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Country-owned and led performance and data quality monitoring in CRVS systems

Country Brief: Viet Nam

Priority Area: Cause of death assignment

Introduction and Context

The Government of Viet Nam launched its CRVS Action Plan in 2015 which was endorsed by the highest level of government in 2017. The main objectives of the Action Plan were to complete legal documents governing CRVS, provide guidance for the enforcement of the legal documents, improve infrastructure and modernize CRVS methods and build adequate human resources to support the Action Plan. Ten years after the initiation of the Action Plan, the focus of the government is to improve Medical Certification of Causes of Death (MCCD), especially in the context of digitizing the MCCD and ICD coding processes.

According to ESCAP, 90% of all deaths are registered in Viet Nam. Approximately 14% of all deaths in Viet Nam occur in hospitals and the remaining 86% of deaths happen at home or in the community, often without medical supervision. For community deaths, Commune Health Workers use Form A12 and the A6 mortality module to collect information about the fact and cause of death. This is entered in DHIS-2. The MCCD used in Viet Nam adheres to WHO standards and is coded according to the ICD-10 classification system. Coverage of MCCD is limited due to the low proportion of facility-based deaths. Given the current use of both paper-based and electronic Medical Certification of Causes of Death (MCCD) **registrations, the proportion of electronically registered MCCD forms remains relatively low, at 0.05%. The government of Viet Nam is supporting digitization of MCCDs across the 1600 hospitals and health facilities thereby centralizing the process of ICD cod**ing to improve data quality. In order to achieve this ambition, this project, led by the Ministry of Health, in collaboration with Vital Strategies, the Swiss Tropical and Public Health Institute, and the University of New South Wales aims to generate key performance indicators for the Civil

Registration and Vital Statistics System in Viet Nam, strengthening its capacity to generate quality data that informs public policies and health planning.

The overall aim of this project is to define a set of performance indicators for the CRVS system to enable routine monitoring, enhancing system performance and improving the availability of **cause-of-death data** for evidence-based decision-making.

Specific objectives

- To facilitate a common understanding of the current process of generating and using information on causes of death.
- Define and clarify the roles and responsibilities of each of the stakeholders involved in the CRVS system, regarding decision-making related to information on causes of death.
- Evaluate the strategic and operational decisions of the different stakeholders, identifying the information needed to support them.
- Identify the currently available information and existing gaps that affect informed decision-making.
- Formulate key indicators to address these gaps, strengthen monitoring capacity and overall system performance.

Methodology

A literature review was conducted to understand the CRVS system in Viet Nam followed by discussions with the in-country technical team. Stakeholders were mapped, their roles and responsibilities were identified and the decision-making space using cause of death data was clarified using participatory methods. Through virtual consultations and workshops, the team identified the decision spaces, indicators for monitoring civil registration and vital statistics (CRVS) systems and the information needs of end users, ensuring that the monitoring system is relevant, aligned with national priorities, and sustainable over time.

Process mapping was conducted to gain a comprehensive understanding of the process flow of cause of death data. The analysis focused on the sub-system prioritized by the country: the generation and use of cause-of-death (CoD) data, including both MCCD and the coding of underlying CoD in line with international standards. Process mapping facilitated the visualization of information flows and system interdependencies, helping to identify existing data sources as well as critical gaps that hinder evidence-based decision-making. This approach ensures that the resulting monitoring indicators are contextually relevant and tailored to Viet Nam's specific needs.

Phase 1 – Virtual Consultations

Phase one comprised of a virtual consultation that was held to map the key stakeholders participating in the CRVS system in Viet Nam and to gain insight into their specific objectives and information needs. Viet Nam aims to strengthen its facility-based cause of death data and hence the stakeholders and discussion involved Actors with specific roles in the Medical Certification of Causes of Death (MCCD) and ICD-10 coding processes.

The session was held on 28th February 2025, with participation from a range of stakeholders from various ministries, hospitals and development partners. Please see Table 1 for stakeholder organizations involved in the virtual consultation.

The consultation was guided by a set of pre-defined questions (Annex 1). Stakeholders were classified based on their functions as producers, users, and beneficiaries of MCCD mortality data. Group discussions and Zoom chat feature were used to facilitate information exchange. The information was synthesized and shared with the participants to validate their responses. This provided the groundwork for the multi-sectoral in-person workshop.

