



Expert group meeting on Methodology and lessons learned to evaluate the completeness and quality of vital statistics data from civil registration,
New York, 3-4 November 2016

Reporting of vital statistics from civil registration systems to the United Nations Statistics Division

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Content of presentation

- Provide a review of the availability of basic statistics on births and deaths, compiled from the records of civil registrations systems
- A global review and by region
 - Africa, Asia, America North, America South, Europe, Oceania, World
 - 1995 – 2015 reference period
 - Using the UN Demographic Yearbook database; data and information as of mid-October 2016
- Provide information derived from the collected metadata regarding the methods of completeness evaluation

Background

- UNSD collects annually official demographic and social statistics of all countries and areas
 - Annual questionnaires
 - Census questionnaires
- Data collected
 - Population census data, by several characteristics
 - Vital statistics
 - Population estimates
 - Migration data
- Dissemination
 - United Nations *Demographic Yearbook*
 - and online only outputs
 - <http://unstats.un.org/unsd/demographic/products/dyb/dyb2.htm>

Vital statistics; UN *Demographic Yearbook*

- UNSD collects annually statistics on vital events and their metadata via the Demographic Yearbook Vital Statistics questionnaire, completed by the National Statistical Offices (NSOs)
- The template of the questionnaire is available online at:
<http://unstats.un.org/unsd/demographic/products/dyb/dybquest.htm>
- The questionnaire is comprised of many tabulations covering a wide range of vital events according to the *Principles and Recommendations for a Vital Statistics System*
<http://unstats.un.org/unsd/demographic/standmeth/principles/default.htm>
- The two beginning worksheets of the VS questionnaire are reserved specifically to the metadata

Vital statistics; UN *Demographic Yearbook*

Fertility

Total live births by sex and urban/rural residence

Live births by age of mother and sex of child

Total Fertility rate

Live births by sex of child and live birth order

Live births by age of mother and live birth order

Live births by plurality

Live births by marital status of mother

Live births in wedlock by duration of marriage

Live births by age of father

Live births by sex of child and birth weight

Live births by sex of child and gestational age

Live births by month of birth

Vital statistics; UN *Demographic Yearbook*

General mortality

Total deaths by sex and urban/rural residence

Deaths by age and sex

Life expectancy at birth

Deaths by month of death

Complete life tables for males, females

Abridged life tables for males, females

Vital statistics; UN *Demographic Yearbook*

Infant deaths

Total infant deaths by sex of infant and urban/rural residence of mother

Infant deaths by age and sex

Infant deaths by month of death

Foetal deaths

Late foetal deaths by sex of foetus and urban/rural residence of woman

Late foetal deaths by age of woman

Foetal deaths by gestational age

Abortions

Legally induced abortions by urban/rural residence of woman

Legally induced abortions by age and number of previous live births of woman

Vital statistics; UN *Demographic Yearbook*

Marriage

Marriages by urban/rural residence

Marriages by age of groom and bride

Marriages by marital status of groom and bride

First marriages by age of groom and bride

Divorce

Divorces by urban/rural residence

Divorces by age of husband and wife

Divorces by duration of marriage

Divorces by number of dependent children

Vital statistics; UN *Demographic Yearbook*

- The aim is to collect vital statistics at the national level, compiled as outputs of civil registration systems.
- In this presentation “CRVS births” and “CRVS deaths” refers to statistics on respectively births and deaths, compiled from the records of civil registration systems of countries or areas, and reported thereafter by NSOs to UNSD.
- The reported data are reviewed, processed and stored in the Demographic Yearbook database.

Information on the other vital events or additional ways of disaggregating the availability of information can be provided upon request.

Vital statistics on births and deaths

- As part of the vital statistics data collection, NSOs are requested to provide annually the total numbers of live births and deaths that have occurred during the calendar year (and by sex and urban or rural residence), as well as datasets for births by age of mother and sex of newborn and deaths by age and sex.
- NSOs are requested to provide as well, an estimate of the completeness (at the national level and also for all ages combined in the case of deaths) of the reported births and deaths numbers.
- The completeness of births and deaths data, depends respectively on the coverage and completeness of births and deaths registration.
- For the purpose of Demographic Yearbook, an estimate of more than or equal to 90 per cent refers to “complete” data, otherwise “incomplete”.

Births and deaths statistics – global

Figure 1: Percentage of reporting countries/areas of the World with data on total births

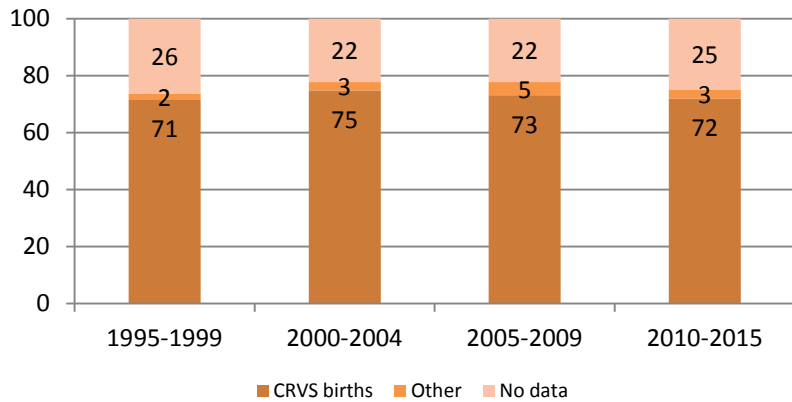


Figure 2: Percentage of reporting countries/areas of the World with data on births by age of mother

