Reviewer's report

Title: Improved coverage and timing of childhood vaccinations in two post-Soviet countries, Armenia and Kyrgyzstan

Version: 2 Date: 7 April 2015

Reviewer: Jan Hontelez

Reviewer's report:

Major Compulsory revisions

None

Minor essential revisions

Authors mention that DHS are independent and hence are more reliable than country reports. I agree with this statement. Nevertheless, if country reports are available, it would be interesting to make a comparison in the discussion to support this claim.

In the methods, it is a little hard to follow what the authors exactly define up-to-date vaccination. It would be useful to have a structured overview of the recommended age for each dose and vaccine (maybe in a table?).

Almost all the information on the vaccinations was obtained through medical charts, which makes the data much more reliable. However, there is some variation. Especially in Kyrgyzstan. Did the authors consider to perform a sensitivity analysis with only the data based on vaccination cards?

The trends in vaccination coverage presented in the second and third paragraph of the results should be tested for significance.

The authors should include the year of survey in their logistic regression models. This will serve two purposes: It corrects the observed trends for potential confounders and it corrects the factors associated for potential changes over time.

I found that the up-to-date coverage for especially DTP 2 and 3 were still quite low in both countries. Authors should discuss a little more in the discussion what this means for the risk of disease outbreaks, and potentially compare these figures to other countries (preferably from the region).

Line 225: the statement “This has primarily been due to economic reasons” needs a reference

Line 239: change “two to three” to “two or three”

Level of interest: An article of importance in its field
Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
I have no competing interests to declare