Author's response to reviews

Title: Compliance with Referrals for Non-acute Child Health Conditions: Evidence from the Longitudinal ASENZE Study in KwaZulu Natal, South Africa

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Version: 5
Date: 11 November 2013

Author's response to reviews: see over
We are pleased to re-submit the revised manuscript entitled “Compliance with Referrals for Child Health Services: Evidence from the Longitudinal ASENZE Study in KwaZulu Natal, South Africa” for consideration for publication in BMC Health Services Research. We have included a point by point response to the comments posed by each reviewer on the following pages.

In this paper, we report the relationship between compliance with referrals to child health services for sub-acute, chronic conditions and socio-demographic factors within the ASENZE study, a longitudinal study conducted in KwaZulu Natal, South Africa.

Within sub-Saharan Africa, there has been a notable increase in the burden of chronic conditions among pediatric populations. An effective referral system is an integral component to ensuring improved health outcomes for these conditions. While many studies have evaluated factors associated with referral compliance for acute, life threatening conditions affecting young children in sub-Saharan Africa, no studies, to our knowledge, have evaluated referral compliance for sub-acute chronic conditions in this population. This is of great importance, since management of chronic conditions is heavily reliant on well-functioning referral systems that allow a child to move from screening to treatment with ease, thereby resulting in improved quality of care, decreased healthcare expenditures and most importantly, better health outcomes. In this study, referral compliance was high for HIV infection and anemia, but lower for vision problems, hearing or ear problems, anemia and developmental delay. After controlling for significant socio-demographic factors, referral compliance increased with higher household educational attainment and stable caregiving.

The BMC Health Services Research audience will benefit greatly from these findings and may be able to integrate this information to support further research investigating other potential determinants of compliance with child health services, such as caregiver attitudes about the health system and infrastructure of the health system. This study may also highlight possible at-risk groups for poor compliance with referrals in disadvantaged African communities, although further research is needed to explore these relationships.

The contents of this research are the sole responsibility of the authors and do not represent the official views of the funding agency. This research study was approved by the Columbia University Medical Center Institutional Review Board and the Biomedical Research Ethics Committee of University of KwaZulu-Natal, Durban, South Africa. Each of the authors has contributed to development of the concept/design, data analysis, interpretation of data, drafting and/or revising this manuscript. Additionally, all authors have reviewed and approved the manuscript as submitted. The authors have no conflicts of interest or financial disclosures. This manuscript has not been published nor is being considered for publication elsewhere.

Thank you for your time and consideration. Please contact me by telephone (212-305-6227) or electronic mail (ouwemedimo@nshs.edu) if you have any questions.

Sincerely,

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Responses to reviewer comments

Reviewer 1 (Simba)
- Comment: The abstract will be informative if authors will outline the sampling method. The sampling method is now clearly outlined in methods section of the abstract.

- Comment: The explanation given in the response is not found in the manuscript. It is important to give the explanation because HIV infection does not warrant referral. The desired information is now found on page 9, lines 2-4.

- Comment: Caregivers knowledge is a basic and important variable that cannot be left out for further analysis. Doing analysis, as reported by authors, on the “relationships between socio-demographic factors with referral compliance using chi-square tests and multivariable logistic regression” does not make sense in the of important variables such as caregivers’ knowledge. My opinion is to leave out the factors (take out from the manuscript) and report them when a thorough analysis has been done that includes most of the important variable.

  The authors agree that this is a very important variable. All caregivers were made aware of the findings and thoroughly educated on the condition when given the referral letter in Phase 1 of the study. Therefore, all of the parents were “knowledgeable” of the condition after receipt of referral. However, we do agree that their attitudes about the referral or the referral site were not known or analyzed in this manuscript. This data was collected in phase 2 and has been identified as necessary for future analyses to complement the presented data. Repeatedly in the literature, however, sociodemographic factors have been identified as a major determinant of compliance in acute conditions and the assessment of this group of factors is an important contribution to the general knowledge in this field. Although this paper is not a comprehensive assessment of ALL factors that potentially could contribute, the significance of this findings is an important addition to this field.

Reviewer 2 (Ogunlesi)
- No further revisions required

Reviewer 3 (Peterson):
- No further revisions required

- Comment: “it has not been clarified that the paper studies BOTH household to health center AND health center to hospital. These are different types of referral. And I must confess I have not yet understood the "compliance" for each type of referral of the two. Which table or text provides that”

  1) In the methodology section the authors attempted to clarify that the referrals were from a study center, and therefore is outside of the typical referral system. However, this system would be most similar to a household to any health facility (i.e. both household to health center OR household to hospital) because patients were not seen in any health facility prior to their presentation at the study center. We declared this as a limitation to the study in the last paragraph of the discussion. (i.e., “Referrals were initiated within a research study by research physician apart from the public health system and thus the observed patterns may not be a true reflection of patterns of referrals or referral compliance seen in the public health services sector.”)