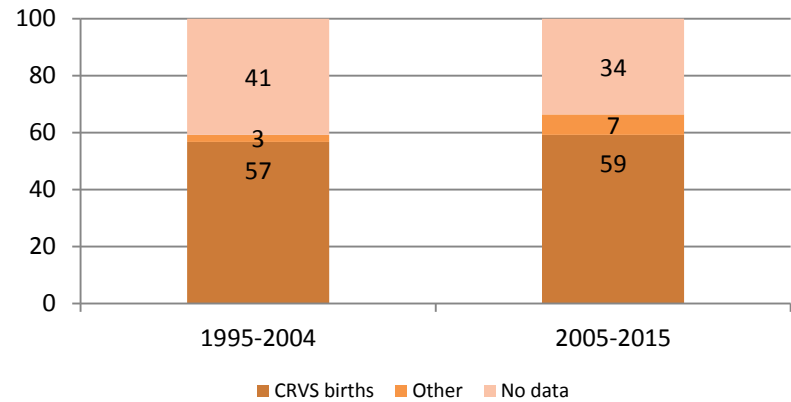


Figure 3: Percentage of reporting countries/areas of the World with data on total deaths

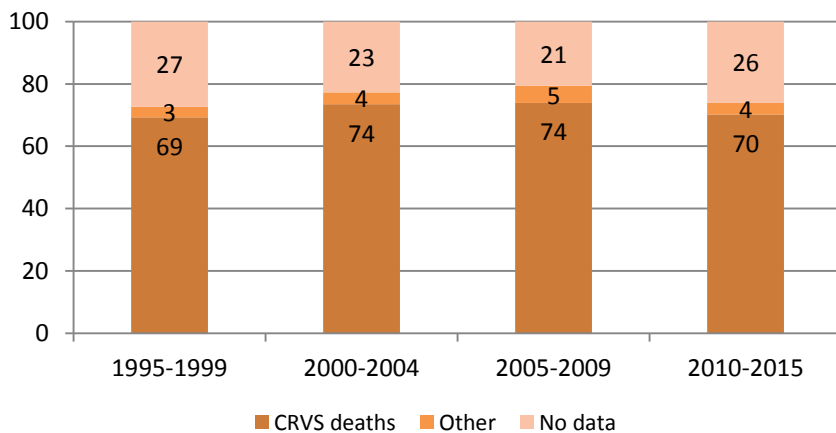
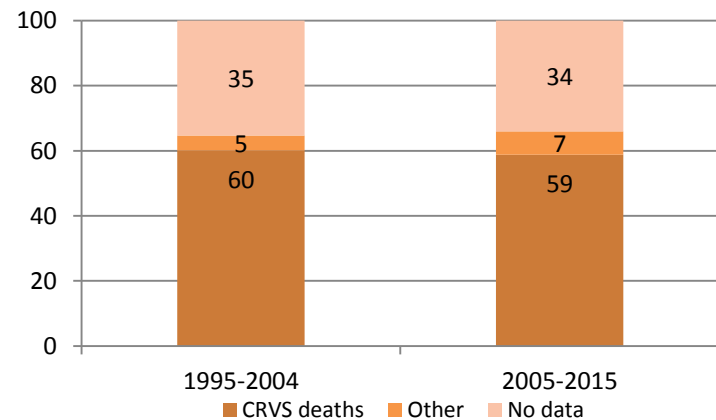


Figure 4: Percentage of reporting countries/areas of the World with data on deaths by age



Births and deaths statistics – global

- Availability of total births or deaths compiled as outputs of CR systems has remained more or less at the same levels, with a small decline for the latest period, but with small improvements for births by age of mother.
- For the reference period 2005-2015, the percentage of the number of countries that could report CRVS births is at most 73 per cent of all countries/areas of the World. The analogous figure for deaths is 74 per cent.
- The availability of CRVS data is lower for the more detailed datasets. For the reference period 2005-2015, the percentage of the number of countries that have reported CRVS births by age of mother or deaths by age is 59 per cent of all countries/areas.

