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SESSION 9: CIVIL REGISTRATION AND VITAL STATISTICS

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EXECUTIVE SUMMARY

The development of Civil Registration and Vital Statistics (CRVS) systems is one of the core priorities of the Ten Year Pacific Statistics Strategy (TYPSS). The overall goal is to ensure that Pacific Islands and Territories (PICTs) have a robust source of vital statistics (including on causes of death), which can guide governments in service delivery, and facilitate accurate inter-censal and sub-national level planning, and monitoring of development.

The need for CRVS systems is universally recognised. Goal 16 of the UN sustainable development agenda calls for universal birth registration as the primary means to realisation of a legal identity for populations. Numerous health targets outlined by the agenda further require data on death and causes of death, which can only be reliably acquired from well-functioning CRVS systems. In a bid to accelerate improvements in CRVS systems, at a Ministerial gathering held in 2014, PICTs along with other countries in the Asia-Pacific region declared 2015-2024 to be the Asia Pacific Decade for CRVS.

The development of CRVS systems in the Pacific is guided by the Pacific Vital statistics Action plan (PVSAP), whose implementation is coordinated by SPC, with the support of a group of agencies, known as the Brisbane Accord Group (BAG).

Significant progress has been realised by PICTs in the development of CRVS systems over the last four years. In line with regional recommendations, most countries have adopted multi-sectoral approaches to the development of systems, and have made commendable efforts towards formalisation of national CRVS coordination frameworks, and plans. Other key achievements include the publication of the first set of vital statistics reports by 5 countries (with 4 reports under review), initiation of review of civil registration legislation in 3 countries, the establishment of the Pacific Civil Registrars Network (PCRN) which has played a crucial role in facilitating peer-peer learning among PICTs, and the high-level political commitments made by PICTs governments towards the Asia-Pacific Decade for CRVS and the corresponding monitoring framework.

Key challenges in implementation of the PVSAP and the development of CRVS systems in the region include difficulties in accessibility of registration services to the public (due to direct and indirect costs associated with the registration of vital events), outdated civil registration legislation, weaknesses in human resource capacity including a high staff turnover in some countries, low data quality (especially for cause of death data), inadequate infrastructure for archival of records and data, challenges in adopting appropriate Information Technology (IT) for civil registration, and the adverse impact of disasters on civil registration records and infrastructure among others .

The role of National Statistics Offices as key stakeholders in national CRVS improvement efforts cannot be overemphasised. During this meeting, countries are particularly encouraged to monitor the performance of their civil registration systems, through routine estimation of birth and death registration completeness, and to establish a national schedule for the publication of vital statistics from administrative sources. Moreover, countries are requested to take note of the regional template on the development of a vital statistics report available at <http://www.pacific-crvs.org/>

WHY IS CRVS IMPORTANT?

1. Demographic measures of fertility and mortality are routinely required by governments to understand changes in the size, structure and characteristics of populations, and to monitor progress against health and other development targets that governments set. Administrative data sources, and in particular civil registration systems are universally recognised for their fundamental function of providing governments with a continuous and permanent source of population data and statistics. These systems are recognised by the United Nations, as being the most reliable and cost-effective sources of vital statistics (including statistics on causes of death). Countries with universally complete systems (of civil registration and migration) and the associated infrastructure and organisational arrangements are able to undertake register-based population censuses, hence saving governments from enormous costs incurred through population census operations.
2. The value of civil registration systems stretches beyond their statistical functions. Civil registration is the primary means through which an individual's legal identity is established. Through registration, the systems issue identity documents which are used by individual members of the public to identify themselves to each other and to the state. Identification records created through civil registration provide the primary feeder documents for the creation of population databases such as national identification systems, passport and immigration systems, and electoral databases among others. Records of birth inform the state of new entrants/ persons eligible to be included in these databases, while death records provide the legal means to close an identity and to appropriate the rights and social services associated to such an identity.
3. CRVS systems are central to the monitoring of a broad range of SDG targets and indicators, including those of goal 16, target 16.9 which states : *“By 2030, provide legal identity for all, including birth registration “*, and the numerous health targets and indicators, outlined under goal 3 which require birth, death registration and cause of death data for their monitoring. The systems are also crucial to the monitoring of the political commitments made by PICTs within the Asia Pacific Regional Action Framework for CRVS under which countries have set specific targets for system completeness, legal documentation, and production of vital statistics.
4. The development of CRVS systems is one of the core priorities of the TYPSS. The overall goal is to ensure that PICTs have a robust source of vital statistics, which can facilitate adequate monitoring of national development goals and targets and accurate inter-censal and sub-national level planning.

5. The development of CRVS systems in the Pacific is guided by the PVSAP, whose implementation is coordinated by SPC, with the support of BAG. The PVSAP¹ is now in its second phase of implementation (2016-2020). Over the past 4 years, the plan has focussed on building the capacity PICTs through: (i) Training; (ii) Direct technical support to countries based on specific country needs; (iii) Development of knowledge products including: regional best practice guidelines on legislation and IT, CRVS sheets, regional mortality reports; and; (iv) supporting opportunities for peer-peer learning, through South to South country exchange visits, regional meetings and workshops.
6. This paper seeks to provide a summary of the progress made by PICTs in the development of CRVS systems, the challenges experienced over the last four years, as well as some recommendations. The paper builds on the update provided at the last HoPS meeting held in 2013, and therefore focusses on the last four years.

KEY ACHIEVEMENTS

7. **High level political commitment to CRVS by Pacific Ministers responsible for civil registration:** The lack of political commitment has been identified as one of the most fundamental challenges in the development of CRVS systems in most countries of the world. At the 2014 historic Conference, Pacific Ministers responsible for Civil Registration made resounding commitments towards the development of CRVS systems in their respective countries, and further signed up to the Regional Action Framework for CRVS and the Asian and Pacific Decade for civil registration and vital statistics. These commitments provide an important foundation for mobilising support and investments into CRVS systems. Through these commitments, a number of PICTs have moved to establish national CRVS coordination committees and have further crafted national targets for CRVS, and developed national strategies for the improvement of CRVS systems. PICTs have also continued to engage at the regional CRVS steering group through their representation by the Minister of Health and Medical Services of Fiji who chairs the group, , as well as representation by Cook Islands, Vanuatu and the Brisbane Accord Group..
8. **Training on data analysis and report writing:** BAG has over the last four years provided three rounds of training on the analysis of administrative data i.e. health and civil registration data. These trainings are aimed at building the analytical skills of countries, and hence enabling them to develop vital statistics reports. The trainings have demonstrated to be of critical value in assisting countries to unearth weaknesses associated with their civil registration and health information systems, which have been used to feed into the overall system strengthening efforts. For example, through the exercise, countries have been able to identify weaknesses in their data collection formats, inconsistencies in data entry, incompleteness of birth and death recording, poor death certification practices among others. Through the trainings, five countries have published vital statistics reports namely: American Samoa, Niue, Cook Islands, Tuvalu and Nauru. Four others are in the process of reviewing their reports for publication, namely: Solomon Islands, Kiribati, Vanuatu, and FSM (Yap) this year. Another round of training is scheduled for the first quarter of 2018.

¹ The PVSAP sits under the Ten Year Pacific Statistics Strategy (TYPSS)

- 9. Establishment of the Pacific Civil Registrar’s Network (PCRN)²:** The PCRN, a formalised network of registrar’s in the Pacific was constituted in 2015, with an aim of providing an opportunity to share knowledge and good practices in Civil Registration, and more broadly to foster coordination, and integration of Civil registrars inputs into implementation of the PVSAP and the Asia-Pacific Regional Action Framework on CRVS.

Among the significant achievements of the network is the establishment of cross-border data sharing arrangements between some PICTs (Governments of New Zealand, Cook Islands and Niue), which is aimed at improving the completeness and quality of death registration records³. In October 2017, the PCRN hosted a ground-breaking workshop that looked into Civil Registration in the context of disasters. The workshop provided important insights and guidance among them; the need to establish “civil registration focussed disaster management plans’ and the potential role of civil registration data in the management of disasters. The network provides a unique opportunity for registrars to exchange knowledge and experiences round the year.

- 10. Regional knowledge products:** In order to build knowledge and support learning in the region, BAG has developed a number of resource materials on CRVS described below. These documents have been developed with countries, and/or based on country input and feedback. These documents are available on the Pacific CRVS website: <http://www.pacific-crvs.org/> and are further being shared with the Asia-Pacific region at large through www.getinthepicture.org.

- a) **Regional best practice guidelines on Legislation:** These guidelines provide foundational principles on the development of civil registration legislation. The guidelines are based on the principles outlined within the “United Nations Handbook Civil Registration and Vital Statistics Systems: Preparation of a Legal Framework”-which is currently under review, and the UN principles and Recommendations for a Vital Statistics system. The guidelines provide best practice examples on the application of the recommended principles, by countries in the Pacific. The objective is to provide countries with guidance on the development of a robust civil registration legislative framework, in support of a robust CRVS system. The guidelines have been used to feed into the revision of the above mention global handbook.
- b) **Regional best practice guidelines on IT:** This document was developed to provide guidance to PICTs on the choice and application of IT for CRVS systems. The document recognises the rapid changes in the Information Technology space and the need to ensure that countries are equipped with relevant knowledge to make appropriate decisions in this regard. The documents outlines fundamental attributes of efficient IT for CRVS. The greater

² The Network has been supported by the government of New Zealand under the leadership of the Registrar General of New Zealand.

³ The high mobility of populations in the Pacific often results into deaths occurring in a foreign country (outside country where birth was registered). Sharing this information between registrars is important in ensuring that the identity record of the deceased is closed, a critical element of improving the security of records. It is also important that countries share information on changes in the identification details of persons (names, sex etc.), to ensure that the original birth records are similarly updated. These data-sharing arrangements have so far been established between the Governments of New Zealand, Cook Islands and Niue.

goal of this work is to support harmonisation of IT Infrastructure in the region, which would facilitate data sharing and ease in providing regional support when needed. It further guides countries to avoid some of the potential pitfalls when establishing or updating CRVS IT systems.

- c) CRVS fact sheets: These 2-4 page documents are designed to provide a quick reference to countries on key subjects and their linkages to CRVS. The fact sheets are envisioned to be a critical resource for national CRVS staff in communicating CRVS messages to policy makers or the political leadership. The fact sheets cover a wide range of subjects including: CRVS and Natural disasters; CRVS and Human rights; Political commitment to CRVS; Road related deaths; What is CRVS? ; Improving CRVS through the census etc.
- d) Regional mortality reports: These reports seek to provide a regional picture on the state and trends in infant and adult mortality in the Pacific between years 2000-2015. The reports provide individual country profiles, comparing data available across years. The development of these reports was led by students from the University of New South Wales (UNSW) in collaboration with SPC staff, under a student internship programme that is facilitated by SPC. It is envisaged that this programme contributes to the overall building of knowledge and awareness on CRVS among the participants.
- e) Other reports that are still under development are on the themes: “Non-communicable diseases in the Pacific”, “Road traffic accident morbidity and mortality” and “doctors attitudes in the certification of deaths”.

11. Training on the certification of causes of death: the quality of cause of death data remains a critical challenge for the Pacific region. This is particularly of concern in view of the need for the region to monitor fundamental health and mortality challenges, in particular those underlined within the “Healthy Islands Framework”. Weaknesses in the quality of certification of cause of death stem from numerous factors including knowledge and capacity issues among the concerned staff, social influences including pressure on doctors from relatives and the community to assign more socially accepted causes etc. Coding of causes of death is similarly constrained by staff capacity issues including inadequacy in staff numbers and technical capacity.

In 2017, BAG provided certification training to doctors and other health personnel in Republics of Samoa and Tuvalu. The training was primarily aimed at building capacity in certification practices based on internationally set standards, while also taking into account national and regional contextual issues affecting certification practices. This training will be followed by a regional training of trainers that will be held in Fiji in November 2017. The training is aimed at reviewing the adequacy of existing training materials and further creating a regional pool of resources that can be used to deliver knowledge in this area. The training will bring together doctors from across the region with selected HIS staff members, university partners among others. The training is led by SPC with support from the Fiji National University.

12. Cause of death coding support for smaller island countries: PICTs with small populations face fundamental challenges in retaining staff to undertake cause of death coding functions.

At the request of the Government of Nauru, the Australian Bureau of Statistics (ABS) recently initiated an arrangement with the Government of Nauru, which should facilitate data sharing and off-island support in coding causes of death for the country. Arrangements to facilitate this

support including the establishment of the required legislative and policy frameworks is still underway. This initiative is viewed to be an important innovative approach to addressing CRVS challenges in the region. It is envisaged that similar arrangements will be established for countries in need of similar support. BAG has also through the ABS supported the government of Fiji in the application of IRIS-an automated system of coding of causes of death. This is envisaged to significantly improve the quality and efficiency of cause of death coding in the country. There are ongoing plans to provide similar support to other countries in the region within the near future.

- 13. Participation of BAG at global CRVS activities:** BAG has continued to engage in global CRVS activities with an objective of sharing the experiences of the Pacific region to the global CRVS community, and also ensuring that the region builds and learns from knowledge available through these platforms. BAG is represented by SPC at the Global CRVS group and the Regional Steering group for CRVS in Asia and the Pacific. Among the most fundamental developments by the Global CRVS working group is the recent release of the first ever online CRVS e-learning course, which facilitates individualised learning on CRVS through self-paced and facilitated courses. The materials provided through the course will be used to strengthen BAG's training materials on data analysis and report writing. Countries are encouraged to enrol to the course, which provides foundational knowledge on CRVS. The course can be accessed upon registration at the World Bank's Open learning Campus at: <https://olc.worldbank.org/>.

CHALLENGES AND AREAS FOR IMPROVEMENT

- 14. Outdated Civil Registration legislation:** Legislation plays a critical role in establishing the framework within which civil registration is conducted, and provides the basic means through which the authenticity of civil registration records and documents can be verified. It is crucial that the legislation aligns and facilitates registration within internationally recommended principles and standards, and also that it is updated to reflect recent political, economic, social and technological developments (nationally, regionally and internationally).

Many PICTS have outdated legislation; the legislation in three countries stems from colonial provisions that pre-date independence, 8 countries haven't revised their laws in the last 20 years; others, although newer, may also have recognised gaps. The Republic of Vanuatu, the Solomon Islands and the Kingdom of Tonga commenced processes to review their civil registration laws within the past year. Among the critical developments that old laws are likely to overlook include: the evolving need to use information technology, the movement of people across borders which may necessitate data sharing, evolving national practices such as growth in the funeral industry which necessitates links with the civil registry for death registration, need for data protection amidst the growing need for data sharing among others. Countries are encouraged to prioritise review of their legislations, and to adopt the regional best practice guidelines on legislation for this process. These guidelines can be found at the Pacific CRVS website at <http://www.pacific-crvs.org/docs?view=download&format=raw&fileId=115>.

- 15. Accessibility to civil registration services:** Access to civil registration services remains one of the most fundamental challenges to the development of civil registration systems in the region. This is mainly caused by the diverse geographic spread of populations, coupled with costs associated with registration and /or acquisition of certificates. Establishing a

collaborative arrangement with the Ministry of Health is an important way of bridging existing distance gaps. The Ministry of health often has an established network of health workers in communities, which could be used to notify the registrar and to facilitate vital event registration. In accordance with international standards, it is recommended that countries eliminate fees associated with registration and/or the issuance of certificates.

- 16. IT for Civil registration:** A number of countries are faced with significant challenges in the choice and adoption of appropriate technology for the establishment of their civil registration systems. The rapidly changing environment of IT, and the availability of numerous technological solutions makes it difficult to keep abreast/ make ideal technological choices. There are a number of experiences where systems have failed to meet a minimum standard of performance despite heavy financial investments by Pacific governments. Issues of inadequate internet coverage, lack of capacity for interoperability, vendor-locked solutions and problems with succession/ in-country skill transfer have been some of the challenges faced by countries. The regional guidelines in IT for CRVS provide comprehensive guidance on how countries can mitigate some of the above mentioned challenges.
- 17. Storage and archival of Civil Registration records and data:** due to their legal standing, Civil registration records are by nature historic records which demands that they are recorded and archived in a manner that facilitates access and retrieval over many of years. While a number of countries have adopted electronic systems of data capture, most still do not have back-up systems in place, and many are at risk of losing these crucial records and documents in the event of a disaster. There are also challenges pertaining to retrieval and archival of paper based records and data recorded on very old registers which would be very delicate to manage. Fiji will be undertaking this exercise in the near future. It is recommended that their experience is shared regionally with other countries that may be facing similar needs.
- 18. Disaster preparedness and management:** Civil Registration infrastructure and operations are prone to disruption and damage during disasters. For example, while significant improvements in registration were recorded to have occurred in Vanuatu following Cyclone Pam, Civil registration operations are known to have been initially significantly disrupted, including the destruction of some registration offices. The Republic of Nauru is also known to have lost national civil registration data through a fire disaster.

Presently, no country in the Pacific is known to have put in place an elaborate strategy or plan on how to prepare, manage or mitigate the impacts of a disaster on civil registration systems and/or operations. A recent meeting of civil registrars held in Fiji in October 2017 deliberated on this issue. There was consensus on the need for countries to look into building resilient civil registration systems that not only withstand the effects of a disaster, but that can effectively be used by governments to support disaster management efforts. Countries are encouraged to embed disaster mitigation/ disaster management plans into their national CRVS plans and ensure that these are sufficiently resourced. As earlier noted ensuring proper back-up and archival of civil registration records is an essential component of this plan.

- 19. Monitoring performance of civil registration systems:** Civil registration systems are generally known to be incomplete in most PICTs. However, there are some evident developments and improvements in the systems over the past years owing to their prioritisation by most governments and also through Capacity building efforts made through the BAG. It is essential that countries establish practices of routinely assessing performance of the systems and

documenting such progress where applicable. Such monitoring is critical in assessing whether initiatives in place are yielding as expected, and also providing the means to mobilise support from the government. Monitoring performance of the systems is also a useful way of demonstrating the reliability of the system as a national source of vital statistics, and building the government's confidence into the system. Basic performance monitoring would entail estimating and publishing estimates on annual basis of: (i) completeness of birth and death registration at national and sub-national levels, (ii) the proportion of deaths with a medically certified cause; (iii) the proportion of ill-defined causes of death. Guidance on how to develop these estimates is available through the BAG and also in the regional guidelines on vital statistics.

20. Human resources at the BAG secretariat: SPC has over the past seven years served as the Secretariat of BAG. This role has entailed coordination of CRVS activities undertaken by BAG partners, and ensuring that there is harmonisation of messages and maximisation of resources made available to countries through the group. SPC is also directly engaged in the provision of technical assistance to countries, primarily through training, technical assistance missions, and development of regional knowledge products among others. SPC endeavours to continue undertaking these roles. However, the scope of support to countries over the next year will to some extent be limited, due to a reduction in the number of human resources available at the secretariat. The latter is as a result of resource challenges within the statistics division. However, there are ongoing efforts to mobilise resources to strengthen the CRVS work programme, and particularly the human resources.

RECOMMENDATIONS

During this meeting, Heads of Planning and Statistics are particularly encouraged to:

- a. Monitor the performance of their civil registration systems, through routine estimation of birth and death registration completeness⁴; the next round of census provides a significant opportunity to undertake such completeness assessment. More information about this is provided in the attached fact sheet.
- b. Establish a national schedule for the publication of vital statistics from administrative sources;
- c. Take note of the regional guidelines on the development of a vital statistics report available at <http://www.pacific-crvs.org/>;
- d. Embed the development of CRVS systems into National Strategies for the Development of Statistics (NSDSs) to ensure that CRVS is recognised as a core national statistics function.

REFERENCES

- a. Fact sheet: Improving Civil Registration systems through the Census (attached)
- b. Regional guidelines on the development of a vital statistics report available at www.spc.int

⁴ Guidance on how to undertake this estimations is provided in the vital statistics reporting guidelines. .

Appendix

Using the Census to Improve Civil Registration

Introduction

Civil registration systems are an integral part of the national statistical system. These systems collect data on births and deaths (and other vital events) for all people in the country on a continuous basis - in contrast to a census, which collects information on every member of a population at a single point in time. This means vital statistics, and population data (when combined with data on migration) can be derived as needed in the inter-censal period, including for small areas.

Complete, accurate and well-functioning civil registration systems provide the most reliable sources of vital statistics. Unfortunately, registration of vital events in many developing countries is incomplete and systems face a variety of data quality challenges which limit the use of these data.

Assessing performance of the civil registration system

Assessing the performance of the civil registration system primarily entails: (i) estimating the level of coverage and completeness of the system; and (ii) reviewing the quality and completeness of individual civil registration records. This requires undertaking comparisons between individual and aggregate data/records collected by the system, against those generated from independent collections such as the population censuses or other surveys. This is done primarily through records linkage studies⁵.

The feasibility of a record linkage study to evaluate registration completeness against the census depends on the ability to uniquely identify and match the records for individual persons within each data set through a combination of unique characteristics such as an identification number, names, age and sex.

The census also allows direct measurement of key system indicators such as the proportion of registered vital events (births and deaths), and proportion of events for which appropriate documentation was issued. This is a key identity function of the Civil registration system, and target under the Asia Pacific Regional Action Framework. Census records are also useful in identifying families where events of births and deaths haven't been registered and in facilitating follow-up to complete these processes.

Adapting the census for CRVS system performance assessment

Conventionally, population censuses enumerate births and deaths that occurred within a given period⁶, which is used to estimate the crude birth and death rates and other demographic measures. In addition to providing a denominator for the estimation of the level of completeness of registration for events of birth and death, these questions could yield significant benefits if followed up with questions about the notification, registration and certification of events of birth and registration of deaths. It is important to

Routine assessment of the performance of the national CRVS system is critical in enabling governments and other relevant stakeholders to understand specific areas of weakness, accurately prioritise the support needed and build trust in the system and resulting data.

⁵ Detailed information about methods of estimating completeness can be found in a separate fact sheet titled "Understanding System Completeness and Coverage" (see www.pacific-crvs.org). Check out the other fact sheets at: www.pacific-crvs.org, and www.getinthepicture.org; or contact the Statistics for Development Division at SPC at crvs@spc.int

⁶ Usually one year. However, for countries with small populations, it is advisable that data is aggregated for a longer time span (3-5 years)

note that there are limitations in the application of censuses to collect information on death and the characteristics of the deceased, due to recall lapse errors.

The table below provides a list of variables that would be useful to collect in a census questionnaire in order to facilitate record-linkage work, and directly evaluate registration functions. It should be noted that some of these questions are not necessarily new additions to generic census questions. In addition, the format, order and wording of these questions would vary widely by country depending on the format and design of the census questionnaire.

Recommended additional census questions⁷ regarding registration of births and deaths

Question*	Relevance
For all children born within [set time period], provide details of: <u>Full names</u> , <u>date of birth</u> , <u>age</u> , <u>sex</u> and <u>place of birth</u>	<p>While enumeration of the most recent birth is sufficient for standard census calculations, additional information is needed in order to be able to match records between the civil registry and those enumerated by the census. The information collected should be robust enough to facilitate the identification of multiple births as well as births resulting from more than one pregnancy over a 12 month period.</p> <p>Second to an identification number, names are the most reliable way of uniquely identifying individuals. The full names i.e. a combination of the First name, Middle name, Surname or family name, as used on a child’s birth certificate form should be included. Other characteristics such as date of birth, age of mother, sex and place of birth are important for matching individuals especially for young children where names are not always available. Details of all live born children, regardless of whether the child subsequently died should be collected.</p>
Was the birth recorded by the national civil registry office? (Yes/No)	Registration of birth refers to the formal process through which a parent, family member or guardian of child reports the occurrence of the birth to the national registry office, or to an official registry agency who has been delegated this authority from the national registry office. Information should be collected for all live births regardless of whether the child is still alive.
Do you have a copy of the child’s birth certificate? (Yes/No)	A birth certificate is issued by the national agency responsible for civil registration as the legal proof of occurrence of a birth. This question is essential in establishing the proportion of registered births for which a birth certificate was issued.
Do you have a copy of the Notification of birth from the hospital of birth? (Yes/No)	A birth notification form is an official record that is issued by the hospital or health facility as proof of the occurrence birth, the characteristics of the child and the mothers’ identity. This record is a key supporting document for birth registration as it provides evidence on parentage. Birth notification forms are often confused for birth certificates. This question plays a “quality-check” role; it provides the basic means to validate the proportion of population in possession of a birth certificate.
For any household member who died during [set time period], provide details of: <u>Full names</u> ,	Full names i.e. a combination of the First name, Middle name, Surname or family name, as used on the deceased’s official documents and any names commonly used by the deceased for official purposes that differ from their legal name should be included to identify individuals and aid data matching. As for births, the sex, age at death and date of death are also important matching criteria. All

⁷ The Kingdom of Tonga and the Republic of Tuvalu are the first two countries in the Pacific region to incorporate the above set of questions into their 2016 & 2017 population census questionnaires respectively with an objective of undertaking follow-up record linkage studies.

<u>sex, age at death, and date of death</u>	deaths of children to household members should be included regardless of whether they were considered “resident”.
Was the death recorded by the national civil registry office? (Yes/No)	Registration of death refers to the formal process through which the family member, guardian or other person reports the occurrence of death and provides the particulars of death to the national registry office, or official registry agent who is delegated this authority. The information collected for this question would allow the estimation of death registration completeness.
Did the birth or death occur in the country? (Yes/No)	In accordance with United Nations recommendations, events that occur outside the country are expected to be registered within the country where they occurred and hence would ideally not feature within national civil registry records*. However, the practice in some countries is that these events are re-registered within the national system (for returning residents) because such registration is often closely linked to access to other state benefits. For purposes of record-linkage, and for countries where re-registration is not undertaken, identifying and excluding these events is essential in ensuring that they do not bias the results; these records would generally contribute to a lower matching rate.

¹United Nations (2014). Principles and Recommendations for a vital statistics system