Author's response to reviews

Title: Council tax valuation bands, socio-economic status and health status: a cross-sectional analysis from the Caerphilly Health and Social Needs Study

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Author's response to reviews: see over
Dear Editor

We are grateful to the reviewers for their helpful comments and suggestions and detail our response point by point as follows:

Reviewer 1 (Beale)

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

1. ‘22236’ & subsequent numbers quoted on pp. 6 & 7 are really ‘Results’.

We have moved these numbers into the results section.

2. Standard Occupational Classification 1991 is now replaced by SOC 2000 (http://www.statistics.gov.uk/methods_quality/ns_sec/soc2000.asp) - the authors need to discuss & defend why they have not used the latest available classification.

We are grateful to both reviewers who point out that the National Statistics Socio-Economic Class (NS-SEC) has replaced the Standard Occupational Classification 1991. We have therefore revised the paper to include analyses for NS-SEC, replacing our original analyses for Registrar General social class. All necessary sections of the paper, from the abstract to the tables and figures have been revised accordingly.

3. The response to survey (p. 8) was 62.7% but analyses were based, in fact, on a final sample which was smaller than this. 1233 of responders could not be linked to a CTVB which brings final sample down to 10859 (only 54.9% of all ‘possibles’) and, on p.14 there is a strong hint that another (perhaps partly overlapping) 9.5% of responders failed to provide social class data, bringing the final sample down, perhaps, as low as 9827 (only 49.7% of all ‘possibles’). These issues need clarification; there is a heightened possibility of sampling biases.

We confirm there was no overlap between classifications in the figures quoted in the paper. The proportion of missing SES data was similar for CTVBs and NS-SEC. Missing data from item non-response increases the chance of non-response bias, a particular problem if making inferences about the population. Since the purpose of the analyses was to compare trends between CTVBs, NS-SEC and the Townsend score, rather than make inferences about the population, item non-response is unlikely to be a threat to the validity of the study. We clarify this in the Discussion on page 16.

4. CTVB assessment (p. 12) is based on objective criteria of any property even if these are made externally (during a ‘walk-past’) – reference to the Valuation Office Website (paper reference 2.) lists these e.g. size, layout and locality.

We have corrected the text on page 12.

5. Table 1 quotes property antecedent date values (1991) for Wales only. Figures for England are higher (and should, perhaps be quoted?). Scottish CTVB assessment is different again (£27,000 to £212,000, again at 1991 prices).
We quote Wales values only in table 1 as this table relates directly to the survey analysed in the paper. We believe therefore it would not be appropriate to quote values for England and Scotland.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

1. I wonder whether the title phrase ‘population health’ is inappropriate – Council Tax gives insights at household (individual even) level. Should be pondered.

   We have amended the title to ‘health status’.

2. As expressed, the study ‘aim’ is slightly prolix.

   We have amended the wording to shorten the sentences and improve the clarity.

3. The abbreviation CTVB (throughout) is sensible (citing ‘tax bands’ always causes confusion with income and other taxes that are graduated) but adding an ‘s’ where ‘bands’ in the plural are implied overcomes an irritating grammatical glitch in reading the text.

   We have amended the paper for grammatical correctness.

4. Reference 2 – really a website of the Valuation Office Authority and run by them. It might be worth pointing out that access to the Scottish ‘Council Tax’ website is to be found on the homepage.

   For reference 2 we state that CTVB can be searched for all households in Great Britain using the household postcode on the CTVB website.

5. p.3: ‘. . . The further attraction . . .’ CTVB is also immune to poor participation.

   We have included this suggestion on page 3.

6. p.3. The phrase ‘. . . associated with higher GP clinical workload . . .’ is nonsensical – perhaps ‘CTVBs are inversely associated with GP workload, the lower the band, the higher the clinical burden’ or something similar.

   Amended on page 3.

7. The technical phrase ‘finite population correction factor’ needs explanation for a general readership.

   This we have explained and provided a new reference for further reading on page 5.

We have amended the text to reflect this and added this new reference on page 4 and in the amended discussion on page 14.

9. p. 12 - students are equally impossible to classify by other socio-economic measures. As far as the elderly living alone are concerned it should be stated that they qualify for a 25% rebate on their Council Tax (effectively lowering their CTVB by one letter). This subtle influence remains totally unexplored to my knowledge.

We have amended the text to reflect this on page 12.

10. p.15 ‘ . . . the socio-economic characteristics of the borough . . .’ is an assertive statement with no support.

We have added a reference on page 16 to support this statement.

p. 16 Conclusions: first sentence is overstated – the strong association cited is in this study.

We have amended the text accordingly on page 16.

Discretionary Revisions (which the author can choose to ignore)

1. It might be worth recording that this study is the first one to appear from other than the research team in Calne and therefore serves an important corroborative function for the eight (soon) CTVB papers already published. In fact there are two more ‘Calne’ papers imminent – in Radical Statistics Feb 2006, Vol. 90 (CTVB and means-tested benefits distribution) & BJGP 2006, April (CTVB versus GP Out Of Hours workload).

We have included the BJGP reference in the introduction.

2. CTVB retrieval could have been improved by manual searching of the VOA website for missing links – electronic searching prone to miss addresses because of slightest spelling or punctuation discrepancies esp. for named properties (our experience has been greater difficulty in locating flats in subdivided properties – i.e. at other end of the CTVB scale).

This was not done due to the size of the survey. As noted on page 15, the main problem we had was in matching Welsh language house names with inconsistent spelling.

Unable to decide on acceptance or rejection until the authors have responded to the What next?:

major compulsory revisions
An article of importance in its field Level of interest:

Reviewer 2 (Grundy)

General
Could be shortened; aims need to be more explicit; needs more thought about what it is being measured; needs redrafting for international readership; some ethical points.

As detailed below, we have addressed all of these general points

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

1. The usefulness of CTVB for examining non-response bias is an important one (page 13). It did raise for me an ethical issue though. The sampling frame was drawn from the General Practice patient register, I wondered if patients had given permission for linkage of their addresses to the CTVB database? As the latter is a public access database, may be it was considered that such permission was not needed, but some mention of this ethical problem and the decision of the ethics committee is certainly needed in the paper.

2. Conclusions. Although the ready availability of CTVB data for all dwellings is potentially a big advantage, it is not much use unless you have some other source of information on the people in these dwellings, e.g. via linkage to a survey as here or some other administrative source. This makes some of the ethical considerations very important.

We state in the methods that ethical permission for the survey (which included the use of the GP age-sex register as the sampling frame) was granted. Since the local authority council tax register is a publicly available dataset, we confirm that ethical approval to link the sample to this database was not required. The statutory requirement for the NHS and local authorities to work in partnership and share information in Wales led to the adoption of a Gwent Information Sharing Protocol signed up to by all NHS organisations and the five local authorities in Gwent, including Caerphilly County Borough Council. This study operated within this data sharing framework. We have added to the text of the methods on page 6 and the conclusion to respond to the reviewers’ comments and strengthen the paper.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Background
1. The aim of the study needs to be made more explicit. The background section gives some information about the CTVB and a very brief review of some other measures of SES used in UK studies. The opening sentence says that CTVB data is available for all households and can be searched for on a publicly accessible data base – probably should also make clear (probably in a later section)

We have made the aims more explicit (see reviewer 1) and made it clear that actual street number or address is needed as well.
2. This is a short research note type paper, so a long theoretical introduction is not needed. However the authors should give some reference to the underlying theory behind derivation and measurement of SES and acknowledge that different domains of SES are recognised to have different implications for health which have different implications for health even if they are associated with each other, (e.g. education and income). There are lots of review and other articles which go through this and just a sentence or two with some references would be sufficient (e.g Liberatos 1988). Authors should also include reference to some of the work comparing ecological and individual measures and some studies which have compared different measures (e.g Grundy and Holt 2001).

We have addressed all of these issues and amended the text to reflect this with the new references in the discussion section (where it fits best into the flow of the paper) on page 11.

3. Not sure I would agree with the statement that no previous studies have looked at CTVB and health outcomes (p 4), indeed this statement follows a reference to a study of CTVB and health.

We have amended accordingly as per reviewer 1 above

4. Finally this section is likely to cause problems for non UK readers (and some UK readers) given the early leap into UK technical nomenclature (Jarman index, enumeration district, GP).

The Jarman index and enumeration district is correctly referenced for readers to obtain full details. We have also explained the abbreviation ‘GP’ in the text.

Methods
5. Details about the survey have been published elsewhere so could be given in a condensed form (e.g. don’t need all the detail about the number of call backs etc).

We have restructured a shorter methods section.

6. However do need some more information on some of the coding decisions relevant to this particular study. For example, was the classification by RG’s Social Class based on current job only or (as seems to be the case from the distributions) on current or most recent job? If the latter was their a time limit, e.g. most recent in past ten years? It might be worth mentioning here or a later point that the RG classification has now been replaced by the National Statistics Socio-Economic Classification (NS SEC).

RG’s Social Class was based on current or most recent job. As in our response to Reviewer 1 we have replaced RGSC with NS-SEC, also based on current or most recent job.

7. Not everyone will be familiar with the Townsend classification or what a ward is (or was), so a brief explanation might be helpful.
We have explained what a ward is on page 5 and the Townsend index (with an additional reference) on page 7.

Outcome measures
8. Not sure why ex and current smokers have been grouped, as often they are rather different, but maybe the sample size was a limitation.

We confirm that we grouped daily and occasional smokers as ‘smokers’ and ex- and never smoked as ‘non-smokers’ – page 7.

Results
9. I am not sure that showing unadjusted as well as adjusted odds ratios is necessary in Table 3, especially as they are very similar. (This made me wonder whether age in single years or age group had been used in the adjustment – this should be made clear and if age group, bands should be specified). Dropping the unadjusted ORs would mean the table should fit on one page.

Age was modelled as a continuous variable – text amended on page 8. We have changed table 3 as suggested.

10. The information in Table 4 could perhaps be presented in a graph (given that is not the actual values that are of interest, but the trend in scores by CTVB in comparison with trend by other indicators).

We have changed table 3 to graphs (new figures 2 and 3) as suggested.

Discussion
11. I think the discussion section needs strengthening, more thought earlier about the aims of the study and measurement and meaning of SES will probably help this. The authors do include a quick review of strengths and weaknesses of the measures they have used. In fairness to the Social Class one, they should point out that although RG’s social class is not based on an underlying theory, NS-SEC is. It is true that occupation based measures cause problems in classifying those out of the labour market, but perhaps the authors should mention other approaches to this (housing tenure etc) and particularly education. The discussion on page 12 about ‘misclassification’ highlights the fact that more thought could be put into thinking about CTVB measures, the discussion here seems to suggest the authors are regarding it as a proxy for income. As a matter of fact, it seems that it is closer to an indicator of wealth (which would be very useful as a growing number of studies suggest linkages between wealth and health that differ from income-health linkages). This made me wonder why the authors did not consider, and perhaps remedy, one of the weaknesses of the measure as used here, that for tenants (particularly local authority tenants) the value of the dwelling may have no or only a weak association with their own income and wealth. (Presumably the authors could undertake separate analyses by tenants and owner-occupiers which would allow them to look at this, even if they do not want to do this for this paper, they should recognise this weakness and the potential to look at it).

We have included all of these points in a redrafted and strengthened discussion section

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Discretionary Revisions (which the author can choose to ignore)
Comparison with previous studies
An association between council tax band and disability was also reported in analysis of the 1996/7 GB disability survey (Grundy et al 1997).

Unfortunately we are unable to locate this reference on medline or pubmed and so have not made reference to this.

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