Births and deaths statistics – global

- The “Other” portion of the bars include countries or areas that have reported the number of births or household deaths, compiled from census declarations for the 12 month period (or any other appropriate period) before a census, and India (provides rates from Sample Registration System), China (provides rates from National Survey on Population Changes).
- The reporting countries that have used censuses as a source for births are: Bhutan 2005, Bolivia 2012, Botswana 2011, DPR Korea 2008, Ghana 2010, Indonesia 2010, Jamaica 2011, Liberia 2008, Malawi 2008, Mali 2009, Namibia 2001 and 2011, Nepal 2011, Samoa 2011, Saudi Arabia 2004, Senegal 2002, State of Palestine 2007, Swaziland 1997 and 2007, Tokelau 2011, and Zambia 2010.
- The reporting countries that have used censuses as a source for deaths are: Bhutan 2005, Bolivia 2012, Botswana 2001 and 2011, China 2010, DPR Korea 2008, Ghana 2010, Indonesia 2010, Jamaica 2011, Malawi 1998 and 2008, Mali 2009, Mozambique 1997, Namibia 2001 and 2011, Nepal 2001 and 2011, Republic of South Sudan 2008, Samoa 2011, Sao Tome and Principe 2012, Saudi Arabia 2004, Sierra Leone 2004, Swaziland 1997 and 2007, Tonga 2006, Zambia 2010 and Zimbabwe 2002.

Births and deaths statistics – Africa

Figure 5: Total CRVS births, number of reporting countries/areas, Africa

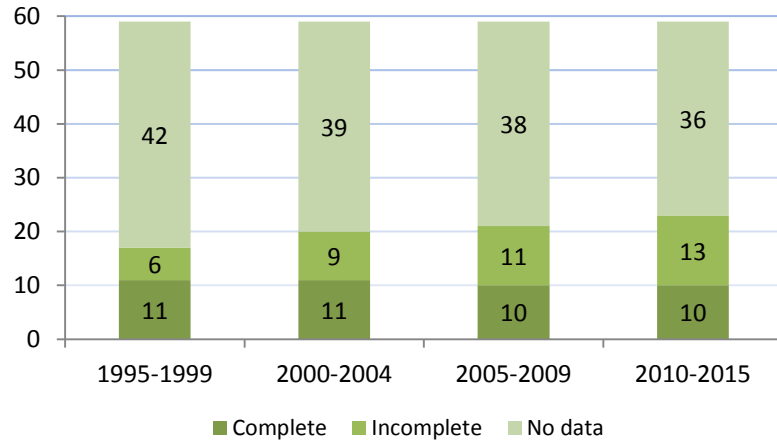
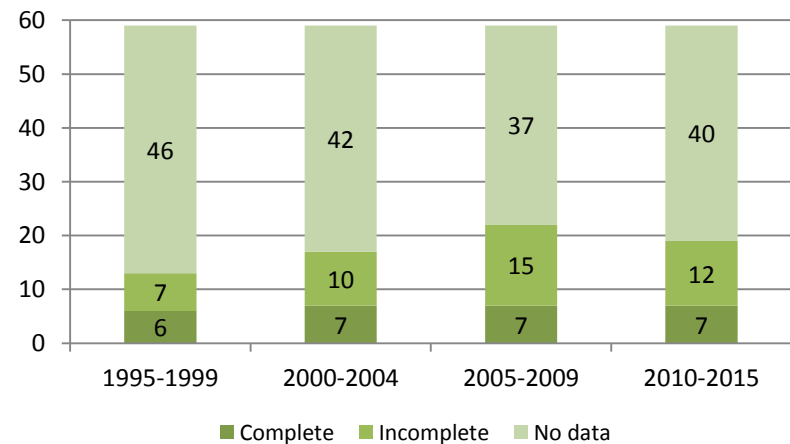


Figure 6: Total CRVS deaths, number of reporting countries/areas, Africa



Births and deaths statistics – Africa

- The availability of CRVS births by age of mother:

1995 – 2004: 7 countries complete, 2 countries incomplete

2005 – 2015: 6 countries complete, 6 countries incomplete

- The availability of CRVS deaths by age:

1995 – 2004: 5 countries complete, 6 countries incomplete

2005 – 2015: 5 countries complete, 8 countries incomplete

Births and deaths statistics – America, North

Figure 7: Total CRVS births, number of reporting countries/areas, North America

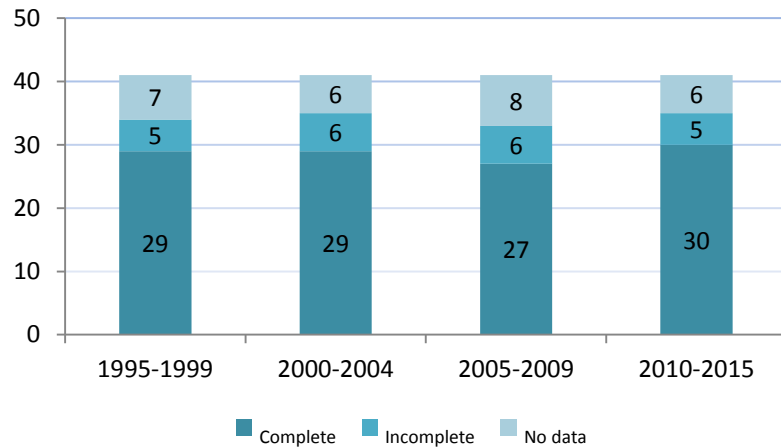
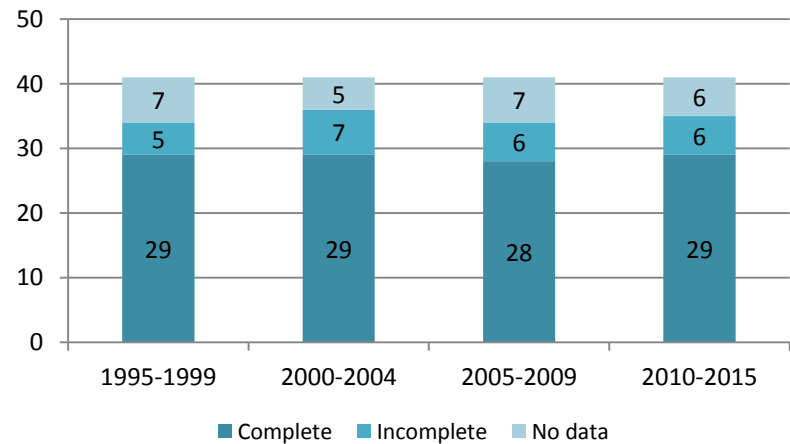


