Subject: Probability of dying between exact age 15 and 50 (35q15)
Posted by paneves on Wed, 07 Aug 2024 18:25:51 GMT
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Dear DHS Forum team,

I want to calculate the indicator Probability of dying between exact age 15 and 50 (35q15) for both women and men in a set of countries. For the purpose of comparison between sexes, I need to calculate 95% CI for women and men and see if there's a difference over time in the probability of dying between the exact age of 15-50 years. However, the DHS Git-Hub page doesn't present ways to generate these intervals; moreover, STAT Compiler doesn't present confidence intervals for this indicator.
I wonder if it is possible to calculate 95% CI for this indicator, how to do it, and if it is also possible to disaggregate it by equity cuts (wealth, education, area of residence, etc.). Any help is welcome. Thank you so much!

Paulo

Subject: Re: Probability of dying between exact age 15 and 50 (35q15)
Posted by Bridgette-DHS on Fri, 09 Aug 2024 13:51:13 GMT
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Following is a response from Senior DHS staff member, Tom Pullum:

The DHS estimates of 35q15 in the adult and maternal mortality chapter of the final report, generic chapter 16, come from the sibling histories. Here is the GitHub program that calculates them: https://github.com/DHSProgram/DHS-Indicators-Stata/blob/mast er/Chap16_AM/AM_rates.do. You are right, the program (which I wrote) does not include confidence intervals.

35q15 is a compound rate, a complex function of the 7 age-specific rates 5m15, ..., 5m45 (after they have been converted to 5q15, ..., 5q45). There are two possible strategies for getting confidence intervals. The first is a jackknife or bootstrap or something similar. The other, which I prefer, is analytical, and is based on calculating the m's and their standard errors with a model and then using nlcom (in Stata) or some equivalent form of a Taylor Series or delta method to get the standard errors.

About a year ago I wrote a Stata program that includes the calculation of confidence intervals for the adult mortality rate for women or men (35m15 times 1000). It also calculates the pregnancy-related and maternal mortality rates. See a link to the program below.

This is not an "official" DHS program but it has many comments, and I hope it will work for you after you change the paths and put it into the Stata do-file editor. It is currently set up to run on just one survey at a time.

35m15 is not the same as 35q15, which you were asking about, but I expect that it has a narrower confidence interval, in terms of the ratio of the top end to the bottom end, because it is not a

compound rate. Hope this helps. I do not have the time to modify this program to include a confidence interval for 35q15.

File Attachments

1) DHS_adult_and_maternal_mortality_micro_do_29Aug2023.txt, downloaded 111 times

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Subject: Re: Probability of dying between exact age 15 and 50 (35q15)
Posted by paneves on Fri, 09 Aug 2024 16:32:19 GMT
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Thank you so much, Bridgette.

That is all very helpful. I will definitely take a look at what you shared to come up with a solution for that.
Thanks again for now.

Paulo

Subject: Re: Probability of dying between exact age 15 and 50 (35q15)
Posted by lvahedi on Fri, 06 Sep 2024 14:20:25 GMT
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Dear Tom,

I am also trying to compute the 95% confidence intervals for the probability of dying between exact age 15 and 50 (35q15) among men and women. I am trying to use the jackknife or bootstrap method but require additional technical guidance on how to do this. Working with the following STATA do files from the DHS github: (1) !AMmain (2) AM_rates and (3) AM_gfr, I applied the jackknife command after running !AMmain. However, this only uses the final/single estimated parameter for q_15_to_50 among men and women.

See this image:

Is there a way to incorporate the jackknife command within the user written programs within the AM_rates do file so that the confidence intervals are integrated as part of the command output dataset titled "Adult_Mortality"?

Thank you!

File Attachments
1) STATA output.png, downloaded 292 times

Subject: Re: Probability of dying between exact age 15 and 50 (35q15)
Posted by Bridgette-DHS on Tue, 10 Sep 2024 12:01:06 GMT
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Following is a response from Senior DHS staff member, Tom Pullum:

I'm sure it would be possible to do this, but it goes beyond what the DHS staff can do as part of our workplan or as part of supporting the users forum.