Reviewer's report

Title: No improvement in socioeconomic inequalities in birth weight and preterm birth over four decades: a population-based cohort study

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Reviewer: Alison Macfarlane

Reviewer's report:

This is a well designed analysis of a high quality dataset compiled for another study and which contained data for four ages, The paper is well written and explained. I have a few comments, however.

Major compulsory revisions

1. The authors describe the Townsend Index as socio-economic status, implying that it measures individual, when it is an index of area deprivation. In the discussion, they argue that it is a proxy measure of socio-economic status. This may be the case in the United States, where there is a high degree of residential segregation, but the analyses in reference 38 suggest strongly that these are separate variables, even if there is strong correlation. I would like to see the authors make a clear distinction made between individual and area measures both in discussing their own work and that of others. This might also open up the way for a further article analysing geographical changes in Newcastle.

2. The authors point out that in the early 1960s there were still a considerable number of home births and that they did not have birthweight and gestational age data for these babies. It is not clear from the article how they took account of this in the analysis. This should be clarified, given that the 1960s was the baseline period.

Minor essential revisions

3. The Townsend Deprivation Score is based on a relatively small number of variables compared to more recent indices of multiple deprivation and home ownership is one of these. To what extent did policies of sale of council houses affect the score and the inequalities observed?

Discretionary revisions

4. The authors analysed trends in mean birthweight and found these increasing while low birthweight decreased. Nationally there were increases in exceptionally high birthweight in the middle of the period covered. Did these occur in Newcastle?

5. Because of the overlaps, Figure 2 is not very clear. The authors could consider redrawing it as four separate small graphs placed underneath each other. In that case, it would be useful to also present Figure 1 in this way.
Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests.