



**UNITED NATIONS EXPERT GROUP MEETING ON STRENGTHENING THE DEMOGRAPHIC EVIDENCE
BASE FOR THE POST-2015 DEVELOPMENT AGENDA
Population Division
Department of Economic and Social Affairs
United Nations Secretariat
New York
5-6 October 2015**

DEMOGRAPHIC EVIDENCE FROM CIVIL REGISTRATION AND VITAL STATISTICS SYSTEMS¹

*Adriana Skenderi**

¹The opinions expressed in this paper are those of the author and do not necessarily reflect those of the United Nations or its Member States. This paper is reproduced as submitted by the author. This paper is being reproduced without formal editing.

* Statistics Division, Department of Economic and Social Affairs, United Nations.

Demographic evidence from civil registration and vital statistics systems

Adriana Skenderi

Statistics Division, Department of Economic and Social Affairs, United Nations

A. INTRODUCTION

This note mainly aims to provide demographic evidence as it pertains to statistics on births and deaths, registered at the country level to the civil registration authorities, compiled at the country level, and thereafter reported by the National Statistical Offices (NSOs) of countries or areas to the United Nations Demographic Yearbook published by the United Nations Statistics Division.

Statistics on vital events are collected annually via the Demographic Yearbook Vital Statistics questionnaire.² This questionnaire is comprised of several tabulations, in order to collect data on a wide range of vital events and respective topics, according to the Principles and Recommendations for a Vital Statistics System.³ Information on the other vital events, or additional ways of disaggregating the availability of information, that are not part of this note can be provided upon request.

One purpose of this note is to provide a detailed overview of the availability of statistics on births and deaths that are outputs of civil registration systems (and related identifiers of quality of such statistics). For the purpose of this note only; and in order to simplify and to avoid repetition, the naming “CRVS births” or “CRVS deaths” will be used to mean statistics on births or deaths compiled from the records of civil registration systems.

The information presented refers to the data and information available in the Demographic Yearbook database as of mid-September 2015. The data and information analysed encompass the past two decades, 1995-2014. (However, there may exist, nationally representative vital statistics compiled as outputs of the national civil registration systems that have not been reported to the United Nations Statistics Division.) Another purpose of this note is to provide additional insight on challenges that are faced and areas where improvement is needed by providing demographic evidence.

B. BIRTHS AND DEATHS STATISTICS—AN OVERALL PICTURE

As part of the vital statistics data collection, NSOs are requested to provide annually the total number of live births and deaths that have occurred during the calendar year in the country (by sex and urban or rural residence) as well as the datasets for births by age of mother and sex of new-born, and deaths by age and sex.

Figures 1 and 2 of the Annex provide information over time, since reference year 1995, on total births and births by age of mother. The information is presented by five-year time periods for total births, and by two ten-year periods for births by age of mother, that coincide with the 2000 and 2010 rounds of censuses. Figures 3 and 4 provide the analogous information for total deaths and deaths by age and sex.

The percentage of countries or areas that report the birth or death datasets compiled from civil registration records are distinguished separately as CRVS births or CRVS deaths. The “Other” portion of the bars include countries or areas that have reported the number of births or household deaths, collected for the 12-month period (or any other reference period that was used) before a census, and only 5 countries with sample vital registration systems or a large demographic survey (India Sample Registration System, Bangladesh Sample Vital Registration System, China National

² <http://unstats.un.org/unsd/demographic/products/dyb/dyquest.htm>

³ <http://unstats.un.org/unsd/demographic/standmeth/principles/default.htm>

Survey on Population Changes, Pakistan Demographic Survey for selected years and Tukey Population Growth Survey for selected years).

From figure 1, it can be noted that the availability of total CRVS births for the World, has slightly improved to 75 per cent for the reference years 2000-2004 compared to the previous five years at 71 per cent, but that improvement does not continue in the subsequent years, with 73 per cent in 2005-2009 and 67 per cent for 2010-2014. This last figure may improve after a few years, because CRVS births in many countries are subject to delayed registration. However, it has been observed that a number of island countries or areas in the Caribbean and Oceania, have been unable to report vital statistics in the recent five-year period. The percentage of countries or areas of the world that have reported births from civil registration systems (qualified as complete or incomplete) for the period 2005-2014 is at most 73 per cent.

Births by age of mother (and sex of child) are a very important dataset. As it can be seen from figure 2, the availability of CRVS births by age of mother (whether complete or incomplete) remains at 57-58 per cent of all countries or areas for the past 20 years, at a much lower level than the number of countries that could report the total CRVS births. There are wide differences among regions in that respect. In general, countries or areas that can report total CRVS birth figures but not disaggregated by age of mother, do not have fully functional or complete civil registration and related vital statistics systems. In such cases, also the total CRVS births figures are usually incomplete, meaning they do not refer to all the events that could have been registered or that have occurred. A similar statement is valid for the deaths statistics, or any vital event reported as an aggregate number and by its characteristics.

Many countries that have deficiencies in their civil registration systems are reporting the births by age of mother compiled from the households census' declarations for the 12 months or any other reference period before the census that was used. Some of these countries for the past 20 years are: Bhutan 2005, Bolivia 2012, Botswana 2011, Democratic People's Republic of Korea 2008, Ghana 2010, Jamaica 2011, Liberia 2008, Malawi 2008, Mali 2009, Namibia 2001 and 2011, Samoa 2011, Saudi Arabia 2004, Senegal 2002, State of Palestine 2007, Swaziland 1997 and 2007, Tokelau 2011, and Zambia 2010. It can be seen from figure 2 that the availability of births by age of mother including the censuses as a source has increased by 4 per cent during the 2010 census round, from 60 to 64 per cent. This last figure may improve as the reporting of 2010 round of census data is not yet complete. However, as a note of caution, the 64 per cent figure availability includes as well datasets from CRVS coded as incomplete.

From figure 3, the pattern of the availability of CRVS deaths statistics since 1995 is similar to that of CRVS births. The percentage of countries or areas of the world that have reported total deaths numbers from civil registration systems (qualified as complete or incomplete) for the period 2005-2014 is at most 74 per cent. However, (figure 4) only 58-60 per cent of countries or areas, could report datasets of CRVS deaths by age. Many countries have reported instead datasets of household deaths by age compiled for the 12 month period or any other reference period used before the census. Some of these countries are: Bhutan 2005, Bolivia 2012, Botswana 2001 and 2011, China 2010, Democratic People's Republic of Korea 2008, Ghana 2010, Jamaica 2011, Malawi 1998 and 2008, Mali 2009, Mozambique 1997, Namibia 2001 and 2011, Nepal 2001, Republic of South Sudan 2008, Samoa 2011, Saudi Arabia 2004, Sierra Leone 2004, Swaziland 1997 and 2007, Tonga 2006, Zambia 2010 and Zimbabwe 2002.

