Reviewer's report

Title: Temporal trends in the frequency of twins and higher-order multiple births in Canada and the United States

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Reviewer: Leanne Bricker

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This paper reports trends in twin and higher order livebirth rates in the USA and Canada (excluding Ontario) over a 19 year period (1991-2009). It clearly sets out in the introduction why this is important (perinatal and long term risks of multiple pregnancy) and what might affect the trends (increasing access to ART and changes in ART practices based on new guidance).

It is well written and easy to understand.

I am unable to comment on statistical methodology as this is not my area of expertise but it seems appropriate to the untrained eye.

A few issues which I think would enhance its value as a paper

1. Introduction paragraph 3 mentions that new guidance for ART in terms of embryo transfer number. It would be useful if this information was enriched by providing years guidance introduced which would impact on clinical practice. For example the publication date for the USA guidance (ref 27) is 2009 – therefore it is not clear if this guidance would have embedded and had any impact at all as the data is for 1991-2009. (essential revision)

2. The Ontario data is mentioned in some detail in discussion (and it is well explained why not included in overall Canadian data) but I think as it is data presented it should be in results section and in methodology it can be explained why this data is given separately. (essential revision)

3. In discussion it would be interesting if authors tackled the issue / hot potato (if you like) relating to guidance vs legislation in terms of ART practices. My personal view is that if numbers of embryos transferred were legislated (with caveats of course) that might have higher impact on absolute numbers of multiple births particularly higher orders, rather than guidance. This would be particularly effective in the private sector as my impression is that often the clinicians are pressurised to transfer higher numbers by the fee paying client. (discretionary revision)

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: No to all