Reviewer's report

Title: Out of hours care: A profile analysis of patients attending the emergency department and the general practitioner on call.

Version: 1 Date: 10 July 2010

Reviewer: Dan Lasserson

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Philips and colleagues are to be commended on their work which addresses an important and under researched question - who uses different urgent care services and why? They rightly point out that answering this is essential to designing accessible services to meet healthcare needs at a population level. However, there are some points that need addressing, and the writing style may need to be altered to facilitate clearer understanding of their argument. Overall the question is well defined and the methods are appropriate.

MAJOR COMPULSORY REVISIONS

1.50% of the data are missing for a key variable – diagnosis. This is of some concern and needs explanation, given that data collectors were 'trained'.

2. Use of logistic regression modelling. Logistic regression predicts the probability of an event. In this paper, rather than 'yes' or 'no' for attendance at one emergency service (the event to be predicted) the outcome variables are 'ED' or 'GP'. Strictly speaking LR modelling is on collected data that predicts a future event, rather than waiting for the event to occur (attending ED or GP) and then talking to the patients to see what reasons might have existed previously to predict why they chose the ED or the GP. I am not convinced that a model is needed. I think it is probably statistically purer to just report the demographic make up of patients attending each service, and commenting on important differences, generate hypotheses for further testing as to what predicts choice of emergency service. Patients can also choose to stay at home and not consult, so to conclude that not speaking a language or being a certain age predicts choice, one would need to know more about all members of a group defined by those criteria. As a survey of service use I think it is valid to report who uses the different services and speculate on why the differences are there, but I would be wary about modelling this from data collected in this way (a cohort with various levels of indicator variables such as income etc. that is followed over time with out of hours ED or GP usage as outcome variables would be more secure and appropriate for LR modelling). You may wish to get a statisticians opinion about this too.

3. The 'reason for encounter' variable needs some clarification for the general reader. It is classified in organ system terms but I think readers are more interested in the answer to the question 'Why did you come?' which is reported in
table 3 as the answer to ‘Why did you seek help at the ED?’. Was a similar question asked to people attending GPs? This would be of great interest.

MINOR ESSENTIAL REVISIONS

1. Methods, Context: ‘not in common use’ would be better than ‘no common use’
2. Methods, Materials, 2nd para: how was participation ‘guaranteed’? Please clarify.
3. Methods, Materials, 3rd para: please clarify 3rd sentence ‘As Gp service..’ were the patients subject to a telephone interview at the time of consulting the GP?
4. Methods, Materials, 4th para: what do you mean by ‘co-ordinates’?
5. Conclusions. I would actually include in the results section that 50% of income data was missing – this may help explain why it is not explanatory in modelling.
6. Table 1. Could you show the demographic data by ED and GP separately? - this would be very helpful for the reader although as you have missing data it may not be possible for the group as a whole.
7. Table 4, for the general reader, does not easily convey the important findings and the wald test and S.Es are not needed, just the ORs and CIs will describe the findings adequately.

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

Quality of written English: Not suitable for publication unless extensively edited

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests.