The potential of the health sector to catalyse accelerated improvement in civil registration and vital statistics
and the role of civil registration and vital statistics in the response to and recovery from the coronavirus disease pandemic
Towards a shared vision of universal and responsive civil registration and vital statistics systems that facilitate the realization of rights and support good governance, health and development

The potential of the health sector to catalyse accelerated improvement in civil registration and vital statistics

Note by the secretariat

Summary

Civil registration and vital statistics systems are strengthened through productive collaboration between civil registration authorities and stakeholders responsible for the health sector. A well-functioning civil registration and vital statistics system generates a continuous stream of data on births and deaths to support decision-making at the national and subnational levels.

The present document contains a description, drawing upon guidance issued by the World Health Organization and the United Nations Children’s Fund, of the proactive role that the health sector can play in ensuring that births and deaths are officially registered in national civil registration systems. The description also covers the role of the health sector and of civil registration and vital statistics not only in tracking specific diseases, such as the coronavirus disease (COVID-19), but also in ongoing efforts to track all-cause mortality and causes of death.

The Second Ministerial Conference on Civil Registration and Vital Statistics in Asia and the Pacific may wish to take note of the document and to provide further guidance and advice on how to strengthen productive collaboration between civil registration authorities and health sector stakeholders and how to ensure better data on all-cause mortality and causes of death.
I. Introduction

1. The registration of births and deaths represents the creation and retirement of a person’s legal identity and implies an acknowledgement of the responsibilities of the State towards the individual. The birth certificate provides the first documentary evidence of an individual’s legal identity and family relationships, but it also lays a foundation upon which other identity management systems can be built. Death registration provides evidence of the cessation of the legal and administrative relationship between the individual and the State and enables the updating of administrative registers, such as population registers, identity management systems and various social security and welfare registers, as well as the electoral rolls.

2. A well-functioning civil registration and vital statistics system also generates a continuous stream of data on births, deaths and fetal deaths to support planning and decision-making at the national and subnational levels. Civil registration data can be disaggregated by population characteristics and by administrative area, which permits analysis of geographic disparities and allows government authorities, such as education and public health authorities, to identify parts of the country in need of improved access to services and targeted interventions.

3. According to UNICEF, among all children under the age of 1 year worldwide, approximately 3 in 10 (an estimated 40 million) have not had their births registered. Of these children, 16 million are in Asia and the Pacific. Many infants are not routinely registered at birth but are registered later, for example when they approach school age and a birth certificate is required for admission to school. Late registration means that infants and very young children remain invisible; that data pertaining to this age group, including data on infant mortality, are not routinely collected, since the birth and death of an unregistered child could be absent from the statistics; and that national and local authorities cannot adequately plan for the provision of services that very young children need, such as health care and routine immunizations.

4. The proportion of unregistered deaths is higher than the proportion of unregistered births. According to a WHO report, only an estimated 62 per cent of global deaths in 2020 were registered. Information on causes of death is even less likely to be recorded, and WHO estimates indicate that in 2015, only 48 per cent of global deaths were registered with information on causes of death. The proportion of unregistered deaths is highest among younger age

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1 Fetal death is death prior to the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy; the death is indicated by the fact that, after such separation, the fetus does not breathe or show any other evidence of life, such as beating of the heart, pulsation of the umbilical cord or definite movement of voluntary muscles. For international reporting purposes, the World Health Organization (WHO) recommends that countries report late fetal deaths, meaning those that occur at or after 28 weeks’ gestation (third trimester stillbirth). See WHO and United Nations Children’s Fund (UNICEF), Health Sector Contributions towards Improving the Civil Registration of Births and Deaths in Low-Income Countries: Guidance for Health Sector Managers, Civil Registrars and Development Partners (Geneva, 2021).


groups, especially among very young children. There is evidence in some settings that deaths of women are less likely to be registered than deaths of men.\(^5\)

5. Building stronger interlinkages between civil registration and health systems can facilitate the registration of births and deaths, which often take place within health institutions or are known to community-based health personnel who are responsible for collecting information on local births and deaths. If a supportive legal and administrative framework is in place, information on births, including such details as sex, date and location of occurrence, and maternal characteristics, especially age, can be shared with the civil registry, with health sector staff acting as informants to enable timely birth registration. For deaths in settings where medical care is available, the cause of death can be ascertained, medically certified and included in the national vital statistics. When people die in the community without medical attendance, methods are available to determine the probable cause of death.\(^6\) The availability of cause-of-death information enables decision-makers to understand the most pressing health needs and work to address them.