Table 1. Participants in Viet Nam´s virtual consultations

Date	Number of participants	Stakeholders
28/2/2025	25	• MSA, Department of Quality Improvement • National Tropical Disease Hospital • Hanoi Medical University Hospital • ICD mortality coder • National Institute for Hygiene and Epidemiology • Health Strategies and Policies Institute, MoH • Department of Planning and Finance, MoH • General Statistics Office, Department of Labor and Population • Department of CR, Ministry of Justice • General Department of Preventive Medicine, MoH • Vital Strategies

Phase 2 – Field Visits & Workshop

An in-person workshop was held on 19 and 20th May 2025 to understand the flow of cause of death information and identify indicators for quality assurance and monitoring for MCCD and ICD coding. A detailed list of the stakeholders invited along with their respective agencies is listed in Table 2.

a. The workshop featured presentations, group activities, and use of participatory methods to address the following objectives:

b. Review the results from the virtual consultation and provide feedback to strengthen the results.

c. Identify, prioritize and select key indicators for monitoring and evaluating MCCD and ICD-10 data.

d. Assign institutional responsibilities for tracking and reporting on selected indicators.

e. Identify and assess existing data sources for cause of death data indicators.

f. Develop strategies for enhancing data collection process and accurate reporting of cause of death data.

A simplified business process map was drawn to understand the process of death registration, certification and coding. As part of the workshop, a structured group activity was conducted to engage stakeholders in collaboratively analysing institutional roles and prioritising cause of death indicators. The activity was divided into three main components: process mapping, defining the decision-making space and **indicator** prioritisation. Figure 3 provides visual documentation of the activity charts.

Table 2. List of participants in the workshop for the definition of performance indicators of the CRVS system

Date	Number of participants	Stakeholders
28/2/2025	19	• MSA, Department of Quality Improvement • National Tropical Disease Hospital • Hanoi Medical University Hospital • ICD mortality coder • National Institute for Hygiene and Epidemiology • Health Strategies and Policies Institute, MoH • Administrative Justice Department, Ministry of Justice • Department of Planning and Finance, MoH • General Statistics Office, Department of Labor and Population • Department of CR, Ministry of Justice • General Department of Preventive Medicine, MoH • Vital Strategies

By the end of the workshop, a list of indicators (Table 4) was developed that captured the needs and perspectives of the key stakeholders. The indicators were chosen from the "Global Compendium of Indicators".

Phase 3 – Data collection

Data collection for the selected indicators will be piloted from July to August 2025. The phase will be used to assess the data collection process, identify challenges in data access and quality, and inform decisions aimed at improving system performance and data reliability. Medical Services Administration (MSA) is the key organization which will be responsible for data collection and analysis. They will work in close collaboration with the Health Information System team who are responsible for DHIS-2 which includes both MCCD and verbal autopsy data.

Please see Table 4 which outlines the indicators, data sources and the organization responsible for the data. The data collection will be reviewed on a monthly basis to identify any challenges in the collation and analysis of the identified indicators.

Key Findings

During the virtual consultation, discussions focused on clarifying the roles of personnel and institutions in certifying and coding deaths, the process flow and progress with digitization of the MCCD system. Discussions included how mortality data were used to inform decisions. Table 3 summarizes the Actors within the CRVS systems in Viet Nam, as identified through both virtual and in-person consultations. While the roles of various Actors are defined, the MCCD system operates in a fragmented manner, with very little uptake of the eMCCD system and parallel systems for ICD-coding at hospitals and centrally at MSA. The coordination mechanisms between hospitals and MSA is still underdeveloped (See Figure 1). There is a discrepancy in the number of deaths registered through the General Statistics Office and the number of deaths captured through the Ministry of Health's DHIS-2 system.

