Reviewer's report

Title: Vitamin A supplementation in Tanzania: The impact of a change in programmatic delivery strategy on coverage

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Reviewer: Rolf Klemm

Reviewer's report:

General
1. Is the question posed by the authors new and well defined?

1.1. The question posed by the authors (i.e., the effect on VA supplementation coverage as a result of shifting from a therapeutic to a universal targeting scheme) is not new within the scientific or programmatic literature. However, as far as this reviewer is aware, this is the first time such a question is being addressed within the context of Tanzania.

2. Are the methods appropriate and well described, and are sufficient details provided to replicate the work?

2.1. The description of the construction of the relative index of socio-economic status is insufficient to replicate. A more detailed description and definition of specific variables used to construct the index would be helpful. (DR)

2.2. The authors are correct in using statistical methods that account for the cluster-sampling design of the survey to obtain correct standard errors and confidence intervals around their parameter estimates. However, it would be helpful for less statistically sophisticated readers to provide a more thorough explanation for using these methods. In my opinion, the current statement which reads, “The analysis took into account the clustered nature of data,” while correct, does not sufficiently explain how or why the Stata commands adjust for the cluster-sample method employed in the surveys. (DR)

2.3. From Table 2 it appears that data from Morogoro Rural was included in the 1999 coverage estimate even though the methods section states that Morogoro Rural “participated in the 1999 but not 2000 measles campaign which also included pilot vitamin A supplementation.” If the intent of the paper is to compare coverage before and after EPI+, what is the rationale for including data from Morogoro Rural which had already piloted the integration of VA supplementation with measles campaign in 1999? (MER)

2.4. Also, based on Table 2, Morogoro Rural achieved only a 15.2% coverage which vastly differs from the estimated 94% coverage reported for pilot “EPI+” districts in 1999 based on Mugyabuso’s paper presented at the Annual EPI evaluation meeting in 2002 (see page 2, line 4 of the manuscript). How do the authors account for such a difference? (MER)

2.5. Comparing vitamin A coverage between pre-EPI+ (1999) and post-EPI+ (2001) is a bit misleading due to the differences in defined target groups for supplementation during these two periods. Based on this reviewer’s understanding, the target group for VA supplementation in 1999 was limited to children with high risk conditions and/or signs of xerophthalmia, and not all children 1-2 years of age. Thus, the denominator for coverage of the routine delivery system should be 1-2 year old children who met the definition for “therapeutic” supplementation, and not all children 1-2 years of age. In 2001-2002 it appears that both the delivery system (from routine to EPI+) and the target group definition (from therapeutic targets to all children 1-2 years of age) changed. If the intent of the analysis is to report on the impact of a change in programmatic delivery strategy for routine delivery vs. EPI+, in this reviewer’s opinion the appropriate comparison would be to assess VA coverage for the same target groups (i.e. based on the target group definition used in 1999); otherwise the comparisons of coverage seem invalid. Alternatively, if the intent of the analysis is to reveal the extent of VA coverage that can be achieved among 1-2 year olds using an EPI+ strategy, then the authors should simply report the achieved coverage without comparing to the therapeutic strategy. (MCR)

2.6. The 76% vitamin A supplementation coverage rate for the 4 districts that have received extensive support for facility-based IMCI report coverage rates is substantially below the national coverage rate of 85% reported by the HKI survey in 2002. Do health service statistics for these 4 districts usually lag behind national rates? If not, what may account for the lower vitamin A coverage rate in these 4 districts? (DR)

2.7. The methods should include a statement regarding ethical clearance of the survey protocol and the process for obtaining consent (MER).

3. Are the data sound and well controlled?

3.1. Since coverage was defined as the proportion of children 1-2 years of age who reportedly received a
vitamin A supplement six months prior to the survey date, the authors should describe how the six-month period was established with respondents. Are months and dates easily recalled in this population, or did respondents use local events or season calendars to establish the 6-month VA receipt eligibility period? What procedures were used to verify VA supplement receipt recall (e.g. corroboration with health personnel regarding the actual timing of the EPI+ campaigns). (MER)

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
4.1. See recommended reporting and data deposition comments in item 3.

5. Are the discussion and conclusions well balanced and adequately supported by the data?
5.1. Much of the discussion section focuses on the need for reliable and timely health information systems and recommendations for the use of the MCH Road to Health card for recording VA supplementation. The discussion also mentions the limitations of the use of tally and summary sheets for reporting VA supplementation coverage, however, the manuscript provides no data on the appropriateness of denominators or numerators used in the tally system. If tally sheet data is available from the surveyed communities, it would be useful for the authors to present these data to support their discussion points. (MER)

6. Do the title and abstract accurately convey what has been found?
6.1. The title conveys well the findings of the study.
6.2. The methods section of the abstract should mention that both delivery strategies and target group definitions changed between 1999 and 2001. (MER)

7. Is the writing acceptable?
7.1. Yes.

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:
I declare that I have no competing interests.