



MINISTRY OF HEALTH

## NATIONAL MORTALITY SURVEILLANCE ROADMAP



2024/25-2027/28

**Table of Contents**

- List of Contributors ..... 3
- ACRONYMS ..... 4
- FOREWORD ..... 6
- ACKNOWLEDGEMENTS ..... 7
- DEFINITION OF KEY TERMS ..... 8
- 1.0 INTRODUCTION ..... 9
  - 1.1 Background to Mortality Surveillance ..... 10
  - 1.2 Problem statement and Justification ..... 11
  - 1.3 The Goal of the Mortality Surveillance Roadmap ..... 12
  - 1.4 General Objective of the Mortality Surveillance Roadmap ..... 12
    - 1.4.1 Specific Objectives: ..... 12
  - 1.5 Guiding principles ..... 12
  - 1.6 Core functions of a mortality surveillance system ..... 13
    - 1.6.1 Detection of events ..... 13
    - 1.6.2 Immediate Notification of events to the next level ..... 13
    - 1.6.3 Ascertainment and reporting of causes of death ..... 13
    - 1.6.4 Compilation of data collected ..... 13
  - 1.7 Uses of Mortality Surveillance ..... 13
- 2.0 SITUATIONAL ANALYSIS ..... 14
  - 2.1 Uganda Population Demographics ..... 14
  - 2.2 Uganda mortality statistics ..... 15
    - 2.2.1 Distribution of Mortality Cases per Health Facility Level ..... 15
    - 2.2.2 Mortality Statistics at Community Level in Uganda ..... 16
  - 2.3 Structure of the Health System ..... 16
  - 2.4 HR capacity to support mortality surveillance ..... 17
  - 2.5 General Sources of Mortality Data in Uganda ..... 18
    - 2.5.1 Health facility mortality data ..... 18
    - 2.5.2 Community mortality data ..... 18
  - 2.6 Current Mortality Data flow in Uganda ..... 20
  - 2.7 Data Quality Issues ..... 21
    - 2.7.1 Data Completeness ..... 21

2.7.2 Data Timeliness .....	21
2.7.3 Mortality surveillance dashboard .....	22
2.8 National Identification & Registration Authority (NIRA) .....	23
2.8.1 Death notification and certification by NIRA .....	23
2.9 Census and surveys .....	23
2.10 Health Demographic Surveillance Sites like the Iganga-Mayuge Health & Demographic Surveillance Site (IMHDSS).....	24
2.11 Currently existing program-specific mortality surveillance implementation mechanisms .....	24
2.11.1 Maternal and Perinatal Death Surveillance and Response (MPDSR) .....	24
2.11.2 HIV and TB Mortality Surveillance and Response .....	25
2.11.3 UNIPH Contribution to Strengthening Mortality Surveillance in Uganda .....	28
2.12 SWOT Analysis.....	31
3.0 STAKEHOLDERS AND PARTNERSHIPS.....	32
3.1 Stakeholder Mapping.....	32
4.0 ROAD MAP PROGRESS CHART FOR THE FIRST YEAR OF IMPLEMENTATION .....	36
5.0 COSTED STRATEGIC OBJECTIVES TO IMPROVE MORTALITY SURVEILLANCE IN UGANDA .....	37
6.0 REFERENCES .....	43

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## ACRONYMS

<b>AFENET</b>	African Field Epidemiology Network
<b>ANACoD</b>	Analyzing Mortality and Cause-of-Death
<b>CAO</b>	Chief Administrative Officer
<b>CDC</b>	Centers for Disease Control and Prevention
<b>CDCF</b>	Centers for Disease Control and Prevention Foundation
<b>CHEWs</b>	Community Health Extension Workers
<b>CME</b>	Continuous Medical Education
<b>CDR</b>	Crude Death Rate
<b>COVID-19</b>	Corona Virus Disease 2019
<b>CPD</b>	Continuous Professional Development
<b>CRVS</b>	Civil Registration and Vital Statistics
<b>CSOs</b>	Civil Society Organizations
<b>DHIS2</b>	District Health Information System Version 2
<b>DQA</b>	Data Quality Assessment
<b>EVD</b>	Ebola Virus Disease
<b>HC II</b>	Health Center Level 2
<b>HC IV</b>	Health Center level 4
<b>HIV</b>	Human Immunodeficiency Virus
<b>HMIS</b>	Health Management Information System
<b>HR</b>	Human Resources
<b>HW</b>	Health Worker
<b>ICD11</b>	International Classification of Diseases Version 11
<b>IDSR</b>	Integrated Disease Surveillance and Response
<b>IEC</b>	Information, Education and Communication Materials
<b>IMHDSS</b>	Iganga-Mayuge Health & Demographic Surveillance Site
<b>Jhpiego</b>	John Hopkins University Affiliate - Uganda
<b>LC1</b>	Local Council 1
<b>MAAIF</b>	Ministry of Agriculture, Animal Industry and Fisheries
<b>MCCOD</b>	Medical Certification of Cause of Death
<b>MNRH</b>	Mulago National Referral Hospital
<b>MoH</b>	Ministry of Health
<b>MPDSR</b>	Maternal and Perinatal Death Surveillance and Response
<b>MPs</b>	Members of Parliament
<b>MS</b>	Mortality Surveillance
<b>MVRS</b>	Mobile Vital Records System
<b>NIRA</b>	National Identification and Registration Authority
<b>RDC</b>	Resident District Commissioner
<b>ROPA</b>	Registration of Persons Act
<b>RRHs</b>	Regional Referral Hospitals
<b>SDGs</b>	Sustainable Development Goals
<b>SOPs</b>	Standard Operating Procedures
<b>TB</b>	Tuberculosis

<b>UBOS</b>	Uganda Bureau of Statistics
<b>URSB</b>	Uganda Registration Service Bureau
<b>UCI</b>	Uganda Cancer Institute
<b>UHI</b>	Uganda Heart Inst
<b>UDHS</b>	Uganda Demographic Health Surveys
<b>UNHCR</b>	United Nation High Commissioner for Refugees
<b>UNHLS</b>	Uganda National Health Laboratory Services
<b>UNICEF</b>	United Nation International Children Emergency Fund
<b>UNIPH</b>	Uganda National Institute of Public Health
<b>UPDF</b>	Uganda People Defence Force
<b>UPF</b>	Uganda Police Force
<b>USAID</b>	United States Agency for International Development
<b>UVRI</b>	Uganda Virus Research Institute
<b>VHTs</b>	Village Health Teams
<b>VA</b>	Verbal Autopsy
<b>WHO</b>	World Health Organization

## **FOREWORD**

It is with great pleasure that I present the Mortality Surveillance Roadmap for Uganda. This strategic initiative reflects our collective commitment to enhancing the health outcomes of the Ugandan population through informed and targeted interventions.

Monitoring deaths aids in identifying and addressing their causes, allowing health systems to adapt and respond effectively. It triggers responses across multiple sectors based on the cause of death. Additionally, understanding the reasons why people die, can help comprehend the ways people live to improve health services and reduce premature mortality from effective response to changing epidemiological circumstances.

For comprehensive mortality surveillance, all-cause-of-mortality data must be available in real-time and continuously utilized both at subnational and national level. The availability, accessibility and utilization of mortality data has become fundamentally important for Uganda's national population health assessment and health development agenda, and more so to adequately respond to the current and emerging public health threats.

A robust Mortality Surveillance system is the cornerstone of a highly effective public health system. It plays a pivotal role in measuring key indicators such as the crude mortality rate (CMR), life expectancy, total and excess mortality, maternal, neonatal, infant, and child mortality rates; categorized by age, gender, location, and other forms of mortality.

Equally integral to this initiative are our valued stakeholders NGOs, the private sector, international partners, and the community who actively participate in mortality reporting. Community members, as stakeholders, play a pivotal role in identifying, notifying, and reporting deaths. This collaboration, encapsulated in the Mortality Surveillance Roadmap, seeks to overcome challenges and establish a resilient and responsive system. By ensuring accurate and timely mortality data, we aim to empower public health decision-makers, catalyzing a positive impact on the well-being of the Ugandan population.