6. The present document contains a description, drawing upon guidance issued by WHO and UNICEF in 2021, of the proactive role that the health sector can play in ensuring that births and deaths are officially registered in civil registration systems.\(^7\) There are multiple mutual benefits that would accrue to individuals and societies from enhanced collaboration between health entities, civil registrars and stakeholders with a role in vital statistics. These opportunities have become even more apparent during the coronavirus disease (COVID-19) pandemic.

II. Demand for responsive civil registration and vital statistics systems to monitor the coronavirus disease pandemic

7. The Second Ministerial Conference on Civil Registration and Vital Statistics in Asia and the Pacific, originally planned for October 2020, had to be postponed as the COVID-19 pandemic spread rapidly to all countries, overturning people’s lives and challenging governments to mount a rapid response. As of 1 May 2021, confirmed cases of COVID-19 exceeded an estimated 153 million, and at least 3.2 million related deaths were caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).\(^8\) Many more deaths have likely been directly or indirectly caused by the pandemic, as health services have been overwhelmed and lockdowns have impeded access to care. The pandemic is a health challenge that puts unprecedented burdens on health services; it is also an economic challenge that is disrupting economic activity and increasing hardship, especially among the poorest and most vulnerable populations.

8. From the start of the pandemic, it was clear that many national statistical systems were inadequately prepared to monitor the fast-expanding threat it posed. Mounting an appropriate response depends critically on the ability to count COVID-19 cases and hospitalizations as well as deaths and causes of death for the entire population. Regular counts of those key indicators are needed to track the evolution of the pandemic in countries, geographic regions and specific

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\(^6\) See ESCAP/MCCRVS/2021/INF/2.

\(^7\) WHO and UNICEF, Health Sector Contributions towards Improving the Civil Registration of Births and Deaths in Low-Income Countries.

\(^8\) Ibid.
groups of the population. Initially, in many settings, death counts were based solely on hospital-reported deaths of COVID-19 patients. However, those counts did not include deaths that occurred outside of a hospital (e.g. at home, in a social care institution or elsewhere). Reliance on hospital figures alone resulted in an underestimation of the scale and direction of the pandemic during its early months. Moreover, the early counts also underestimated the number of deaths related to COVID-19 in settings where testing was limited.

9. Many Governments have now recognized that a more complete source of COVID-19 mortality data is a well-functioning civil registration and vital statistics system that captures all deaths within their borders, disaggregated by age, sex and date and location of occurrence. Complete and timely data on total deaths from all causes enable the calculation of excess mortality, defined as the difference between the total number of people who died and the level of all-cause mortality in previous years for the same place and time of year. Excess mortality can be monitored by age and sex, as well as by subnational district (e.g. cities), to provide a greater degree of granularity than is available from national-level information alone. Preliminary WHO estimates suggest that the total global excess mortality directly or indirectly attributable to COVID-19 amounts to at least 3 million deaths in the year 2020, or approximately 1.2 million more than the reported 1.8 million global COVID-19 deaths.

10. The COVID-19 pandemic has raised awareness of the role the health sector can play in civil registration and vital statistics, not only in understanding the dimensions and spread of disease but, more broadly, in the ongoing monitoring of all-cause mortality and causes of death. In settings with fully functional civil registration and vital statistics systems, such information enables decision makers to effectively plan, deliver and monitor health interventions and assess progress towards national and international commitments, including the Sustainable Development Goals.

