

2.4 Data sources of birth statistics, coverage and completeness

Workshop on Vital Statistics for North and Central Asian Countries

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Helge Brunborg
Statistics Norway

Purpose of workshop

- To develop and improve vital statistics reports
- Previous workshops
 - Bangkok (ESCAP) January and March 2017
 - Nairobi (ECA) October 2017
 - Casablanca (UNSD/WHO) March 2018
 - Tunis (UNSD/WHO) March 2018
 - Beirut (ESCWA) October 2018
 - Bangkok (ESCAP) January and March 2019
- Work on VS reports should start even if completeness is low
- Assignments:
 - Estimation of indicators, with given input numbers
 - Planning of vital statistics report, by filling in Annex I and II in *Guidelines*
 - Using sample microdata to make indicators, tables and graphs
 - Interpretation of vital statistics indicators, tables and graphs

Data sources

1. Civil registration
2. Censuses
3. Sample surveys
4. Demographic surveillance
5. Administrative data
6. Population register

Civil Registration of births

In principle the best source for vital statistics on births, but with several challenges:

- Low coverage
- Incomplete registration
- Late registration
- Underregistration of births (and deaths) of early infant deaths
- Registration errors
- Data flow
- Registration of vital events of non-citizens

Population Censuses

- Usually taken every 10 years
- Large undertaking, very complicated and expensive – and important
- Total population of a country is enumerated
- Can make statistics for small groups, including small geographical areas
- Question on birth histories -> births, infant and child deaths
- Can provide denominators (population size) for computing fertility indicators
- **But there are many challenges:**
 - Cannot provide annual data
 - Publication delay
 - Little room for detailed questions
 - Recall bias
 - Response bias
 - Infant deaths (and births) underreported

Sample surveys

- Collection of data for a group of persons that is representative of the population we want to study
- Examples:
 - DHS (Demographic and Health Survey)
 - MICS (Multiple Indicator Cluster Survey)
- Widely used to collect data on indicators of births and infant deaths, including the total fertility rate (TFR)
- Challenges:
 - Drawing a representative sample
 - Designing the questionnaire
 - Recall
 - Usually only national and not regional statistics (sample too small)
 - Usually taken at irregular intervals and not annually

Demographic surveillance

- Recording of all vital events in a specified area
- Challenges:
 - Small population, may not be representative or have stable rates
 - Study or health intervention effect

Administrative data relevant for births

Established for administrative purposes

- Civil registration
- Health Information Systems (HIS)
- Hospital discharge data
- Health records, including on vaccinations
- Health facility surveys
- School records

Population register

- A system for keeping data on individuals
- Continuous recording and updating data about each member of the resident population of a country, including at least:
 - Name
 - Sex
 - ID number
- OFTEN ALSO:
 - Address or place of usual residence
 - Place or country of birth
 - Marital status
 - Parents
 - Nationality
- Births
- Immigrations
- A population register may yield information on the size and characteristics of the population, for example by sex and age annually (or more often)

A register of identity cards/numbers is a population register *only* if:

- It is regularly updated with new births
- Records of dead persons are tagged
- Migrations are incorporated (unless migration is negligible)
 - New immigrants should be registered
 - The record of emigrants should be tagged
- Useful to include address of usual residence
- Internal moves in the country necessary if the register is going to be used for local area administration and statistics

Challenges of a population register

- Takes a lot of work and a long time to establish
 - Based on a census?
 - Based on ID cards?
 - Other methods?
- May be demanding to update
 - Primarily from CR records
- Migrations often not registered, both internal and external

Population size and distribution

- Required to produce indicators such as:
 - CBR, CDR, TFR, IMR, U5MR, MMR, Life expectancy ...
- Data sources for population size
 - Population census
 - Population projections
 - Sample surveys
 - Population register
 - United Nations Population Division on population prospects (last resort!)

Coverage and completeness of civil registration

- Coverage: Population in a geographical area that is covered by the civil registration system (%)
- Completeness: Actual number of registered events divided by the estimated number of vital events (%)
- Need an estimate of the actual number of events
- Tabulate completeness rates over time, region and group
- Tabulate coverage rates over time, region and group

Summary tables recommended by UN

ST-1 Live births, deaths, infant deaths, foetal deaths, marriages and divorces by place of usual residence

ST-2 Crude birth rate, crude death rate, infant mortality rate by sex, foetal mortality rate, crude marriage rate and crude divorce rate, by place of usual residence

ST-3 Time series of live births by place of usual residence of mother (past 10 years)

ST-4 Time series of deaths by place of usual residence of decedent (past 10 years)

ST-5 Time series of infant deaths by place of usual residence of mother (past 10 years)

ST-6 Time series of foetal deaths by place of usual residence of mother (past 10 years)

ST-7 Time series of marriages by place of usual residence of groom (past 10 years)

ST-8 Time series of divorces by place of usual residence of husband (past 10 years)

ST-9 Times series of vital events in the country (past 10 years)

Table: Time series of vital rates

Year	Crude Birth Rate	Crude Death Rate	Population size	Population growth
:				
2012				
2013				
2014				

Exercise

Discuss the data sources for birth statistics in your country

- Which sources are available?
- What is the quality of them?