As we embark on this journey, let us uphold the principles of coordination, capacity building, and shared responsibility.



Dr Daniel Kyabayinze

**DIRECTOR PUBLIC HEALTH**

## **ACKNOWLEDGEMENTS**

In grappling with the complex landscape of public health challenges, the Mortality Surveillance program emerges as a crucial tool, offering the potential for profound impact. This roadmap outlines a comprehensive plan that hinges on collaboration specifically, the concerted efforts of the government, stakeholders, and the community. It underscores the indispensable role of the government in policy advocacy, resource allocation, and leadership. The commitment to supportive policies, necessary funding, and personnel, coupled with the enforcement of legal frameworks for death notification, establishes a foundation for robust Mortality Surveillance.

Various modes for death recording systems exist which include National Health management information systems (HMIS), and civil registration of vital statistics (CRVS) systems. CRVS systems record reported deaths and yet the community reports deaths only in case the deceased was in formal employment or need to claim benefits of the deceased. Due to the passive nature CRVS systems, most of the death are left unrecorded both at facility and at community. This calls for an 'active search' approach, in which deaths are identified either through periodic household surveys across entire population clusters, or through local networks of key informants that monitor and notify deaths in local households to the designated mortality surveillance program.

Uganda relies on demographic health surveys to collect such information; these surveys are too infrequent (every after five years) to make policy decisions. This prompted the Ministry of Health – Uganda, to adopt the implementation of Mortality Surveillance in 1988. Various forms of mortality surveillance exist including but not limited to; MPDSR, neonatal mortality, infant mortality, disease specific mortality and others arising from public health events.

I would like to thank in a special way the Ministry of Health's heads of Departments & Divisions; Hospital & Health facility staff, Community leaders; and my technical staff of the Integrated Epidemiology, Surveillance & Public Health Emergencies Department for their commitment and technical input as far as the development of this roadmap, which is aimed at harmonizing and strengthening the implementation of Mortality Surveillance within our sector is concerned.

Our Partners who have made this possible through the financial and technical contribution including IDI, Baylor, WHO, Jhpiego, among others are greatly acknowledged. Your technical support towards the development and printing of this Mortality Surveillance Roadmap is much appreciated.



Dr Allan Muruta

**COMMISSIONER**

**INTEGRATED EPIDEMIOLOGY, SURVEILLANCE & PUBLIC HEALTH EMERGENCIES**



### DEFINITION OF KEY TERMS

<b>Crude Death Rate</b>	Number of all deaths per 1,000 persons using mid-year population.
<b>Community Death</b>	A death that occurs in any place other than a health facility.
<b>Notification</b>	The initial process by which information about deaths is communicated to relevant authorities or healthcare systems.
<b>Identification</b>	The act of recognizing a death event and verifying the person, place and time characteristics.
<b>Reporting</b>	The comprehensive process that involves detailed documentation and transmission of collected information to higher levels for public health action.
<b>Certification of Death</b>	Issuance of a certificate upon registration of a death by a registered body.
<b>Death Registration</b>	The process of recording a death in a formal system
<b>Death Review/Audit</b>	The documentation of the case specific cause of death and the factors that contributed to it.
<b>Verbal Autopsy</b>	A validated community-based method to determine the probable cause of death using information obtained from caregivers / next of kin.

## 1.0 INTRODUCTION

Global Burden of Disease estimates that approximately 131 million (ranging between 126 and 137 million) people died worldwide from all causes over the combined years of 2020 and 2021 [1]. Sub-Saharan African countries experience a dual burden of communicable and non-communicable diseases, accounting for 36% of deaths in 2019 [2]. In Uganda, the national population as per the 2023 census is 45,913,317 and the life expectancy at birth improved to 67.7 years in 2022 from 65.8 years in 2016[3, 4]. Similarly, the under 5 mortality rate has reduced from 64 deaths / 1,000 live births in 2016 to 52 deaths /1000 live births in 2022[4]. Nonetheless, Uganda has not yet met the Sustainable development goals (SDG3) targets of 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live birth; and yet the health and well-being of a country is measured largely by mortality indicators[5].

Population-based data on mortality disaggregated by age, sex, cause-of-death location and multiple other dimensions of inequality are the statistical foundation of public health. However, such information is lacking in almost all developing countries including Uganda, due to inefficient civil registration systems [6]. According to UNICEF, only 68% of the countries have achieved at least 90% of completeness in deaths registration from several sources [7]. A multi-country study showed that from 2010 to 2016 African countries scored an average of 8.3% for mortality data accuracy and completeness, as compared to a global average of 46.9% for the same period. Thirty-eight (38;69%) of the 55 countries on the African continent received a zero score [8]. In Uganda, the crude death rate for the year 2024 was approximately 5.9 per 1,000 population yet only 17% of deaths are registered annually [3, 9]. A comprehensive and timely reporting on population health by underlying causes of disability and premature death is crucial to understanding and responding to complex patterns of disease and injury burden over time across age groups, sex, and locations [10].

Monitoring deaths aids in identifying and addressing their causes allowing health systems to adapt and respond effectively. It triggers responses across multiple sectors based on the cause of death, such as: Ministry of Works and Transport for road traffic accidents; Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) for the rising prevalence of food related events among others. Additionally, understanding the reasons why people die, can help comprehend the ways people live to improve health services and reduce premature mortality from effective response to changing epidemiological circumstances[11]. Therefore, the availability, accessibility and utilization of mortality data has become fundamentally important for Uganda's national population health assessment and health development agenda; more so to timely detect and adequately respond to the current and emerging public health threats.

## **1.1 Background to Mortality Surveillance**

Surveillance in the context of public health refers to the systematic ongoing timely identification, reporting, and investigation of specific health events, with subsequent analysis and dissemination of resulting data to drive public health actions. The concept of mortality surveillance focuses on timely and systematic compilation of death data, which is then, continuously transferred to relevant authorities for analysis and interpretation. [12]. For comprehensive mortality surveillance, all-cause-mortality data must be available in real-time and continuously utilized both at subnational and national level. However, the only way to obtain this high-quality mortality data is through a robust Mortality Surveillance (MS) system [12]. A robust Mortality Surveillance system is the cornerstone of a highly effective public health system.

Fully developed national CRVS systems provide a robust MS system continuously capturing high quality data on births and deaths nationally. It allows for calculation of birth rates, mortality rates, and cause-specific mortality fractions at the national and sub-national levels. In the absence of fully viable CRVS systems, countries have a range of data sources that serve as alternatives for compiling mortality data. For instance, censuses and surveys are conducted periodically (on average, every five to ten years) and therefore not adequate to make timely policy decisions if only based on such data. On the other hand, while HDSS provide continuous data on death events and their causes, they do not usually produce valid national and sub-national estimates, given their limited sample size. Similarly, HMIS can provide continuous fact of death, and sometimes cause of death data, but may face challenges in reporting community-based data, or may only capture health facility data.

Good public health decision-making is dependent on reliable and timely data on births and deaths, including cause of death (COD), best collected through a well-functioning civil registration and vital statistics (CRVS) system. A well-functioning CRVS system, through inputs into and exits from a population register, provides governments with critical information on their population by age, sex and location, on which to develop policies and plan services, amongst a range of other purposes. The health sector has an important role to play in strengthening CRVS systems. It is in the best position to notify births and deaths and assign cause of death, since health workers are most likely to be present at, or shortly after, such events. Linking the health sector to civil registration facilitates timely birth and death notification and more accurate information on causes of death.

Sample-based mortality surveillance systems with verbal autopsy produce fact of death and cause of death data. They can be designed to generate a statistically valid estimate of national and sub-national mortality based on a sample population. These alternative sources have provided countries with vital information about births and deaths for decades; however, they have several critical limitations and should not replace the need to strengthen a sustainable CRVS system. Activities that may enable the successful implementation of such an efficient surveillance program include: strengthening governance and operations of death reporting

activities, establishing a clear definition of institutional roles and responsibilities, raising awareness and advocacy at all levels, building technical capacities, improving allocation of resources, and leveraging of shared interests by both implementing and development partners[12].

