Asian and Pacific Civil Registration and Vital Statistics (CRVS) Decade 2015-2024

Technical Report for "Getting every one in the picture – A snapshot of progress midway through the Asian and Pacific CRVS Decade"

Introduction

This technical report presents information on the design, collection and analysis of the midterm questionnaire sent to all members and associate members of the Economic and Social Commission for Asia and the Pacific (ESCAP) between August and October 2019. Responses to the midterm questionnaire were filled by government entities involved in national CRVS systems, in most cases the Office of the Registrar General, the National Statistical Office, or the Ministry of Health. A total of 45 countries responded to the questionnaire, and their responses may be found here: https://getinthepicture.org/regional-picture/midterm-reporting. The template of the questionnaire can be found here. A preliminary analysis of the responses was presented in the Report on progress towards the achievement of the goals of the Asia and Pacific Civil Registration and Vital Statistics Decade (2015-2024) to the ESCAP Committee on Statistics in August 2020. The complete analysis was presented as part of the report entitled "Getting every one in the picture: A snapshot of progress midway through the Asia and Pacific Civil Registration and Vital Statistics Decade". This second report will inform discussions at the Second Ministerial Conference on CRVS in Asia and the Pacific, to be convened in November 2021.

Design of the questionnaire

The objective of the questionnaire was to collect data to assess progress towards the targets of the Regional Action Framework on CRVS in Asia and the Pacific (RAF) and in the completion of its eight implementation steps, at the midterm of the CRVS Decade (2015-2024). It was designed by ESCAP, following guidance from the Regional Steering Group, to facilitate maximal clarity and ownership of the process by countries.

Data were collected on birth registration, death registration, recording of cause of death, vital statistics, which is the collection of statistics on vital events in a life-time of a person as well as relevant characteristics of the events themselves and of the person and persons concerned, and CRVS structures. The data on the targets are quantitative and include the number of registrations and total estimates, from which completeness estimates can be derived. Furthermore, contextual questions aimed at collecting practical knowledge regarding laws, regulations and processes related to CRVS were added to the questionnaire to provide background data on the targets and implementation steps.

The questionnaire was developed to allow comparison with the baseline survey which had been conducted in 2015. To simplify this comparison and limit the respondent burden, validated data collected in the baseline questionnaires were prepopulated in the questionnaires, along with the corresponding remarks. If there were points to clarify in the baseline data, ESCAP sent questions to countries to ensure the data prefilled corresponded to the expected definitions. Several features of the midterm questionnaire were chosen to simplify its filling and in so maximize the response rate. The questionnaire was circulated as an Excel file, tabulated by theme. International data on the total number of events, in most cases from UN Population Division World Population

Prospects, was pre-populated to allow the computation of completeness estimate even in the absence of national estimates for the total number of events.

Two of the fifteen targets of the RAF were not included in the collection:

- **Target 3C** on the percentage of deaths occurring in health facilities or with the attention of a medical practitioner that have an underlying cause of death code derived from the medical certificate according to the standards defined by the International Classification of Diseases (ICD). The wording of target 3C is extremely close to target 1E on the percentage of all deaths recorded by the health sector that have a medically certified cause of death recorded using the international form of the death certificate. The difference is that target 1E refers to the deaths with the <u>cause of death</u> recorded by <u>the health sector,</u> while target 3C relates to the deaths that occurred <u>in health facilities or with the attention of a medical practitioner</u> for which <u>the underlying cause of death was coded</u>. After careful analysis of the baseline data, it was noted that only a handful of countries had understood the difference between the two targets. For this reason, target 3C was excluded from the questionnaire. Instead, a contextual question of whether countries were coding the information provided in the medical certificate of cause of death into ICD codes (Contextual question 7, Table 4. Causes of Death) was used as a proxy to understand if countries were coding causes of death according to the ICD.

- **Target 3E** on the percentage of deaths taking place outside of a health facility and without the attention of a medical practitioner that have their underlying cause of death code determined through a verbal autopsy in line with international standards. The reason for excluding this target from the questionnaire was the wording of the target, which may encourage countries to conduct a verbal autopsy on all deaths taking place outside of a health facility and without the attention of a medical practitioner.[1] Verbal autopsy provides valuable information at the population level but is not reliable enough at the individual level. For this reason, it should instead be used on a representative sample of the deaths taking place outside of a health facility or without the attention of a medical practitioner. The target was therefore replaced by contextual questions 11-14 of 'Table 4. Causes of Death'. For the countries which had a high target for 2024, an additional question was sent on whether they wanted to modify their target considering the above issue.

The following steps were followed to design the questionnaire:

a. **Preparation of the initial version of the midterm questionnaire and modified accompanying guidelines** (August-October 2018).
b. **Presentation of the initial version to the Regional Steering Group** (November 2018).
c. **Modification of the questionnaire based on the inputs from the Regional Steering Group** (February-May 2019). The questionnaire was reformatted to adopt a design corresponding to the questionnaires sent by other international organizations.
d. **Comments from partners and Regional Steering Group members** (June 2019)
e. **Pilots** (June 2019): The questionnaire was sent to three countries for testing (Cambodia, Fiji and New Zealand)
f. **Finalization** (July 2019)

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[1] For more information on verbal autopsy and its integration in CRVS systems, see Verbal Autopsy and the Regional Action Framework on CRVS in Asia and the Pacific: Operational procedures, practices and innovations.

Data collection

ESCAP notified countries at the beginning of 2019 regarding the upcoming midterm questionnaire and requested countries to confirm or appoint a National Focal Point for CRVS. This allowed ESCAP to update its contact list. The role of the National Focal Point is to ensure communication between national CRVS stakeholders and development partners, including by reporting on progress made in the implementation of the Regional Action Framework. The questionnaires were therefore addressed to them, with the Permanent Representatives to ESCAP, UN Resident Coordinators Office, ESCAP sub-regional Office, relevant development partners, and National Statistical Offices in copy. Regional Steering Group members were also copied in the questionnaires addressed to their respective countries. For countries without a National Focal Point, the questionnaire was addressed to the Seat of Government requesting them to forward it to the relevant government department.

To facilitate the completion of the questionnaire, four subregional workshops were organized in 2019. Furthermore, ESCAP organized several webinars to address questions from National Focal Points regarding challenges they faced during the completion of the questionnaire. After the first webinar, a Q&A document with the most common questions/clarifications was circulated.

While countries were encouraged to fill as much of the questionnaire as possible, some answers were not available depending on the reporting country or institution. This means that depending on the subject, the number of countries with available data might differ.

Once received, the questionnaires were thoroughly checked to ensure the information collected corresponded to the questions asked, the responses were clear, and answers were coherent with other sources.

Several international sources were used to compare quantitative or qualitative information:

- UNSD Data Yearbook (https://unstats.un.org/unsd/demographic-social/products/dyb/dyb_2018/)
- UN Population Division World Population Prospects (https://population.un.org/wpp)
- UNICEF's "Percentage of children under age 5 whose births are registered (by sex)" (https://data.unicef.org/topic/child-protection/birth-registration/)
- WHO Mortality Database (https://www.who.int/data/data-collection-tools/who-mortality-database)
- UNICEF ROSA "Status of Civil Registration and Vital Statistics in South Asia Countries 2018" (https://getinthepicture.org/sites/default/files/resources/UNICEF%20ROSA%20Status%20of%20Civil%20Registration%20and%20Vital%20Statistics%20in%20South%20Asia%20Countries%202019.pdf)

Partners working on CRVS systems in the region were also consulted regarding countries on which they had in-depth knowledge, to make sure that the information provided in the questionnaire was coherent with the existing knowledge/literature. In addition, they played a key part in following-up with countries on the completion of the questionnaire.

Furthermore, for each country a thorough review of available national sources was conducted to ensure the quality and record any specificity in the data collected. Three major sources were used: National Statistical Office, the most common, Ministry of Health, mostly for causes of death data, and Office of the Registrar General.

Analysis

Based on the numerical data, several analyses were conducted and presented in the report "Getting every one in the picture: A snapshot of progress midway through the Asia and Pacific Civil Registration and Vital Statistics

Decade". The number of countries included in the analysis for different topics varies depending on data submitted by countries and the nature of the analysis presented.

- Figures I, II, IV, IX comprise all countries in Asia and the Pacific having responded to the midterm questionnaire (44 out of 58 countries), since they are presented by ESCAP's subregion
- Figures III, V, VIII, X comprise all ESCAP members having responded to the midterm questionnaire (45 out of 62 countries)
- Figures VI comprises all countries in Asia and the Pacific for which data is available (49 out of 58 countries)
- Figure XIII and XIV comprise all ESCAP members (62 countries)
- Figures XV and XVI comprise all ESCAP members having answered the midterm or the baseline questionnaire (50 out of 62 countries)

The method and choices of some of these analyses are presented here.

1. **Birth and death registration completeness estimates (Figure V, p.17, and Figure X, p.32)**
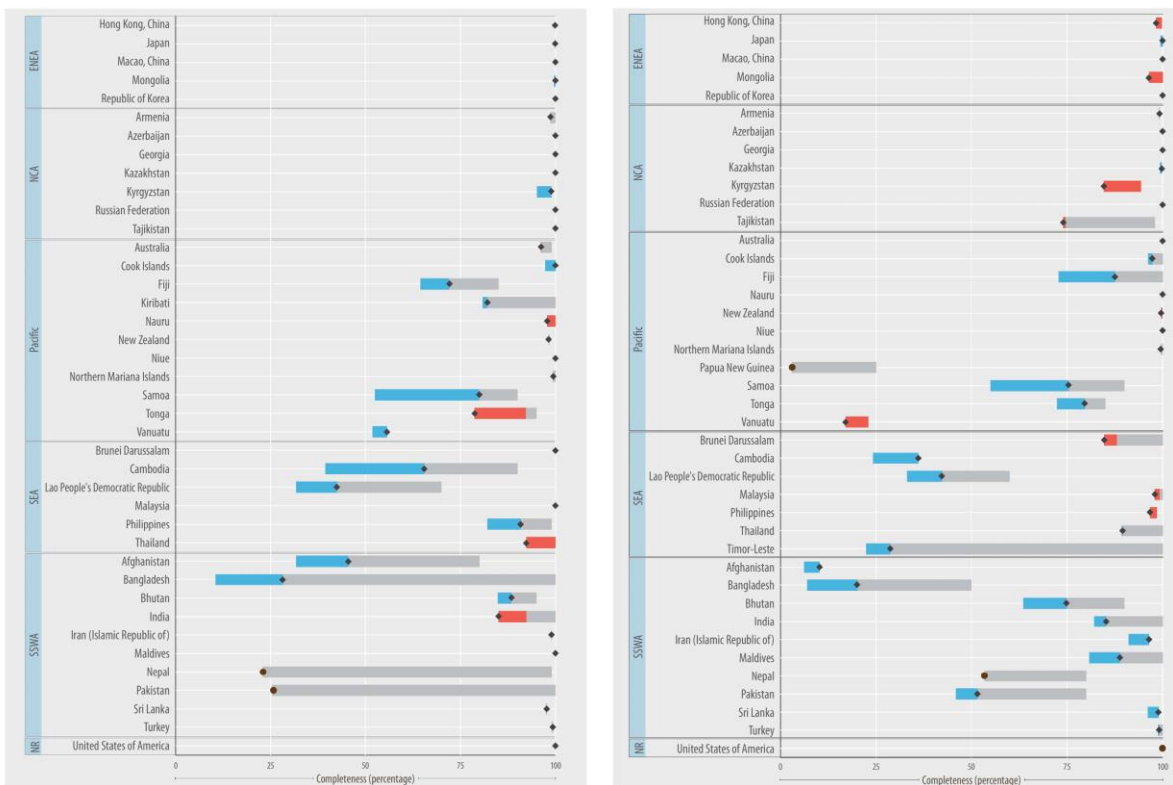
These two graphs present the progresses made with regards to two key targets of the RAF, 1A and 1D.

The targets are:

1A. By 2024, at least …per cent of births in the territory and jurisdiction in the given year are registered.

1D. By 2024, at least …per cent of all deaths that take place in the territory and jurisdiction in the given year are registered.

To assess birth and death registration completeness and progress since the baseline, both a numerator and a denominator were needed:

- The numerator was the number of events registered as per the records of the civil registration authority. For comparability purposes and to reflect the importance of registering events relatively soon after their occurrence, the number of events registered was defined as the number of events occurring in a certain year and registered within one year of occurrence. However, in some cases noted in the questionnaires the events could not be tabulated by year of occurrence and are instead tabulated by year of registration. This difference has a small impact on completeness estimates in a stable setting but can hinder computations in countries with major development of their civil registration system in a short period. This is the reason why, while data from Indonesia, Papua New Guinea and Timor-Leste on birth registration has been accepted, the completeness is not presented in analyses as it cannot be compared with that of other countries.
- For the denominator, there were two possible sources, either national or international. For national sources, countries were asked to provide an estimate of the number of events occurring each year. Such estimates were based on registration records themselves, censuses, or population registers. If countries provided estimates for all years, those national estimates were used as denominators. For countries that had not submitted estimates, international sources were used. In most cases, that source was the UN Population Division World Population Prospects which provides interpolated annual estimates of vital events. For countries and territories not included in the Prospects (countries with fewer than 90,000 inhabitants, which for ESCAP are all in the Pacific), projections made by the Pacific Community were used instead.
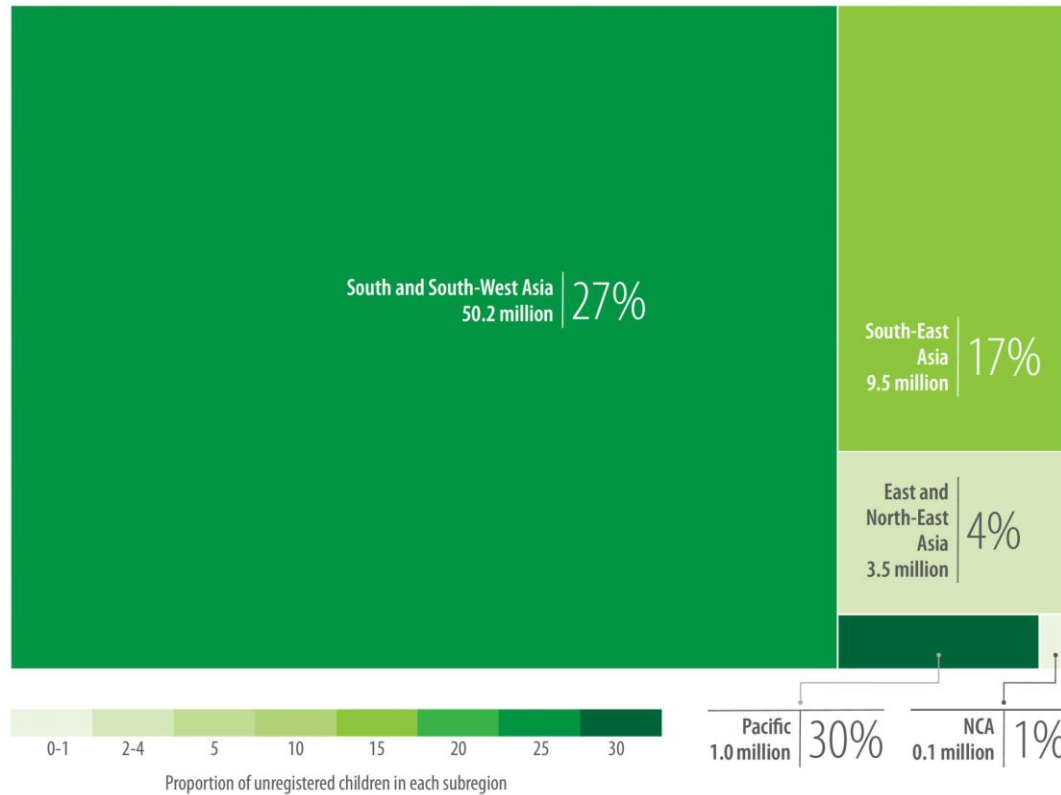
To improve the understanding of trends and foster comparability between countries, the questionnaire not only allowed collection of data for the most recent year available, but also for all years since 2013. Assessment of progress was therefore made comparing the completeness estimated for the most recent year available (usually 2018) and the data from the baseline. For most countries, 2014 was used as the baseline year since they had submitted baseline data for this year and it was the date of the first Ministerial Conference for CRVS in Asia and the Pacific during which the CRVS Decade was declared. If 2014 data were not available, the closest year with available data was used.

Those completeness estimates for the baseline and midterm were then compared to the target, to see if the current trend was likely to result in the achievement of the target by the end of the Decade. Targets were usually set by countries in 2015 during their process of completing the baseline questionnaire,

Considering the unavoidable uncertainty in the estimation of what is not measured and the fact that these estimates can be partly based on deficient underlying data or incomplete civil registration data itself, the figures should therefore be interpreted with caution and be understood as a general indicator of the situation rather than an exact representation of the reality.

2. Children under-5 under-registration analysis (Figure VI, p.20)

| 0-1 | 2-4 | 5 | 10 | 15 | 20 | 25 | 30 |

Proportion of unregistered children in each subregion

South and South-West Asia
50.2 million | 27%

South-East Asia
9.5 million | 17%

East and North-East Asia
3.5 million | 4%

Pacific
1.0 million | 30%

NCA
0.1 million | 1%

Note: The figure is based on an estimated 356.4 million children under five, and 64.4 million of them unregistered (18%). Non-regional countries are not included in this graph.

Figure VI (p.25) presents an overview of the estimated number of children under five that have not had their birth registered, by ESCAP subregion, for 2019. This analysis was based on the 2019 UNICEF report: *Birth Registration for Every Child by 2030: Are we on track?*[2]. It was based on as many countries in the Asia-Pacific region as possible, regardless of whether they responded to the midterm questionnaire.

Birth Registration for Every Child by 2030: Are we on track? looked at the global levels of registration and certification for children under five and under one and gave estimates of the number of children whose birth was not registered or certified in those categories. It also provided estimates for each of UNICEF's subregions, which do not exactly correspond to ESCAP subregions. To get estimates for ESCAP subregions and to take stock of more recent data as well as some additional data from midterm questionnaires, the UNICEF process for the analysis of children under five without registration (corresponding to SDG target 16.9) was replicated for the report.

The method for the UNICEF publication was as follow (from the technical notes of *Birth Registration for Every Child by 2030: Are we on track?*):

> *Global estimates of birth registration for children under age 5 and under age 1 are calculated based on the following: (1) latest available data for each country, within the period 2010 to 2018, primarily drawn from nationally representative household surveys such as the Multiple Indicator Cluster Surveys (MICS) and*

[2] Available at https://www.unicef.org/reports/birth-registration-every-child-2030

Demographic and Health Surveys (DHS); (2) estimated coverage of birth registration for 30 countries in Western Europe, 2 in North America and an additional 24 countries with no comparable data in the UNICEF global database made on the basis of the information obtained from UNSD on estimated coverage of birth registration within national civil registration systems; and (3) proxy indicator of hukou registration for China. For China, internationally comparable and nationally representative data on birth registration prevalence have not been available historically. However, data are available for a related indicator on registration of children's permanent residence, known as 'hukou', by the household registration department. Hukou registration is the only indication that birth registration has been carried out and completed, and hukou registration is one of the most important components of the household management system in China. The latest available data on children's hukou registration were obtained from the National Population Sample Survey (also referred to as a 'mini-census') conducted in 2015 by the National Bureau of Statistics of China.

Demographic data are from the United Nations, Department of Economic and Social Affairs, Population Division, World Population Prospects 2019, Online edition, Revision 1.

Further details are available in the technical notes of the UNICEF report *Birth Registration for Every Child by 2030: Are we on track?*

The data used for the report "Getting every one in the picture" were the same as described above, as well as the method, except for a few changes:

- For countries where UNICEF did not publish figures, figures from the midterm questionnaires were used when available.
- For countries with more recent data from a survey (MICS or DHS) with an estimate of children under five registration rates, those results replaced the ones from the UNICEF database[3].

Percentage estimates of registration completeness were then applied to the estimated population of children under five as of 2019 to get estimates for the number of children registered and unregistered in each country. Aggregating by subregion, the total number of children under five unregistered and the percentage of children whose birth had never been registered were computed.

Combining UNICEF's data and data from the questionnaire, data was available for the majority of ESCAP countries. The only countries with missing data were in the Pacific, representing less than 5% of the total number of children in that region.

3. **Progress dashboards (Figure I, p.3, Figure II, p.4, Figure III, p.14, Figure VIII, p.30)**

In Figures I, II, III and VIII, different measures of countries' progress status by targets are presented, summarizing the changes between the baseline and midterm of the CRVS Decade in relation to the targets set by countries. To determine the status of each target for each country, different criteria depending on the nature of the target were applied. In total, countries were classed under 6 statuses, although not all of them apply to every target. Those

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[3] Available at https://data.unicef.org/topic/child-protection/birth-registration/#

statuses were: Achieved, Progress, Stagnation, Regression, Insufficient data, and Not relevant. Below is a detailed description of the criteria for each target.

- **Targets 1A, 1C, 2A (Birth registration), 1D, 2B (Death registration) and 1E (Causes of death recording)**: The indicators for these targets were all reported in percentages, with 100% being the ideal value, and the data coming exclusively from the midterm questionnaires. Countries had submitted data for these targets for as early as 2010 and as late as 2019. However, in most cases, the last available data was 2018 and data prior to 2014 was not available. Therefore, progress was assessed by comparing the 2014 and 2018 values, when available. If those were not available, at least two data points were needed. If a country had only one or no data point, it was classed as having "Insufficient data" unless the midterm data showed higher completeness than the target set for 2024. The threshold for assessing a significant change between baseline and midterm values was arbitrarily fixed at 2 percentage points to account for the quality of available data and uncertainty in estimation methods used. Further, when comparing the midterm value to the target value set by countries, they were considered as having achieved their target if their midterm value was at least within 2 percentage points of the target, or at least 98% completeness for those without a target. For the remaining countries, those with a midterm value at least 2 percentage points higher than the baseline value were considered as having progressed. Those where the midterm value was at least 2 percentage points lower were considered as having regressed. Those where the difference was under 2 percentage points were considered as stagnating.
- **Target 3D (Causes of death records assigned an ill defined code)**: The indicator for this target was expressed in percentages as well, but with a desired value of 0%. The selection of the baseline and midterm year was in the same way as for the other targets. Since the objective was a percentage as low as possible, the direction of progress was reversed (progress if midterm is lower than baseline). Additionally, the "change threshold" was placed at 1 percentage point, considering the lower values and amplitude of changes. This means that countries were considered having achieved their target if their midterm value was at most within 1 percentage point of their target, or at 1% of records with an ill-defined code if they did not have a target, and change of +/- 1 percentage point was considered stagnation.
- **Target 1B (Birth registration)**: The indicator for this target was expressed in percentages as well, but since most of the data came from surveys and not civil registration data, the progress assessment methodology used was different. All publicly available data was collected for the 2010-2019 period. The sources used were the UNICEF database, MICS surveys, DHS surveys, and midterm questionnaires if none of the previous sources were available. These data were then divided between baseline (2010-2014) and midterm (2015-2019). Progress was only assessed for countries having at least one data point for each of these two periods, and only the latest data in each period was kept in case there was more than one. Since most of the data were derived from surveys for which sampling error is the key cause of uncertainty, thresholds were applied in a different way. Were considered achieved countries that had a midterm value superior or equal to their target. For those that did not have a target, they were considered achieved if their latest value was 100%. For the remaining countries, those with a midterm value at least 2 percentage points higher than the baseline value were considered as having progressed. Those where the midterm value was at least 2 percentage points lower were considered as having regressed. Those where the difference was under 2 percentage points were considered as stagnating..

- **Target 3E (Verbal autopsy)**: While percentage data had been collected as part of the baseline assessment, the midterm questionnaire assessed the implementation of this target only through a yes/no question[4]. To assess the progress status, the answers to the baseline and midterm questionnaires were first used to derive either a "Yes", "No" or "No response" for the baseline, midterm and target. For the baseline, if they had reported a specific number of verbal autopsies performed or if they indicated using Verbal autopsy even though they did not have figures, countries were put under "Yes". If they clearly indicated not performing any, they were put under "No". For the midterm, it was just taking their answer to the "Yes/No" question as their status. For the target, it could be indicated either from the baseline or midterm questionnaires. If a numerical target had been set in the baseline, or if the comment in the midterm indicated a clear will to implement verbal autopsy, the country was put as having a target. If either from a comment in the baseline or the midterm, a country indicated that they did not consider this target relevant for them or that they had no objective implementing it, they were put as "No". This was usually the case for countries considering that all or most of their deaths were already occurring in hospitals. Since no numerical data was collected, the countries could not be defined as progressing or regressing. From those three values (baseline, midterm, target), countries' status was categorized as: Achieved, Stagnation, Insufficient data and Not relevant.

Table 1: Status of Target 3E on Verbal Autopsy depending on answers to the baseline and midterm questionnaires

		Target		
		Yes	No	No answer
Midterm	Yes	Achieved	Achieved	Achieved
	No	Stagnation (Insufficient data if 'Yes' for the baseline)	Not relevant	Insufficient data
	No Answer	Insufficient data	Not relevant	Insufficient data

- **Targets 3F, 3G, 3H (Vital statistics)**: These targets were collected as Yes/No questions. Countries were categorized as having achieved if they had a Yes for the midterm, stagnating if they had a No, and having insufficient data if they had not answered.

Those statuses were then used in different ways depending on the Figures:

Figure I offers a classification of targets depending on the repartition of statuses in the whole region. If fewer than 1 in 10 countries reporting data showed stagnation or regression, the target was considered "Actioned". If fewer than 1 in 3 countries were in the same situation, it was considered "Being Actioned". If more than 1 in 3, it was considered "Need for action".

Figure II represents the percentage of countries in each subregion having achieved the different targets. All reporting countries were included for the denominator, whether they had reported data on a target or not.

Figure III (targets 1A, 1B, 1C and 2A) and Figure VIII (targets 1D, 2B, 1E, 3D, 3E) simply represent the status by target and country respectively for births and deaths related targets.

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[4] "Is verbal autopsy used for deaths taking place outside of a health facility and without the attention of a medical practitioner?"