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Subject: Bednet coverage estimation issues

Posted by [smugel](#) on Mon, 06 Nov 2023 17:35:04 GMT

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Hi all,

I am working with a number of DHS datasets (multi-country and multi-year) and am interested in estimating the prevalence of bednet ownership, or more precisely, the places where there is inadequate bednet ownership coverage. I am using the main DHS (not the MIS) because I am also working with other variables not covered in the MIS.

Two conceptual challenges I am running in to are: (1) In theory, some households may be in a malaria endemic country but not a malaria endemic part of that country, and therefore may not perceive a need for a bednet, which should not count against them (nor would I think it would be a priority for distribution campaigns), and (2) Some households may also not perceive a need for a bednet if they have other household modification as barriers to mosquito entry e.g. window screens or covered eaves etc. Neither are directly covered in DHS, so I was wondering how people approach these?

I've searched through the literature a bit and couldn't find much regarding this as a challenge people report on. For (1) I am thinking about using the DHS spatial covariates on malaria incidence during the same year to filter out places with no malaria incidence, but I cannot think of a way to adequately address issue (2). How do people typically think about these issues, if at all? These may just be inherent limitations of this analysis.

Thanks so much for your thoughts!

Stephen

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Subject: Re: Bednet coverage estimation issues

Posted by [Janet-DHS](#) on Mon, 20 Nov 2023 14:30:06 GMT

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Following is a response from DHS Lead Malaria Research Analyst, Cameron Taylor:

Hi Stephen,

Yes, as malaria is becoming more heterogeneous across a country measuring net coverage in a "one size fits all" way is changing. We are receiving more requests from countries to start sampling based on malaria needs for example:

- Programmatic Sampling- 2014-15 Uganda MIS, 2018-19 Uganda MIS
- Malaria Transmission- 2011 Angola MIS, 2015 Kenya MIS, 2020 Kenya MIS, 2013 Madagascar MIS, 2016 Madagascar MIS
- Subnational Sampling- 2020-2021 Senegal MIS

However, it is harder to do bespoke malaria sampling as part of a DHS survey since malaria is only a small portion of the overall survey objectives. For the issue of people needing a net, this

has been of increased focus of urban malaria. Where households typically have lower net ownership due to housing conditions but also have rising malaria prevalence. I would explore articles on urban malaria as well as articles that have analyzed DHS housing conditions data and associations with malaria <https://dhsprogram.com/pubs/pdf/AS61/AS61.pdf>

For the second part of your question, I would use the DHS spatial covariates and limit your analysis to malaria endemic areas. In this article I used the Malaria Atlas Project data (which is a DHS spatial covariate) and stratified them into four categories. You can read more in the methods section of the paper.

<https://www.ajtmh.org/view/journals/tpmd/104/4/article-p1375.xml>

Thanks  
Cameron

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