Author's response to reviews

Title: Mortality following acute pancreatitis: social deprivation, hospital size and time of admission: record linkage study

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Author's response to reviews:

The Editor,
BMC Gastroenterology

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Dear Editor

Thank you for your e-mail. We are grateful for the reviewer comments provided, we have responded to each in detail and think they have improved the manuscript.

Please find uploaded the revised manuscript with all revisions denoted in blue font.

Yours sincerely

Dr Stephen E Roberts, reader in epidemiology and public health
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Dr David G Samuel, specialist registrar in gastroenterology
Your manuscript has now been peer reviewed and the comments are accessible in PDF format from the links below.

We would be grateful if you could address the comments in a revised manuscript and provide a cover letter giving a point-by-point response to the concerns.

Please also ensure that your revised manuscript conforms to the journal style (http://www.biomedcentral.com/info/ifora/medicine_journals ). It is important that your files are correctly formatted.

We are grateful for the reviewer's comments which we think have improved the manuscript. We have denoted all new text in blue font and would like to respond to the comments as follows:

Reviewer 1 report:

Major revisions

1. Table 2 is too big. I think it has to be divided into two. Also, the results described below the table should be transferred to the results in the text.

We appreciate this comment and as suggested have split Table 2 in two and have now included the text from the footnotes into the main manuscript in the Results section (page 16, para 3 to page 17).

Minor revisions

2. In results, p 10, line 7: Change the last part of the sentence about unknown aetiologies to "In 29.5% (4359 cases) the aetiology was unknown."

We have amended this sentence as suggested (page 12, para 1).

Reviewer 2 report:
1. Generally, the manuscript is still not easy to read because too much data are reported and listed in the Tables and the data are not always easily ordered.

Please see the response to the similar comment from Reviewer 1 (point 1). We have split Table 2 into two Tables, checked the ordering and have improved the formatting of the Tables to enable easier reading.

2. The authors did not report separately first versus recurrent attacks. Now they comment in the footnotes... should be in the manuscript itself or in the Result section.

Please see the response to the similar comment from Reviewer 1 (point 1). As suggested we have now moved the reporting of mortality for first versus attacks recurrent attacks from the footnotes to the manuscript, Results section (page 17).

3. The authors do not comment on "unique cases", meaning a true unique person, identified on e.g. sex, birth date, race,... How was this checked?

We have now further clarified (page 6, para 1) that the record linkage methodology uses a unique, encrypted, anonymised linking field for each patient which is based, firstly, on the patient NHS number. In cases where the NHS number is absent, other patient identifiers (date of birth, sex, postcode, first name and surname) are used applying a probabilistic matching algorithm MACRAL (Matching Algorithm for Consistent Results in Anonymised Linkage). Hence, as we report in the first paragraph of the Results section, the study identify 10 589 cases of acute pancreatitis, involving 8607 unique patients (page 12, para 1).

We have provided references to published studies that have validated and described this record linkage methodology (page 6, para 1). We have also provided references to other studies published in international Medline journals that have used this record linkage methodology and data resources (page 6, para 1). The methodology and data resources have also recently received extensive funding as a UK Medical Research Council “centre of excellence” in e-health research. If the editor would like further details, we would be happy to oblige.

4. The definition of a first attack is still weak. The time period of preceding 60 days, should be at least one year.
We had commented (page 18, para 2) that a study limitation was a lack of information on patient disease history before the start of the study in January 1999, although this is common to most similar ‘record linkage’ studies of acute pancreatitis published in international Medline journals. As indicated, we have now further acknowledged this limitation more specifically by adding:

“Also, as with most of these other studies, our first identified cases of acute pancreatitis occurred following the start of the study period and we acknowledge that some may have occurred late in the natural history of disease. However, since 86% of people were hospitalised with one attack only during the twelve year study period, this would affect a minority of patients.” (page 18, para 2)

We included subsequent attacks providing they occurred at least 60 days following the previous attack. This criterion was based carefully on specialist clinical considerations, and is the consensus view of several clinical specialists. In particular, it allows adequate time for a patient to have fully recovered from an attack and for biochemical and radiological markers to have returned to baseline.

We appreciate that different published studies of acute pancreatitis focus variously on first attacks only, or attack interval criteria varying from 30 days to more than five years, depending on the specific objectives of each study. We consider that 60 days is the optimal duration for our study when attempting to identify all clinically important attacks. We have used this approach consistently in previous studies published in international Medline journals over the last seven years and it has been used in other studies. If the editors would like further details, we would be happy to oblige.

We have proof read the manuscript and would be happy to respond further if necessary.