Mortality Surveillance Course

1. Background

Reliable and timely information on cause-specific mortality data is a critical part of identifying emerging health problems and a fundamental component of evidence-based health policy development, implementation, and evaluation. The Africa Union, through Africa CDC, is developing tools to guide the measurement of the population-level impact of public health threats such as regional and global epidemics like Covid-19, and public health risks, for effective responses. As a result, a need for continuous and sustainable skills development on mortality surveillance for Member States has been prioritized.

The World Health Organization (WHO) Score Assessment conducted in 2016 and 2019 indicated limited capacity on mortality surveillance among the Member States. At the same time, regional consultations by Africa CDC highlighted the need to standardize the mortality reporting practices and enhance coordination and governance of integrated mortality surveillance.

To address these challenges and assist member states in building capacity to meet the demand for mortality data, Africa CDC has developed a continental framework for mortality surveillance. The purpose of the framework is to guide member states in planning, establishing and implementing their Mortality surveillance activities to increase availability of good quality and timely mortality data for public health action across the African continent.

The mortality surveillance program at Africa CDC in partnership with Vital Strategies and other partners has developed a self-learning course on mortality surveillance based on the continental framework components. This course is hosted on the Africa CDC website.

2. Vision, goal and objectives

Vision	Equip member states with the needed 'Mortality Surveillance' knowledge and skills to develop, implement and evaluate an evidence-based health policy
Goal	To provide member states with a basic understanding of the importance of mortality data, how to set up mortality surveillance system and introduce various approaches to collecting mortality data as outlined by the continental framework.
Objectives	- To provide officers involved in the mortality surveillance system with the specific **technical skillset** needed to develop and better manage and implement the mortality surveillance system in their respective countries, e.g. how to collect data in a more effective and efficient manner and how to utilize data in an optimal manner for evidence-based policy making and program design. - To equip officers involved in the mortality surveillance system with the needed **understanding and knowledge** related to mortality data, its management and interpretation, e.g. to know and understand what needs to be done and to make use of data for real-time decision making.

3. Target audience

The intended participants of the course are:

- Technical officers, surveillance officers, epidemiologists, who are working within the health sector, CRVS, or any other sector related to and involved in mortality surveillance.

- A mixture of senior and mid-level officers

- Officers who are mostly at their early stages of their profession, having basic education with some level of professional education.

4. Course outline: (What does this course consist of?)

This course has been developed using a multi-layered BLEND approach. This approach led to the design and development of a series of activities:

1- **Self-paced independent modules** that are divided into two batches.

➔ BATCH 1: consists of seven introductory modules. These are mandatory and have to be taken to access a 'course completion certificate'

➔ BATCH 2: consists of six modules, that are more advanced and detailed. Participants can pick and choose from the list of modules according to their needs. If they make a decision to take all the modules of BATCH 2 then they will be eligible for the ADVANCED COURSE completion certificate.

5. How was this course developed?
6. What is needed to complete this course successfully?
7. Where to find the course? Link
8. Acknowledgements (see the text provided earlier for both partners and Member States)

Note: You already have the content for 4-8.

9. A multi-layered blended format

The proposed modality is highly blended, as it blends online with in-person engagements on different points of time during, as well as throughout, the learning experience continuum.

A blend between self-learning and field-practicum

There will be two modalities of learning experience, that will be very closely linked:

- An online self-learning/ self-paced course (this roadmap is mainly focusing on)

- An in-person learning experience, called hereto 'practicum' that would be mainly country-specific

The practicum would take place after each batch of modules with the main aim to implement, apply and put acquired knowledge into practice. In other words, the practicum is a practical field-based component to ensure participants gain the needed skill set to implement mortality surveillance

The below is outlining the difference between both modalities, as well as the link between them.