BIRTHS AND DEATHS STATISTICS BY REGION

In what follows, the focus will be on births and deaths statistics by region compiled from civil registration records (CRVS births and CRVS deaths) and distinguishing between complete and incomplete statistics. There are remarkable differences among regions in the status of their civil

registration systems and their capabilities to produce vital statistics, as well as in the completeness of such statistics.

The figures in the Annex to this note, provide information on the availability of CRVS births and CRVS deaths and their completeness: figures 5, 5a, 6 and 6a for Africa; figures 7, 7a, 8 and 8a for America, North; figures 9, 9a, 10 and 10a for America, South; figures 11, 11a, 12 and 12a for Asia; figures 13, 13a, 14 and 14a for Europe; and figures 15, 15a, 16 and 16a for Oceania.

The availability of CRVS births in Africa, as a percentage of the total number of countries in the continent, has shown small improvements during the first three time periods analysed; rising from 29 per cent during 1995-1999, to 34 per cent during 2000-2004, and subsequently to 36 per cent during 2005 to 2009. However, during the last period analysed, 2010 to 2014, the availability is at 29 per cent, which is the same as the level of 1995-1999. The number of countries in Africa that are able to produce births statistics at a level of completeness of more than 90 per cent (classified as complete) has actually decreased, from 11 countries during 1995 to 2004 to 10 countries for reference years 2005 to 2009, and only 8 countries during 2010 to 2014. Regarding the reporting of CRVS births by age of mother, 9 African countries reported for 1995-2004 (7 complete and 2 incomplete) and 12 reported for 2005-2014 (6 complete and 6 incomplete).

The availability of CRVS deaths reporting in Africa has also shown small improvements, but the numbers still remain quite low. The percentage of countries that can produce complete total numbers of CRVS deaths during 1995-2014 is 10-12 per cent (6-7 countries); whereas the highest percentage of total CRVS deaths reporting (complete and incomplete) is at 37 per cent during 2005-2009. Regarding the reporting of CRVS deaths by age, 11 African countries reported for 1995-2004 (5 complete and 6 incomplete) and 13 reported for 2005-2014 (5 complete and 8 incomplete).

This situation indicates lack of progress in strengthening civil registration systems or their capability to produce vital statistics; as well as reliance on censuses of population and surveys on producing fertility and mortality indicators. As mentioned previously in this note, several African countries have reported births and deaths statistics based on population censuses.

The situation in North America has remained somewhat stable at a level of availability of 80 per cent or above for both CRVS births and CRVS deaths but it has dropped to 71 per cent for CRVS births and 68 per cent for CRVS deaths during 2010-2014. Perhaps this is due to delays in registration and reporting, however several Caribbean countries or areas have not reported vital statistics during the recent years. Overall, for the past 20 years, the percentage of North American countries reporting complete CRVS births is much higher than the percentage reporting incomplete ones, with the complete between 59 and 71 per cent, and the incomplete between 12 and 15 per cent. The situation of CRVS deaths reporting is similar, with 56-71 per cent reporting complete CRVS deaths and 12-17 per cent incomplete ones.

Most of the countries that have reported total numbers of CRVS births and deaths, have also reported births by age of mother and deaths by age. Out of a total of 41 countries or areas in North America, 29 reported births by age of mother during 1995-2004 (24 complete and 5 incomplete) and 28 countries or areas during 2005-2014 (23 complete and 5 incomplete). 34 North American countries reported deaths by age during 1995 to 2004 (28 complete and 6 incomplete) and 27 during 2005-2014 (24 complete and 3 incomplete).

In South America, the overall percentage of CRVS births and deaths reporting is 86 per cent or more for the entire period. The issue however is the completeness with 5-6 countries (36-43 per cent), reporting births and deaths at a level of completeness of less than 90 per cent (incomplete). One of the problems in some South American countries is the incomplete combined with the delayed registration. However, work is being done by recording during registration the year of birth or the age of the individual being registered. Out of 14 countries in South America, 10 have reported CRVS births by age of mother during 1995-2004 (6 complete, 4 incomplete) and 11 during 2005-2014 (6 complete, 5

incomplete). CRVS deaths by age are reported by 12 countries during 1995-2004 (7 complete, 5 incomplete) and 11 countries during 2005-2014 (6 complete, 5 incomplete).

In Asia, during the entire period analysed, the level of CRVS births and deaths reporting has remained almost the same for the past 20 years, at 74-76 per cent of the number of countries for births and 72-74 per cent for deaths. The percentage of countries reporting complete CRVS births is 52-54 per cent, whereas incomplete ones 20-24 per cent. The percentage of countries reporting complete CRVS deaths is 48-52 per cent whereas and incomplete ones 22-26 per cent. India and Bangladesh that provide fertility and mortality rates from sample registration systems and China that provides indicators based on the national survey on population changes are not included in the CRVS numbers. The majority of the countries that has reported total births and deaths, has also reported births by age of mother and deaths by age. Out of a total of 50 countries or areas, 29 (or 58 per cent) have reported CRVS births by age of mother for 1995-2004 (23 complete and 6 incomplete), and 28 countries or areas (56 per cent) for 2005-2014 (23 complete and 5 incomplete). Twenty-six countries (or 52 per cent) have reported CRVS deaths by age for 1995-2004 (22 complete and 4 incomplete) and 29 countries (or 58 per cent) for 2005-2014 (23 complete and 6 incomplete).

The availability of CRVS births and deaths in Oceania has decreased during the past 10 reference years, with a sharp decrease during the last 5 years. Only 62.5 per cent of the Oceania countries (15 countries or areas out of 24) have reported CRVS births during the last 5 years, and 14 countries or 58 per cent have reported CRVS deaths. Many island nations or areas have not been able to report vital statistics recently. However among the reporting countries or areas, the number that have reported complete CRVS births and deaths, is much higher than the number reporting incomplete ones; with 13 complete and 2 incomplete for births; and 12 complete and 2 incomplete for deaths. Among the above reporting countries or areas, 10 have reported complete births by age of mother and 11 have reported complete deaths by age and sex during the last 10 years.

