Author's response to reviews

Title: Observed intra-cluster correlation coefficients in a cluster survey sample of patient encounters in General Practice in Australia

Authors:

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Author's response to reviews: see over
Reviewer John Ionnades
Minor essential revisions
1. The sentences have been rephrased and expanded. We have retained the term “association” as this term was used by Carlin and Hocking to describe ICCs between predictors and outcomes in their paper on ICCs.
2. We have obtained and read the suggested references and increased the emphasis in the text on the general lack of consistency in reporting ICCs for CRCTs.
3. We have discussed the possibility of return visits in the discussion of limitations on page 12. The actual number of encounters that are “possibly” the same patient based on matching the GP, patient date of birth, sex and postcode is around 5%. However since the patient is essentially un-identifiable we assume that some of these duplicates are in fact two patients who share those four identifiers by chance (or twins). However we have looked at the ICCs for some variables with duplicates removed. Most ICCs decreased slightly and some actually increased slightly. The nett change across ICCs was about 4%. Eg the ICC for musculoskeletal problems was .0304 when the duplicates were removed versus .0315 for the full 100 encounters. For digestive problems the ICC decreased to .007 from .008. Therefore the reported ICCs are generally slightly more conservative and we have left the analysis as it is with an alert to the reader in the discussion.
4. We have included CIs in Table 1 to allow the reader to judge the comparability of the samples.
5. I have replaced Non-English speaking background (NESB) with patient language in table 2 and 3.

Reviewer Obioha Chukwuonyere Ukoumunne
Minor essential revisions
6. We analysed the data unweighted to get at the true sampling variance. I have changed the paragraph in the methods to better express this.
7. I have consistently now used “coefficients” throughout the paper.
Discretionary revisions
1. Yes the descriptive ICCs for treatment rates were based on the whole sample. We could have included treatments within various problems managed, however this would have extended the paper. We would predict that as for other predictor/outcome ICCs, controlling for problem managed would reduce the size of the ICC for the treatment.
2. The inconsistency in the dates has been corrected.
3. I don’t think we can definitively answer this from the data. There is not much in the literature either. The Carlin & Hocking paper briefly suggests that survey ICCs can be used for RCTs, so we have included a sentence to this effect in the discussion. However we feel the strength of the reported ICCs is in their application to survey design.
4. The “descriptive” outcomes refer to both demographics and morbidity rates (in contrast to associations between variables). I have removed the labels from the axis and left a fuller description in the title.

Reviewer John Martin Bland
Minor essential revisions
10. I have rewritten this definition to provide a clearer and more accurate definition of design effect.
Discretionary revisions
11. I have included the descriptive means and rates and ICCs (+SE) for 2002-03 in Table 2 and the ICCs + SE in Table 3. I have kept figure 1 and 2 because they include the confidence intervals and show the pattern of agreement across samples.