Reviewer's report

Title: Does the local food environment around schools affect diet? Cross-sectional and longitudinal associations in adolescents attending secondary schools in East London

Version: 2 Date: 12 April 2012

Reviewer: Lukar Thornton

Reviewer's report:

This study examines two time points to assess changes in food environments around schools and how these changes have impacted on the diet of students. Studies exploring multiple time points in food environment research are rare however a number of aspects related to the manuscript in its present form could be improved.

Major compulsory revisions:

BACKGROUND:
At present I feel the background is a little disjointed and does not do justice to the important aims and contributions of this paper. For instance, a more focussed background would provide a stronger rationale for the importance of looking at food environments around schools in disadvantaged areas (currently the disadvantage and schools sections do not link well). The 1st paragraph is strongly deprivation focussed and it is not until paragraph 3 that a focus on schools and children appears. Additionally, I don’t believe that paragraph 3 currently does justice to existing research looking at food environments around schools, the diet of children and adolescents and a rationale for why these are important to consider. Further, whilst the authors note longitudinal food environment research is rare they have not taken the opportunity to advocate why such studies are important which therefore means they have currently undersold the key contribution of their study.

METHODS
I would like some further details on the proximity measures. At present they are treated as continuous variables with an upper limit of 400m and 800m. It seems odd to set an upper limit for a proximity measure and I am curious how the authors treated the instances when the closest store was beyond 400m (assuming this did occur however not enough detail is provided in Table 5 to assess this – more is required here (e.g. IQR, range). Perhaps a more informative approach here (depending on the distribution of the data) would be to use a binary approach to indicate whether the closest store was within or beyond 400m.

RESULTS:
The current structure of the results (broken up by cross-sectional/longitudinal) and order of the tables makes it difficult to read relative to the papers aims (e.g. Table 5 answers aim 1 whilst tables 3 and 4 answer aim 2). I would suggest restructuring so that it is in the same order as the papers aims.

Minor essential reviews:

Abstract - Methods - The final sentence makes no mention of count data.

Background: Page 4, para 1, line 3 – the text is unclear “quality of food (and by extension diet)” – in this instance is quality referring to the healthiness and not another quality indicator e.g. freshness?

Background – page 4, para 2, line 4-6: I am not sure you can say that studies have used diet surveys are an alternative to in-store surveys.

Background – page 5, line 3: This may be context specific, but if ~40% are access purchasing school lunches or accessing free school lunches, that I would assume the majority of the remainder are bringing food from home for lunch rather than buying food from elsewhere – further clarification of the usual practice in the UK may be required here.

Background – page 5, para 2, line 2 – causal links to what?

Methods: subheadings throughout this section would make the methods easier to read.

Methods – page 7 – when mentioning postal codes it would be worthwhile giving the readers an indication of the spatial size of these – in other context such as Australia a postal code contains several thousand households so the fact these are small spatial units in the UK needs to be highlighted.

Methods – page 9 – I am curious as to why FSM eligibility was treated as a confounder. Did the authors look at this as an interaction term as they way those who are and are not eligible for free lunches may interact with food stores quite differently (due to financial constraints).

Results – is the first summary paragraph at the beginning of the results necessary?

Results: - the first 2 sentences after the sub-heading ‘cross-sectional” would be better placed in the methods.

Discussion – first sentence – include “around schools” i.e. “how the retail food environment AROUND SCHOOLS…”

Discussion – para 1- the information on the Marmot review is also presented later in the discussion. I would suggest removing from the 1st paragraph and instead note the key findings from the study.

Discussion – para 2 - treat the result with caution – while significant it appears
too small to meaningfully state that they differ from results that found no relationship. Furthermore, the two refs cited appear to have explored residential environments which don’t make them comparable to your current study.

Discussion – para 2 – final sentence – “…is also highly deprived” – discuss why this is important.

Discussion – para 3 - final sentence – more could be written here noting the cross-sectional nature of prior studies, which studies have only focussed on describing the environment around schools, and which (if any) have linked the environment to diet and how/why findings contrast or are similar.

Discussion – page 13 – wording? – “food environments ADJUSTED?? over the study period”

Discussion – page 13 – para 2 – the authors acknowledge the availability of unhealthy items in grocery stores. We have recently quantified this in a recent BMC Public Health article (BMC Public Health 2012, 12:194).

Discussion – page 14 lines 4-7 – remove the sentence beginning “perhaps this minimal…” as I am not sure it is plausible that such a minimal distance change would have led to difference in diet.

Discussion – the authors should take the opportunity to reiterate the strengths of the study – particularly the longitudinal aspect

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 interest