The civil registration of births deaths and marriages in Uganda was introduced in 1904, after independence, legal amendments led to the births and deaths registration act of 1964; the registration of every death in Uganda is free and compulsory[9]. In the year 2000, Uganda adopted the implementation of Mortality Surveillance through the IDSR framework where deaths due to priority diseases were captured using the national HMIS system. Since then various forms of mortality surveillance have exist including but not limited to; MPDSR in 2008, disease specific mortality like HIV, TB, Malaria, cancer, cardiac conditions and other deaths arising from public health events like accidents among others. Furthermore, Uganda relies on demographic health surveys which are conducted every 5 years[13].

## **1.2 Problem statement and Justification**

Despite considerable investments towards strengthening Mortality Surveillance, death registration in Uganda remains low yet mortality statistics are vital in health policy, planning, resource allocation and decision making. It is important to note that the CRVS/MVRS is functional in 135 (33.5%) hospitals and health center IVs of the 403 hospitals and HC IVs in the country. The crude deaths rate for Uganda for 2024 stands at 5.9/1,000 population which translates into 271,017 deaths [14]. Of these approximately 36% occur at the health facilities and the remaining 64% occur at community level. According to the HMIS for the financial year 2022-2023 extracted on 4<sup>th</sup> June 2024, 70077 deaths were reported, 4828 (6.9%) of these were notified and 4196 (6.0%) were medically certified[15].

The notable factors contributing to slow progress in mortality surveillance since its inception include: 1) Fragmented information systems to notify and share mortality data both at health facilities and community hence inadequate data quality, 2) Limited technical expertise in certifying the cause of death at all levels, 3) Limited mortality data sharing amongst stakeholders, 4) Weak or no mechanism for collecting data on community deaths and lower health facilities (HCIs), 5) Community reports deaths in case there is need to claim benefits of the deceased, 6) Infrequent demographic surveys (every after five years) to inform policy decisions, and 7) The data collected through the HMIS has not been comprehensive enough to capture indicators on all-cause mortality

These challenges manifested in the delayed detection of deaths during the recent Ebola Virus Disease (EVD) outbreak in Mubende District (2022) and the Anthrax outbreak in Kyotera District (2023), where over 20 and 13 deaths occurred respectively over a period of six (6) weeks before the detection of the cause of death. This underscores the need to strengthen real-time

detection of deaths due to probable public health events, notification of all deaths and medical certification of cause of death for all health facilities deaths and community level.

It is imperative to institutionalize a robust, harmonized and effective well-coordinated mortality surveillance program which can ably contribute to the registration of vital statistics by accounting for every death (*who dies, when they die and why they die*). This MS program will be able to achieve these through the generation of complete, reliable and timely data on all-cause mortality in Uganda for public health action so as to monitor, understand, and address mortality and its underlying causes. The purpose of the road map is to consolidate all the current mechanisms for MS implementation and pave out a strategic direction for ultimately achieving the desired MS system.

### **1.3 The Goal of the Mortality Surveillance Roadmap**

To establish a comprehensive Mortality Surveillance System that enables quality notification of all community and facility deaths, and medical certification of cause of death to inform public health action.

### **1.4 General Objective of the Mortality Surveillance Roadmap**

To establish a robust all-cause mortality surveillance system that captures timely, accurate and complete death statistics at both community and health facility levels.

#### **1.4.1 Specific Objectives:**

1. To Strengthen Leadership, Governance, and Coordination Mechanisms for Mortality Surveillance at all levels
2. To build the capacity of different stakeholders at all levels to capture mortality data on all public health threats and institute a mechanism for integrating it within the existing systems.

### **1.5 Guiding principles**

1. Evidence-based: Ensure interventions are based on up-to-date mortality data
2. Health systems approach: Implementation of Mortality Surveillance is to happen at all levels of health service delivery from community to Health facility
3. Complementary: Building on existing programs and recognizing the comparative advantages of different stakeholders in the planning, implementation, and evaluation of mortality surveillance
4. Partnership: promote integration, coordination, and joint programming among stakeholders
5. Clear definition of roles and responsibilities
6. Coordination, Transparency and accountability for enhanced implementation

## **1.6 Core functions of a mortality surveillance system**

### **1.6.1 Detection of events**

Death events either occur within the health facility or in other areas within the community. The system should be able to capture and record all these deaths by utilizing different sources of information such as the health facility records, community health service providers, disease surveillance programs, village registers and administrative records such as police, other service records such as insurance policy providers, and funeral homes.

### **1.6.2 Immediate Notification of events to the next level**

Notification in public health surveillance terms is used to refer to the immediate reporting of case-based priority events for purposes of timely investigation to rule out or confirm an outbreak. However, in CRVS, notification refers to the legal process that occurs after an event is identified and verified and refers to the official process followed by the informant (notifier) to notify authorities of the event, for subsequent entry as a record in the civil register (i.e. registration).

Once a death is identified, a notifier in the community or health facility should immediately report the death event to the next level as per prescribed mechanisms of the mortality surveillance program.

### **1.6.3 Ascertainment and reporting of causes of death**

For any facility death, issuing a Medical Certification of Cause of Death (MCCOD) is mandatory as this aid in ascertainment of burden of disease and planning for health service delivery. For community deaths, Verbal Autopsy should be carried out to approximate the probable cause of death. Community deaths may be notified through a number of community-based actors including but not limited to; VHTs, Parish coordinators, Health assistants.

### **1.6.4 Compilation of data collected**

The collected MS shall be captured through the existing surveillance data systems e.g., e-IDSR, e-CHIS, DHIS2, MVRS, as we ensure data quality and interoperability across systems. Where, there are no established mechanisms, efforts will be made to ensure complete, timely, reliable mortality data management procedures are established as per the Ministry of Health guidelines. Eventually, all integrated data from different sources should be available in the form of a comprehensive central mortality data base.

## **1.7 Uses of Mortality Surveillance**

- Ability to detect, respond to, and control disease outbreaks during peaceful situations and emergencies.
- To detect and estimate the magnitude of deaths caused by epidemics, emergence of new diseases, or other relevant public health events or threats.

- Identify the number of deaths related to public health emergencies and provide basic demographic information to public health and emergency management.
- Identify the specific causes of death to inform immediate public health interventions and priorities.
- Monitor population health–Mortality rates by age, sex, and cause-specific mortality rates in line with sustainable development goal 3 (SDG 3).
- To inform development, research, implementation, and evaluation of health policy and planning.
- Prioritize & monitor progress and assess the impact of health intervention.

## 2.0 SITUATIONAL ANALYSIS

In the context of mortality surveillance in Uganda, understanding the dynamics of mortality rates is crucial for informing public health policies and interventions. This situation analysis aims to provide a detailed examination of the current state of mortality surveillance in Uganda, including an assessment of data collection methods, reporting mechanisms, and the overall effectiveness of existing surveillance systems. By analyzing mortality trends, patterns, and determinants, we can identify areas of concern, assess the impact of interventions, and guide future strategies to improve health outcomes and reduce preventable deaths in Uganda.

### 2.1 Uganda Population Demographics

Uganda has a total population of 45,935,046 population as per the 2024 Uganda Bureau of Statistics (UBOS) census. The key demographic variables are disaggregated as shown in Table 1.

**Table 1: Population demographics for Uganda - 2024**

Demographic Variables	Population
Total population	45,935,046
Males	22,495,030
Females	23,440,016
Sex Ratio	96.0
Population Density	227
Children under 5 years	7,270,943
Children 19 years and below	25,044,231
Adolescents and youth (young people) (10 –24 years)	15,363,524

**Source: National Population and Housing Census - Preliminary Results, 2024;**

## 2.2 Uganda mortality statistics

According to the Uganda demographic and health survey (2022), there has been a decline in mortality trends. An example is a reduction in adult mortality from 352/1,000 population in 2006 to 150/1,000 population among males and from 295/1,000 population in 2006 to 97/1,000 population among females in 2022. Similarly, reductions in mortality have been noted for children and maternal mortality (Figure 1). Regional differences in under 5 mortality are noted; West Nile region has the highest mortality (79.5/1,000 live births) with Teso region having the least rates of 30.6/1,000 live births (Figure 2). Although reduction in trends has been observed, Uganda still has mortality rates above the SDG targets (maternal mortality ratio of less than 70/100,000 live births; under 5 mortality of less than 25/1,000 live births).

Figure 1: Trends of childhood and adult mortality in Uganda, UDHS 2022

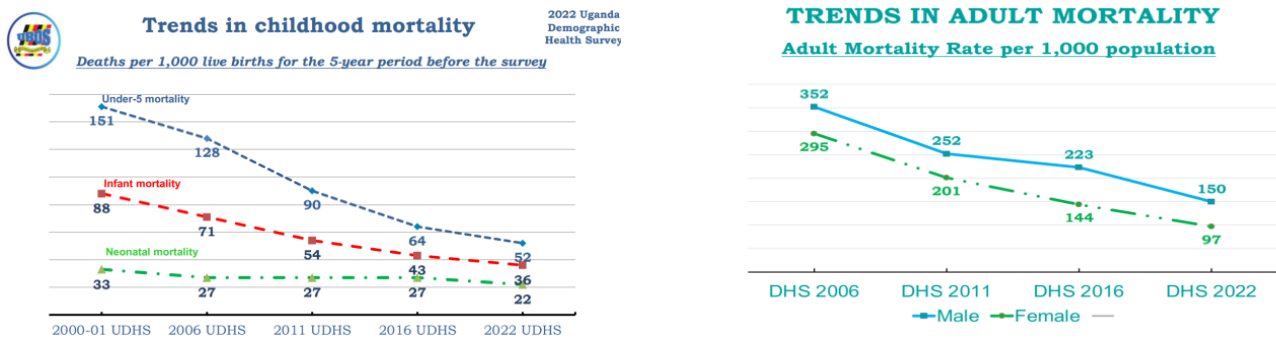
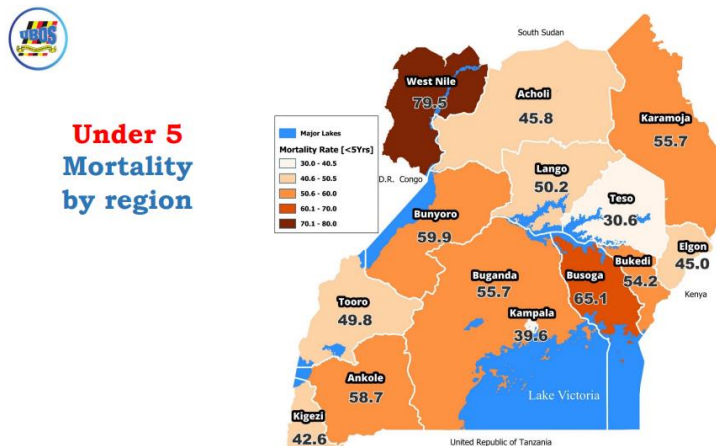


Figure 2: Distribution of under 5 mortality for different regions in Uganda, 2022



### 2.2.1 Distribution of Mortality Cases per Health Facility Level

The distribution of mortality across different healthcare levels shows a significant variation. Regional and General hospitals report the highest mortality rates with HC IIs reporting the lowest mortality. Important to note is the contribution of clinics to mortality.



**Table 2: Mortality statistics by health facility level in Uganda, FY 2022-2023**

	FY 2021/22		FY 2022/23	
	No. of deaths	Percent	No. of deaths	Percent
NRH	3,232	5.7%	3,628	6.8%
RRH	12,662	22.3%	14,269	26.8%
General Hospital	20,575	36.2%	16,330	30.7%
HC IV	9,014	15.8%	6,220	11.7%
HC III	7,791	13.7%	8,783	16.5%
HC II	376	0.7%	527	1.0%
Clinic	3,228	5.7%	3,465	6.5%
<b>Total</b>	<b>56,878</b>	<b>100.0%</b>	<b>53,222</b>	<b>100.0%</b>

*Source: MoH AHSPR 2022-2023*

### 2.2.2 Mortality Statistics at Community Level in Uganda

In Uganda, 65% of deaths occur at community level. Mortality data at community level is captured under 2 fronts; through the VHTs to health facilities using HMIS 097 and community local authorities to NIRA using form 12. According to the VHT HMIS 097 reports for FY 2022-2023, 358,882 deaths were recorded among mothers and children 5 years and below (figure 4). Note that the deaths reported are not necessarily community deaths and might include health facility deaths.

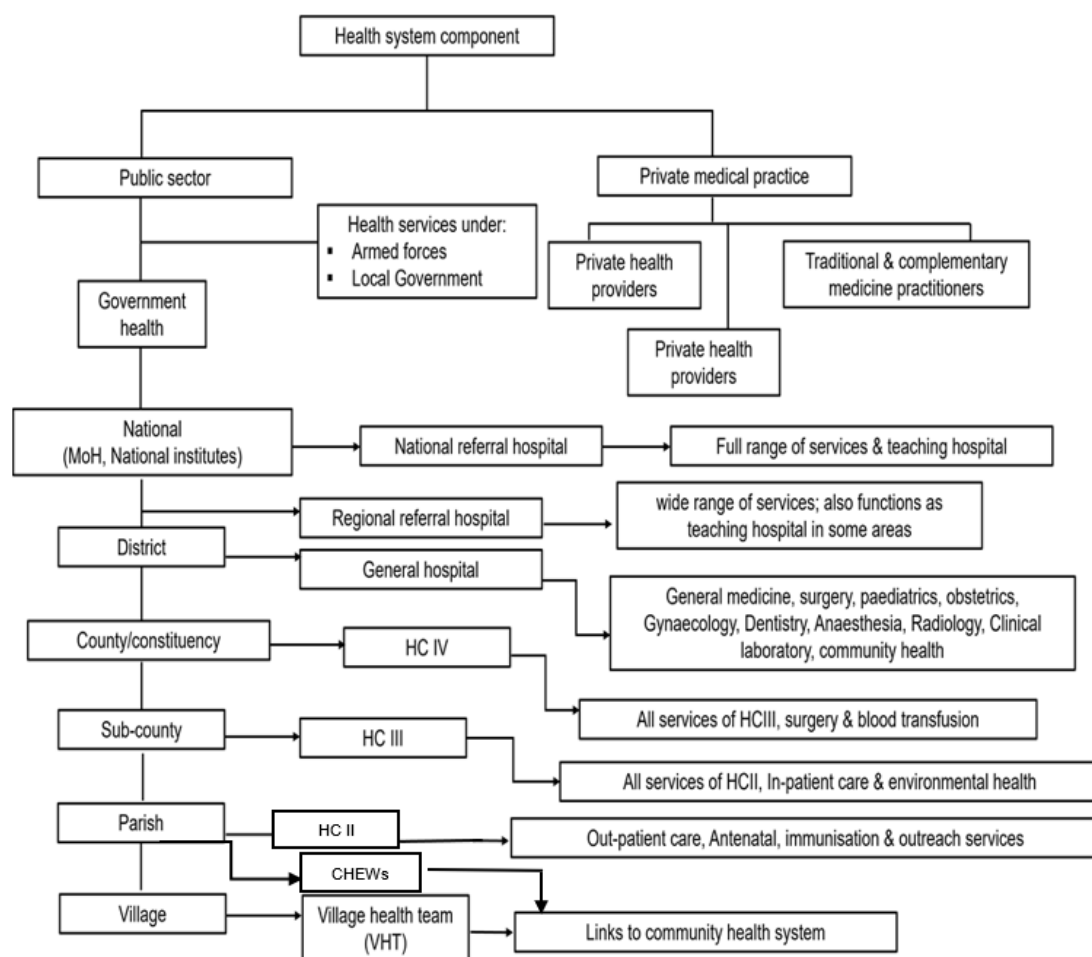
**Table 3: The number of maternal and child deaths (5 years and below) reported by VHTs in Uganda, FY 2022-2023**

Indicator	FY 2022-2023
097b-VH02. Number of children died less than 1 month	24,984
097b-VH04. Number of children died 1 to 11months	62,611
097b-VH06. Number of children died 1yr to 5yrs	265,058
097b-VH26. Number of women who died during pregnancy	6,229
<b>Total</b>	<b>358,882</b>

### 2.3 Structure of the Health System

Uganda's health system structure comprises of both the public and private sectors. The public sector has facilities at various levels in a hierarchical form with VHTs and CHEWs at the community level and National referral hospitals as the highest level of care (Figure 3). At these various levels surveillance for mortality is done through documentation and reporting. Analysis of this data to inform action is minimally done at all levels and this is evident in the numerous outbreaks that are detected late beyond the recommended 7 days as per the 7-1-7 strategy.