Table 3. Actors in the Civil Registration and Vital Statistics system in Viet Nam

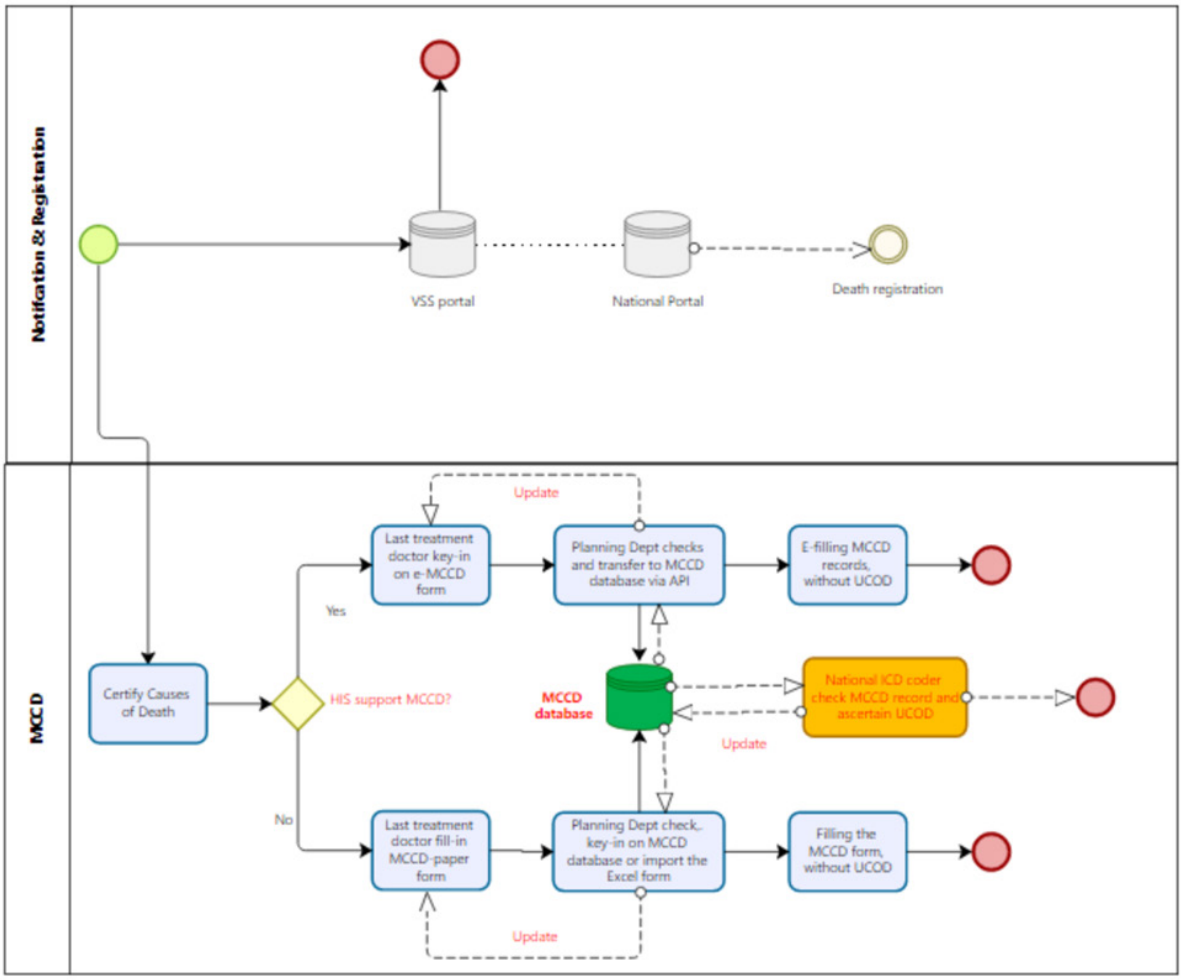
Ministry of Health
1. Doctors: Complete MCCD forms and assign ICD codes. 2. Chief Medical Officers (CMO): Review and approve MCCD forms at the hospital level. 3. ICD mortality coders: Validate and assign the Underlying Cause of Death (UCoD) using decision tables. 4. Medical Service Administration (MSA): Oversees MCCD processes, quality assurance, and training. 5. Health Strategy and Policy Institute (HSPI): Provides strategic direction and research support. 6. National Center for Health Information (NCHI): Collects and manages health records, mortality data, and treatment/ vaccination data; develops and maintains digital health platforms and IT systems; ensures cybersecurity and information safety across digital health infrastructure. 7. National Hospital for Tropical Diseases: Uses statistical data on cause of death reporting to develop targeted training programs, enhance staff competencies, and strategically allocate human resources to departments with high mortality rates. 8. Department of Planning and Finance: Budget and resource allocation form health programs. 9. Hanoi Medical University & Hospital: Supports data quality by ensuring completeness and accuracy of health data; promotes data accessibility for policy development, teaching, scientific research, and implementation of interventional health programs.
Ministry of Finance
General Statistics Office (GSO) Or National Statistics Office (NSO): Provides national vital statistics and other relevant population level data such as census.
Ministry of Justice
Civil Registrar's Office (CRO): Responsible for legal registration of deaths and requires complete and timely data from the health sector. Ensures comprehensive and accurate recording of citizens' information, including precise documentation of cause of death for all cases.
Ministry of Public Security
Civil Registration Systems: Issues citizen IDs and manages electronic registration of vital events.

