Title: What aspects of quality of primary care predict emergency admission rates? A cross sectional study.

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Author's response to reviews: see over
Author’s response to reviews


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Author’s response to reviews: see over

Thank you for consideration of our manuscript for publication.

We have reviewed the above manuscript according to your reviewer’s comments.

Essential revisions:

Editor:
The authors state (methods) that: ?Total clinical care points were used to assess whether there was a relationship between practices of generally higher or lower quality of clinical care, access survey variables and admissions rate.? QOF scores do not measure quality of care, however, they represent the financial rewards earned by practices under the scheme. Given the low payment thresholds for most of the clinical indicators, most practices are able to earn close to the maximum number of points without necessarily providing a high level of care, hence the QOF score is a poor discriminator between high and low performing practices. A more appropriate measure is achievement rates on the clinical indicators, for which composite scores can be created - for example, by summing numerators for the clinical indicators and dividing by the sum of the denominators (essential creating an opportunity score), or taking a weighted average of achievement rates for the indicators.

- We have made changes in the manuscript noting the limitations (particularly the lack of sensitively) of using QoF clinical points as a quality indicator; however, we have kept the analysis the same as this variable provides an overall or more general indicator, and being directly used to calculate payments to practices, reflects the success of practices in relation to the incentive.
- The rationale for this approach is as follows;
  o The summing numerators approach would not account for the differential level of importance between indicators; we could include all the QOF indicators in a numerator analysis, but this would give equal weight to say, having a hypertension register and controlling hypertension. This would not constitute a good measure of quality
  o An alternative would be to select certain indicators only; however, this would be dependent on our own perspective, and we might make an idiosyncratic selection
  o The total points approach includes indicators selected in a formal process collectively judged to describe quality general practice as defined by the group that devises QoF, in part developed by NICE. Therefore, it represents accepted opinion, not just our views, and includes a carefully considered weighting system. We accept that it does not produce a wide range of variation in quality. It is possible that the range in quality (as defined in QoF by NICE) is in reality not very wide anyway; however, even if the range in quality as defined in other ways is wider, we believe the points based
approach is more likely to reliably and validly identify those at the lower end of the performance scale. It may be less good at distinguishing between those at the top end of the performance scale, but in the context of our study, we believe it is more important to be confident about the lower end of the performance scale i.e. we believe that the poor performers identified by the total points method will be likely to have a higher admission rate, but variations between practices with reasonable and very good performance are likely to be small, if detectable at all

- Finally, the points determine the financial incentive. Practices work towards achieving the financial incentive as successfully as they can; achievement of full points would suggest practices with reasonable levels of management and organization, and such features are likely to be associated with ability to manage and organize care to minimise the risk of admission i.e. global points conveys information about a practice above and beyond the information conveyed by achievement in a narrow selection of indicators taken from the QOF.

**Reviewer 1:**
The comment on page 10 that the further a practice is away from the ED the higher likelihood of a hospital admission needs explaining - most UK studies (unlike Australian and US ones) have shown closer proximity to the ED is associated with higher risk of admissions. It is unclear if this is a finding from this study (not supported by data in table 2) or an assumption - needs to be clarified and discussed.

- We have explained the distance away from the ED and admission rate “The table gives IRR of less than 1 for increasing distance from ED suggesting that increasing distance is associated with lower admission rates (table 2)”.

- This finding, although complicated by the interaction between distance and IMD, makes sense in that affluent people stay at home if they are at greater distance from the hospital, but deprived people don’t; this is likely to reflect social circumstances, such as transport, support from carers etc., and potentially also the particular geography of Northamptonshire. Our finding therefore adds to current evidence, showing that the distance effect is moderated by deprivation.

Page 14 - para 3 - 'The study adds the new finding that the association between deprivation and emergency admissions declines as the deprivation increases' - this sentence is not supported by the evidence.

- We have revised the sentence relating back to its intended point about the association between seeing a specific GP and its interaction with deprivation “The study adds the novel, but plausible hypothesis that more people able to book with a specific GP is on average associated with a decrease in emergency admissions in the least deprived quintile of practices, yet a negligible increase in the most deprived quintile.”

**Reviewer 2:**
One concern is about the strength of the conclusion drawn on the basis of the observed analysis. The conclusion is phrased strongly: 'that those practices with more patients who were able to book with a preferred doctor reduced emergency admissions? implying a causal relationship that a simple association might not guarantee.
• We have revised our conclusions to “Enabling patients to book with a preferred doctor, particularly those in less deprived communities could have an impact on reducing emergency admissions.”

• We also state within the limitations that this study looks at associations, not causal relationships.

The paper does not set out a clear hypothesis to test in the introduction, rather it describes a number of previously observed associations, and then sets out an exploratory rather than hypothesis focused agenda. As a consequence, I think that an appropriate level of caution needs to be expressed when describing the nature of associations demonstrated.

• We have revised the wording of the aim to “We undertook a cross-sectional study to investigate aspects of care (access and clinical performance), in addition to known demographic characteristics in general practice, that may be associated with emergency admissions.”

• We have also stated in our limitations that “This is an ecological study and our findings may not be applicable to individuals.” and that caution needs to be considered in the associations found in our study.

In addition to addressing the referee’s comments we require the following editorial points be addressed:

1) Authors’ contributions - In order to give appropriate credit to each author of a paper, the individual contributions of authors to the manuscript should be specified in this section.

• We have changed the authors contributions to “All authors were involved in developing and implementing the study. SG acquired the data and developed the analysis protocol, interpreted the findings and drafted the paper. NT undertook the analysis and helped draft the manuscript. SR and RB conceptualised the study and participated in its design of the study and coordination and helped draft the manuscript. All authors read and approved the final version of the manuscript.”

In addition to the points above we have changed the grammar in some of the sentences and changed the typos highlighted.