	Online self-learning	In-person country-specific practicum
Purpose	provide member states with a basic understanding of the importance of mortality data and introduce various approaches to collecting mortality data as outlined by the continental framework.	Provide member states with a basic understanding of the importance of mortality data and introduce various approaches to collecting mortality and in addition, provides member states with an opportunity to discuss the local and contextual situation, challenges and

		approaches during implementation of gained knowledge (i.e. when operationalizing the continental framework in real-work context).
Main Advantage	Provide the information for a wide range of officers and stakeholders within the different member states. Provides useful analytics through the LMS, enabling future improvements of course.	Provides an opportunity for: - Peer to peer interaction - Content contextualization - Delving deeper into the nuances of implementation - Assessing progress in knowledge acquisition - Ensuring the enhancement of the needed specific technical skillset
Characteristics	- Online (accessible via diverse digital devices) - Self-paced (each learner walks through the material at his/her own pace) - Can be accessed anywhere and anytime. - Hosted on Africa CDC website. - Built on the 'sustainable learning framework' (Learning Approach) - Provided in a micro-learning fashion - Includes activities with automated grading.	- Takes place in-country with respective technical officers involved in Mortality Surveillance. - includes interactive activities to ensure higher levels of engagement. - focuses on contextualization of acquired knowledge - focuses on 'practice & performance' rather than knowledge acquisition. - Includes Reflection, peer & group work, problem/solution-focused activities - All activities should focus on enhancing participants critical and creative thinking skills.
Relationship	- Provides needed knowledge, paves the way for deeper learning, focuses on providing the holistic and comprehensive picture of Mortality Surveillance (importance, approaches, tools …) THEREFORE - The self-learning course is viewed to be the ***driving engine*** for a comprehensive learning experience that is further elaborated and reaches deeper levels through the in-person / country-specific engagement.	- Takes the learning experience into a new level, one that is constructed around finding contextual solutions and approaches for the more generic outlined information about Mortality Surveillance. - It the essential and crucial ***follow-up*** that ensures that participants are aware of local circumstances and challenges - If conducted in a constructive, reflective, pedagogically sound and highly interactive manner, the in-person engagement would be able to
Proposed Approach	A flipped approach is proposed here (See below)	

The available backbone material (upon which the eLearning experience) will be constructed consists of nine PPT that were utilized for in-person training. For an online modality, some of those PPT will need to be split, as they are too 'heavy and intense'. A preliminary structure consisting of 14 titles (modules) has been provided below (See # 11).

The learning experience will be divided into two sections (hereto called 'Batches')

Batch 1:

Consists of modules 1-6

After module 6, there will be field practicum of at least 2 weeks before they can start the second set of modules. Participants are expected to complete at least one of the field outputs below and submit a report:

The field practicum includes the following:

1. Analysis of retrospective mortality surveillance data and describing it in person, place and time
2. Reviewing mortality data during a specific health event and comparing it with historic threshold to calculate excess mortality
3. A description of the status of mortality surveillance in your district, region or country

Batch 2:

Consists of modules 7-14

At the end of the second setoff modules, there will be the last field practicum and participants are expected to complete at least one of the field outputs listed below:

The field practicum includes the following:

1. Description of the mortality surveillance system attributes
2. Description of the mortality surveillance system attributes

A blend between self-learning and synchronous online engagements

However, as it is anticipated that the participants would need to discuss some of the concepts, raise some of their questions and engage with peers, a second layer of interaction is suggested. That layer is the integration of interactive online synchronous engagements (Called hereto 'Webinars'). The proposed learning experience scenario is as follows:

➔ The course batch (with all its modules) will be launched and announced through different channels
➔ Interested participants will enroll
➔ They will be informed during the registration process that there is a structure that they need to follow, which includes undertaking the self-learning modules in the prescribed sequence and order and the attendance of the webinars.
➔ The dates and timing of the webinars will be clearly stated.
➔ Those webinars will be provided in intervals. They are engagements with Subject Matter Experts (one or two) who will be responsible during the webinar for the following:
- Ensuring that there is some learning progress
- Answering participants questions
- Supporting students who struggle with understanding or comprehending some of the concepts
- Engaging participants in reflective and interactive activities
➔ What is proposed is to have around 5 webinars per batch. However, we can also decide on making only a portion of those webinars mandatory (example 3 out of 5).