Doctors and ICD coders were the main producers of information for cause of death data, while Medical Officers, Data Managers and the MSA team were responsible for data quality and completeness. The Ministry of Health (MSA and NCHI) was the primary user of cause of death data to understand population health needs and plan training needs for health programs. Other users included Academia, NGOs such as the Cancer Council who used data for research and program planning and implementation.

Cause of death data was used to make strategic and operations decisions. The type of strategic decisions made using cause of death data by the government included the following themes:

1. Development of the National CRVS Program. The Ministry of Justice is developing Viet Nam's National Action Program on civil status registration and statistics for the period of 2026-2030. The Ministry plans to set targets to improve the rate of accurately determining the cause of death when registering deaths at the health facility level.
2. The government has outlined desired goals by the end of 2026 which need accurate cause of death data. These goals include:
    a. Over 90% of medical personnel in hospitals (including emergency departments) complete good quality MCCDs.
    b. Over 85% of medical examination documents to be accurate
    c. Implement the preparation of MCCD documents for 50% of seriously ill patients who wish to go home (as many people choose to die at home).
3. Policy-related decisions
    a. Identify and prioritize health problems that require targeted interventions and resource allocation.
    b. Assess and address policy gaps to enhance the effectiveness of health improvement strategies.

Figure 1. Business Process Map of MCCD and ICD processes in Viet Nam



For deaths occurring in health facilities, two parallel systems are currently in operation, with the goal of transitioning to a fully digitized process. In hospitals still using paper-based methods, forms are manually completed and coded locally before being submitted to the MSA. In contrast, hospitals that have adopted the digital system use the electronic Medical Certificate of Cause of Death (eMCCD), which is reviewed and coded by centralized coders at MSA.

For community deaths, Form A12 is a standardized mortality monitoring tool integrated into Viet Nam's Health Information Management System (HMIS). It is used by commune health centers and village health workers to record deaths that occur outside of health facilities, which account for the majority of deaths in Viet Nam. Form A6 is used to record the cause of death. This information is entered in DHIS-2. MSA and NCHI are working to share MCCD data across the two platforms.

Decision Space Analysis

During the in-person workshop an Excel tool (Decision Space template (.xlsx)) was utilized to define the decision-making space of each institution, including:

- Technical capacity for medical certification and registration
- Improvement of administrative processes
- Legal framework and standardization
- Coordination and generation of resources
- Quality of certification and registration
- Financing and resources

