





CRVS Fellowship profile

Developing a qualitative study protocol on VA interviewer experiences in Myanmar

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These resources outline the context, training approach, course content and course objectives for the suite of CRVS trainings delivered through the Bloomberg Philanthropies Data for Health Initiative. Each course focuses on a specific CRVS intervention or concept, and is designed to support countries to strengthen their CRVS systems and data.

CRVS Fellowship reports and profiles

The CRVS Fellowship Program aims to build technical capacity in both individuals and institutions to enhance the quality, sustainability and health policy utility of CRVS systems in Fellows' home countries. *Fellowship reports* are written by Fellows as a component of the program, and document, in detail, the research outcomes of their Fellowship. *Fellowship profiles* provide a summary of Fellows' country context in relation to CRVS, an overview of the Fellowship experiences, the research topic and the projected impact of findings.

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Fellowship profile: Developing a qualitative study protocol on VA interviewer experiences in Myanmar

Between November 2016 and February 2017 Ms Tun Zin Mar ('Zin'), from the Central Statistical Office of Myanmar, came to the University of Melbourne to develop a framework of analysis for a qualitative study to learn about the experiences of verbal autopsy interviewers during the initial phases of implementation. This CRVS fellowship profile documents Zin's experiences while at Melbourne, including how she developed the protocol, how she intends to apply it, and what impact her fellowship might have on improving mortality statistics as generated through the civil registration and vital statistics system in Myanmar.

Country context

The CRVS system of Myanmar CRVS improvement activities Verbal autopsy

Fellowship project

Qualitative methods
Developing the protocol
Implementing the study

Reflections: Strengthening the CRVS system of Myanmar

Related resources and readings

Seventy per cent of Myanmar's 53 million people live in rural areas, making civil registration challenging.

Country context

Zin is from Myanmar, a country that has shown strong political commitment to generate reliable vital statistics for health policy and planning by engaging in civil registration and vital statistics (CRVS) system-strengthening activities. In collaboration with the Bloomberg Philanthropies Data for Health (D4H) Initiative, among others, Myanmar is working toward ensuring that its 53 million people – 70 per cent of whom live in rural areas – are counted in the country's civil registration system.¹ Currently, the completeness of birth and death registration varies across Myanmar's 15 states and regions (**Figure 1**). For example, overall birth registration completeness is at 72 per cent nationally, but this differs considerably between urban and rural areas – with 94 per cent in urban areas and 64 per cent in rural regions.^{2,3}

According to the Myanmar Demographic and Health Survey, the infant mortality rate is 40 per 1,000 live births,⁴ while the under-five mortality rate is 50 deaths per 1,000 live births. This means that one in 20 children do not survive until their fifth birthday. Life expectancy is also low, at approximately 65 years for men and 69 years for women.⁵ Communicable diseases remain a significant health challenge, with high rates of tuberculosis, malaria, diarrhoeal diseases and hepatitis B. ⁶ At the same time, many people in Myanmar are now

¹ The World Bank. Myanmar country data. The World Bank Group; 2017.

² Myanmar Ministry of Health and Sports, Myanmar Central Statistical Organization, Bloomberg Philanthropies Data for Health Initiative. Myanmar Ministry of Health and Central Statistical Organization: Bloomberg Data for Health Initiative Civil Registration and Vital Statistics Work Plan. Unpublished; 2016.

³ Myanmar Ministry of National Planning and Economic Development, Myanmar Ministry of Health and Sports, United Nations Children's Fund. Myanmar Multiple Indicator Cluster Survey 2009-10. UNICEF; 2011.

⁴ Ministry of Health and Sport (MOHS) and ICF. 2015-16 MDHS Key Findings. Rockville, Maryland, USA: MOHS and ICF; 2017.

⁵ World Health Organization (WHO). Global health observatory data repository. Life expectancy and healthy life expectancy by country. WHO; 2018.

⁶ Institute of Health Metrics and Evaluation (IHME). Myanmar. IHME; 2018.

dying from non-communicable diseases (NCDs) like heart disease, Alzheimer's disease and diabetes. The probability of premature death from an NCD is 24 per cent in Myanmar, higher than the South-East Asia (23%) and global (18%) averages.⁷

Ensuring the Government has reliable cause of death information is particularly difficult. A major challenge for Myanmar, given how many people live in rural areas with limited access to health facilities, is to keep track of the changes in the pattern of mortality. In 2013, for example, only 14 per cent of deaths occurred in a hospital or similar health facility, and overall, less than one-quarter of all deaths had a medically certified underlying cause of death.⁸ However, for the Government to be able to make more targeted health policies and programs, more reliable and timely mortality data is needed, especially data on causes of death.

Figure 1 Myanmar (with states indicated)



Source: Ministry of Health and Sport (MOHS) and ICF. 2015-16 MDHS Key Findings. Rockville, Maryland, USA: MOHS and ICF; 2017.

World Health Organization (WHO). Global health observatory data repository. Noncommunicable diseases and mental health by WHO region. WHO; 2018.

⁸ Myanmar Ministry of Health and Sports, Myanmar Central Statistical Organization, Bloomberg Philanthropies Data for Health Initiative. Myanmar Ministry of Health and Central Statistical Organization: Bloomberg Data for Health Initiative Civil Registration and Vital Statistics Work Plan. Unpublished; 2016.

The two major stakeholders in Myanmar's CRVS system are the Central Statistical Organization and Ministry of Health and Sports.

The civil registration and vital statistics system in Myanmar

Myanmar's CRVS system was established in the lower townships in the late nineteenth century, and was extended to the upper regions of the country early in the twentieth century. In this period, municipal health officers in urban areas and village headmen in rural areas were responsible for data collection. Registration officers were tasked with providing death certificates to family members of the deceased as well as collecting cause of death information in line with the Births, Deaths and Marriages Act 1888. The Towns Act 1907 and the Villages Act 1907 further decreed that any death in Myanmar must be registered, with additional legislation (such as the Yangon Municipal Act 1944) mandating that deaths must be registered prior to burial.

In 1962, Myanmar introduced a new registration system in 15 townships, and rolled this out nationally in 1984.¹¹ Under this new system, the Central Statistical Organization (CSO) served as the focal department, and the Department of Public Health (DOPH) served as an implementing organisation. The CSO developed and distributed vital event forms, compiled the completed forms, and calculated vital statistics. DOPH health staff, on the other hand, registered vital events, recorded data, and issued certificates. A Health Management Information System (HMIS) was established in 1995 and integrated into the CRVS system, and the birth and death data collected by this system sent to the CSO for compilation, analysis, and dissemination.

A law enacted in 2012 requires families to report births and deaths within three days of the event, however it is not enforced.

In 2012 Myanmar enacted a national law requiring that families report births and deaths to the local general administrative office within three days of the event's occurrence. Although this new law contains a penalty for families who fail to report a birth or death within three days of its occurrence, at present there is no penalty enforcement. Currently, the Ministry of Health and Sports (MOHS) and CSO are the main institutions responsible for Myanmar's CRVS system. Health staff under the MOHS, such as midwives and public health supervisors, routinely collect birth and death data as part of their roles.

Civil registration and vital statistics system improvement

To align with global efforts for CRVS-strengthening, in 2016 Myanmar reformed a national-level Coordination Committee on Birth and Death Registration chaired by the Union Minister of the MOHS. This is a high-level government committee, involving participation by Director Generals from 13 ministries. The focus of this Committee is on the strategic improvement of the CRVS system, a focus which necessitates careful, intersectoral coordination among various government departments.

In addition to this committee, Myanmar has demonstrated an impressive degree of political commitment to coordinate CRVS strengthening efforts through the formation of an Internal Agency Working Group (IAWG) for Vital Registration. Formed in 2006, this group consists of technical officials across a range of government agencies to facilitate collaboration among key CRVS stakeholders to improve coverage of birth and death registration. Essential stakeholders in this group include representatives from the Department of Public Health (under the MOHS), CSO, GAD, Department of Population and Immigration, Department of Social Welfare (DSW), Department of Human Resources and Education Planning, and UNICEF.

Myint N. Recent levels and trends of fertility and mortality in Myanmar. Asia-Pacific Population Journal 1991;6(2):3-71.

Myanmar Ministry of Health and Sports, Myanmar Central Statistical Organization, Bloomberg Philanthropies Data for Health Initiative. Myanmar Ministry of Health and Central Statistical Organization: Bloomberg Philanthropies Data for Health Initiative, Civil Registration and Vital Statistics Work Plan. Unpublished; 2016.

Myint N. Recent levels and trends of fertility and mortality in Myanmar. Asia-Pacific Population Journal 1991;6(2):3-71.

