Reviewer's report

Title: Evaluation of coverage and quality of service delivery during national immunization days: a LQAS study in a district of Pakistan's Punjab province

Version: 1 Date: 8 September 2009

Reviewer: Kathryn Alberti

Reviewer's report:

The authors present an interesting evaluation of one round of the polio National Immunization Days (NIDs) in a district of Pakistan using Lot Quality Assurance Sampling (LQAS). The authors present information both on the results of the vaccine coverage and the quality of service delivery. The use of LQAS for this evaluation was appropriate, but may not have been applied correctly. Unfortunately, the authors do not provide sufficient information in order to evaluate the methodology. As a result, in order to continue with the review process, the authors should respond to the following list of queries and incorporate them into the methods section of the manuscript.

Major compulsory revisions

1. How were the villages included randomly selected? More details are required here.
2. How was the sample size calculated – both for the vaccination coverage and for the quality aspects? Again more details are required here. It may be correct, but I am unable to judge. For example, what was the n required per lot? A more specific description of the sections of Sample LQ used may help.
3. Please define the upper threshold for the sample size calculation as was done for the lower threshold.
4. How was the d > 0 calculated? Again more details please.
5. Was the sample size applied to the households or to the individuals? The description is unclear. As described it seems that coverage was evaluated for individuals, but d for households.
6. Can you please explain how LQAS was applied for the qualitative aspects and how the sample size and rejection criteria were applied?

Minor essential revisions

1. Dates of the study, particularly in relation to the dates of the NID
2. What were the approximate populations of the catchment areas included in the survey
3. Confidence intervals are missing for results presented as proportions
4. Please give more precise details for the names of the ethical review board and
the Department of Health who gave authorisation (of the state? Of the district?)

5. Which programme was used for data entry?

6. Please be more consistent on the use of decimals. For the number of children per household three figures after the decimal are presented, for quality characteristics two figures are presented after the decimal and for percentages, none.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**Declaration of competing interests:**

I declare that I have no competing interests