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Subject: Re: District-Level WaSH Indicators

Posted by [Janet-DHS](#) on Wed, 06 Mar 2024 21:18:02 GMT

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Following is a response from DHS staff member, Tom Pullum:

The setup for a bootstrap that matches the sample design would be complicated. It's easier to get the estimates with a model that includes svyset--which you are using. I will paste below the lines to do this. Just for an illustration, I use the Mozambique 2011 data, with subpopulation hv024=1 (Niassa). The outcome y is 1 if the source of drinking water is an unprotected well (hv201=32), which is the largest category. The model has no covariates. The lines show how to extract the proportion of households with y=1 in Niassa, as well as the lower and upper bounds of a 95% CI for that proportion. I show how to do this with logit or logistic models. You also get the standard error on the logit or odds scale but I would not recommend the se on the scale of a proportion (also not on the odds scale). CI yes, se no. Hope this helps.

\* Open HR file, cases are households

use "C:\Users\26216\ICF\Analysis - Shared Resources\Data\DHSdata\MZHR62FL.DTA" , clear

\* Specify outcome and subpopulation

gen y=0

replace y=1 if hv201==32

gen Niassa=0

replace Niassa=1 if hv024==1

\* Prepare svyset

svyset hv001 [pweight=hv005], strata(hv023) singleunit(centered)

\* Logit model

svy, subpop(Niassa): logit y

matrix T=r(table)

matrix list T

- \* Extract P, L, and U as saved results
- \* P, L, and U are the point estimate and the lower and upper bounds
- \* of a 95% confidence interval for the proportion of households in
- \* Niassa whose main source of drinking water is an unprotected well.

scalar b=T[1,1]

scalar P=exp(b)/(1+exp(b))

scalar b=T[5,1]

scalar L=exp(b)/(1+exp(b))

scalar b=T[6,1]

scalar U=exp(b)/(1+exp(b))

scalar list P L U

- \* Equivalent using logistic

svy, subpop(Niassa): logistic y

matrix T=r(table)

matrix list T

scalar odds=T[1,1]

scalar P=odds/(1+odds)

scalar odds=T[5,1]

scalar L=odds/(1+odds)

scalar odds=T[6,1]

scalar U=odds/(1+odds)

scalar list P L U

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