Myanmar Ministry of Health and Sports, Myanmar Central Statistical Organization, Bloomberg Philanthropies Data for Health Initiative. Myanmar Ministry of Health and Central Statistical Organization: Bloomberg Data for Health Initiative Civil Registration and Vital Statistics Work Plan. Unpublished; 2016.

Verbal autopsy

The D4H Initiative is assisting the Government of Myanmar to improve the capture and transmission of cause of death data – especially data on rural deaths – to improve the overall quality and completeness of mortality statistics. Myanmar's CRVS improvement efforts centre around making full use of the existing midwifery system, improving on aspects of the birth and death reporting process.

Myanmar's comprehensive midwife system delivers health services and collects essential vital event data. Myanmar's nearly 20,000 midwives play a critical role in the collection of data, and many of these midwives have already undergone two years of vocational training to prepare them for this role. ¹³ As part of D4H, Myanmar has begun training midwives to perform verbal autopsies, or VAs, using digital tablets. The VA process involves an interview with the decedent's family members regarding signs and symptoms prior to death (**Box 1**). Midwives are best-placed to conduct VAs given that they work in close contact with village populations for routine health monitoring activities like immunisations, and are often the first to know about deaths. Using tablets for collecting VA interview data, a software program for sending and storing the data, and a computer algorithm to generate a probable underlying cause of death, ¹⁴ the CSO and MOHS can generate mortality statistics for the population, even for those deaths that have not been medically certified by a physician. Automated VA has been rolled out in 14 townships and districts in Myanmar so far, covering 2.2 million people. By 2019, it is anticipated this number will increase to 34 townships. ^{15,16,17}

Box 1: What is verbal autopsy?

Verbal autopsy is a method for collecting information about an individual's signs and symptoms prior to their death from their family or next of kin, and interpreting these to diagnose the likely or most probable cause of death.¹⁶ The principal purpose of a VA is to describe the cause composition of mortality through the estimation of cause-specific mortality fractions (CSMFs). Verbal autopsy also serves as a cost-effective tool for filling the gaps in mortality data. Studies suggest that VA can provide population-level cause of death data similar in quality and reliability to medical certification by physicians in hospitals.¹⁷

The VA process consists of three basic steps:

- 1. Setting up an interview by a trained VA staff member at the household (or another appropriate place).
- 2. Conducting a structured interview to collect information on signs and symptoms of illnesses, and events that the deceased suffered before death.
- 3. Interpreting the interview data to diagnose the most probable underlying cause of death (historically, this was done by physicians, however automated methods are now widely applied).

³ Trounson, A. How death by numbers promotes global health. *Pursuit*, University of Melbourne 2017.

¹⁴ For more information, see; University of Melbourne. SmartVA: Technical user guide (V1.0). CRVS resources and tools. Melbourne, Australia: Bloomberg Philanthropies Data for Health Initiative, Civil Registration and Vital Statistics Improvement, University of Melbourne; 2018.

¹⁵ Myanmar Ministry of Health and Sports, Myanmar Central Statistical Organization, Bloomberg Philanthropies Data for Health Initiative. Myanmar Ministry of Health and Central Statistical Organization: Bloomberg Philanthropies Data for Health Initiative, Civil Registration and Vital Statistics Work Plan. Unpublished; 2016.

¹⁶ de Savigny D, Riley I, Chandramohan D, et al. Integrating community-based verbal autopsy into civil registration and vital statistics (CRVS): system-level considerations. Global Health Action 2017; 10:1272882.

Hernández B, Ramírez-Villalobos D, Romero M, et al. Assessing quality of medical death certification: concordance between gold standard diagnosis and underlying cause of death in selected Mexican hospitals. *Population Health Metrics* 2011; 9:38.

The overall research question of Zin's fellowship project was to understand the experiences of VA interviewers as part of early VA implementation.

The fellowship project

The aim of Zin's fellowship project was to develop a qualitative study protocol to learn about the experiences of midwives and public health supervisors (PHS-II), as related to their new roles and responsibilities in implementing verbal autopsy. Given the overall research question, 'what were the experiences of VA interviewers during the initial roll-out of VA in Myanmar?', qualitative methods were selected as they can answer questions that simply cannot be addressed through quantitative methods. Zin planned for the results of the study to be used to inform the future roll-out of VA in Myanmar, including strengths and weaknesses of the current model, and lessons learned around VA processes.

