Author's response to reviews

Title: Use of a health information exchange system in the emergency care of children

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Author's response to reviews:

Dear Dr. Patel,

Below are our responses to the latest review comments on our manuscript, “Use of a health information exchange system in the emergency care of children”, (MS: 7554258345315033). We thank you and the reviewers’ efforts and attention to our work.

Thank you,
Joshua R Vest

Reviewer 1.
R1.1. Improved from the original submission. Answered the questions, this is more of an exploratory article about HIE use. Not crazy about the use of the word "novel" in describing some of the uses of the HIE link. Would highly recommend the use of another word than "novel".

The choice of labels for the types of usage has been a challenge. Because we have previously published using the term novel, and because we have described the usage behavior, we believe we should retain that terminology. No change made.

Reviewer 3.
R3.1. I wonder if these authors can directly adjust their estimates to reflect their warning while interpreting the parameters. This can be done using either an approximation or fitting a marginal model directly. In the context of a simple random intercept model with a logit link, an approximation of the population-averaged coefficients as a function of subject-specific coefficients exists (see Fitzmaurice et al, page 363). I am not sure if this approximation can be derived for the model used in this paper. An easy fix is to fit the fully independence model (logistic regression model) ignoring the random effects terms and use the coefficient of this model for the interpretation. This approach is fine as the estimated population-averaged parameters are consistent, BUT
SHOULD NOT be used for inferences.

We thank the reviewer for providing more input on this issue. The reviewer recommends us to consider two new choices. One is to use an approximation of the population-averaged coefficients as a function of subject-specific coefficients. However, to our best knowledge there is no such approximation available for the data structure considered in our paper. The second suggestion is to fit a logistic regression model to our data and use the parameters for interpretation, but not for inference. The reason we cannot make inference is because we cannot get consistent estimates of the standard errors of the parameters. We see this approach as potential problematic, since we do not think any journal will or should publish a paper where parameter estimates are provided without accompanying standard error estimates. In the light of these arguments, we believe our current approach is still the best choice we should use. We add the following sentences in the Method section which further explains the difference between the marginal and conditional models.

In the special case with logit link and one random effect, Heagerty and Zeger (2000) showed that the marginal parameters were reduced by a factor that depends on the variance of the random effect. Nonetheless, the significance levels of the parameter estimates from these two types of models often stay the same.

R3.2 I also suggest they add some references to support their statement/warning.


We have added this reference and the following reference to our manuscript: