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Subject: Possible Non Independence Result From Same Household

Posted by [Harry18](#) on Fri, 08 May 2020 20:55:58 GMT

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Dear DHS Teams,

I currently write an article using DHS Dataset related to child vaccination in some countries. How to account for a possibility of non independence results when we using samples of two women in the same household?

Thank you

Harry

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Subject: Re: Possible Non Independence Result From Same Household

Posted by [Bridgette-DHS](#) on Wed, 20 May 2020 18:15:26 GMT

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Following is a response from DHS Research & Data Analysis Director, Tom Pullum:

There is probably some clustering or intra-class correlation between the children of two (or more) women living in the same household. There is definitely clustering of siblings, i.e. children of the same woman ("maternal clustering"). However, this is very difficult to take into account. If you look into a data file to see how many children are in the same household, or have the same mother, and are in the age range for the immunization questions, you will see that it is usually just 1 and relatively rarely more than 2. Methods to adjust for this type of dependency are only useful when there is more than 1 such child.

More important, I believe, is the fact that this adjustment would never alter the estimates of the levels of immunization. They would only affect the standard errors of the estimates. The adjustment made for clustering at the PSU level (v001) is very important and should always be included.

It's possible that in the future our statistical models will routinely include maternal and household clustering, in addition to PSU clustering, but at present most researchers ignore it.

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