III. The health sector as a partner for strengthening civil registration and vital statistics systems

11. To unlock the full potential of civil registration and vital statistics systems for individuals and governments, it is essential that all births and deaths are registered within days of their occurrence. However, currently, many vital events are registered months or years after their occurrence (if at all), resulting in inaccuracies in the data and the use of unreliable information as the basis for identity documents. Thus, late and delayed registration translates into incomplete, inaccurate and out-of-date vital statistics.

12. The role of the health sector as an essential civil registration and vital statistics partner is based on the premise that health workers are in contact with people throughout the life cycle, including at the time of birth and death, and

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12 See ESCAP/MCCRVS/2021/4.
they are close to and generally trusted by the communities they serve. By virtue of their reach and proximity to communities and their established reporting structures, health workers are ideally placed to support the documentation and timely reporting of births and deaths. For vital events that occur in hospitals and health centres, routinely collected information – patient records, admission and discharge registers, ward registers and laboratory records – can capture much of the data needed to register a birth or a death.\(^{13}\)

13. Given that records kept by community health workers serving more-rural populations are likely to include births and deaths, such workers can be partners for the reporting of vital events. Information collected close to the location and time of occurrence of birth and death can improve the accuracy of vital statistics and has the potential to bring multiple benefits: civil registration agencies benefit from the ongoing supply of information on vital events, and the health sector benefits from improved data on fertility, mortality and causes of death that enable better planning and targeting of needed health-care services.

IV. Harnessing opportunities during health-care provision to increase birth registration

14. Opportunities to significantly increase birth registration through closer interlinkages between the health sector and civil registration are present across the continuum of care for mothers and their children, from delivery and post-partum care to childhood immunization, growth monitoring and the treatment of childhood illnesses. Globally, the percentage of births assisted by a skilled birth attendant is rapidly increasing,\(^ {14}\) and the presence of a skilled birth attendant offers the potential to improve documentation of the vital event at the time of occurrence. Similarly, data collected during institutional births could be linked to the civil registration of the birth. The bacillus Calmette-Guérin vaccine and combined diphtheria/pertussis/tetanus vaccine are generally the first that infants receive; the former is typically given by the birth attendant at the time of birth and documented in the birth record, and the latter is generally administered in three doses, with the first administered at 2 months of age and the two remaining doses administered in the first year of life. If the infant is not registered immediately after birth, childhood immunization visits offer a crucial catch-up opportunity for civil registration.\(^ {15}\) Unfortunately, in many settings, these opportunities are currently being missed.

15. Many countries in the Asia-Pacific region have low levels of birth registration despite having high rates of institutional births and high coverage of bacillus Calmette-Guérin and combined diphtheria/pertussis/tetanus immunization, indicating major potential opportunities to increase the completeness of birth registration through information-sharing between the health sector and civil registries (see figure). Closer integration between health

\(^{13}\) For more information on the role of registers maintained by the health sector in vital registration, see WHO and UNICEF, *Health Sector Contributions towards Improving the Civil Registration of Births and Deaths in Low-Income Countries.*


and civil registration could rapidly increase birth registration and reach populations that have been left behind.

**Birth registration, institutional births and vaccination coverage in selected countries in the Asia-Pacific region**

![Graph showing birth registration and vaccination coverage in selected countries in the Asia-Pacific region.](image)


**Note:** Values presented in the figure correspond to the most recent year in the period 2014–2019 for which data are available, unless otherwise indicated.

**Abbreviations:** BCG, bacillus Calmette-Guérin; DPT, combined diphtheria/pertussis/tetanus.

* Percentage of births registered within one year of their occurrence.
** Percentage of total births.
**** Vaccination coverage, percentage of surviving infants, 2020.

V. **Critical role of the health sector in registering births and deaths**

16. Just as health workers are usually present when life begins and in the early years of life, they may be present at the end of life, in particular when death occurs in a health facility, care home or other institution. In such circumstances, health sector administrators can act as informants to provide civil registration authorities with the information needed to register the birth or death. In some settings, civil registrars are positioned within health institutions, where many births and deaths occur. Where civil registration regulations permit, the responsibility for birth and death registration may be delegated to health facility administrators. When a death is attended by a physician, it is also possible to obtain information on the medical cause of death, which is of inestimable value for determining public health priorities.

