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Subject: Re: Child mortality

Posted by [Eman Dahab](#) on Mon, 17 Sep 2018 11:02:40 GMT

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Dear this is the stata code for your kind review

\* Open DHS dataset - births recode file

use v005 v008 b3 b5 b7 using "IABR71FL.DTA", clear

\* Create variables for time period limits - need to use variables as these change from case to case

gen t1 = .

gen t2 = .

\* Initialize local variable lists used later

local vlist

local vlist2

\* Loop through 5-year time periods

forvalues period = 0/4 {

\* Calculate upper limit of time period

replace t2 = v008 - 60\*`period'

\* Calculate lower limit of time period

replace t1 = t2 - 60

\* List age group lower limits

local agegroups 0 1 3 6 12 24 36 48 60

\* Turn these into tokens to use for the upper limits of the age groups

tokenize `agegroups'

\* Loop through the age groups

foreach age of numlist `agegroups' {

\* Ignore the 60+ age group - this was just to set the upper limit for the last age group - see a2

if (`age' < 60) {

\* Create local for lower limit of age group - use locals as these are constants

local a1 = `age'

\* Create local for upper limit of age group = the lower limit of the next age group

local a2 = `2'

\* Cohort A numerator

gen numA`age'\_\_`period' = ((`a1' <= b7 & b7 < `a2') & (t1 - `a2' <= b3 & b3 < t1 - `a1'))

\* Cohort B numerator

gen numB`age'\_\_`period' = ((`a1' <= b7 & b7 < `a2') & (t1 - `a1' <= b3 & b3 < t2 - `a2'))

\* Cohort C numerator

gen numC`age'\_\_`period' = ((`a1' <= b7 & b7 < `a2') & (t2 - `a2' <= b3 & b3 < t2 - `a1'))

\* Cohort A denominator

gen denA`age'\_\_`period' = ( (b5 == 1 | `a1' <= b7) & (t1 - `a2' <= b3 & b3 < t1 - `a1'))

\* Cohort B denominator

gen denB`age'\_\_`period' = ( (b5 == 1 | `a1' <= b7) & (t1 - `a1' <= b3 & b3 < t2 - `a2'))

\* Cohort C denominator

```
gen denC`age'__`period' = ( (b5 == 1 | `a1' <= b7) & (t2 - `a2' <= b3 & b3 < t2 - `a1'))
```

\* Count half for deaths for cohort C, except for the last period where all deaths are counted

```
local f = 0.5
```

```
if (`period' == 0) {
```

```
    local f = 1
```

```
}
```

\* Sum numerators from cohorts A, B and C for this case

```
gen num`age'__`period' = 0.5*numA`age'__`period' + numB`age'__`period' + numC`age'__`period'*`f'
```

\* Sum denominators from cohorts A, B and C for this case

```
gen den`age'__`period' = 0.5*denA`age'__`period' + denB`age'__`period' + denC`age'__`period'*0.5
```

\* Generate list of numerator and denominator variables for period and age for collapse

command below

```
local vlist `vlist' num`age'__`period' den`age'__`period'
```

\* Similarly generate list of numerator and denominator variables for period only for reshape

command below

```
if (`period' == 0) {
```

```
    local vlist2 `vlist2' num`age'__ den`age'__
```

```
}
```

```
}
```

\* Shift the token list to the next age group

```
mac shift
```

```
}
```

```
}
```

\* Sum all numerators and denominators - weighted sum

```
collapse (sum) `vlist' [pw=v005/1000000]
```

\* Add a variable to act as ID for the reshape

```
gen x = 0
```

\* Reshape long by age group

```
reshape long `vlist2', i(x) j(period)
```

\* Drop the underscore (\_) on the end of variable names

```
rename * _ *
```

\* Reshape now for periods

```
reshape long num den, i(period) j(a1)
```

\* Drop the x variable as we no longer need it

```
drop x
```

\* Generate the upper bounds of the age groups

```
gen a2 = a1[_n+1]
```

```
replace a2 = 60 if a1 == 48
```

\* Calculate the age group mortality probabilities

```
gen death = num / den
```

\* Calculate the age group survival probabilities

gen surv = 1 - death

\* Generate product of survival probabilities:

gen prodsurv = surv if a1 == 0

replace prodsurv = surv \* prodsurv[\_n-1] if a1 > 0

\* Generate product of survival probabilities for child mortality rate, starting at 12 months

gen prodsurv2 = surv if a1 == 12

replace prodsurv2 = surv \* prodsurv2[\_n-1] if a1 > 12

\* Neonatal mortality rate

gen nmr = 1000\*(1-prodsurv) if a2 == 1

\* Postneonatal mortality rate (calculated later)

gen pnmr = .

\* Infant mortality rate

gen imr = 1000\*(1-prodsurv) if a2 == 12

\* Child mortality rate

gen cmr = 1000\*(1-prodsurv2) if a2 == 60

\* Under-five mortality rate

gen u5mr = 1000\*(1-prodsurv) if a2 == 60

\* Capture just the rates

collapse (min) nmr pnmr imr cmr u5mr, by(period)

\* Postneonatal mortality rate = IMR - NMR

replace pnmr = imr - nmr