**Figure 3: A detailed structure of the healthcare system in Uganda from community to national level**



## 2.4 HR capacity to support mortality surveillance

Mortality surveillance utilizes the existing surveillance structures as per the health system structure (Figure 3). This is because MS is part of the already existing public health mechanism. With this, all human resource available at the various health care levels are mandated to support MS, however, there is need for continuous capacity building to ensure quality in identification, notification, reporting, certification and data use.

In 2017, the Ministry of Health and NIRA undertook several measures to strengthen Mortality Surveillance and Civil Registration and Vital Statistics (CRVS) in Uganda. From 2019 to 2022, MOH and NIRA trained a team of health workers from 14 RRHs, 51 General district hospitals, and 115 HC IVs in the international classification of diseases (ICD 11) and medical certification of cause of death (MCCOD) and also harmonized tools for MCCOD including developing the ICD 11 app in DHIS2.

## **2.5 General Sources of Mortality Data in Uganda**

The implementation of Mortality Surveillance (MS) in Uganda leverages existing surveillance structures at both national and subnational levels to ensure efficient and sustainable data collection, analysis and use. This section highlights the various sources of mortality data from health facilities, community and various programs supporting mortality surveillance.

### **2.5.1 Health facility mortality data**

Mortality data is collected from the health facilities using the HMIS (at both outpatient and inpatient departments) where every death is expected to be reported in the various outpatient and inpatient reports, notified and medically certified.

#### **2.5.1.1 Notification and Medical Certificate of Cause of Death (MCCOD)**

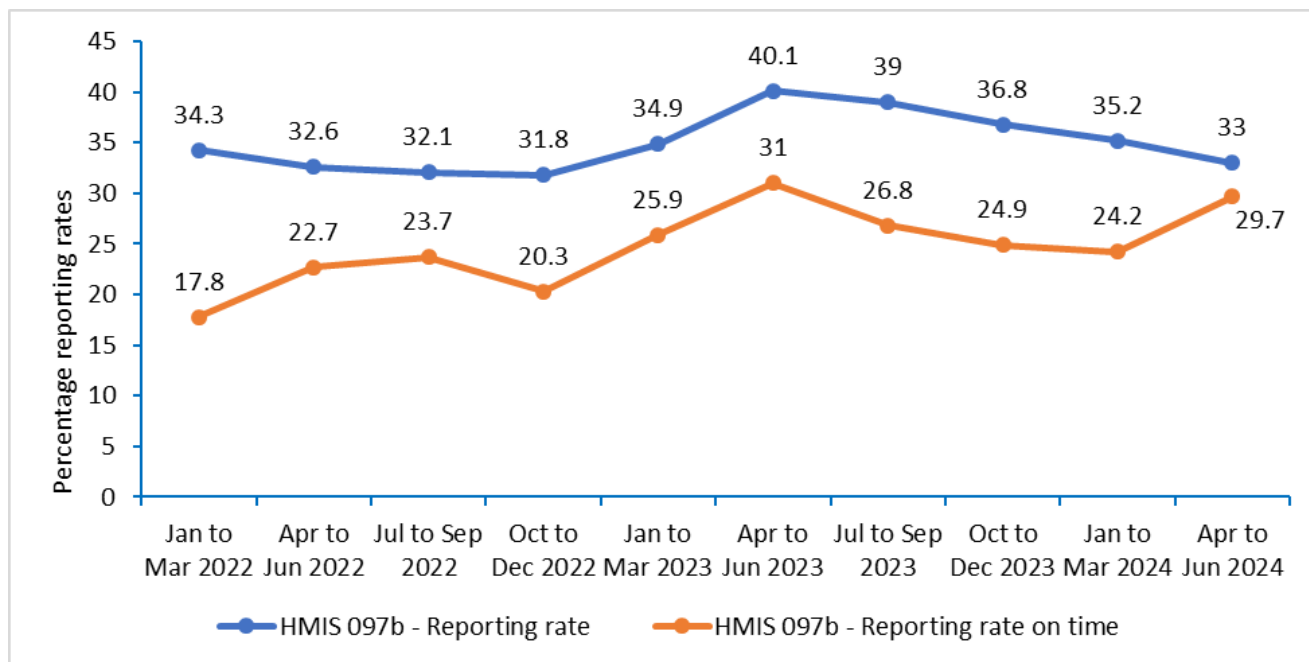
In Uganda, the HMIS Form 100 is for notifying all deaths that take place within a health facility as well as medical certification of cause of death. In the event of death, a medical officer completes the HMIS form 100 according to the World Health Organization's (WHO) International Classification of Diseases (ICD) standards after which it is entered into the national HMIS / DHIS 2.

### **2.5.2 Community mortality data**

#### **2.5.2.1 Routine community mortality surveillance**

Deaths that occurs in the community is notified by volunteering community health workers/ VHTs and local administrative authorities. VHTs complete the paper-based HMIS 097 report and submit it quarterly to the respective health facilities for entry into the HMIS. However, these reports only capture under 5 and maternal mortalities. Completing reports in the paper-based system is laborious and compounded by challenges such as excessive print volumes, errors in data aggregation, and difficulties in deciphering poor handwriting, undermines the accuracy and timeliness of data and follow-up procedures. Notably, the reporting rates of VHT reports are low at 33% as per the April June quarter 2024 (Figure 4).

**Figure 4: Trends in VHT reporting and timeliness of reports in Uganda, Jan 2022 to June 2024**



### 2.5.2.2 Electronic community health Information system (eCHIS)

The eCHIS is a digital platform crafted to assist community health workers in capturing and reporting of health-related information. It covers a spectrum of services including mortality surveillance, Maternal and Child Health (MCH), elements of infectious diseases and care protocols among others.

By April 2024, eCHIS was operational in 17 districts, providing support to more than 11,000 VHTs and 160 Community Health Extension Workers (CHEWs). There are ongoing initiatives to extend its reach nationwide, encompassing both VHTs and CHEWs.

### 2.5.2.3 Verbal Autopsy

Verbal autopsy (VA) is a valuable method used to determine the cause of death through interviews with the deceased person's next of kin or caregivers. These interviews involve a standardized questionnaire to gather details on symptoms, medical history, and the circumstances leading to death. The primary goal of verbal autopsy is to describe the causes of death at the community level or population level in areas where there is no medical certification of deaths or it is not yet well-established. Healthcare professionals or algorithms then analyze this information to identify the likely cause of death.

By 2024, VA in Uganda has been implemented at a small scale; a case in point is the Iganga-Mayuge HDSS where probable causes of death at community level are identified and communicated to NIRA for issuance of a death certificate.

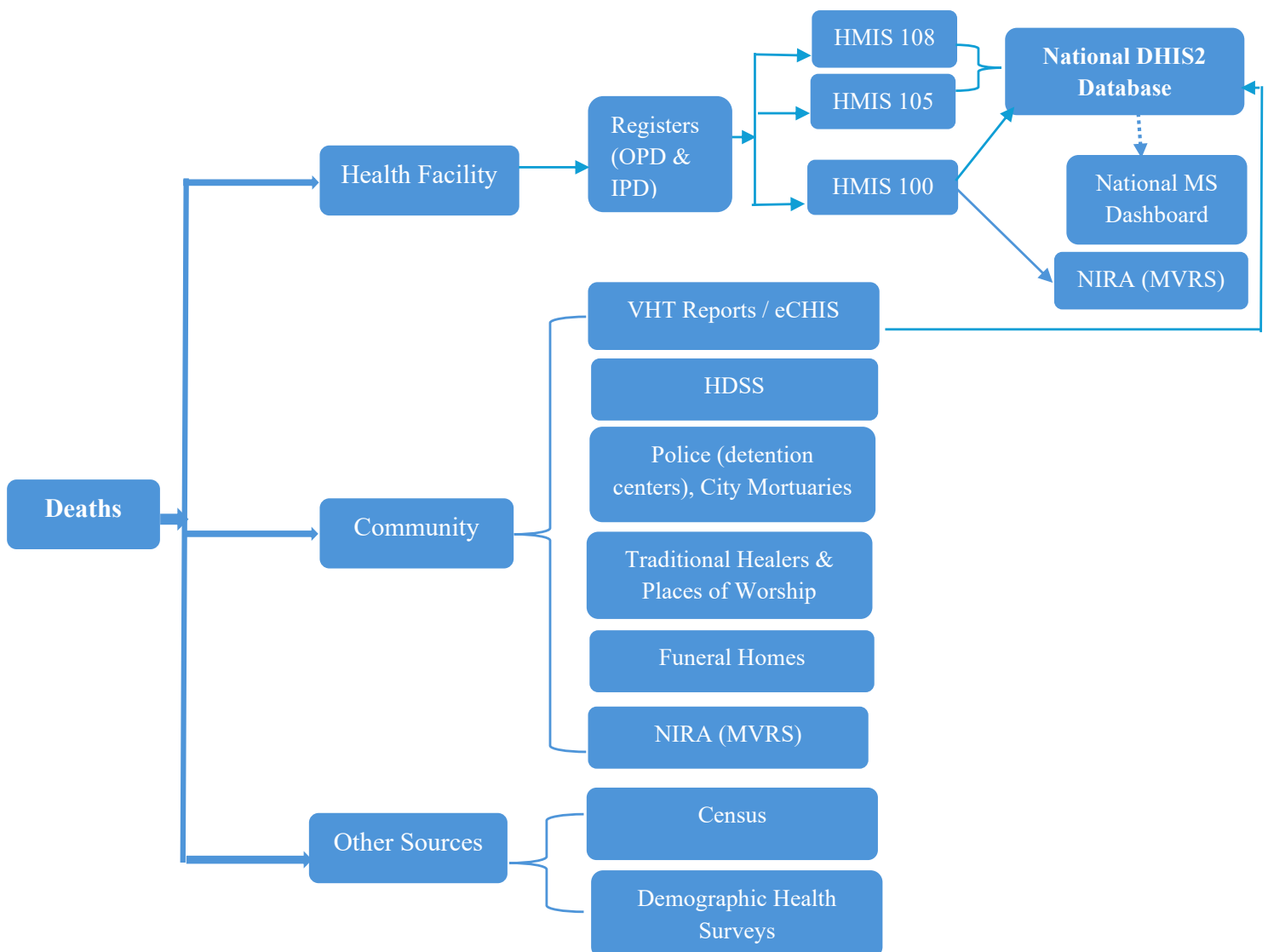
### 2.5.2.4 Other possible sources of community mortality data

Various sources of mortality data exist at community level. These include: places of worship, traditional leaders, security organs, Traditional Birth attendants (TBAs), funeral homes, cemeteries, police, prisons, post mortem reports and city mortuaries that capture deaths by accidents, suicide and deaths by killing among others. However, currently, these do not feed directly into the national reporting system.

### 2.6 Current Mortality Data flow in Uganda

For effective utilization of mortality data by government and stakeholders, mortality data from the various sources should flow to the central depository. In Uganda however, not all the data collected reaches the national data base for effective utilization (Figure 5).

**Figure 5: Mortality data flow in Uganda highlighting gaps in mortality reporting from various sources to the national level, 2024**



## **2.7 Data Quality Issues**

The quality of data determines the extent at which it can be utilised. To inform decision making, data must be timely, accurate, complete and relevant. Various initiatives have been implemented to improve data quality for MS in Uganda and these include: digitizing CRVS systems, building capacity among health workers and data collectors and engaging communities in death reporting among others. Despite these efforts, significant challenges remain and continued investments and collaboration are needed to ensure informed decision making and improved outcomes.

### **2.7.1 Data Completeness**

Mortality data utilization at national level is limited by the incompleteness where many deaths remain unreported as well as under reported.

#### **2.7.1.1 Mortality data management and reporting by the national health institutes (Uganda Cancer and Heart institutes)**

It was noted that not all mortality data from the 2 national institutes is reported into the national HMIS /DHIS2 system. The systems have parallel institute customised reporting systems.

#### **2.7.1.2 Unreported mortality data**

Death data from various facility and community sources (palliative care homes, some private health facilities, places of worship, traditional leaders, security organs, etc...) is often not captured in the national HMIS system.

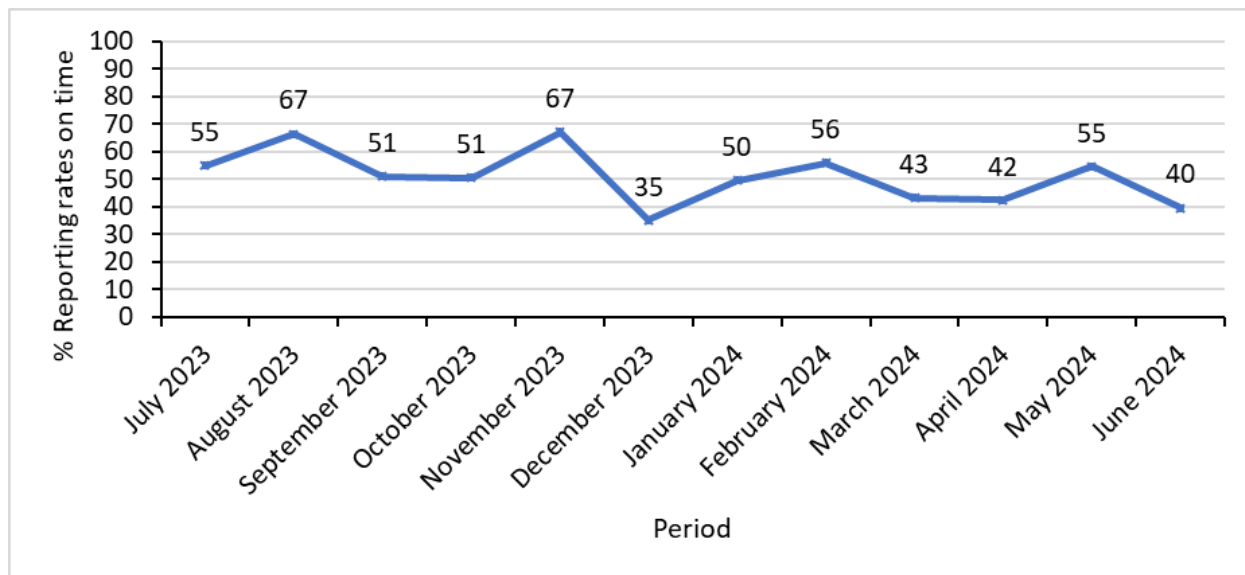
#### **2.7.1.3 Uncoordinated reporting**

Mortality data from a number of mortality surveillance implementers / projects does not often find its way into the national data base. This limits the usage of this data for decision making at national level.

### **2.7.2 Data Timeliness**

Mortality data is important for surveillance purposes. Reporting should be made within 7 days as per the 7-1-7 matrix. Uganda has a weekly surveillance report aimed at providing timely data on priority events of public health importance. However, timeliness of this weekly surveillance report is still wanting as compared to the national target of 80%. Timely data availability is key for timely decision making to be effected. Timeliness of reporting is reflected in figure 6 below.

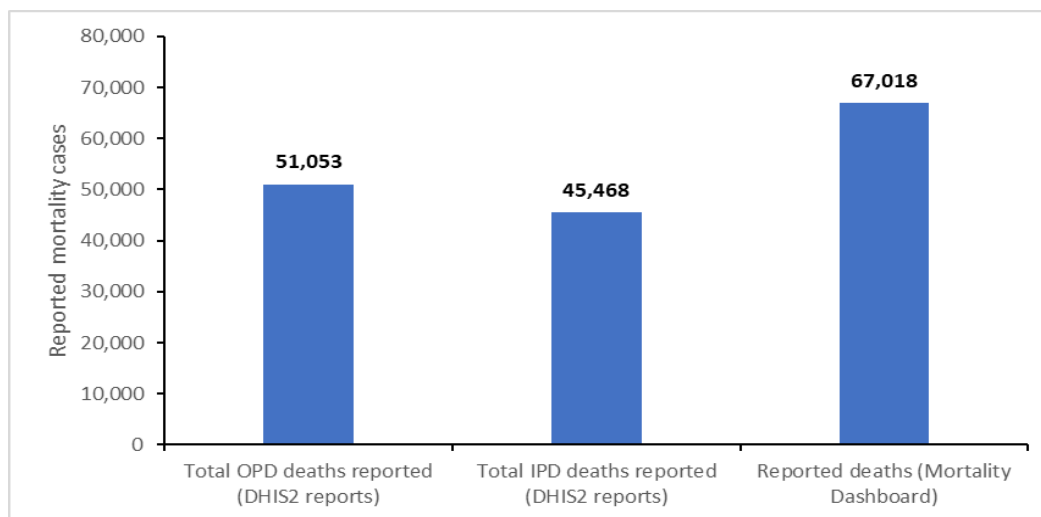
**Figure 6: Reporting rates for the HMIS 033b weekly surveillance report in Uganda, July 2023 – June 2024**



### 2.7.3 Mortality surveillance dashboard

The Ministry of Health designed a mortality dashboard as a one stop center for visualization of mortality data. However, this is for only data coming through DHIS2. During assessment of the data in the MS dashboard, it was noted that there were discrepancies between the reported deaths and the total deaths from the outpatient and inpatient reports in the same system (as illustrated in Figure 7 below). There is need to verify indicator sources for the mortality dashboard to ensure data quality and representation of mortality cases reported from the health facilities through the monthly reports.

**Figure 7: A comparison of mortality cases reported in DHIS2 against mortality cases reported in the national mortality dashboard for the period of May 2023 – April 2024**



## **2.8 National Identification & Registration Authority (NIRA)**

The Registration of Persons Act 2015, (ROPA) created the National Identification & Registration Authority (NIRA). The ROPA gives NIRA the mandate to register citizens and aliens legally resident in Uganda for national identification, register births, deaths and adoption orders for issuance of respective certificates. Additionally, NIRA is mandated to register all deaths of Ugandans that die abroad. The registration of every death is free and compulsory.

### **2.8.1 Death notification and certification by NIRA**

Every death is expected to be notified as required by the laws of the country and this is done using NIRA Form 12. Death Notification Record is a formal record that a death has occurred. Upon completion of NIRA form 12, it is submitted to the sub county, or county, or district where it is entered into the MVRS by a NIRA official for registration and certification. The death certificate includes details of cause of death, location of death, time of death and some other personal information about the deceased.

### **2.8.2 Mobile Vital Registration System (MVRS)**

Uganda rolled out MVRS in March 2014 by NIRA; by June 2017, 16.7 million citizens had been registered. MVRS is currently operational in 135 hospitals and 117 district-level registration centers.

#### **2.8.2.1 MVRS at Health Facilities**

Registration of births and deaths occurs upon notification using a medical certificate of cause of death (HMIS 100) by a health worker trained to use the MVRS system. Health facilities without MVRS capture death data using the HMIS 100 and once it is entered into the DHSI2, these details are picked on the other end by MVRS.

#### **2.8.2.2 MVRS at Community level**

At community level, once the community leaders receive information about the death of an individual, they proceed to notify NIRA using form 12. This form is available at the respective NIRA sub-county offices within the district. Upon completion, the variables on the form are entered into the MVRS for registration and certification.

## **2.9 Census and surveys**

A national systematic collection of social demographics, and economic data about all individuals within a specific geographical area at a particular point in time is crucial for government planning, resource allocation, and decision-making. This is through censuses which are done every 10 years, and surveys (Uganda Demographic Health Surveys) that are done every after 5 years among others.



## **2.10 Health Demographic Surveillance Sites like the Iganga-Mayuge Health & Demographic Surveillance Site (IMHDSS)**

The Iganga-Mayuge Health and Demographic Surveillance Site (IMHDSS) which is managed by Makerere University Centre for Health and population research (MUCHAP) was set up in 2005. The main aim was to monitor key demographic events of birth, deaths and migrations in a geographically defined population, within Iganga and Mayuge districts of Eastern Uganda. Mortality surveillance in the HDSS starts with death notification and reporting from the community which is done by a network of scouts that includes VHTS, Local Council Chairpersons, and other opinion leaders. The HDSS conducts annual censuses in seven sub counties covering 65 villages and a population of 101,000 individuals from approximately 19000 households. It is an open population cohort.

Whenever a death occurs in the surveillance area, a community scout records basic information about the death and immediately submits a report to the HDSS offices to be verified by the HDSS research team. After a mourning period of 4-6 weeks, the death reported is followed up by a MUCHAP CRVS research assistant to the household of the deceased to conduct a verbal autopsy interview.

The CRVS research assistant conducts a face-to-face interview using a standardized WHO Verbal autopsy questionnaire (version 2016). After conducting a Verbal autopsy interview, the data is uploaded to the HDSS server, where it is synchronized and cleaned for analysis. This data is then subjected to a computer-based algorithm known as OpenVA, which automatically interprets the data and assigns the most probable cause of death for each case.

## **2.11 Currently existing program-specific mortality surveillance implementation mechanisms**

### **2.11.1 Maternal and Perinatal Death Surveillance and Response (MPDSR)**

Uganda has established a robust Maternal and Perinatal Death Surveillance and Response (MPDSR) system as a critical component of its overall mortality surveillance strategy. This system focuses on collecting and analysing data on adverse pregnancy outcomes, including maternal death, loss of pregnancy (miscarriage), stillbirth, and newborn deaths.

#### **2.11.1.1 Core Functions of Uganda's MPDSR**

**Continuous surveillance:** The Ugandan MPDSR operates as a continuous process, ensuring the ongoing collection of data on maternal and perinatal deaths.

**Data linkage:** The system links health information systems with quality improvement initiatives from health facilities to the national level. This creates a comprehensive picture of maternal and perinatal mortality across the country; the committee meets weekly to review this mortality data from the surveillance reports.

### **2.11.1.2 Data Collection**

The MPDSR focuses on three key data collection activities:

1. **Identification:** Health facilities are required to identify all maternal and perinatal deaths that occur within their care. In the context of the Ugandan MPDSR system, identification can be done by several actors depending on the specific death being reported.
2. **Notification:** The system utilizes a two-tiered notification process. Upon identifying a maternal or perinatal death at a health facility, a standardized notification form is filled and entered into the DHIS2 system within 24 hours. The NIRA form 12 also plays a role in linking death notification with the national civil registration system.
3. **Cause of death determination:** Investigations are conducted to determine the underlying causes of each death using the: 1) HMIS 100 for Certification: Health facilities utilize the HMIS 100 form, which aligns with the International Classification of Diseases, 11th Revision (ICD-11). This standardized form facilitates the recording of cause of death based on the globally recognized ICD-11 coding system; 2) Verbal Autopsy (currently optional for selected cases): In some cases, particularly for deaths occurring outside health facilities, a verbal autopsy approach might be employed.

### **2.11.1.3 Data Utilization**

Beyond the initial notification and cause of death determination, Uganda's MPDSR system leverages the collected data for a multitude of purposes, ultimately aiming to improve maternal and newborn health outcomes. Data is utilized in terms of: 1) Analysis of mortality rates at the different levels to track trends in maternal and perinatal mortality rates over time. This reveals areas of improvement and highlight specific populations with higher risks. 2) Cause-specific analysis using the HMIS 100, verbal autopsies, and other death review forms to prioritize interventions that address the most prevalent and preventable causes.