Figure 8: Total CRVS deaths, number of reporting countries/areas, North America



Births and deaths statistics – America, North

- The availability of CRVS births by age of mother:

1995 – 2004: 24 countries complete, 5 countries incomplete

2005 – 2015: 25 countries complete, 4 countries incomplete

- The availability of CRVS deaths by age:

1995 – 2004: 28 countries complete, 6 countries incomplete

2005 – 2015: 24 countries complete, 3 countries incomplete

Births and deaths statistics – America, South

Figure 9: Total CRVS births, number of reporting countries/areas, South America

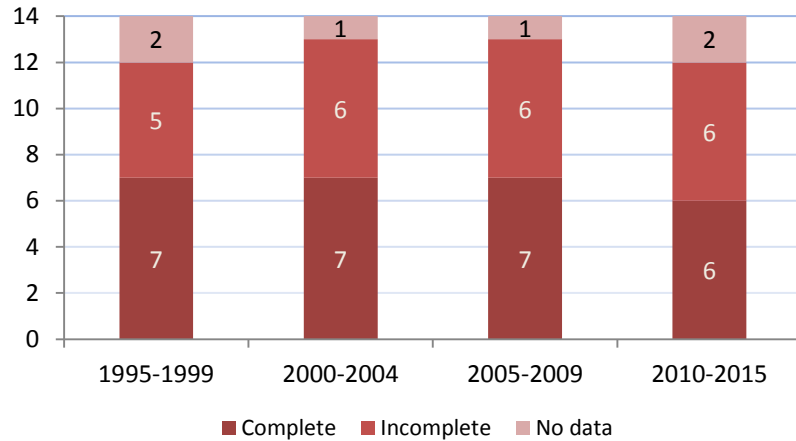
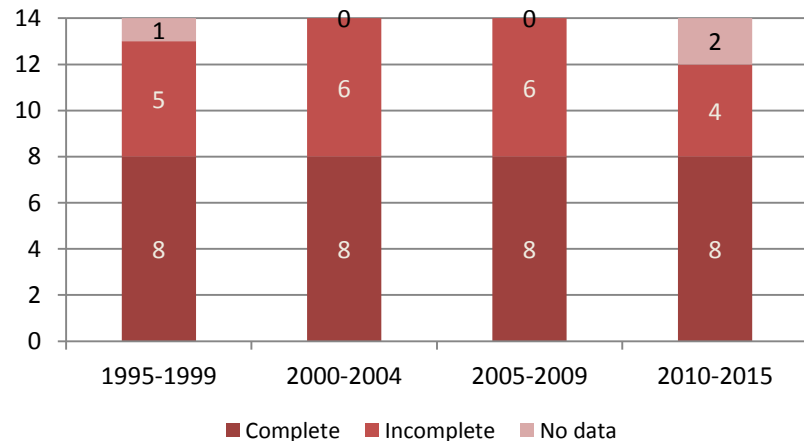


Figure 10: Total CRVS deaths, number of reporting countries/areas, South America



Births and deaths statistics – America, South

- The availability of CRVS births by age of mother:

1995 – 2004: 6 countries complete, 4 countries incomplete

2005 – 2015: 6 countries complete, 5 countries incomplete

- The availability of CRVS deaths by age:

1995 – 2004: 7 countries complete, 5 countries incomplete

2005 – 2015: 7 countries complete, 4 countries incomplete

Births and deaths statistics – Asia

Figure 11: Total CRVS births, number of reporting countries/areas, Asia

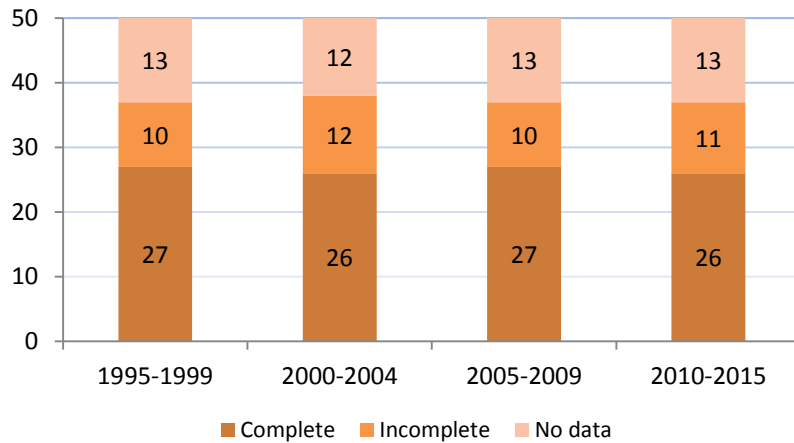
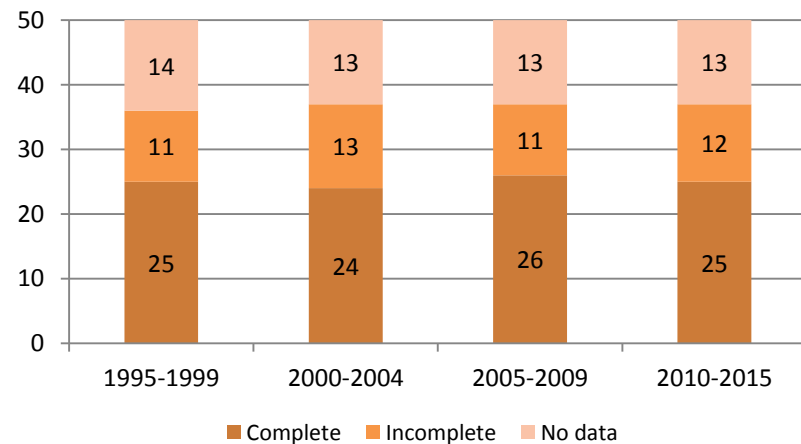


Figure 12: Total CRVS deaths, number of reporting countries/areas, Asia



Births and deaths statistics – Asia

- The availability of CRVS births by age of mother:

1995 – 2004: 23 countries complete, 6 countries incomplete

2005 – 2015: 24 countries complete, 5 countries incomplete

- The availability of CRVS deaths by age:

1995 – 2004: 22 countries complete, 4 countries incomplete

2005 – 2015: 24 countries complete, 6 countries incomplete

Note: India provides indicators based on SRS; China provides indicators based on National Survey on Population Changes; therefore India and China are not included in the above CRVS numbers.

Births and deaths statistics – Europe

Figure 13: Total CRVS births, number of reporting countries/areas, Europe

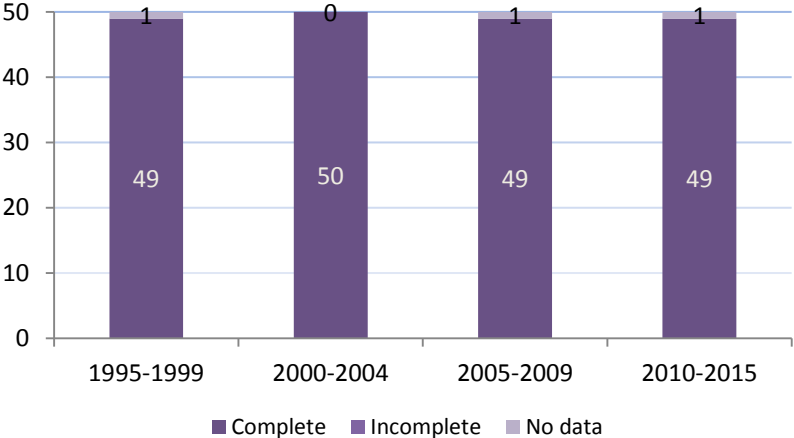
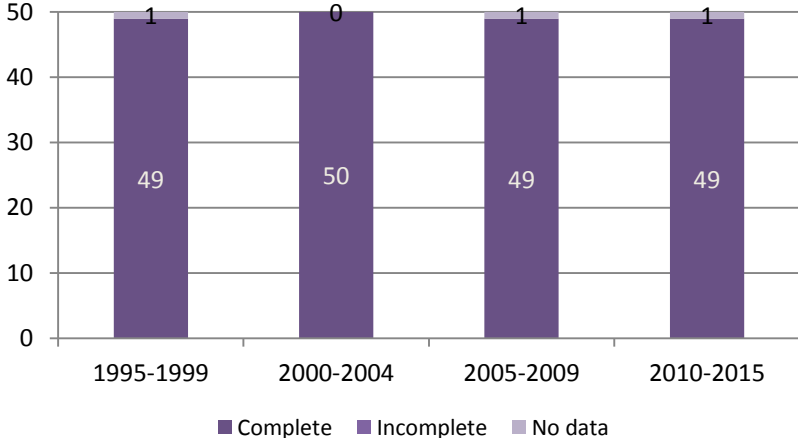


Figure 14: Total CRVS deaths, number of reporting countries/areas, Europe



Births and deaths statistics – Europe

- The availability of CRVS births by age of mother:

1995 – 2004: 44 countries complete

2005 – 2015: 46 countries complete

- The availability of CRVS deaths by age:

1995 – 2004: 45 countries complete

2005 – 2015: 44 countries complete

Births and deaths statistics – Oceania

Figure 15: Total CRVS births, number of reporting countries/areas, Oceania

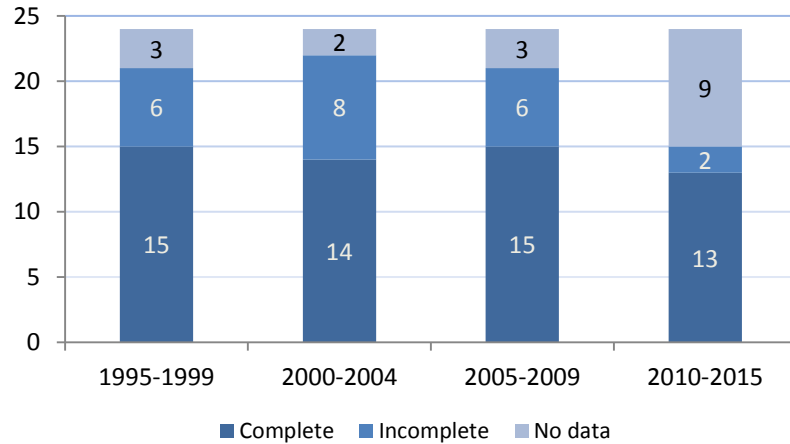
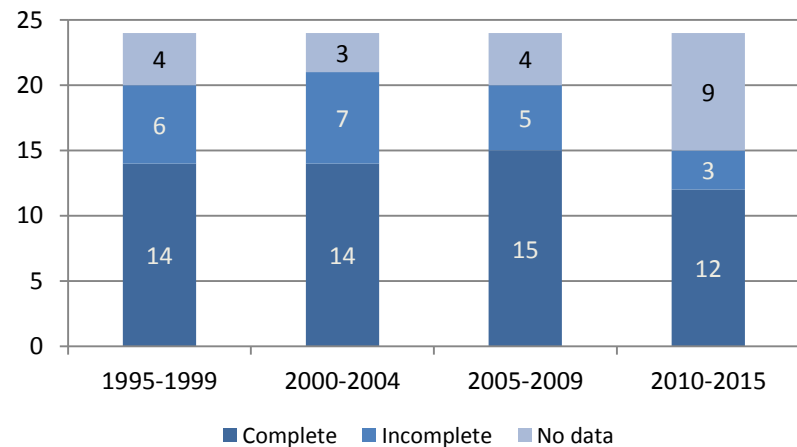


Figure 16: Total CRVS deaths, number of reporting countries/areas, Oceania



Births and deaths statistics – Oceania

- The availability of CRVS births by age of mother:

1995 – 2004: 9 countries complete, 5 countries incomplete

2005 – 2015: 12 countries complete, 2 countries incomplete

- The availability of CRVS deaths by age:

1995 – 2004: 11 countries complete, 4 countries incomplete

2005 – 2015: 11 countries complete, 4 countries incomplete

Summary

Figure 17: Availability of total CRVS births, by period and region, percentages of reporting countries in the respective region

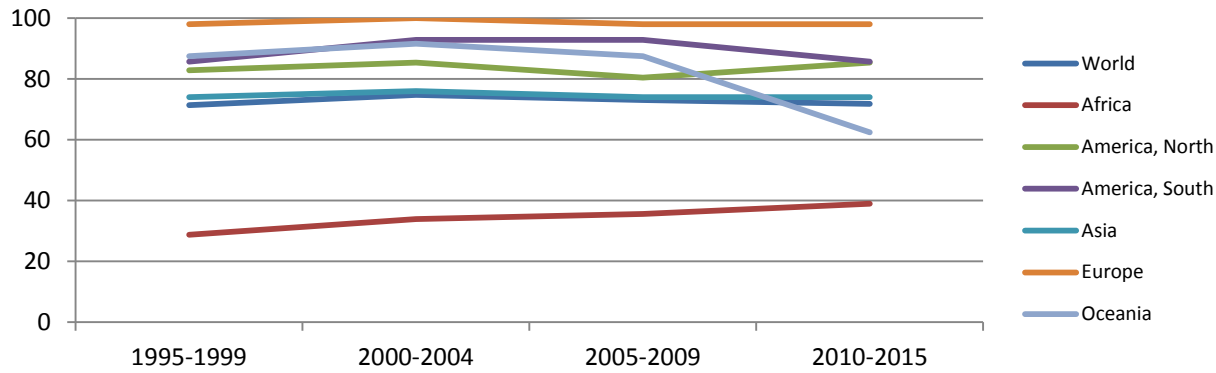
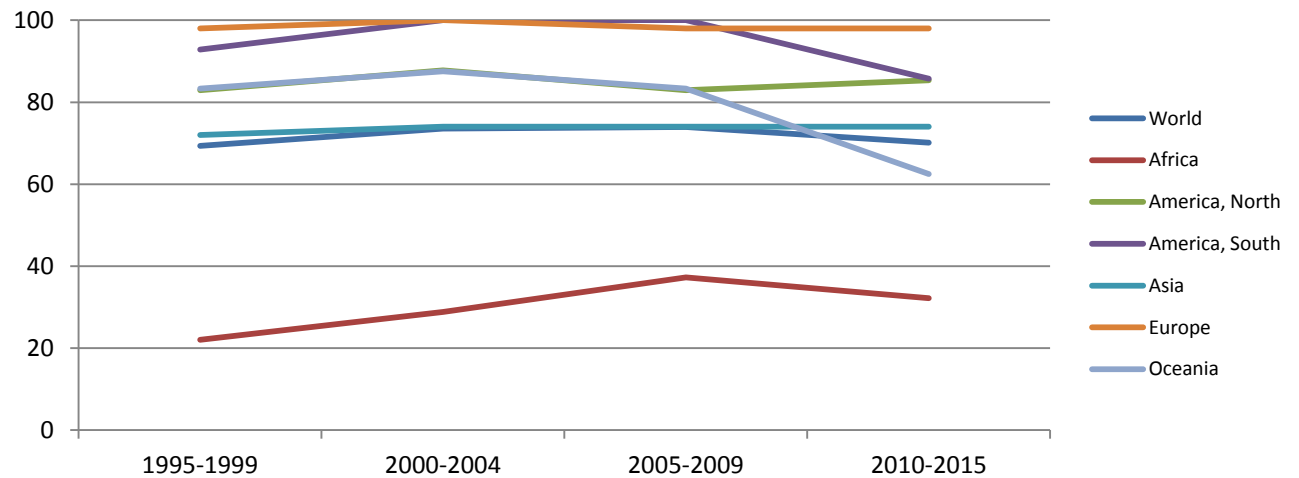


