



SDI Review Form 1.6

PART 1:

Journal Name:	International Journal of TROPICAL DISEASE & Health
Manuscript Number:	MS: 2012 IJTDH 2920
Title of the Manuscript:	Timeliness and out-of-sequence vaccination among young children in Burkina Faso – Analysis of Health and Demographic Surveillance System (HDSS) data

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- This form has total 9 parts. Kindly note that you should use all the parts of this review form.



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PART 2: Review Comments

	Reviewer's comment	Author's comment <i>(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
<u>Compulsory</u> REVISION comments	Statistical Analysis Is it possible that those excluded represent a population of children who may be significantly different in terms of demographic and vaccination characteristics? What efforts were made (for example revisiting households to get information on children whose parents/caregivers were not available to provide immunization cards? RESULTS Line 124-126 Is it possible that the finding stated here may be due to selection bias vis-à-vis if immunization cards of younger children were the most available? Children who most recently received immunizations are more likely to have cards than a four and a half year old whose last immunization was 3 years ago. Perhaps the authors should provide information on the mean age and age distribution of the children studied.	The reviewer is in principle right that this is a potential for bias, as we had already acknowledged in the discussion section of our paper (limitations). However, children excluded because of non-availability of their vaccination card are in the majority older than those included in the analysis: 56% (2,407/4,262) of excluded children against 28% (2,166/7,644) of those included in the analysis were over three years of age. Moreover, in our analysis 91% of the respondents were already the mothers of the study children. Thus, another attempt to find more vaccination cards would likely not have been effective. RESULTS The reviewer is in principle right that this carries a potential for selection bias. However, we consider such a bias as not very likely. The mean age of all study children was 2.5 years. There were 2,129 (18%) children between 0 and 11 months, 2,593 (22%) children between 12 and 23 months, 2,364 (20%) children between 24 and 35 months, 2,326 (19%) children between 36 and 47 months and 2,494 (21%) children between 48 and 59 months.



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	Lines 131 and 132 BCG and OPV0 should be received at the same time what is the explanation the difference in mean ages at receipt of these vaccines? DISCUSSION Line 234 Is the improvement in low income countries or in Burkina Faso? Lines 236-242 Are there any reasons for the observations contained in this paragraph? Authors should compare their findings with those of studies where early vaccinations were studied. Line 250-252 Is there a previous study from Burkina Faso on correct sequencing to which this study is being compared to? If there is please insert the reference and state by what proportion correct sequencing has improved and over what period of time.	Since both antigens are not combined, this difference might indicate weakness in supply management leading to differential shortage of antigens during vaccination sessions. DISCUSSION This sentence has now been changed to: "This study also supports the evidence for the timeliness of childhood vaccinations having significantly improved in recent years in developing countries [21]." We have now added to this paragraph: "These results contrast with findings from other studies [25, 27]. In general, early vaccinations can't be considered as fully contributing to valid coverage figures and may thus lead to an overestimation of population immunity [23, 24, 27]." We are not aware of existing studies on correct sequencing from Burkina Faso. We have furthermore modified the following sentence of this paragraph: "In West-Africa, a high frequency of out-of-sequence vaccine administration (i.e. 54% for BCG and 28% for measles) has recently been reported from Guinea Bissau and Ghana [29, 33]."
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	Authors should speculate on the possible reasons for out-of-sequencing vaccinations. How is immunization provided in the study area? Is it by outreach? If by outreach how frequent are the outreaches? One of the reasons for giving vaccines out –of-sequence (giving earlier vaccines along with latter vaccines) is as a strategy to reduce missed immunization opportunities. The authors should provide a balanced argument on these two view points 1) Avoiding missed opportunities which leads to out –of –sequence vaccinations 2) Avoiding out-of-sequence immunizations to reduce adverse events What is the relative magnitude of adverse events compared to possible morbidity and mortality that may result a) from delayed immunization if the schedule is followed strictly in children who present later than recommended ages for various immunizations b) in those who do not subsequently return for immunizations (missed opportunities)	Our paper is focused on vaccines given routinely in the study area. These are provided through two vaccination sessions per week in health centres and one outreach per month in villages located more than 5 km from the health centres. Out-of-sequence vaccinations are most likely explained by differential stock-outs of selected vaccines in the study area. The following sentence has now been added to the introduction and discussion sections respectively: "Routine vaccinations are provided two times per week in health centres and one time per month in villages located more than 5 km from the health centres." "Out-of-sequence vaccinations in the Nouna study area are most likely explained by differential stock-outs of selected vaccines."
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<u>Minor</u> REVISION comments	Introduction : well written. Few errors observed as follows- Line 34 “said” should replace “accused” Line 42 Start the with “Although high vaccination.....” Insert “,” after years and then delete” However “ at the beginning of the next sentence on line 43 so it reads as one sentence. Line 45 “using” should replace “through” Line 83 References 23,25 and 27 did consider too early administration of antigens and provided information on the proportion of their study population who received immunization too early. Thus the statement “most of them do not consider the possibility of a too early administration of antigens” is not strictly correct. Line 85 “received more than three days before” should replace “received up to four days before” Lines 147and 149 “Approximately” should replace “roughly” Line 250 “comparatively” should replace “in this regard it is reassuring” Line 251 delete”that” Line 375 should read “ Sadoh AE, Eregie CO”	INTRODUCTION All these minor revisions have now been done.
<u>Optional/General</u> comments		