Figure 2. Decision space diagram for stakeholders in Viet Nam

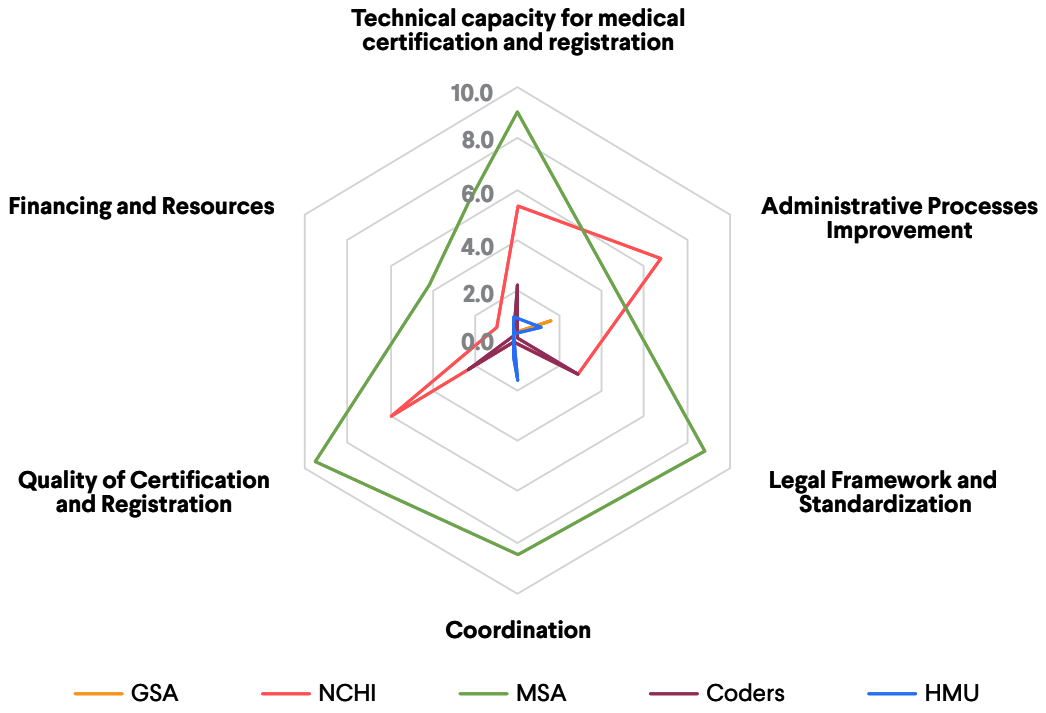


Figure 2 illustrates the perceived decision-making authority of key CRVS actors across six functional domains. MSA reported authority in technical capacity, legal framework and quality assurance. NCHI showed some decision space in administrative processes, quality assurance and technical capacity. No participant had authority over financing CRVS systems. The decision space chart highlights varied roles, imbalanced authority, and lack of authority regarding financing, emphasizing the need for improved coordination between different government departments.

Summary of findings:

1. According to ESCAP and the General Statistic Office records ~90% of expected deaths are registered. Please note that the number of deaths captured by the Ministry of Health is different to GSO records and DHIS-2 captures fewer deaths than civil registration. Viet Nam has published its first vital statistics report covering the period 2021–2024, officially launched in April 2025.
2. Viet Nam has multiple sources of cause-of-death data. For instance, the National Centre for Health Information (NCHI) collects data through DHIS-2, which includes both facility and non-facility deaths while MSA has access to facility deaths that use eMCCD. Meanwhile, the General Statistics Office (GSO) maintains records of all registered deaths and uses statistical estimates to determine the total number of deaths.
3. Data sharing between MSA and NCHI is ongoing. Data is not shared across CRVS institutions.
4. While cause of death data was used heavily during the pandemic, there is no routine analysis of cause-of-death data at the Ministry of Health.
5. During the workshop, it became evident that stakeholders are eager to utilize digitized MCCD data from the e-MCCD system for monitoring and evaluation purposes. However, since only a portion of hospitals (700 out of 1,600) currently use the system, the available data (numerator) remains limited. To ensure meaningful progress tracking and data quality improvement, we recommend establishing a clear timeline and roadmap for the nationwide transition to the e-MCCD system.
6. Given that the NCHI oversees DHIS-2 and captures data on both facility and community deaths, we recommend that NCHI take the lead in using this data for the overall monitoring and evaluation of MCCD quality and coverage working closely with MSA to improve MCCD and ICD data.

Monitoring the process with indicators

Table 4 presents the final list of selected indicators for inclusion in the pilot phase. This list not only included priority indicators but also identified key data sources and the institutions responsible for providing the required information. These indicators will be piloted in Viet Nam to assess their feasibility, adjust collection methods, and ensure their efficient operation for their inclusion in routine collection within the national monitoring system. As MSA is the lead organization responsible for data collection and reporting, they will also consider the need to edit the indicator list depending on the needs of the Ministry of Health.