However, to ensure the effectiveness and sustainability of this proposed blended format, there are some requirements:

➔ Having always one or two SME who are ready and able to undertake this webinar facilitation role.
➔ Having a structure that is well-planned and well-communicated to participants.
➔ Having an administrative personnel in charge of related logistics, e.g. engaging the SMEs, reminding the participants about dates, setting the Zoom link, preparing the meeting report….etc.

Here are some of the benefits of using this approach[1]:

✓ **Participants are more in charge**, which is specifically useful when engaging with adult participants who learn at their own pace. They may pause or rewind the lectures, write down questions they may have, and discuss them with their facilitator and peers afterwards. Additionally, this approach allows participants who need more time to understand certain concepts to take their time reviewing the material without getting left behind.

✓ **Promotes participant-centered and collaborative learning**, because this approach allows time, when meeting together, to be used to master skills through collaborative projects and discussions allowing participants to learn from each other and share experiences. "By allowing students to partake in their own learning, they are able to own the knowledge they achieve, which in turn builds confidence".

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[1] Acedo, M. (n.d.). What Are The Pros And Cons Of A Flipped Classroom? Teach Thought University. Retrieved from https://www.teachthought.com/learning/pros-and-cons-of-a-flipped-classroom/

✓ ***Learning content is more accessible***, as videos, readings and other material is being made available online for participants to use, watch, read, review at any time and at their own pace.

✓ ***Provides the flexibility suitable for adult participants***, as adult participants prefer to control their time and be provided with the flexibility to prepare for their collaborative activities at their own pace and whenever they wish to.

10. Online course design considerations

There is a set of overly complex variables that will dictate the design of this eLearning solution:

✓ **Technical:** Not all practitioners, who will be undertaking this eLearning enjoy stable and strong technical infrastructure, esp. those who live in rural and remote areas. Therefore, the eLearning solution will avoid the reliance on difficult to upload visuals and videos, will refrain from asking enrolled trainees to use external applications. The enrolled participant would always be able to return to where he lastly accessed the course.

✓ **Geographical:** Practitioners are geographically scattered; therefore, the eLearning course will be designed in a self-paced format, enabling practitioners to access the online course independently at their own convenience, i.e. whenever and wherever they prefer.

✓ **Diverse needs:** there is a wide range of needs, some might need just to upskill their reporting skills while others are totally new to the Mortality Surveillance concept. This is why the proposed eLearning solution would include the wide range of knowledge and skillsets needed.

✓ **Time considerations:** There is a real push and urge from different directions to develop an online self-learning course within the next five months. This is why the design process will be expedited through a very strict timeline with strict review cycles.

11. Online course design approach

For this eLearning course a microlearning approach will be applied.

o Microlearning is an educational strategy that breaks complex topics down into short-form, stand-alone units that can be viewed as many times as necessary, whenever and wherever the learner or trainee has the need.

o Microlearning is a learning approach ideally suited for skills training. It involves stripping down a skill or idea to its most essential parts - and only teaching those. Consequently, microlearning courses are highly focused and made up of bite-sized exercises.

o Bite-sized exercises or "learning nuggets" are at the core of microlearning. In fact, everything about microlearning is shorter, quicker and sharper than traditional long-form learning methods.
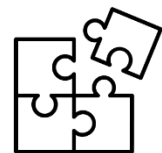
- o Scientific research suggests that a self-directed, modular approach to 'talent pipeline development[2] improves knowledge retention. It also empowers employees by giving them the opportunity to build new skills directly in the context of their job, without having to take time away from their job to attend training.