17. Outside a medical setting, community-based health practitioners are often among the first to know that a birth or death has occurred, given that they make regular visits to households, and they may be responsible for reporting those events to the local health centre. This is frequently the case for community-
based health practitioners involved in reproductive and child health programmes, including maternal and neonatal health surveillance and response programmes. These practitioners provide care and counselling for infants, young children and pregnant women and maintain records of births and deaths. They can provide advice to families on the importance of civil registration and support them to complete the necessary formalities. If the legal framework permits, community-based health practitioners can be designated as informants who take a more proactive role by reporting the occurrence of vital events to the registrar and providing information on the characteristics of the events (see box on the Bangladesh Kaliganj model). On the basis of such reporting, the registrar may legally register the event. Shifting the responsibility for the declaration of birth and death from the family towards official institutions in the health sector is likely to improve civil registration completeness and may also help to address inequities in the registration of the events. In addition, strategies should be introduced to avoid burdening health workers, whose workloads are already heavy, with multiple additional responsibilities to collect information. To mitigate this risk, health managers should standardize data collection instruments to capture essential data elements and should also ensure that staff have the knowledge and support they need to accurately input the birth and death data that are required for civil registration purposes.

A. Medical certification of causes of death

18. The health sector is the most reliable source of accurate information on causes of death. Health facilities routinely maintain discharge registers that record patients who were discharged alive and those who died, and they can track the number of deaths by age, sex, and date and place of occurrence. When death occurs in a health-care setting, a doctor should complete the WHO International Form of Medical Certificate of Cause of Death, using information from the decedent’s health-care records, supplemented by tests conducted in the context of a post-mortem examination, where appropriate. The medical certificate of cause of death contains both the administrative and legal information that is required for death registration, including the following data: name, sex and date of birth of the decedent; identifying information, such as a hospital identification number or national unique identification number, if available; place of usual residence of the decedent; and name and contact details of the declarant or official notifier and medical information provided by the certifying doctor. The certificate is designed to allow for the selection of the underlying cause of death, defined as the disease or injury which initiated the train of morbid events that led directly to death or the circumstances of the accident or violence which produced the fatal injury.

19. Once a medically trained person has correctly completed the WHO International Form of Medical Certificate of Cause of Death, the cause of death must be accurately coded by statistical category in accordance with international rules and standards laid out in the International Classification of Diseases. The International Classification of Diseases groups similar diseases into mutually exclusive categories using an alphanumeric code to facilitate the interpretation

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18 Ibid.
and analysis of cause-of-death data. The correct and consistent application of the rules and standards of the International Classification of Diseases ensures that cause-of-death patterns can be compared for distinct populations or over time in the same population. Accurate coding and the correct selection of the underlying cause of death in accordance with the rules and standards are specialized tasks that require training and skill development. They are separate and distinct from the process of determining and certifying the cause of death, which should only ever be done by a trained medical doctor.

20. When health facility deaths are attended by a doctor who accurately completes the medical certificate of cause of death, and when causes of death are coded according to the rules and standards of the International Classification of Diseases, detailed and comparable tabulations on deaths by age, sex and cause can be produced as recommended in the United Nations Principles and Recommendations for a Vital Statistics System. The health sector plays an important role in the certification of cause of death, in coding the death according to the International Classification of Diseases and in the analysis and dissemination of cause-of-death statistics.

B. Verbal autopsy methods to determine the probable cause of death

21. When a death occurs in the community without the attendance of a medical practitioner who is qualified to complete a medical certificate, it is not possible to ascertain the medical cause of death. However, it may be possible to use the death registration process to trigger a verbal autopsy in order to gather related medical information from family members of the deceased to determine the probable cause of death. This method is not comparable at the individual level with a doctor-determined cause of death and does not have the same legal status or statistical exactitude. However, the outputs of the verbal autopsy can be compiled to generate distributions of leading causes of death in the local community, thus enabling better-informed public health decisions.

22. Several conditions must be met for a verbal autopsy to be triggered during the civil registration process:

(a) The health sector, in collaboration with other civil registration and vital statistics stakeholders, has carried out the necessary preparatory work to ensure that there is a legal and administrative framework for conducting the verbal autopsy in the community, including adaptation of a standard questionnaire;

(b) Information and communications technology systems are in place to enable interviews to be conducted using handheld devices and uploaded to a central repository for data analysis and compilation;

(c) There is agreement to use a structured verbal autopsy questionnaire to solicit information about signs and symptoms that the decedent experienced prior to death;

(d) An appropriate interviewer can be identified to conduct the interview. The interviewer is generally a trained enumerator, such as a nurse, community health worker or community-based person who is in receipt of the necessary training and ongoing guidance and support;

(e) It is possible to identify a suitable respondent, such as a family member, who was close to the decedent prior to death. Consent must be obtained

for conducting the verbal autopsy, and all the information collected is treated as confidential.

23. Guidance is available on good practices for integrating verbal autopsy methods into civil registration and vital statistics systems. Experience from many countries indicates that it is advisable to delay implementing the verbal autopsy interview for some weeks after the death out of respect for the family and the mourning process. Furthermore, as the verbal autopsy is applicable at the population level, this approach to obtaining cause-of-death information from community deaths (i.e. deaths without medical attendance) should be applied to a sample of such deaths, as described in information document ESCAP/MCCRVS/2021/INF/2 on verbal autopsy and the Regional Action Framework on Civil Registration and Vital Statistics in Asia and the Pacific.

VI. Operationalizing interlinkages between the health sector and civil registration

24. The operational aspects of linking the health sector and civil registration and vital statistics will vary. In some countries, the law designates health workers as informants to the civil registrar, requiring them to report births and deaths directly to the registrar, together with the information needed to enable the validation and civil registration of the event. In other settings, such as in Singapore and Armenia, civil registrars are co-located in hospitals, where many vital events occur. Alternatively, health administrators can be designated as registrars responsible for the validation of information received from families and the subsequent official civil registration of vital events. When the role of health administrators in civil registration is formalized and explained to families, they can more easily understand the difference between a notification form, which confirms the occurrence of the birth or death, and a birth or death certificate from the civil registrar, which is a legal document certifying the fact of birth or death.

25. Whatever the model adopted in each country, the accurate collection of information and the sharing of information with the civil registrar presupposes a high degree of intersectoral and cross-programme collaboration. Specifically, strong governance structures and coordination mechanisms must be in place to enable civil registration and vital statistics stakeholders, in particular the health sector and the civil registration authorities, to work together effectively. In order to increase the involvement of the health sector as a strategy to improve the civil registration of births and deaths, the below structures and arrangements should ideally be in place.

A. Improved business processes

26. Improved business processes to increase the involvement of the health sector in the civil registration of births and deaths include the following:

(a) Stakeholders are involved in the review and revision of business processes to enhance the flow of records and information between health and


21 See ESCAP/MCCRVS/2021/INF/2.
civil registration systems, and between the individuals/offices involved in the civil registration process;22

(b) Designation by the legal and regulatory framework of health institutions and agents as legally recognized informants of the occurrence of births, deaths and fetal deaths to the civil registrar, as recommended by the United Nations,23 and civil registration staff are allocated to health facilities to provide on-the-spot registration and certification services, as is the case in Kiribati (for both births and deaths) and Tonga (for births);

(c) Health institutions or agents are officially designated as registrars, providing registration services directly to the population; for example, ministries of health are functioning as civil registration authorities in the Northern Mariana Islands, Guam and American Samoa;

(d) Where local civil registration law designates family members as the informants, health agents provide documentary evidence of the occurrence of the event (e.g. copy of the notification form) and are trained to support families to complete any necessary forms and reduce the costs and challenges of accessing registration offices.