Table 4. List of indicators prioritized for monitoring the performance of facility cause of death data

Indicator	Numerator	Source	Denominator	Source	Institution
Percent of deaths in health sector with medically certified cause of death in previous 12 months	e-MCCD forms	From e-MCCD (MSA)	Form 14 + death notification (from annual report)	MSA	MSA
Out of all total deaths in the country, what percentage has a medically certified causes of death? Disaggregated by age and sex	Number of MCCDs from e-MCCD	From e-MCCD (MSA)	Total deaths from NSO	NSO	
Out of all registered deaths in the country, what percentage has a medically certified causes of death? Disaggregated by age and sex	Number of MCCDs from e-MCCD	From e-MCCD (MSA)	Total registered deaths	MOJ	MSA
Percent of medically certified deaths with ill-defined and unusable cause of death in previous 12 months. Disaggregated by age and sex	Number of MCCD with ill-defined and unusable cause of death	From e-MCCD (MSA)	Total MCCDs	From e-MCCD (MSA)	MSA
What proportion of health facilities with medical certification are included in the digital reporting system? (Percentage of all health facilities) Please provide a percentage from 0 to 100 (disaggregate data by province and health centre/ hospital)	Health facilities with MCCD uploaded in the system	From e-MCCD (MSA)	Number of health facilities implementing MCCD	From annual reporting	MSA
Percent of MCCD forms with one or more errors corrected to include complete metadata in the previous 12 months	MCCD forms with one or more errors corrected	From e-MCCD (MSA)	MCCD forms with one or more errors	From e-MCCD (MSA)	MSA
Percent of MCCDs completed with zero errors in the previous 12 months	MCCDs completed with zero errors	From e-MCCD (MSA)	MCCDs completed	From e-MCCD (MSA)	MSA
What proportion of death certificates do not indicate the interval between onset of disease and death?	Number of death certificates that do not indicate the interval between onset of disease and death	From e-MCCD (MSA)	Total MCCDs	From e-MCCD (MSA)	MSA
Percent of hospitals completing quarterly reviews of a sample of MCCD forms using the rapid assessment tool in the previous 12 months	Number of hospitals completing review of MCCDs with rapid assessment tool	Annual report	Number of hospitals with MCCDs	Annual report	MSA
Percent of hospitals using the international Medical Certificate of Cause of Death (MCCD) for certification in the previous 12 months, by province	Hospitals using the MCCD		Total number of hospitals in country		

Annex 1. Virtual Consultations: Discussion Areas and Guiding Questions

1. **Roles** - What role do you play within the CRVS system regarding the use and/or production of information on causes of death? Consider whether you are a producer, user, or beneficiary of this data, and describe your specific role and legal mandate, if any.

   Clarifying information

   - **Producers:** These are the entities responsible for generating and managing information for the CRVS system. They ensure that all necessary data on vital events, in this case causes of death, are collected, processed, and available for use. These include civil registry authorities, healthcare centers and professionals, statistical offices, IT system providers, and more.
   - **Users:** Individuals or entities that use CRVS information to make decisions, develop policies, and implement interventions, as well as to generate evidence to support these actions. These users include government policymakers, international agencies, researchers and academic institutions, civil society groups, and civil rights advocates.
   - **Beneficiaries:** Individuals and communities that directly benefit from improvements in CRVS systems, whether through access to healthcare services or legal rights. These include citizens, vulnerable populations, communities at risk of exclusion, and more.

2. **Objectives** - What is the primary objective of the institution you represent in terms of producing/using information on causes of death? What specific results do you hope to achieve through the production/use of such information?

3. **Spaces and types of decisions** - What types of decisions can you make regarding cause-of-death information? Are they strategic or operational? Provide an example of decisions made in the last 3 months to fix something that wasn't working in the system.

