Subject: Nigeria DHS 2018: Weighting for Multilevel Model
Posted by JBell on Sun, 25 Jul 2021 18:38:01 GMT
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Hello,

I am currently doing a project looking at factors associated with missed opportunities for vaccination in Nigeria using the 2018 data and have some questions about how to apply the weights to a multi-level model (I have found several similar questions, but none I can see which quite covers this scenario, so apologies if it has been asked before).

In my model I will have children (level 1) within LGAs (level 2, matched using the GPS data) within states (Level 3). This doesn't not correspond to how DHS surveys are sampled, so I'm wondering how weights should be applied in the case.

One solution (from what I have read) could be to include the individual level weights in Stata's 'svy:' command, and then include the LGAs and states as independent variables (although this may not work as it will introduce too many parameters?)

Any guidance would be much appreciated!

Thanks

Subject: Re: Nigeria DHS 2018: Weighting for Multilevel Model
Posted by Bridgette-DHS on Wed, 28 Jul 2021 15:46:28 GMT
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Following is a response from DHS Senior Sampling Specialist, Mahmoud Elkasabi:

We are not very familiar with this situation either, but what you describe seems like a good strategy, except that we suggest two levels rather than three (children as level 1 and LGAs as level 2) and including fixed effects for states. Other users may have other suggestions.

Subject: Re: Nigeria DHS 2018: Weighting for Multilevel Model
Posted by JBell on Wed, 28 Jul 2021 20:09:31 GMT
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Hi Mahmoud,

Thanks very much for your reply. I think in my case I will need to include three levels as I have predictor variables on three levels (individual, LGA and state); the effect of state is not interesting in itself, it's just that I have data on that level. I hope in that case that including the individual

weights in the 'svy' command and accounting for LGA and state in the model will work, but please let me know if you have other thoughts.

Thanks