3 is not available in my version of the manuscript.

3.- Discussion (page 7 par. 3): The assertion: "it is possible that a system of early clinic review following discharge may be more effective at reducing readmissions" has not been analyzed in this study and, therefore, it is too much speculative.

This assertion has now been modified.
Follow-up in the general medical outpatient clinic does not reduce the demand for acute hospital beds

Comments
General: This is an interesting paper, but there are some methodological flaws and problems with the presentation and analysis of data.

Specific
Background. This section is too short and no references are given. The use of the emergency readmission rate as a performance indicator is not mentioned, or how this links to the work presented here (minor).

This section has now been modified according to these comments.

The aims of the paper should be clearly stated (minor).

The aims are now clearly stated.

Methods
There is no mention of statistical analysis. In most cases percentages and confidence intervals would be useful (major).

Statistical analysis is now included.

No details are given of how the data were "extracted". Did one (or two) people extract data from manual records, or from a computerised summary (major).

Details are now included.

The information included at the end of this section could more usefully be in the results section (minor).

This section has been moved.

Results
More data should be included to convince the reader that the case mixes between the two consultants were not significantly different. The text on page 4 (line 4) indicates that HRG group is given by consultant in Figure 1, but examination of the figure shows this to be age distribution only (major).

Data has been included in the new table (Table 1).

The data shown in Table 1 could us fully be incorporated into a figure. This would enable the patterns to be compared to determine whether the outpatient visits differed between the two consultants in terms of volume only, or also in timing (minor).
A figure (figure 2) has been included showing these data.

It would be interesting to know in what proportion of patients the readmission was related to the initial episode (revolving door admissions) and in how many there was another, unrelated condition.

The HRG code for the original admission episode and the re-admission episode are given in Table 4.

There is no mention of renal patients in the readmission data, despite both consultants claiming a special interest in renal medicine. These patients typically have a high number of readmissions and may therefore not be typical of other groups (major).

This study includes only patients treated under the general medical practice of the two consultants. No renal patients were included in the study. This is now made more clear in the methods section.

Discussion
This is interesting but, like the introduction, could include more references (minor). The authors might wish to focus more on the need for routine hospital follow-up, in view of its limited impact on readmissions. Is this a good use of NHS money? (minor)

Discussion has now been expanded to include these issues.
Authors' checklist for manuscript formatting - medicine manuscripts:

Please go through the list of points below and make sure your submission conforms with each point. You should be aware that we are not charging for access to your article, and therefore require you to submit your files in the correct format to allow for efficient production online. If we have to make any changes in proof due to incorrect formatting of the original files, these will be at the discretion of the Editors, will cause delays in production, and may incur a charge to you.

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26 Tables larger than this, or those that you do not wish to appear in the body of the article should be uploaded as additional files
27 The borders of Tables included as part of the main manuscript must be visible black lines.
   Tables must be divided into cells / fields. Tables generated with tabbed text are not acceptable

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28 May consist of larger tables or other files such as movies, pdf files, etc, that are not intended to appear within the body of the article
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