Subject: Household weighted prevalence estimates
Posted by smugel on Tue, 09 May 2023 18:42:52 GMT
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Hello everyone,

I am using a number of DHS datasets (HR level) from different countries to estimate the proportion of households using different cookstove fuel types (e.g. prevalence of biomass fuel use). I understand that if I were interested in pooled estimates I would want to either denormalize by scaling each weight to the country's population size (or number of households in this case), or use an equal-country weighting scheme, each with pros and cons. However, rather than pooled estimates, I would like country-specific prevalence estimates for a number of countries in sub-Saharan Africa. I have three questions with respect to using household weights in this case.

1. In reading the forums I came across a note which read to the effect of: weighted counts are not population estimates, but weighted means etc. are population estimates... This was somewhat confusing, so does that mean that a prevalence calculated from the weighted sub-group count numerator and the weighted sample count denominator is a valid representation of the national population prevalence, or not?

2. If I am stratifying by country to generate nationally representative prevalence estimates at the household level, should I use the DHS 'normalized' weights, a 'denormalized' weight scaled to the country population size, or an equal-country weighting scheme? My intuition says that for country-specific prevalence it should not matter because both numerator and denominator weighted counts will be scaled in the same way...

3. If I were to further stratify these prevalence estimates by (a) urban/rural areas, (b) admin-1 levels, and (c) urban/rural areas within admin-1 levels (the two subnational levels for which DHS are also representative), would I use the normalized, denormalized, or equal country weights? Would I need to calculate different weights/strata/PSU designs for each of these levels?

Thank you for consideration of these questions!