Zin's project also built on two other activities carried out in Myanmar as part of VA implementation: a feasibility assessment and the pilot test. The feasibility assessment was done in July and August 2016, and examined the knowledge, attitudes and practice of key stakeholders to investigate the feasibility of introducing verbal autopsy. Some of the key findings from the assessment were that, while midwives accepted that birth and death registration are very important, their significant workload impacts their ability to collect and send birth and death information, as well as provide health services to the community. The assessment also found that most of the midwives had not received any training on birth and death registration.

A pilot test of VA in Myanmar found that some family members were reluctant to talk about certain illnesses, or discuss the death too soon after the event. The pilot test of VA was conducted in October 2016. It found that family members may be hesitant to answer some questions in the VA interview, for example, refusing to answer questions around sensitive or stigmatised illnesses such as HIV. The pilot test also found that some people may not like to talk about the cause of death immediately after their family member has died, and on occasion the respondent may not remember or know all the signs and symptoms of the deceased when participating in the interview.

Reflections: new skills

Qualitative methods

While at the University, Zin learned about qualitative study methods, something very different to her background in statistics and quantitative methods. As Zin remarked, qualitative methods can explore the meaning behind peoples' experiences, cultures, or particular issues. Zin also carried-out several related literature reviews to answer questions such as:

- What is the qualitative method?
 - Why are qualitative methods the best approach to answer the research question?
- What is the most appropriate qualitative method(s) to use in the study protocol?
 - What are their strengths and weaknesses in general?
 - Are they appropriate for use in Myanmar?
 - How feasible are they for this research question?
- What topics of enquiry should be covered in the study protocol?

Zin learned about focus group discussions, in-depth interviews, case studies and observational methods, and one of her first tasks was to review the strengths and weaknesses of these methods, and assess them against criteria she developed with support from the technical team at Melbourne (**Box 2**).

Box 2: Criteria for assessing four qualitative methods

- Time required for data collection and analysis
- Coverage and representativeness
 - Midwives and public health supervisors
 - Rural and urban areas
 - Strategic implementation areas
- Depth of information likely to be obtained
- Cost
- Required level of facilitator experience and skills
- Generalisability of results
- Diversity of topics
- Complexity

Following the literature review and assessment, she selected group discussions and in-depth interviews as the main methods for the study protocol. These were selected as Zin felt they were the most practical methods to elicit information from, and opinions of, VA Interviewers in order to assess their experiences. One-on-one in-depth interviews can elicit detailed information, while focus group discussions can be used to obtain different ideas, experiences and needs of midwives and public health supervisors in conducting VA interviews.

Developing the protocol

After her literature review on qualitative methods, Zin developed her study protocol for the focus group and in-depth interviews (**Annex 1**), which focused on four main areas:

- 1. Activities of VA interviewers
- 2. Characteristics of midwives and PHS-II
- 3. Characteristics of the states and regions where VA was being implemented
- 4. Additional follow-on points from results of the feasibility study and pilot test.

She also learnt about various sampling strategies, and decided that a purposive sampling strategy was the best option, as it is widely used in qualitative reserch and allows for sampling based on the identification and selection of potentially information-rich cases (rather than random sampling, for example). Finally, Zin learned about methods of analysis, and selected to use a content analysis approach, where transcripts of the focus groups and interveiws would be analysed according to defined themes. 19

Implementing the study

On her return to Myanmar, Zin carried out the qualitative study, with the support of staff from the CSO. A total of six focus group discussions and nine in-depth interviews were carried out in three townships in June 2017, with data analysed between June and August. She found that most midwives and PHS-II took their new roles as VA interviewers very seriously, and on occassion, returned to a home two or three times to interview the family members,

The qualitative study found that VA interviewers took their roles seriously, often returning to the household two or three times.

¹⁸ PalysT. "Purposive sampling". In L.M. Given (Ed.) The Sage Encyclopaedia of Qualitative Research Methods. (Vol.2). Los Angeles, USA: Sage; 2008, pp. 697-8.

¹⁹ Palinkas L, Horwitz S, Green C, et al. "Purposeful Sampling for Qualitative Data Collection and Analysis in Mixed Method Implementation Research. New York, USA: Springer Science + Business Media; 2013.

if they were not there on the previous vists. While the interview itself took between 30 to 45 minutes, as they could do the interview with other primary health activities, and as the number of VAs conducted per month was low (between two to five interviews), they did not find it overly burdensome.

