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Subject: Input data for HAZ score calculation India DHS VI vs VII

Posted by [Markush](#) on Mon, 28 Nov 2022 02:32:13 GMT

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Dear team,

I am currently trying to compare DHS VI vs DHS VII stunting stats and am trying to replicate the inputs used to calculate the z-scores, specifically age in days. For DHS VII I am able to do that and the age in days (gen age\_days=v008a - b18) corresponds to the age in months b19, however does not match with age in months given by hw1.

At the same time, in DHS VI, only hw1 is available and trying to derive age in days (code see below), I too find large deviations from the age in months data presented by hw1 (not driven by missing data points).

Code for India DHS 2015-16:

```
gen bdate = mdy(b1, hw16, b2) if hw16 <= 31
```

```
gen interviewdate = mdy(v006, v016, v007) if v016 <= 31
```

```
gen age_days=interviewdate- bdate if bdate!=. & interviewdate!=.
```

```
gen age_months=age_days/30.4375
```

A) Therefore my first question, how is hw1 calculated in both DHS VI and DHS VII?

And related to this:

B) What are the exact inputs DHS used in the two surveys to generate the WHO z-scores of stunting? I assume hw3 for height, b4 for sex, but what age input was used?

Thanks a lot in advance

Markus

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Subject: Re: Input data for HAZ score calculation India DHS VI vs VII

Posted by [Janet-DHS](#) on Wed, 30 Nov 2022 20:47:42 GMT

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Following is a response from DHS staff member Tom Pullum:

Age in days, b19, was not included in the KR and BR files before DHS-7. It is now included because day of birth is asked for all children, whereas it was previously asked only for children in the KR file (whether or not the survey included anthropometry).

Measurements of height and weight are included in the household survey, for all children, not just those who are in the KR file. Here are the names of the important dates in the PR file:

The child's birthdate (month, day, year): hc30, hc16, hc31;

Date of the household interview (month, day, year): hv006, hv016, hv007;

Date of the child's measurement (month, day, year): hc18, hc17, hc19.

The child's age in days on the day of interview is  $\text{mdy}(\text{hv006}, \text{hv016}, \text{hv007}) - \text{mdy}(\text{hc30}, \text{hc16}, \text{hc31})$ . However, the day of measurement is often the day after the day of interview, and occasionally later. The age in days on the day of measurement is  $\text{mdy}(\text{hc18}, \text{hc17}, \text{hc19}) - \text{mdy}(\text{hc30}, \text{hc16}, \text{hc31})$ .

The child's age in months on the day of the survey, hw1, is calculated as  $(\text{mdy}(\text{hv006}, \text{hv016}, \text{hv007}) - \text{mdy}(\text{hc30}, \text{hc16}, \text{hc31}))/30.4375$ , but it was previously calculated as v008-b3, where b3 is the cmc of the month of birth,  $\text{hc30} + 12 * (\text{hc31} - 1900)$ .

When day is missing, it is imputed as 16.

If you try to get the Z scores using the age in days on the day of measurement, you will probably do better but still will not get an exact match. When hc70-hc72 (the names of the Z scores in the PR file, hw70-hw72 in the KR file) are calculated during the construction of the standard recode files, I believe the height and/or weight measurements include an extra decimal place. What we see as height and weight in the PR file as hc3 and hc2 are not exactly the same as what was used to calculate the Z scores. I have never been able to get an exact match using the standard recode files. However, the differences are small, especially when aggregated with a mean, etc.

Hope I have not made any typos with the variable names above. Other forum users may want to add something. Also see the Guide to DHS Statistics (<https://www.dhsprogram.com/Data/Guide-to-DHS-Statistics/index.cfm>).