- o Although microlearning is most often associated with independent learning, modules can also be strung together to create guided learning experiences for individuals or small groups.

- o The small chunks of instructional content can be tagged with metadata for easy search, access and reuse.

- o One of the biggest advantages of microlearning is that the learner can conduct a learning session at any time, from anywhere, using any type of computing device.

- o Microlearning suits learners who learn on the go, and those who use predominantly their mobiles.

- o Another advantage of using a microlearning strategy is that short-form content is easier to update than long-form content which makes the training more sustainable, especially in industries that constantly change, e.g. health. When educational content is created in small, bite-sized modules, it can easily be updated to reflect new laws and regulations.

12.   Course Languages

- The anticipated languages for this course are: English - French - Portuguese - Arabic
- However, the design itself will happen in English, translated to French, Portuguese and Arabic during the development phase.

13.   Course Backbone Material

This course is going to be based on already available material that has been used in recent in-person training. That material includes:

1. a set of training modules (9 in total, but there might be some thought about splitting some of those).

2. In-person training agenda

3. Pre- and post-training assessment

The material (9 modules) has been constructed around the components of Mortality Surveillance from data which includes:

➔ Data collection including the reporting tools,

➔ Recording tools

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[2] A talent pipeline is a pool of candidates who are ready to fill a position or undertake a role or responsibility. These can be employees who are prospects.

➔ Standards

➔ Reporting

➔ Analysis

➔ Interpretation of data

The material covers broad categories such as:

→ certification of death

➔ Using the WHO tools

➔ Verbal Autopsy

➔ How this data is being reported

In summary, the material (~the modules) address the whole surveillance cycle and ~~explan~~explain what needs to be done during the whole cycle of surveillance.

11.   Proposed online course structure

Module	Title	Based on
	BATCH ONE	
1.	Overview of Continental efforts to strengthen and implement mortality surveillance	• What is Africa CDC (..)[3] • Overview of Continental Efforts to Strengthen Mortality Surveillance (4)[4] • Module 9: Strategic Considerations for implementing mortality surveillance (esp. slides 13-19)
2.	Overview of CRVS and mortality surveillance	• Module 1a: Overview of CRVS in Africa (9) • Module 1b: Overview of mortality surveillance – part 1: slides: 1-17
3.	Setting up mortality surveillance system	Module 8: Steps in setting up mortality surveillance system (17) • Module 9: Strategic Considerations for implementing mortality surveillance – Part 1: slides 1- 12

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[3] This PPT is corrupt (can't open it)
[4] What is between brackets is the number of PPT slides available in the presentation under this title

4.	Description of distribution of mortalities	Module 1b: Overview of mortality surveillance – part 2: slides 18-37
5.	Detection of death events: Data sources & methods	Module 2: Detection of death events: Data sources and methods (15)
6.	Reporting of death and causes of death	Module 4: Reporting of deaths and causes of death (8)
	BATCH TWO	
7.	Introduction to Verbal Autopsy	Module 3c: Verbal Autopsy implementation linked to CRVS – part 1: slides 1-25
8.	Verbal Autopsy linked to CRVS	Module 3c: Verbal Autopsy implementation linked to CRVS – part 2: slides 26-46
9.	Medical Certification of Cause of Death and ICD Mortality Coding	Module 3d: Introduction to ICD-11 the Guides Medical Certification of Cause of Death and ICD Mortality Coding
10.	Data Quality Assessment	Module 5: Data Analysis – Part 1- slides 1-30
11.	Data Analysis (Steps 1-5)	Module 5: Data Analysis – Part 2- slides 31- 63
12.	Data Analysis (Steps 6-10)	Module 5: Data Analysis – Part 2- slides 65- 77
13.	Monitoring and Evaluation of Data	Module 6: Monitoring and Evaluation (16)
14.	Dissemination of Information	Module 7: Mortality surveillance information dissemination (10)