PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (see an example) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below. Some articles will have been accepted based in part or entirely on reviews undertaken for other BMJ Group journals. These will be reproduced where possible.

ARTICLE DETAILS

TITLE (PROVISIONAL)	Does childhood adversity account for poorer mental and physical health in second generation Irish people? Birth cohort study
AUTHORS	Das-Munshi, Jayati; Clark, Charlotte; Dewey, Michael; Leavey, Gerard; Stansfeld, Stephen; Prince, Martin

VERSION 1 - REVIEW

REVIEWER	Dr Michael Rosato School of Geography Queen's University, Belfast I am personally acquainted with one of the contributary authors (GL).
REVIEW RETURNED	06-Nov-2012

THE STUDY	(i) question 4 - I say yes in the sense that the data used in analysis is derived from a representative sample of the population. and therefore individuals included are representative of individuals the evidence might affect. (ii) The supplemental documents seem to be properly placed, and don't raise any particular issues with the overall study.
GENERAL COMMENTS	(i) the first of the key messages - my reading of the text suggests that its second sentence should read '.. were no longer more disadvantaged.. ' rather than the statement 'less disadvantaged'. If I have misunderstood then the text should be simplified. (ii) The methods section is thorough, and for the most part clear. However, the amount of information required to outline both dependent and independent variables at the various data collection points might benefit from some kind of tabular representation - for example as a set of extra rows in supplemental table 2. This is not to detract from a well-structured exposition. (iii) The authors should ensure that the 'key' legends associated with the various tables etc are aligned - some aren't. (iv) The table/figure titles could be re-presented to make the purpose of each table more immediately clear.

REVIEWER	Nick Spencer, Emeritus Professor of Child Health, School of Health and Social Studies, University of Warwick, Coventry CV4 7AL My major research interest is the social determinants of health in childhood and I have published in this area. I have published on intergenerational transmission of health inequalities using data from

	the NCDS. Other than these research interests, I have no competing interests.
REVIEW RETURNED	25-Nov-2012

GENERAL COMMENTS	This paper makes a valuable contribution to the growing literature on the impact of childhood adversity on mental health and well-being in adult life. The adverse effect of childhood adversity on a range of health-related outcomes in adulthood is now well-established; this paper's particular contribution is to explore the possible role of childhood adversity in explaining the elevated risk of morbidity among second-generation Irish immigrants to Britain. Further, using the rich, prospectively collected data in the NCDS, the investigators were able to explore the impact of different elements of childhood and earlier adult adversity on later mental health and well-being. Their finding that material adversity in childhood but not in adulthood attenuated the association of second-generation Irish origin with elevated risk of mental health problems at age 44/45 is important not simply because it further confirms the important effect of childhood adversity across the life course but also because it challenges common assumptions that the inequalities experienced by those of Irish origin are due to some ill-defined cultural characteristics. The methodology of the study is robust and fully explained. The investigators deal appropriately with mediation only identifying mediators that are consistent with established criteria. Missing data are dealt with by imputation in an appropriate manner. The paper lists the attrition rates across all the waves of data collection but no information is given on the differential attrition by social group in childhood. Although unlikely, the theoretical possibility exists that the findings could result from a higher attrition rate among non-Irish low social groups in childhood compared with Irish low social groups. It should be possible to the investigators to comment on differential social attrition between age 7 and 44/45 in Irish and non-Irish groups. Overall, this is a well-written and carefully argued paper with a robust methodology; however, I have a few suggestions that may enhance the quality of the paper: 1. Briefly present data on differential social attrition by Irish and non-Irish groups (as discussed above) 2. Acknowledge and reference the established literature on the impact of childhood material adversity across the life course (much of this work has been based on the NCDS – Chris Power's extensive publications). This literature strengthens the investigators' central argument 3. The NCDS data do not allow the investigators to measure the effect of the material circumstances in their Irish childhoods of the parents of the second generation migrants studied in this paper. I think it would be a valuable addition to the discussion in the paper to briefly consider how migrants from poor countries (such as Ireland in the immediate post-war years), or poor areas of countries (such as the west of Ireland), are likely to have experienced high levels of material adversity in their childhoods, the effects of which can be transmitted between generations through birth weight and other mechanisms. This intergenerational transmission is likely to have relevance to the health of second-generation migrants from other poor countries such as Pakistan and Bangladesh.

