Author’s response to reviews

Title: Patient consultation rate and clinical and NHS outcomes: a cross-sectional analysis of English primary care data from 2.7 million patients in 238 practices

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Version: 2 Date: 13 Mar 2019

Author’s response to reviews:

To the editors,

Thank you for considering our paper for publication in BMC Health Services Research and for providing us the opportunity to respond to reviewer’s comments. Please find our responses below.

Regards,

S Lay-Flurrie and FDR Hobbs (joint corresponding authors)

Reviewer 1

Comment:

I appreciate being provided with the opportunity to review this paper. I have been involved in a number of studies focusing on the area of patient safety in primary care, and feel that this is a valuable and interesting paper. I have provided a number of suggestions that I feel would help to further improve its’ quality, and aid reader understanding.
Response: We thank the reviewer for their detailed comments. No action required.

Comment:

Abstract

Page 2, lines 7-8: The phrasing "relationships between general practitioner (GP) and nurse consultation rates and outcomes were investigated" implies that general practitioner consultation rates and nurse consultation rates were compared against each other.

Response: We have now rephrased this sentence to make this clearer as follows:

“Relationships between consultation rates (with a general practitioner (GP) or nurse) and outcomes were investigated…”

Comment: Page 2, lines 10-13: I do not feel there is a need to provide the IRR and confidence interval values for non-significant results.

Response: Respectfully, we would disagree with the reviewer on this point and believe that including this information, in full, numerically, in the abstract is important. Firstly, we would argue that failing to do so is a form of reporting bias which we would like to avoid. Secondly, we feel it is important for readers to be able to judge, at a glance, the precision with which we have been able to estimate associations and hence whether our lack of significant findings may be due to the relative size of the study.

Comment:

Background
Page 3, lines 3-5: consider rephrasing "The extent to which greater demand on, or improved access to, primary care is associated with secondary care use and other outcomes" to "the extent of the relationship between greater demand on, or improved access to primary care, and secondary care use…"

Response: Thank you for highlighting our lack of clarity. We have now rephrased this as follows:

“The relationship between greater demand on primary care, or improved access to primary care, and outcomes such as secondary care use, mortality, satisfaction and quality of care is unclear.”

Comment: Page 3, line 8: this sentence: "patients in practices which provide more consultations might be less likely to use hospital services as a result of difficulties in accessing primary care" appears to be contradictory, especially considering the sentence that follows it. Should this read "less consultations"?

Response: Thank you for indicating that this sentence is unclear. We did intend for it to read “more consultations”, arguing that patients may use less hospital services because they do not experience any difficulties in accessing primary care (due to a good provision of general practice consultations). We have now re-phrased this sentence as follows:

“For example, patients in practices which provide more consultations might be less likely to use hospital services, owing to the fact that they do not experience difficulties accessing primary care.”

Comment: Page 3, lines 19-20, 21-23: "finally, studies of practice factors associated with patient satisfaction have been based on patient surveys rather than objective data"..."We therefore explore the association between clinical and service outcomes (mortality, hospital admission rates, quality of care, and patient satisfaction) and consultation rates in primary care, at the general practice level"

- is this contradictory, considering the methods section states that the General Practice Patient Survey was the tool used in this study? The above sentences explicitly implies that you only use objective data at a practice level, although the GPPS is a patient experience survey.

Response: We agree and have re-written the first part of this section so as not to mislead:

“Finally, studies of practice factors associated with patient satisfaction have not assessed consultation rates explicitly, but used data regarding patient experience of making an appointment, or list size and staff headcounts as proxies.(12,13)”
Comment: Page 4, lines 10-11: A very brief explanation (one sentence max) of the Quality and Outcomes Framework (QOF) performance would be useful.