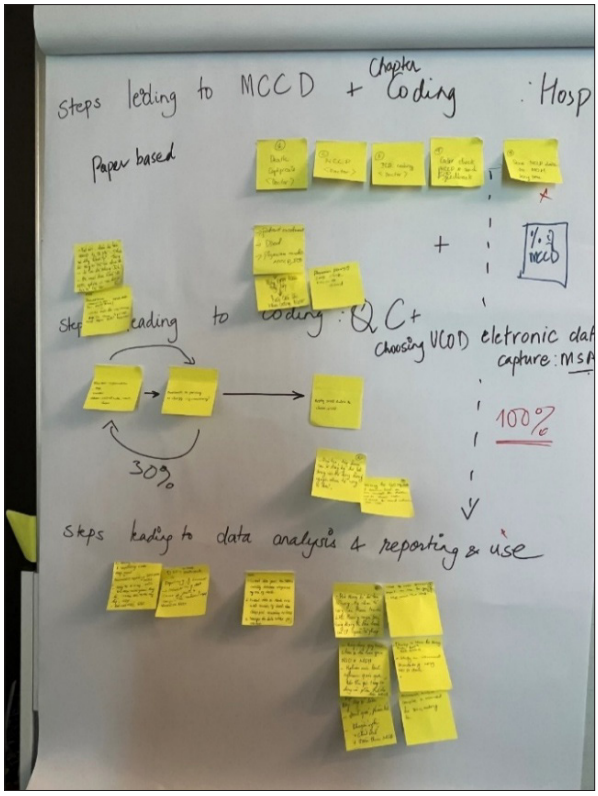
   Clarifying information:

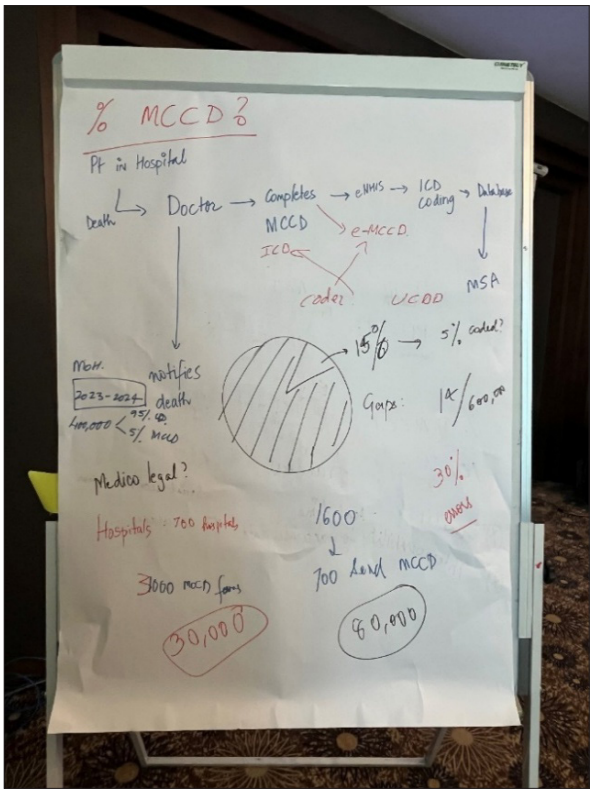
   - **Strategic decisions:** These are high-level decisions that establish the long-term direction and overall objectives of the system. These decisions define the strategic vision, priorities, and allocate resources to achieve the system's objectives. They typically involve political leaders and government policymakers; experts, technicians, and advisory bodies also play an important role in their formulation.
   - **Operational decisions:** These are day-to-day, short-term decisions made by middle or lower-level management positions to optimize workflow, resource allocation, and problem-solving, ensuring that the activities carried out are aligned with the strategic direction.

4. **Determinants of decision-making** - What factors limit or enhance your ability to make decisions? Reflect on the different factors that influence decision-making, such as governance, the legal and political framework, financial resources, human resources, technology, and others.

5. **Current Use of Information** - Do you currently use cause-of-death information in your daily operations or decision-making processes? If yes, please describe how you use it and provide an example of its use in the past 6 months. If no, please explain why.
6. **Information needs** - What specific information would you need? (Remember, the focus is on information about causes of death).

Annex 2. Visual documentation of process flow during the workshop





Annex 3. Abbreviations and Acronyms

CMO	Chief Medical Officer
CoD	Cause of Death
CRO	Civil Registrar's Office
CRVS	Civil Registration and Vital Statistics
DPF	Department of Planning and Finance
GSO	General Statistical Office
HSPI	Health Strategy and Policy Institute
ICD	International Classification of Diseases
MCCD	Medical Certification of Cause of Death
MLDI	Medico Legal Death Investigation
MOH	Ministry of Health
MOJ	Ministry of Justise
MOU	Memorandum of Understanding
MPS	Ministry of Public Security
MSA	Medical Services Administration
NCHI	National Centre for Health Information
NSO	National Statistics Office
TWG	Technical Working Group
UCoD	Underlying Cause of Death