Author’s response to reviews

Title: Trends in immunization completion disparities in the context of health reforms: The Tanzania case study

Authors:

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Version: 4 Date: 28 May 2010

Author’s response to reviews: see over
Dr. Innocent Semali,
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27th May 2010.

To:
Dr. Adrian Aldcroft, BA(Hons)
Assistant Scientific Editor,
BioMed Central.
Floor 6, 236 Gray’s Inn Road
London, WC1X 8HL

Dear Sir,

RESPONSE TO COMMENTS FROM ASSOCIATE EDITOR:

RE: MS: 2053569876311054
Research article:
Trends in completion of immunization in the context of health reforms: The Tanzania case study

Author: Innocent A SEMALI
BMC Health Services Research

Dear Sir,
Thank you for the responses from the two reviewers. I have addressed the reviewer’s comments sequentially starting with reviewer one as follows:

COMMENT FROM REVIEWER ONE.

a) Weakest part of the paper:
The statement "A simple way to address this is to recognize this problem up front and state that the evidence analyzed in the results section supports the conclusion of other studies" has been added please see page 4.

b) The health care reforms could be placed in the larger context of recession, adjustment and privatization that started in the 1980s

A paragraph has been added describing the historical contexts see second paragraph.

c) Given these contextual changes, the authors could consider using also the 1992 round of DHS which is closer to the beginning of the decentralization and adjustment policies.

1990 data sets were analyzed which captured situation in the early periods. Please see each table in the text all has results from 1990 analysis.

d) First, the authors who originally introduced the wealth index should be mentioned (Filmier and Pritchett, and Watkins et al.).
e) Second, the authors should make it clear if they (re)calculated the wealth index or if they used the one reported in the DHS documents and available online with STAT

*Statement is made in the paragraph on wealth index*

f) Thirdly, the paragraph which mentions income and wealth differentials seems to indicate income is better than wealth to measure disparities.

Changes have been made in sub-section below on wealth index and quintiles in the of the manuscript:

*Wealth index and quintile*

Growing disparities in health outcomes are mainly explained by the continuing social, economic and political stratification of the population and the resulting inequalities[14]. In order to make progress towards equity several parameters have been proposed to measure health disparities and includes rate ratio, rate difference, low to high ratio between the strata. This study analysed immunization disparities between well-being strata stratified as wealth quintiles. Use of wealth quintiles to measure inequity was first introduced by Filmer and Pritchett[15-17], who used easily verifiable household data on durable asset (e.g. furniture, bicycle etc.) ownership, housing quality and infrastructure to measure wealth. Such parameter as a measure of wealth stratification is comparatively more permanent, valid and repeatable and its relationship with health outcomes has been consistently established in different set-ups[18, 19]

g) Fourthly, it should be made clearer in the text that the discussion is about relative poverty (e.g. “least poor” is the correct way to describe the category). Just a sentence stating that income poverty was estimated at almost 40% in 2000 and that a basic needs approach to child poverty results in an estimate of over 80% of children in material poverty would suffice (Minujin and Delamonic 209 and forthcoming). In this context that the decline in immunization rates occurred in the two lowest quintiles, not just the lowest one, is interesting and could be highlighted further (see table 3).

*A statements are made to that effect starting with the first paragraph .*

h) The authors should also revise some of the language and rhetoric. For example, they are analyzing only one determinant of U5MR (both in the abstract at the end of the first paragraph, the sentence could read “within a context of declining U5MR it is important to analyze the evolution of immunization”). Similarly, the HIV pandemic as a major element preventing the achievement of the U5MR goal is not mentioned

The following paragraph has been added:

*Immunization stagnation occurs in the contexts of high burden of HIV/AIDS and associated impact at household and community levels. Both low immunization coverage and HIV/AIDS epidemic contributes to the under five mortality observed. Thus there is a need to analyze the evolution of immunization within this context of reversing under five mortality declines*
Finally, the logistics analysis is very interesting. Thus, it would be useful to show what the model used for the calculation looks like. Also, it should be acknowledged it is based on available data and not a theoretical model.

Descriptive statistics included calculation of proportions of those who received each immunization antigen and those who had completed the immunization schedule. Using 1991 as baseline changes in proportions of children aged one year completing their immunization schedule for 1996 and 2004/5 was calculated. Outcome variable (completion of immunization) was coded as binary variable (completion 1 and non-completion 0). Using STATA 9.0 software’s Tabodds, or command enable studying the effect of multiple levels of wealth as exposure and also the dose response relationship by testing for homogeneity and trend. Tabodds command calculated crude and adjusted odds ratio using lowest level as reference. The analysis yielded Crude Odds Ratio (OR) and adjusted OR (adjusted for other independent variables) with 95% Confidence Intervals (CI) for each independent variable controlling for other independent variables. In addition, score tests for trend and homogeneity were computed and statistical significance was set at p<0.05.

j) Suggested references:

Following references were included


COMMENTS FROM REVIEWER TWO

This section needs to be properly organized for clarity and to stimulate readers' interest in the article. A supplementary file containing some essential editorial revisions is attached for the author's benefit. The references have to be reorganized in the light of these revisions.

Just realized that the supplementary file referred to was not attached.

Results: It is surprising that the author failed to highlight the role of education as a consistent independent predictor after multivariable regression analysis. This important finding should be addressed and also discussed in the interpretation of the results within the context of the study population.

Discussion of Education have been included as para below:
Among households whose head had low education completion of immunization was significantly low. People with low education have limited access to information because they can't read or they can't comprehend a health message. In addition given the low understanding they would be more likely to have low incomes and hence unable to meet some costs related to get a child immunized. Such population would benefit from vertical program strategies like outreach immunization services which are resource and human capital intensive. However, several studies done have associated non-completion of immunization with low education of the mothers or guardian[24-28]. Surprisingly in this analysis low education of the head of the household was also associated with less likelihood of completing immunization which could reflect social practices in such household affecting utilization of health care.

Discussion: The limitations of this retrospective study should be highlighted in this section. The discussion section should end with study's main conclusions.

Limitation to this study was the limited flexibility of the data as no data on most vulnerable populations. Also given household diversity there is a need of obtaining data from different data sources past and current to make valid comparisons.

4. General: The entire manuscript should be carefully edited for grammar as well as consistent usage of either British or American spellings.

Edited using UK English
Minor essential revisions
The use of “we” in the text is probably inappropriate as there is only one attempt has been made to address it.

Statement on author's contribution has been revised.

The manuscript is re-submitted with track changes on in order to show the changes done. I hope it will facilitate the communication.

With kind regards

Yours sincerely,

Dr. Innocent Semali