Response: We have now re-worded these sentences, incorporating an explanation of QOF as follows:

“These datasets were further linked to practice-level data on staffing,(15) rurality,(16) patient satisfaction and quality of care. Patient satisfaction data were drawn from the General Practice Patient Survey (GPPS).(17) Quality of care data were drawn from the Quality and Outcomes Framework (QOF), which is a financial incentive scheme that resources practices for performing certain evidence-based tasks in patients with chronic conditions.(18,19)”

Comment: Page 5, lines 16-24, page 6, lines 1-3: Considering this entire section describes the way in which the data was coded, which I feel belongs either under a separate independent subheading, or as a paragraph under the 'statistical analysis' subheading.

Response: We have now added a further subheading “Data cleaning” above this paragraph.

Comment:

Results

Page 6, line 8: Consider providing percentage for practice data used out of data collected.

Response: We have now added the percentage (90%) to this line.

Comment: Consider providing p values for all significant findings, and indicate which findings were significant (e.g., using an asterisk) in table 1 and table 2.

Response: We respectfully disagree with the reviewer on this point. Firstly, we have not provided p-values because information about statistical significance is incorporated within the confidence intervals (which are provided in Tables 2 and 3). We feel that results tables would be more difficult to read if further columns (containing essentially redundant information) were added. We also feel that providing p-values for significant findings only would be a form of
reporting bias. Finally, Table 1 in particular is purely a descriptive table. No statistical tests were carried out and there are no p-values to report.

Comment: Page 8, line 6: would it be feasible to include the consultation rate and patient satisfaction data within table 2 or 3, rather than isolating it within the additional file?

Response: We agree with the reviewer that it would be preferable to include all results tables in the main manuscript. However, formatting guidelines for the journal state that large tables (wider than A4) must be placed in an additional file. We have already split results for patient satisfaction across two tables to ensure that they can be presented in an adequate font size for readability. Splitting the results across further tables (to allow inclusion in the main text) would be at the expense of being able to compare results across different domains of satisfaction at-a-glance.

Discussion

Page 9, line 10: Consider rephrasing "in particular with respect to" to "particularly with respect to".

Response: Thank you. We have now changed this as suggested.

Page 9, line 11: Consider rephrasing "treated with caution" to "interpreted with caution".

Response: Thank you. We have now changed this as suggested.

Page 10, line 22: "and hospital admission rates".

Response: Thank you. We have now changed this as suggested.
Comment: Page 11, line 6: consider rephrasing "and any outcome, but we did observe a strong relationship between nurse consultation rate" to "and any of the outcomes examined, with the exception of the relationship between...."

Response: Thank you. We have now changed this as suggested

Comment: Page 11, line 18: consider rephrasing "could be seen as reassuring" to "could be considered reassuring".

Response: Thank you. We have now changed this as suggested

Comment: Page 12, line 10: typo - "while still maintaining"

Response: Thank you. We have now changed this as suggested

Reviewer 2

Comment: This is a paper that uses well established methods for assessing aspects of GP care and service provision. The CPRD is increasing being used to study associations between routinely collected data - primarily for administrative and payments - and clinical outcomes. In this respect it suffers from the same problems of all such data sets in that these are observational data and that apart from highlighting associations, they cannot be used to make comments about real relationships. The authors do acknowledge this in both the discussion and the conclusion of the paper. I would like to see some reference in the abstract that this is purely a hypothesis generating paper and that no reliable conclusions can be drawn from the data but this is a relatively minor point. It could be easily addressed.

Response: We agree that observational analyses cannot establish causality, but would also argue that routine healthcare databases such as the CPRD are invaluable for describing real-world
patterns. As suggested, we have added text to the abstract to highlight the limitations of our analyses as follows:

“Methods: Cross sectional observational study…”

“Studies with more detailed patient-level data would be required to explore these findings further.”

Comment: The authors have published important work in this area and the methods have credibility. They also identify flaws in the conclusions that they can draw from the data and they deserve credit for this. Papers of this type will be important because they identify problems in using the CPRD for assessing outcomes.

Response: Thank you. No action required.