VERSION 1 – AUTHOR RESPONSE

Reviewer 1
(i) Are the patients representative of actual patients the evidence might affect? - I say yes in the sense that the data used in analysis is derived from a representative sample of the population. and therefore individuals included are representative of individuals the evidence might affect.
RESPONSE
The cohort included approximately 17,000 babies born in a single week in 1958 in England, Scotland and Wales. 6% of the cohort was of second generation Irish descent. Therefore the birth cohort sample may be taken to be nationally representative of people born in these three countries at this time. We have discussed generalisability of the cohort on page 16.

(ii) The supplemental documents seem to be properly placed, and don't raise any particular issues with the overall study.

(i) the first of the key messages - my reading of the text suggests that its second sentence should read '.. were no longer more disadvantaged.. ' rather than the statement 'less disadvantaged'. If I have misunderstood then the text should be simplified.
RESPONSE
We have now amended this sentence (pg.4)

(ii) The methods section is thorough, and for the most part clear. However, the amount of information required to outline both dependent and independent variables at the various data collection points might benefit from some kind of tabular representation - for example as a set of extra rows in supplemental table 2. This is not to detract from a well-structured exposition.
RESPONSE
We have now included a figure as part of the online repository material which indicates time points when information relating to each of the variables was collected.

(iii) The authors should ensure that the 'key' legends associated with the various tables etc are aligned - some aren't.
RESPONSE
We have clarified the table legends by adding borders to each line of text.

(iv) The table/figure titles could be re-presented to make the purpose of each table more immediately clear.

RESPONSE
This has now been done.

Reviewer 2
This paper makes a valuable contribution to the growing literature on the impact of childhood adversity on mental health and well-being in adult life. The adverse effect of childhood adversity on a range of health-related outcomes in adulthood is now well-established; this paper's particular contribution is to explore the possible role of childhood adversity in explaining the elevated risk of morbidity among second-generation Irish immigrants to Britain. Further, using the rich, prospectively collected data in the NCDS, the investigators were able to explore the impact of different elements of childhood and earlier adult adversity on later mental health and well-being. Their finding that material adversity in childhood but not in adulthood attenuated the association of second-generation Irish origin with elevated risk of mental health problems at age 44/45 is important not simply because it further confirms the important effect of childhood adversity across the life course but also because it

challenges common assumptions that the inequalities experienced by those of Irish origin are due to some ill-defined cultural characteristics.
The methodology of the study is robust and fully explained. The investigators deal appropriately with mediation only identifying mediators that are consistent with established criteria. Missing data are dealt with by imputation in an appropriate manner. The paper lists the attrition rates across all the waves of data collection but no information is given on the differential attrition by social group in childhood. Although unlikely, the theoretical possibility exists that the findings could result from a higher attrition rate among non-Irish low social groups in childhood compared with Irish low social groups. It should be possible to the investigators to comment on differential social attrition between age 7 and 44/45 in Irish and non-Irish groups.

Overall, this is a well-written and carefully argued paper with a robust methodology; however, I have a few suggestions that may enhance the quality of the paper:
1. Briefly present data on differential social attrition by Irish and non-Irish groups (as discussed above)
2. Acknowledge and reference the established literature on the impact of childhood material adversity across the life course (much of this work has been based on the NCDS – Chris Power's extensive publications). This literature strengthens the investigators' central argument
3. The NCDS data do not allow the investigators to measure the effect of the material circumstances in their Irish childhoods of the parents of the second generation migrants studied in this paper. I think it would be a valuable addition to the discussion in the paper to briefly consider how migrants from poor countries (such as Ireland in the immediate post-war years), or poor areas of countries (such as the west of Ireland), are likely to have experienced high levels of material adversity in their childhoods, the effects of which can be transmitted between generations through birth weight and other mechanisms. This intergenerational transmission is likely to have relevance to the health of second-generation migrants from other poor countries such as Pakistan and Bangladesh.

RESPONSES
1. We have now added information on attrition by social class and ethnicity to the manuscript (see page 13, first paragraph under 'Results' heading). The additional analyses confirm that the Irish cohort members had not experienced differential attrition by social class, compared to the rest of the cohort.
2. We have now added text into the 'Discussion' section (pgs 15-16)
3. We have added information on this in the 'Discussion' section (pgs 18-19)