Figure 18: Availability of total CRVS deaths by period and region, percentages of reporting countries in the respective region



Summary

Figure 19: Availability of total CRVS births, by completeness status and region, 2010-2015, percentages of reporting countries in the respective region

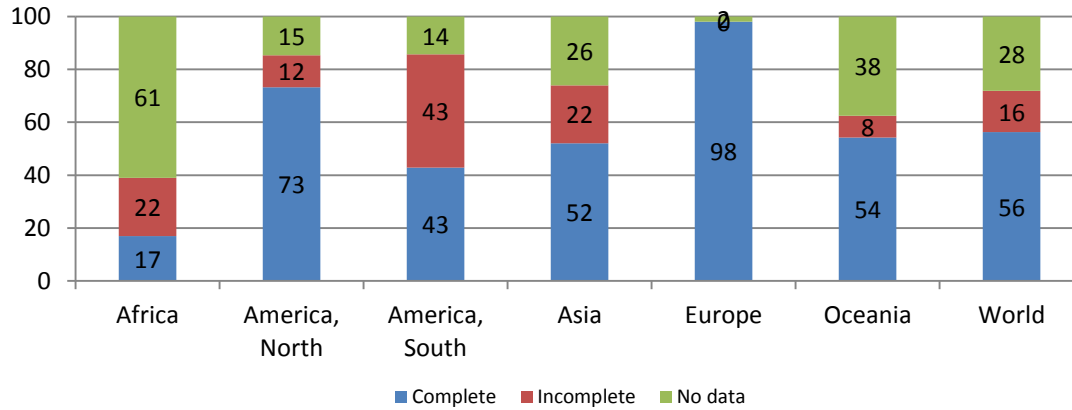
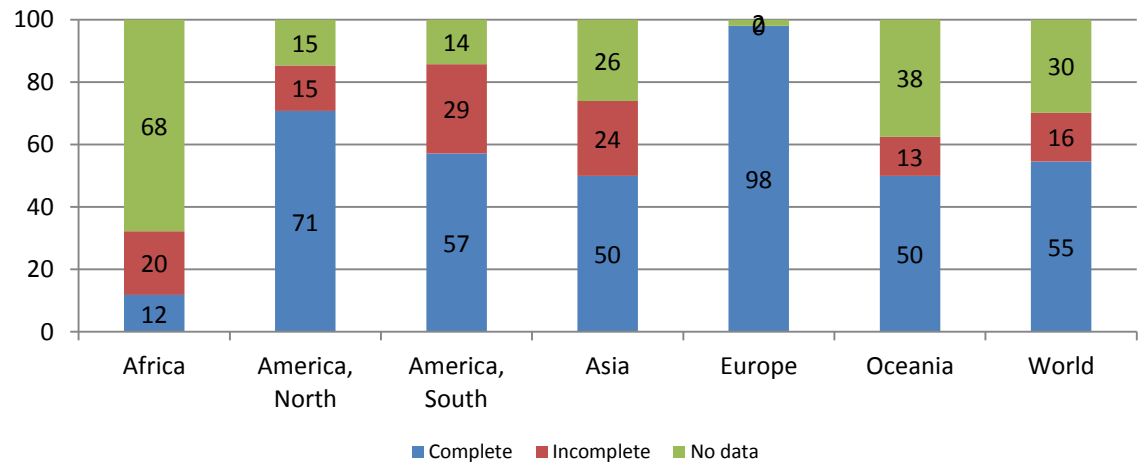