To summarize this regional review, figures 17 and 18 display, respectively, the trends in CRVS total births and deaths reporting by region and for the world, whereas figures 19 and 20 display, respectively, the current regional situation of CRVS total births and deaths distinguishing between complete and incomplete statistics.

As evidenced by this analysis, the availability of basic statistics on births and deaths compiled from civil registration systems has, overall, not improved during the past two decades; it has rather stayed at more or less the same levels, whether by region or the world as a whole. Differences that existed among regions in the past still persist, and for some of the regions, after some improvements during the decade 2000-2009, there is actually a decrease in availability of basic statistics on births and deaths for the past few years. Also, the more details and characteristics are required of the basic statistics (such as age of mother and sex for births, and age and sex for deaths) the less is the number of countries able to provide such datasets at the national level. This is even more so, when additional characteristics are required such as live birth order, marital status of mother, place of occurrence of vital event, etc.

ANNEX

Figure 1. Availability of total births reported to Demographic Yearbook, percentage of countries/areas

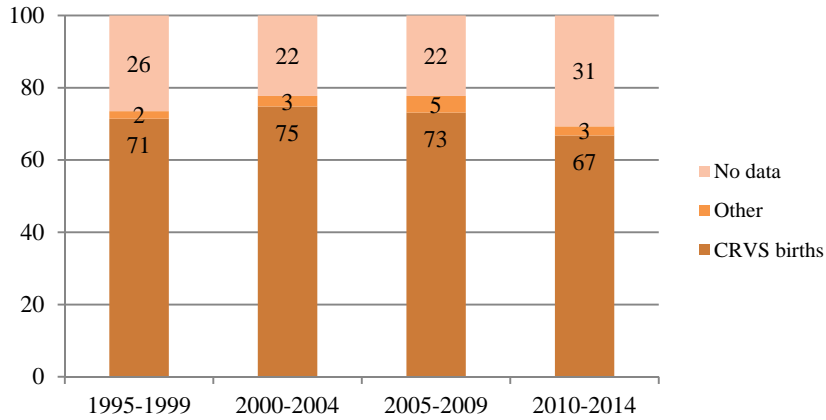


Figure 2. Availability of births by age of mother reported to Demographic Yearbook, percentage of countries/areas

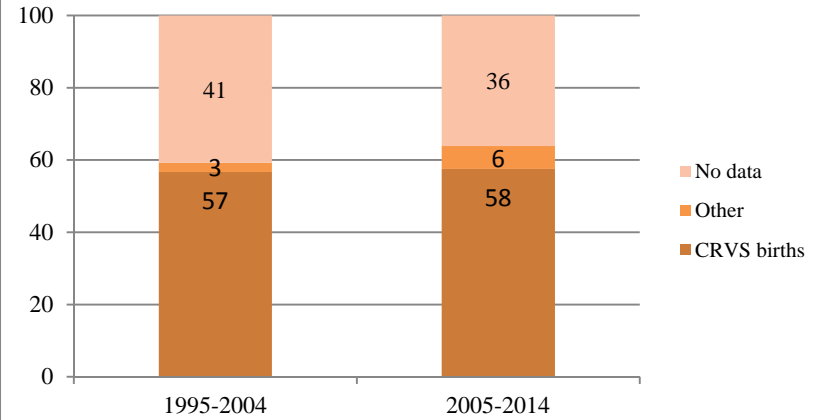


Figure 3. Availability of total deaths reported to Demographic Yearbook, percentage of countries/areas

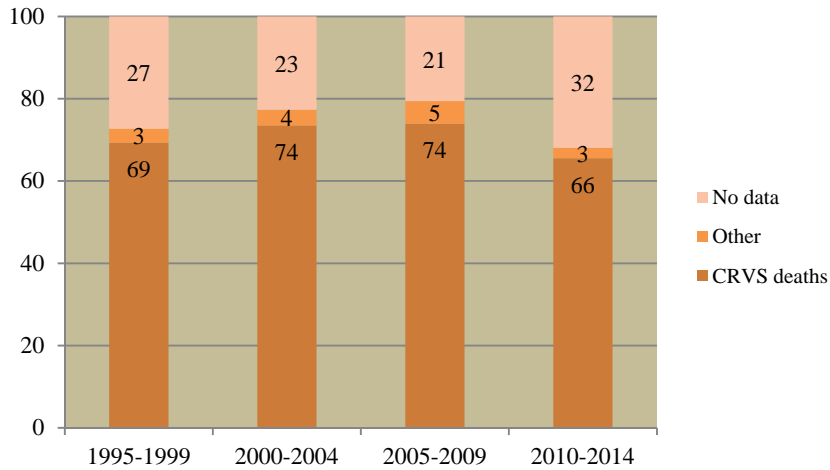
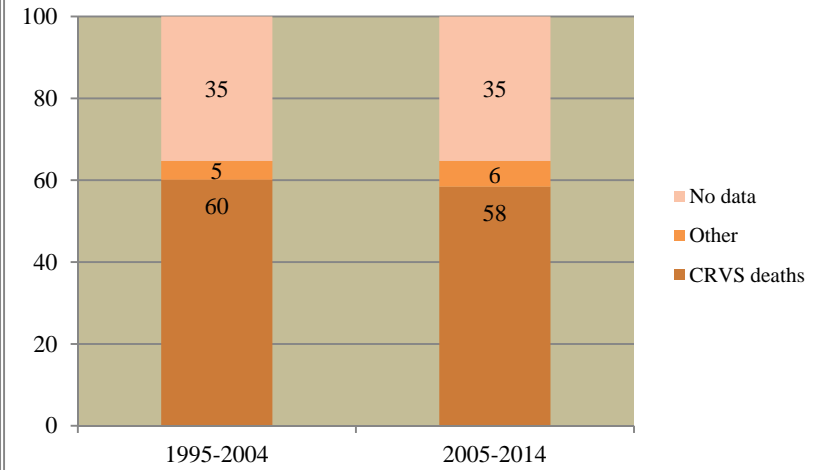


Figure 4. Availability of deaths by age reported to Demographic Yearbook, percentage of countries/areas



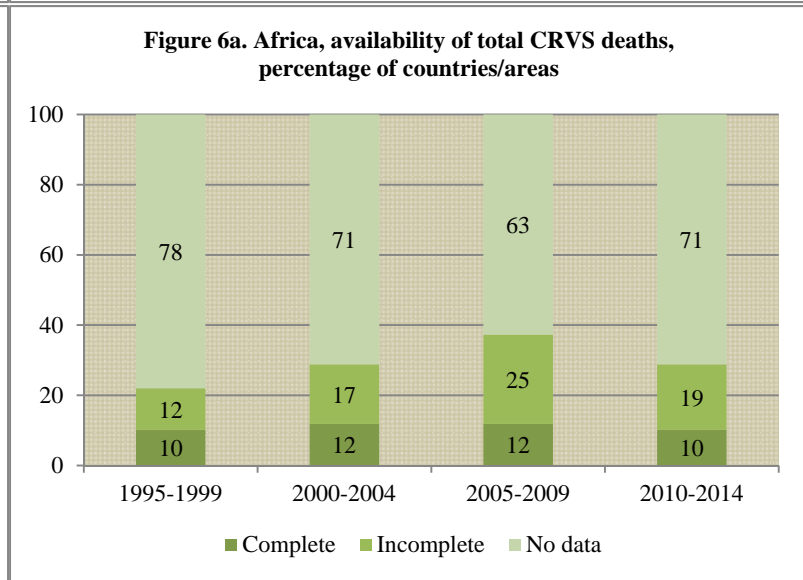
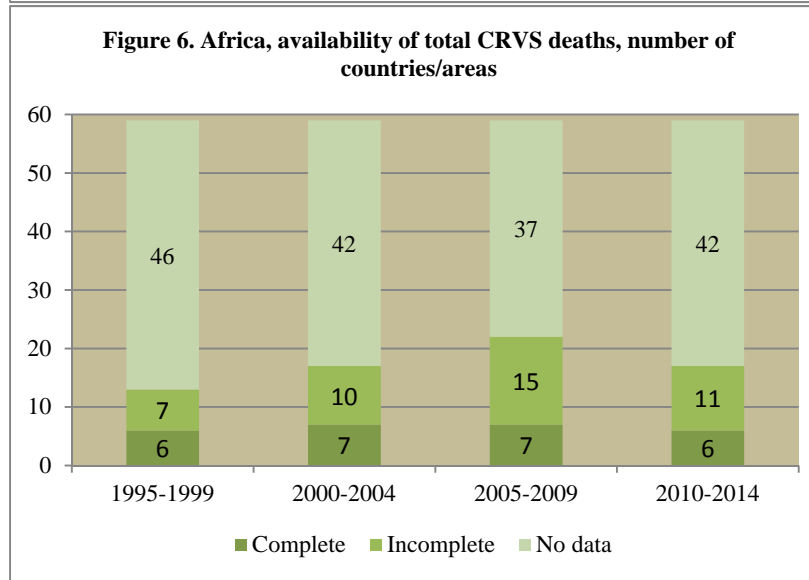
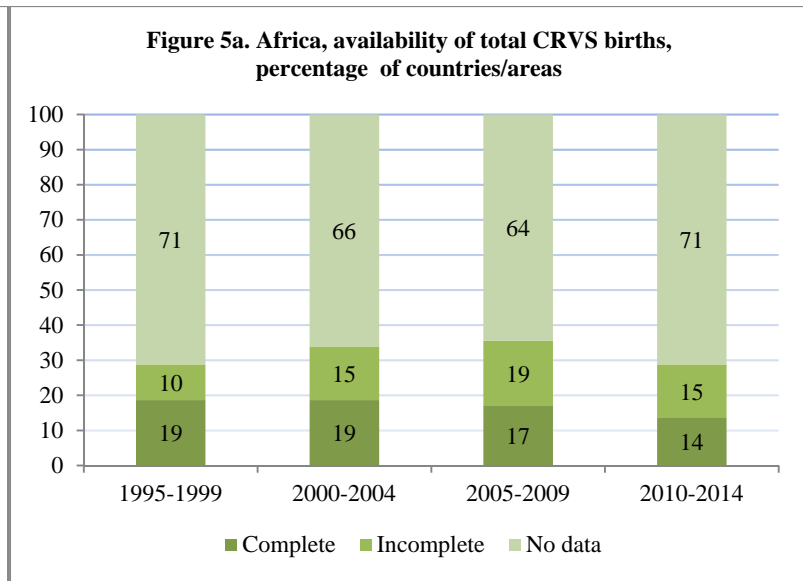
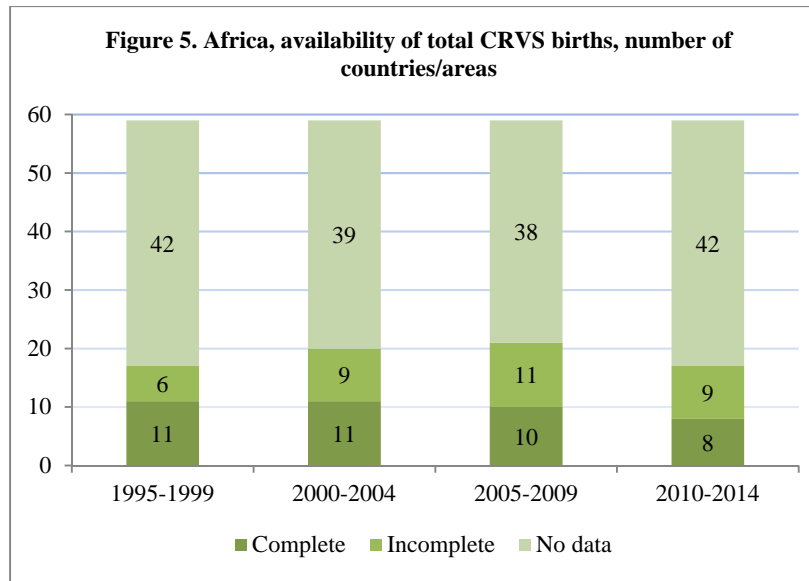


Figure 7. North America, availability of total CRVS births, number of countries/areas

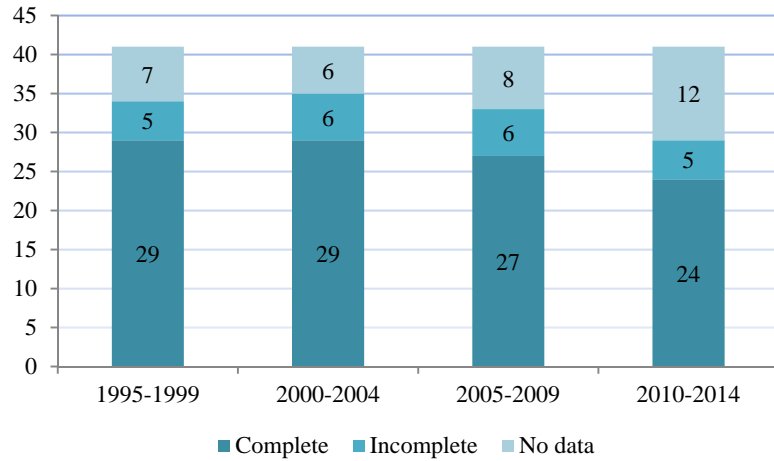


Figure 7a. North America, availability of total CRVS births, percentage of countries/areas

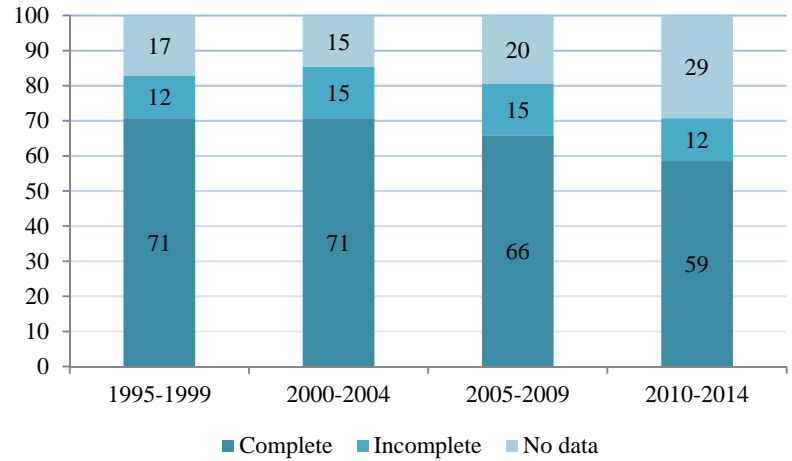


Figure 8. North America, availability of total CRVS deaths, number of countries/areas

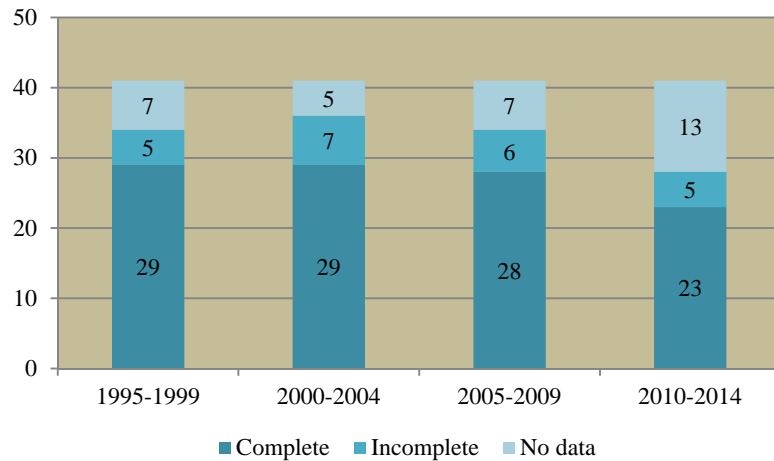
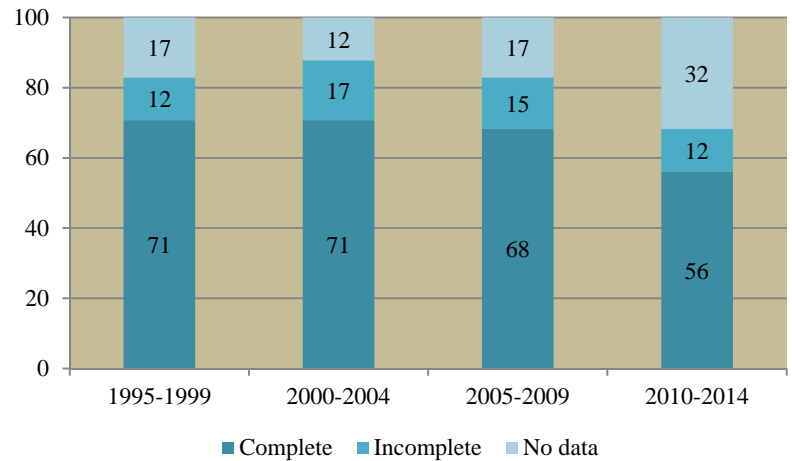


Figure 8a. North America, availability of total CRVS deaths, percentage of countries/areas



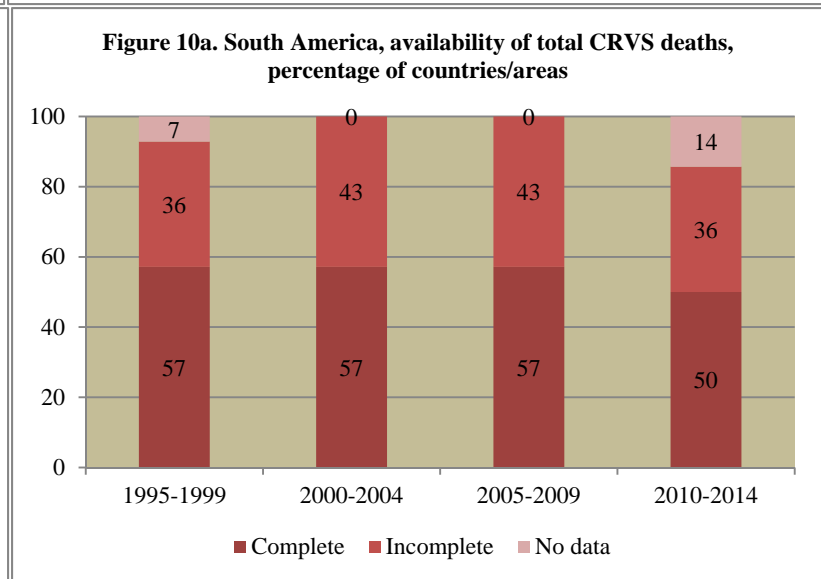
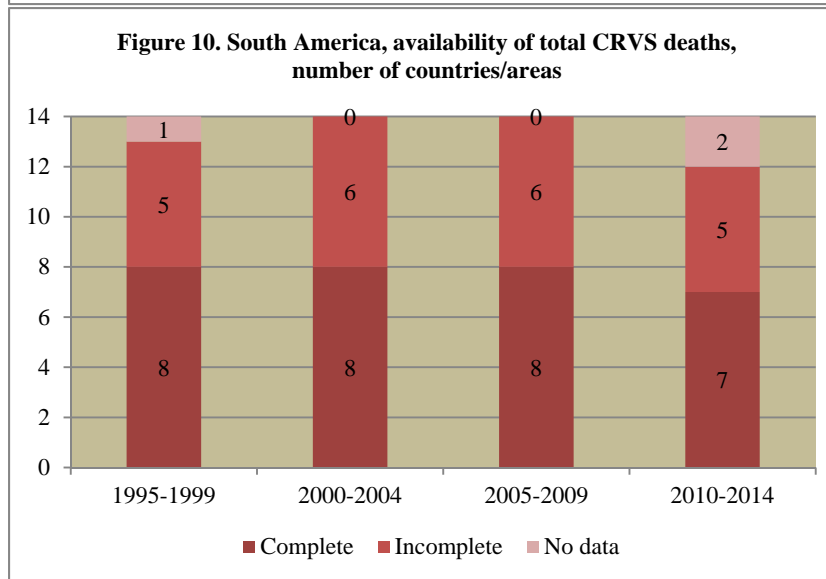
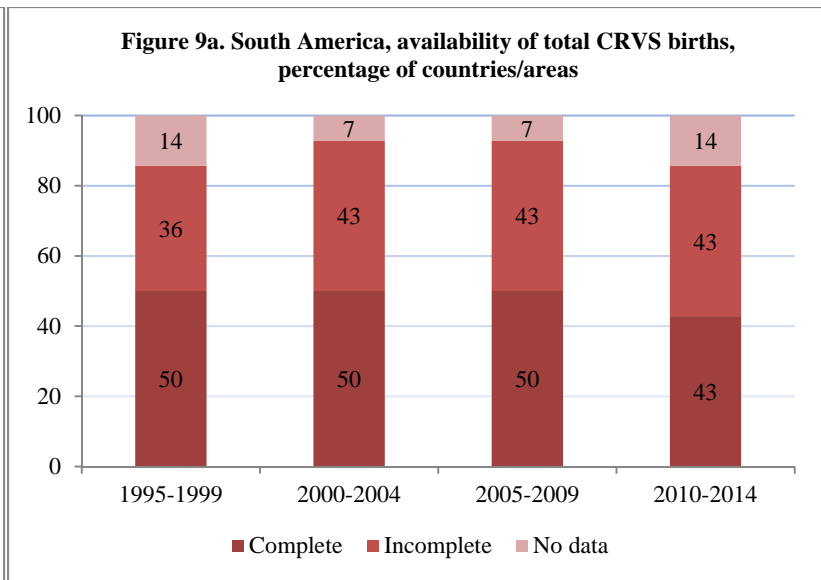
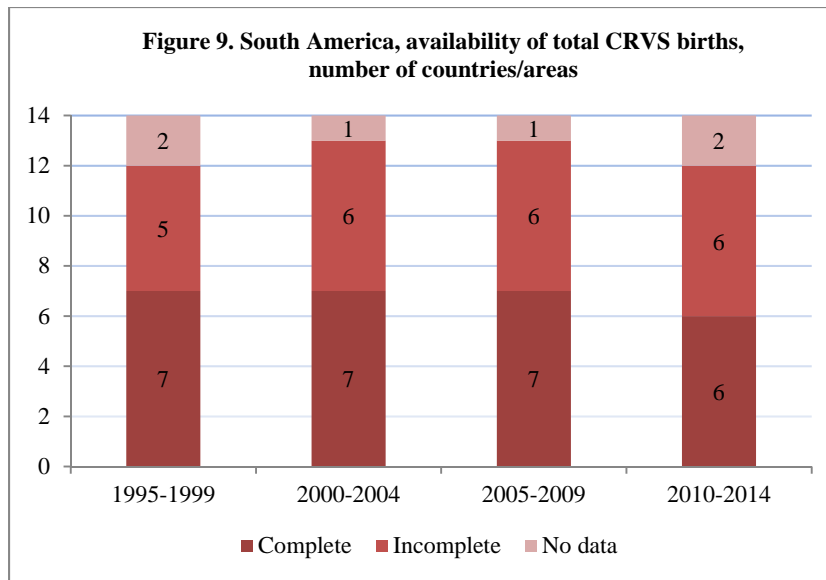


Figure 11. Asia, availability of total CRVS births, number of countries/areas

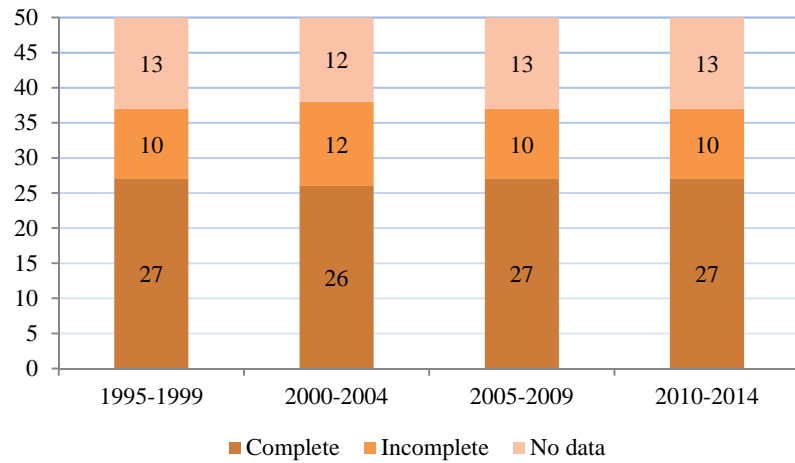


Figure 11a. Asia, availability of total CRVS births, percentage of countries/areas

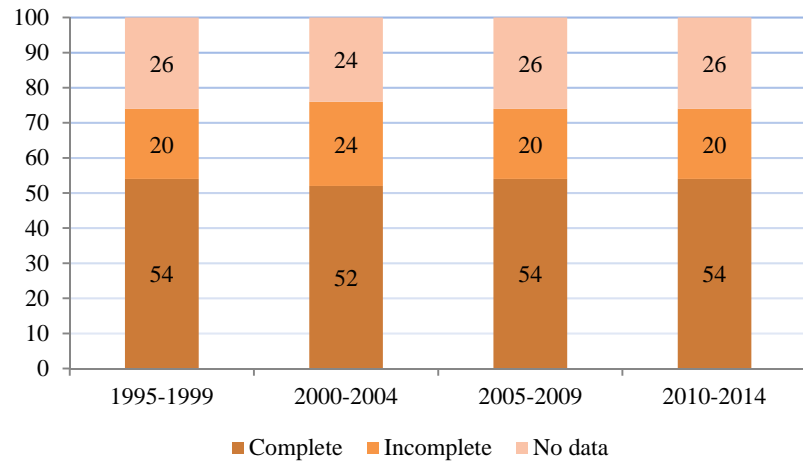


Figure 12. Asia, availability of total CRVS deaths, number of countries/areas

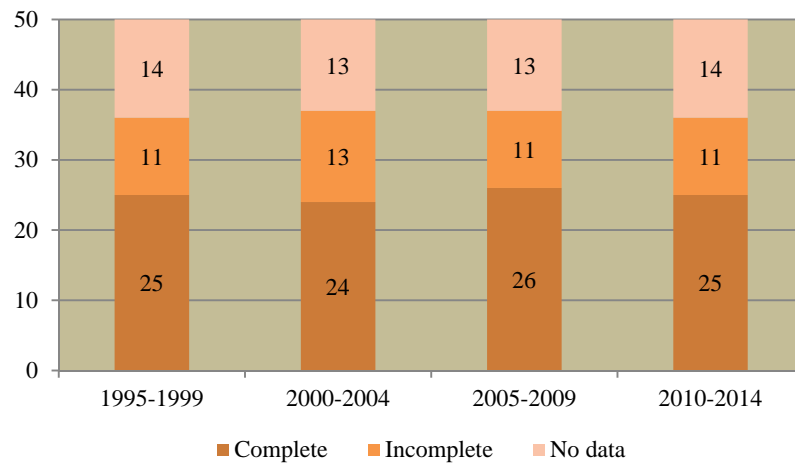


Figure 12a. Asia, availability of total CRVS deaths, percentage of countries/areas

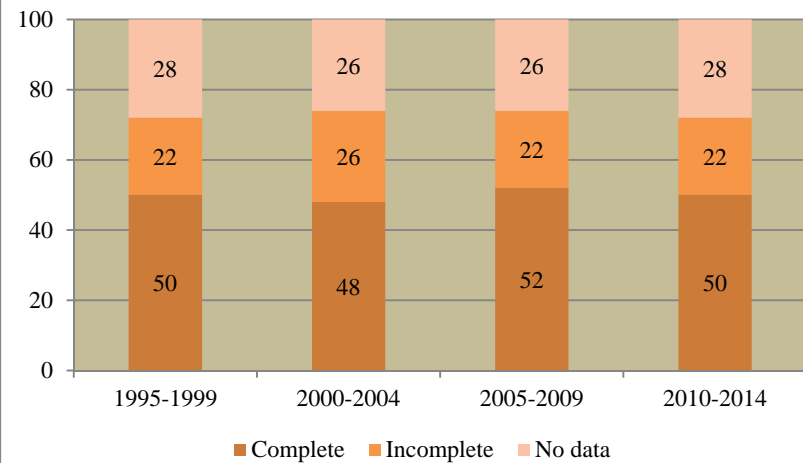


Figure 13. Europe, availability of total CRVS births, number of countries/areas

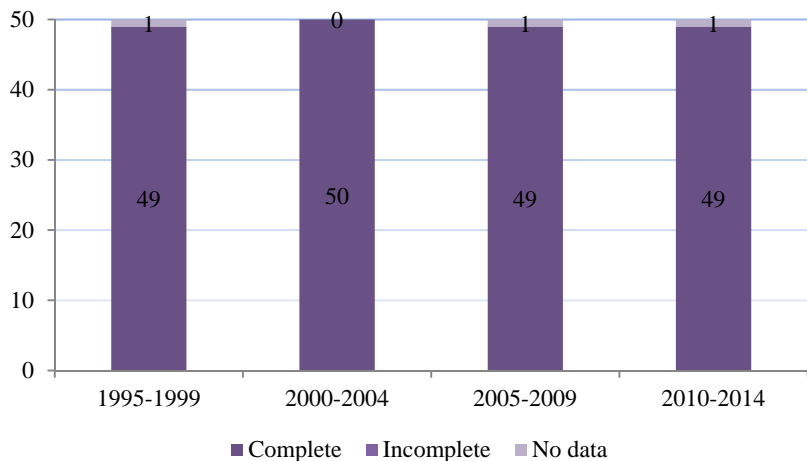


Figure 13a. Europe, availability of total CRVS births, percentage of countries/areas

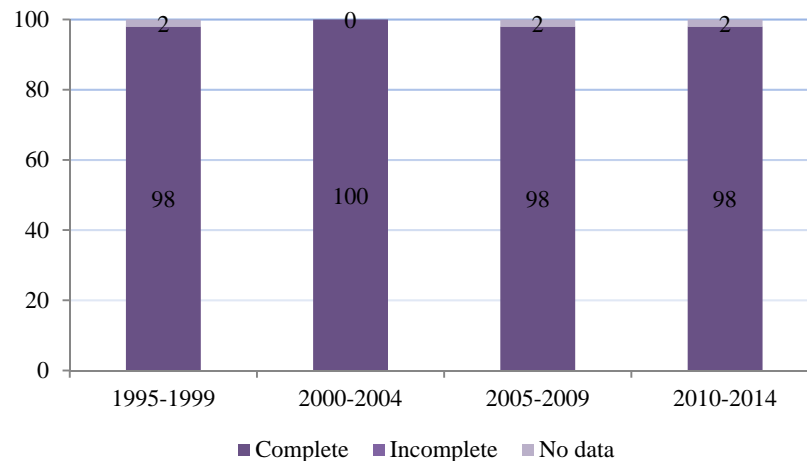


Figure 14. Europe, availability of total CRVS deaths, number of countries/areas

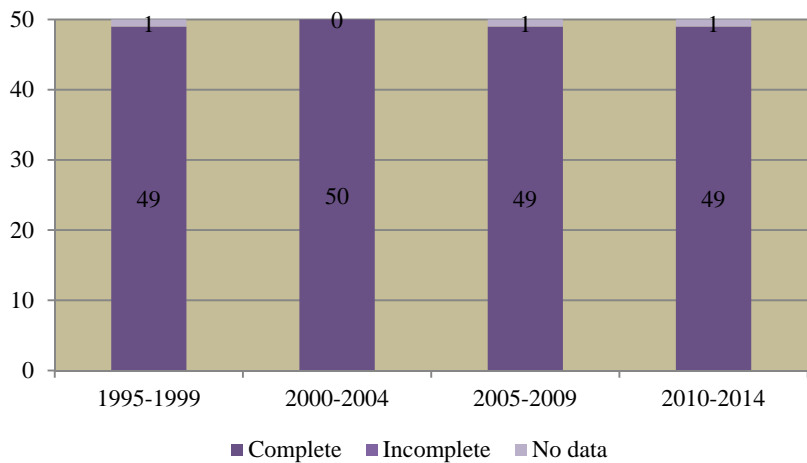


Figure 14a. Europe, availability of total CRVS deaths, percentage of countries/areas

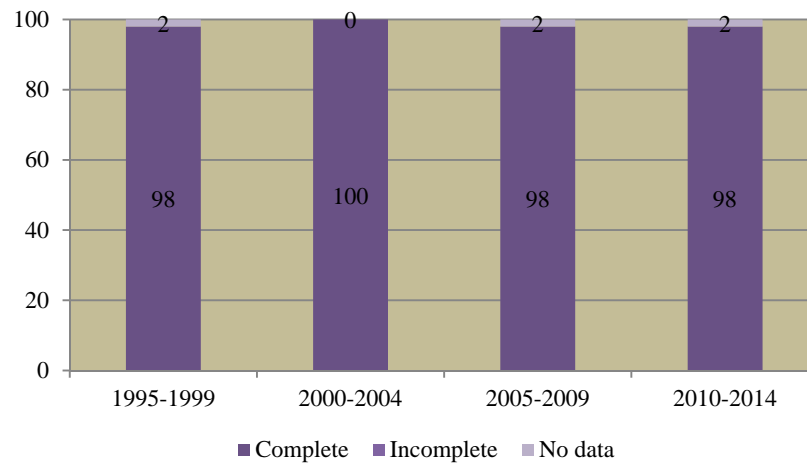


Figure 15. Oceania, availability of total CRVS births, number of countries/areas

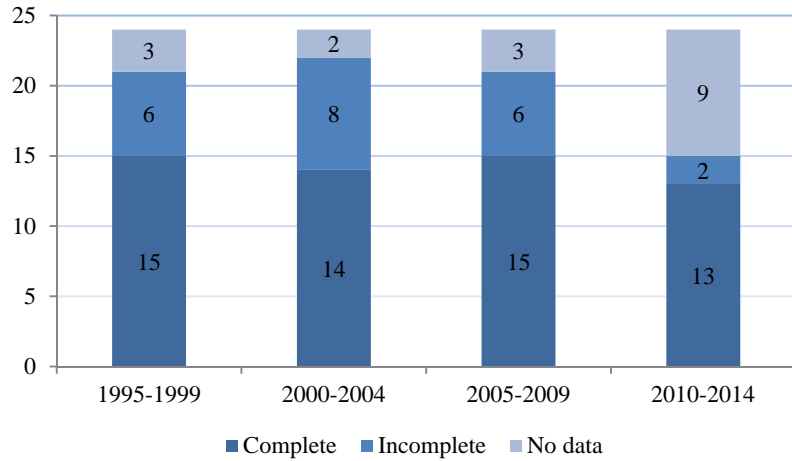


Figure 15a. Oceania, availability of total CRVS births, percentage of countries/areas

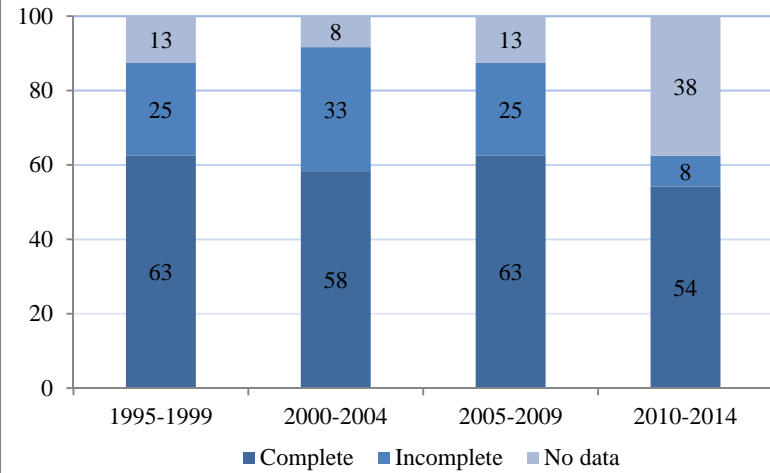


Figure 16. Oceania, availability of total CRVS deaths, number of countries/area

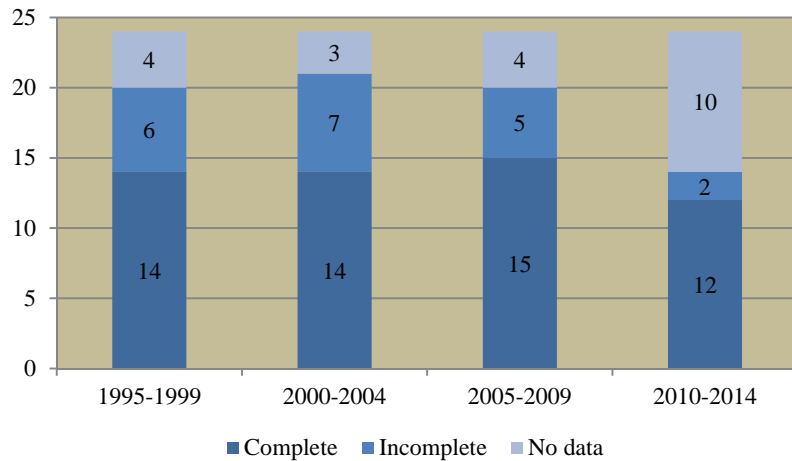


Figure 16a. Oceania, availability of total CRVS deaths, percentage of countries/areas