B. Information-sharing

27. Information-sharing to increase health sector involvement in civil registration includes the following:

(a) An agreement, such as a memorandum of understanding or regulations between health and civil registration and vital statistics agencies, provides for the exchange of information on individual live birth, fetal death and death records;

(b) Information and data sharing protocols protect individual confidentiality and privacy and ensure data security while also enabling efficient sharing of information or interoperability among key agencies.

C. Interoperability and standardization

28. Interoperability and standardization efforts to increase health sector involvement in civil registration include the following:

(a) Common definitions, classifications, forms and software instruments are used across all health programmes to help to avoid parallel data silos;

(b) Standard templates are used for the notification of live births, fetal deaths and deaths, are compatible across the health, civil registration and national statistical offices for both paper-based and electronic systems, and enable the civil registration of the events;

(c) Decentralization and digitization of the civil registration system, preferably using open-source software, is based on published standards;

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(d) There is consensus on interoperable databases for birth, death and fetal death data;

(e) There are mechanisms to avoid duplication of birth or death registration, such as issuing a unique identity number to all individuals at the time of birth registration.

D. **Capacity development**

29. Capacity development to increase health sector involvement in civil registration includes the following:

(a) The accuracy and reliability of birth, fetal death and death information collected by the health sector and shared with civil registration at the individual level is ensured, because it will serve as the basis for an entry into the civil register or stillbirth (fetal death) register and the subsequent issuance of a certificate;

(b) Skills development is provided for community- and institutional health workers to act as informants in completing forms for births or deaths, including the information needed to officially register the events.

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<th>Bangladesh Kaliganj model</th>
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<td>In Bangladesh, for example, the Office of the Registrar General, Birth and Death Registration and the Ministry of Health and Family Welfare coordinated their efforts and began to enforce an existing mandate for frontline medical workers to assist with the civil registration of births and deaths during household visits. Now, community health workers help families to register vital events in a way that requires minimal effort from the families and assigns the responsibility for the registration of births and deaths to government authorities. Known as the Kaliganj model, this approach has been expanded nationwide. In just a few years, in the areas of initial implementation, the model led to an increase in completeness of birth registration, from 50 per cent to 83 per cent, and in death registration, from less than 10 per cent to 90 per cent.</td>
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VII. **Conclusion**

30. Geographic, economic and sociocultural barriers to civil registration are often insurmountable, especially for the poorest and most-marginalized populations. Collaboration between health sector stakeholders and civil registration authorities can greatly facilitate the registration of births and deaths by transferring the primary responsibility for the notification of births and deaths from individuals and families to health sector and civil registration authorities. Alleviating the burden on individuals and families will contribute to increased civil registration of vital events, thus providing decision makers with more reliable information and accurate statistics to guide policy and practice. Facilitating the registration of births and deaths will enable families to exercise their rights to claim social and welfare benefits and access other government services in a timely and seamless manner.
31. Furthermore, the availability of data on deaths from all causes, disaggregated by age and sex, permits health sector authorities to track mortality on a continuous basis and identify unusual patterns of death that require health sector responses. Ascertaining causes of death by way of medical certification or verbal autopsy permits more targeted health sector responses to address the causes of death and develop preventive and remedial interventions.

VIII. Issues for consideration

32. The Ministerial Conference may wish to take note of the present document and provide further guidance and advice on how to strengthen productive collaboration between civil registration authorities and health sector stakeholders to alleviate the burden on individuals and families and increase the civil registration of vital events.

33. The Ministerial Conference may also wish to discuss how to ensure that medical certificates of cause of death are correctly completed and accurately coded by statistical category in accordance with the rules and standards of the International Classification of Diseases.

34. The Ministerial Conference may further wish to discuss how to promote the integration of the verbal autopsy into civil registration and vital statistics systems for deaths taking place in the community without medical attendance to generate accurate distributions of leading causes of death at the local level.