Figure 20: Availability of total CRVS deaths by completeness status and region, 2010-2015, percentages of reporting countries in the respective region



Summary

- The availability of basic statistics on births and deaths compiled from records of CR systems has improved slightly for Africa, has declined for Oceania, and remained more or less at the same levels for the other regions
- During the latest period analyzed, 2010-2015, 72 per cent of countries/areas of the world have provided births and 71 per cent have provided deaths from CR systems
- The availability is less for the more disaggregated data: births by age of mother and sex of child; deaths by age and sex

Vital statistics metadata

United Nations Statistics Division - Demographic Statistics Section
Questionnaire on Vital Statistics

Country-Name
Reporting Year: 2016

Quality of vital statistics obtained from civil registration

I. Basis of tabulation	Live births	Deaths	Infant deaths	Late foetal deaths	Marriages	Divorces
Present basis of tabulation:						
- date of occurrence						
- date of registration						
How long has the present basis of tabulation been used?						

II. Estimated completeness of registration	Live births	Deaths	Infant deaths	Late foetal deaths	Marriages	Divorces
90 per cent or more						
75-89 per cent						
50-74 per cent						
Under 50 per cent						
Please specify:						
(a) Year(s) to which completeness estimate refers						
(b) Basis of completeness estimate						
-Demographic analysis						
-Dual record check						
-Questions in population census						
-Questions in sample surveys						
-Other (specify)						
-No evaluation						

Please include any reports describing completeness of registration and methods used in arriving at estimated completeness:

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Quality of vital statistics obtained from other sources

Basis of vital statistics estimates is						
- Population censuses (date)						
- Sample surveys						
- Population registers						
- Dual record systems						
- Other (specify)						

Please include any reports describing the methods used for estimates of vital statistics based on other sources than civil registration:

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Vital statistics metadata

Acknowledgement: Thank you to Mr. Patrick Gerland and Ms. Florence Gune of Population Division for their work in compiling the vital statistics completeness related metadata, and subsequent programming in order to create consolidated files of completeness metadata for each vital event, while maintaining the country of reporting level of detail.

- 131 countries/areas in all regions have provided some metadata
- Summary tabulations are presented in the following slides, with aggregated results of the reported metadata on completeness levels and groups of methods for evaluating completeness for CRVS births and deaths
- The unit of tabulation is the reporting country

Summary: Live births metadata, number of reporting countries

Table 1	Completeness 90 % or more	Completeness 75 – 89 %	Completeness 50 – 74 %	Completeness under 50 %
	96	6	6	1
Africa	4	1	2	1
America, North	21	2	1	0
America, South	5	2	2	0
Asia	20	0	0	0
Europe	43	1	0	0
Oceania	3	0	1	0

Table 2	Demographic analysis	Dual record check	Census	Surveys	Other	No evaluation
	26	21	7	4	18	8
Africa	5	0	0	1	2	0
America, North	4	7	1	0	1	3
America, South	2	2	1	0	0	0
Asia	5	3	1	2	6	2
Europe	8	8	3	0	7	3
Oceania	2	1	1	1	2	0

Table 3	Demographic analysis	Dual record check	Census	Surveys	Other	No evaluation
	26	21	7	4	18	8
Reporting period						
< 2000	0	0	0	0	0	0
2000 - 2004	3	2	1	1	4	0
2005 - 2009	3	3	1	1	2	2
2010 +	20	16	5	2	12	6

Summary: Deaths metadata, number of reporting countries

Table 4	Completeness 90 % or more	Completeness 75 – 89 %	Completeness 50 – 74 %	Completeness under 50 %
	96	5	5	2
Africa	5	0	1	2
America, North	21	1	2	0
America, South	8	0	1	0
Asia	16	3	0	0
Europe	43	1	0	0
Oceania	3	0	1	0

Table 5	Demographic analysis	Dual record check	Census	Surveys	Other	No evaluation
	26	21	3	2	13	9
Africa	5	0	0	1	1	0
America, North	3	7	1	0	0	3
America, South	3	1	0	0	0	1
Asia	6	3	0	0	4	2
Europe	7	9	1	0	6	3
Oceania	2	1	1	1	2	0

Table 6	Demographic analysis	Dual record check	Census	Surveys	Other	No evaluation
	26	21	3	2	13	9
Reporting period						
< 2000	0	0	0	0	0	0
2000 - 2004	3	2	1	1	4	0
2005 - 2009	3	3	0	0	0	3
2010 +	20	16	2	1	9	6

Observations regarding the reported metadata

- 109 countries have reported their completeness on CRVS births statistics; 96 complete and 13 incomplete as of the latest reference period reported;
- 108 countries have reported their completeness on CRVS deaths statistics; 96 complete and 12 incomplete as of the latest reference period reported;
- Demographic analysis followed by dual record check are the most commonly used methods of completeness evaluation for CRVS births and deaths statistics among the reporting countries, with 26 and 21 respectively;
- Most reporting countries have reported completeness evaluation methods since year 2000. This is a reflection of improvements in reporting to UNSD, or increase in the number of countries that use the several completeness evaluation methods, or both. This is a very encouraging development.



Thank you!

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