The study found that verifying certain data elements, such as date of birth of the deceased, was difficult as it was common practice for families to bury medical records and identity cards with the deceased. Certain townships also faced specific language barriers, as the midwife and PHS-II working there don't always speak all of the local languages.

In regards to training, Zin found that while midwives were happy with the number of days of training provided, the PHS-II would have liked more. She also remarked that there seemed to 'be a gap in linking theory and practices', as many of the VA interviewers could describe how to perform an ethical interview, but performed poorly during actual interviews. Having more pratice with the tablets, conducting role plays, and more time in the field while learning, are critical in strengthening interviewers' skills.

Reflections: strengthening the CRVS system in Myanmar

From her time at the University and work done on developing the qualitative study protocol, Zin believes that verbal autopsy is an appropriate method to capture cause of death data for community deaths in Myanmar, and that it can provide the necessary information for health policy and planning. Early results have demonstrated that midwives and PHS-II are suitable for conducting VA interviews, but that more training, supervision and support might be necessary. Having clear roles and responsibilities for VA is critical, and these must be linked to the routine duties of staff, to ensure that data are properly collected and shared with the relevant agencies. Implementing a system of routine monitoring and evaluation will also ensure the quality of VA interviews; which in turn, will ensure the quality of the cause of death data they generate.

Additional training, supervision and support may be necessary as part of integrating VA into routine CRVS system activities.

Acknowledgements

I had a great chance to study about qualitative methods through this fellowship, and it allowed me to contribute towards filling a technical gap in our country. I was able to apply my new knowledge and skills related to qualitative interview methods as part of the mid-term evaluation of verbal autopsy implementation in Myanmar, as part of D4H.

I would like to express grateful gratitude to Dr Wah Wah Maung, Director General, Central Statistical Organization; Professor Alan Lopez and University of Melbourne CRVS D4H team; Ms Khin Sandar Bo, Country Coordinator, D4H; and colleagues from Vital Strategies for their guidance and incredible support.

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Annex 1 Qualitative study protocol

Topic: Activities for VA interviewers What do we want to know?	Broad themes for discussion	Probing Questions
Do the midwives and PHS-II	'Tell me about the activities you need to	What about
understand the activities they will be doing as part of the VA intervention?	do as part of the VA Intervention' 'Were you able to conduct all these activities?'	Notification stage:
		- How did you find out a death had occured?
		- Did you contact any organisations to find out if any deaths had occured?
	'Were there any activities that were not clear to you?'	Preparation stage:
		- What do you do in preparation for a VA interview?
		- Do you have a plan to ensure interviews are conducted within one month?
		Interviewing stage:
		 What were your experiences conducting the VA interview with family members?
		- What challenges did you face?
		- How did you find using the tablet?
		After VA Interview stage
		- Did you have meetings with your supervisor?
		- What was your experience of these meetings?
Do the VA activities add a lot of time	'How long did it take to do the different activities?'	How long did it take to
commitment to the existing roles of the midwife/PHS-II?		Collect information on the notification of death?
	'Was it a big time commitment in addition to your other routine work?'	Travel to health center to pick up the tablet?
		Provide information on the VA interview to the family members/do introductions?
		Conduct the VA Interview?
		Meet with your supervisor to discuss VA?

Is there a better way of organising the activities of the VA Intervention?	'Do you have any suggestions for improving the process or activities of the VA intervention?'	What are the particular issues with
		Notification of death?
		Preparation for VA Interview?
	'What particular challenges with the process or activities do you think need to be addressed?'	Conducting the VA interview?
		Meeting with supervisors?
Topic: Characteristics of midwives a	nd PHS-II	
What do we want to know?	Broad themes for discussion	Probing Questions
To what extent does experience influence the VA Interviewer's ability to conduct a VA?	'Were you able to explain all the questions in the VA questionnaire to the family members?'	Are there questions that the family members find difficult to answer? If yes, what are those?
		Were family members satisfied with your explanations?
How does the community relate to midwives and PHS-II?	'Did the community accept your role as a VA Interview/agree to be interviewed?'	How did the community treat you when you conducted the interview?
	interviewed:	Do you feel that respondents answered questions openly?
	'What was your experience communicating with the community?'	Did you have any adverse reactions from family members (anger, excessive sadness)?
Does the volume of work for midwives and PHS-II influence the time they can spend on VA?	'How extensive is your workload right now?'	Do you feel that VA can easily be a routine part of your work?
	'How much time did you spend in conducting a VA interview?'	
What level of supervision is needed for midwives and PHS-II as VA Interviewers?	'Do you experience difficulties in conducting a VA? '	Who supervises you in terms of conducting VA interview?
		Were you able to solve the difficulties on your own?
		Did you need to ask for help from your supervisor?
Is there a difference in training needs between midwives and PHS-II?	'How well did the training prepare you for conducting the activities of VA?'	Did you feel you got sufficient training on how to conduct a VA?
		What aspects of VA (if any) do you need more training on?
		What ongoing training or support do you think you need?

Topic: Characteristics of the states and townships where VA is being implemented				
What do we want to know?	Broad themes for discussion	Probing Questions		
Is there a difference in community knowledge of registration practices/ illness and death in the three strategic implementation areas (SIAs)?	'Does the community in your area know how to notify and register deaths?'	Did anyone ask you about how to notify or register a death?		
	'What is the community understanding of illness and death?'	What was the communities' understanding of illness and death? Do people generally seek healthcare when they are sick?		
Is there a difference in access to areas between the SIAs and how did this affect the ability to conduct VA?	'Do you think it is easy to travel around your area?'	How much time did you spend traveling around before reaching the community?		
	'Does traveling around your area affect your ability to do a VA interview?'	Are there any barriers to transportation? How did you maintain the tablet?		
Are there any problems with language that makes the VA interview difficult in any of the three SIAs?	'What is the main language spoken/ used in your region?'	Did you face any difficulties of language where you were collecting VA interview data?		
	'Were you able to communicate well with the community?'	Were these barriers in relation to the questionnaire (and describing the symptoms) or generally with communicating (doing introduction and consent etc.)?		
Is there any difference between the availability of electricity/ the internet that may influence the conduct of the VAs in the three SIAs?	'Did you get the electricity power in your area? (Solar, Battery)'	Did you have any problems with electricity that prevented you from conducting your VA (e.g. tablet could not be charged)?		
	'Was the internet available where you work?'	Were you able to send your completed VA forms? Was there some delay because of internet connectivity?		
Topic: Additional points from feasibility s	tudy and pilot			
What do we want to know?	Broad themes for discussion	Probing Questions		
Do the midwives/PHS-II accept the new technology and how much extent accept on the VA intervention?	'What do you think about VA compared to the old way of registering deaths and collecting cause of death?'	Do you think VA should become the new way of recording cause of death? If yes, why? If no, why not?		
	'How did you do the dual workload	Do you think the VA intervention can help in your work?		
	during the VA intervention?'	What do you think of using tablet rather than paper forms for data collection?		
What do the midwives/PHS-II think of the VA questionnaire?	'What do you think of the questionnaire and the symptom questions'?	Were there any questions that you think should not be in the VA Interview?		
		Do you think which questions should be added in the VA interview?		
		Do the midwives and PHS-II understand the activities they will be doing as part of the VA intervention?		

Applying country experiences and knowledge

Related resources and products

University of Melbourne, D4H Initiative, CRVS Knowledge Gateway: Library

https://crvsgateway.info/library

CRVS country overview: Myanmar. CRVS summaries.

Improving registration: best-practice guidelines. CRVS summaries.

Intervention: Automated verbal autopsy. CRVS summaries.

Intervention: Improving registration practices. CRVS summaries.

SmartVA: Interviewer's manual. CRVS resources and tools.

SmartVA: Technical user guide. CRVS resources and tools.

University of Melbourne, D4H Initiative, CRVS Knowledge Gateway: Learning Centre

https://crvsgateway.info/learningcentre

Topic 1: Introduction to CRVS.

Topic 4: Cause of death in CRVS.

Topic 6: CRVS tools.

University of Melbourne, D4H Initiative, CRVS Knowledge Gateway: Courses

https://crvsgateway.info/courses

SmartVA.

Further reading

de Savigny D, Riley I, Chandramohan D, et al. Integrating community-based verbal autopsy into civil registration and vital statistics (CRVS): system-level considerations. *Global Health Action* 2017; 10:1272882.







The program partners on this initiative include: The University of Melbourne, Australia; CDC Foundation, USA; Vital Strategies, USA; Johns Hopkins Bloomberg School of Public Health, USA; World Health Organization, Switzerland.

Civil Registration and Vital Statistics partners:







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