### **2.11.2 HIV and TB Mortality Surveillance and Response**

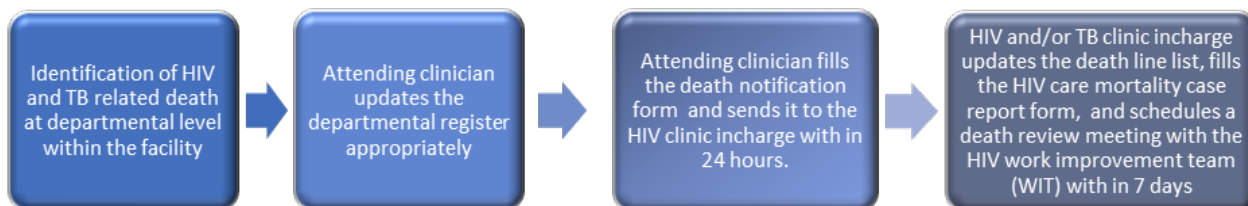
The causes of mortality among HIV and TB patients are closely related. In 2023, ACP /NTLP developed Death Surveillance and Response (DSR) Implementation Guidelines for TB and HIV. These guidelines provide a framework for examining the causes of preventable deaths, guide decision-making and quality of care. The framework helps to identify common delays that are associated with recognizing danger signs from health-care seeking, reaching/linking to care, and receiving care at the facility.

#### **2.11.2.1 HIV and TB death notification, reviews, certification and reporting**

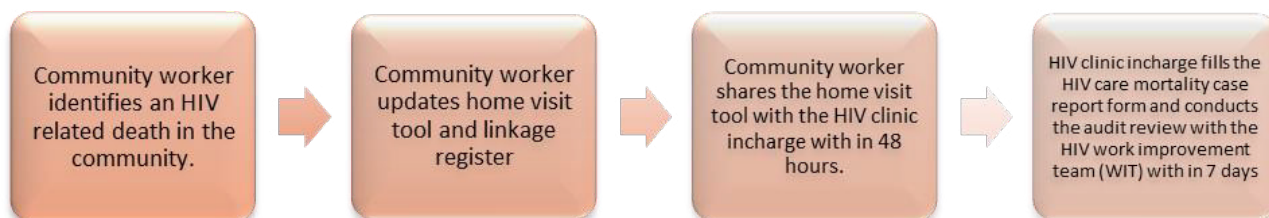
At facility level, information to inform the death reviews is obtained through chart reviews for HIV and TB patients using a standardized case review form. At community level the information shall be obtained through verbal autopsy (to leverage available verbal autopsy forms). All deaths of any confirmed HIV or TB patient whether enrolled in care or not as long as they confirmed should be notified within 24 hours and reviewed within 7 days of the occurrence.

The death review process is undertaken by the HIV/ TB work improvement team (WIT)/ committee (in this case also called the HIV/TB DSR Committee) or any designated committee. Members of the committee make in-depth investigation/review of each death to; understand the chain of events that led to the death, identify the causes and circumstances surrounding the death and generate key recommendations and remedial actions. These processes differ at community and facility levels as demonstrated below.

***Steps involved in notification and reporting of HIV and TB deaths at facility level***

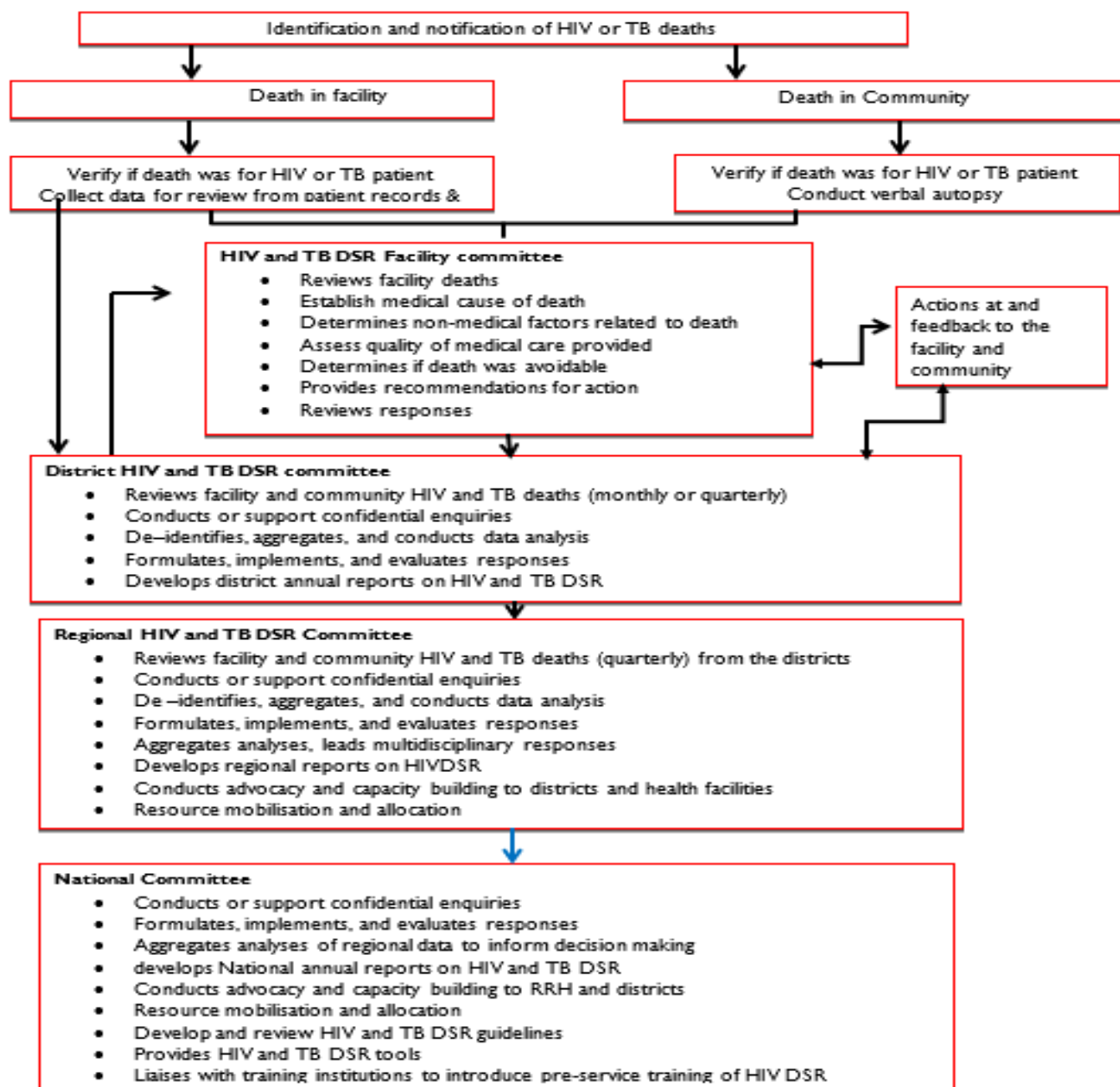


***Steps involved in identifying and reporting community HIV and TB deaths***



The flow chart below summarizes the processes involved in the identification, notification and review of HIV and TB related deaths at facility and community and how they relate.

## Flow chart for notification and review HIV and TB deaths



### 2.11.2.2 Data collection procedures and tools

The HIV and TB DSR data is collected using the HIV and TB Care Mortality Case Report Form using data from primary tools for HIV and TB management and reporting. For deaths that occur in the community, the responsible community health worker fills a home visit tool with details surrounding the death and hands over to the facility In-charge who then uses the information to fill the HIV and TB mortality CRF and the cause of death certificate (HMIS 100) for submission into the DHIS2.

### **2.11.3 UNIPH Contribution to Strengthening Mortality Surveillance in Uganda**

The UNIPH purposes to improve public health by addressing determinants of health risks through generating sound scientific evidence and supporting utilization of the generated information. Strengthening mortality surveillance through a number of projects has been one of UNIPH contributions to improving public health in Uganda.

#### **2.11.3.1 Establishing Rapid Mortality Surveillance System during the COVID-19 Pandemic**

##### ***Introduction***

The COVID-19 pandemic underscored significant shortcomings in global health data collection and reporting systems. In Uganda, these challenges were particularly evident as the country grappled with accurately tracking and responding to the mortality impacts of the pandemic. In response, the Uganda National Institute of Public Health (UNIPH) led the establishment of the Rapid Mortality Surveillance (RMS) system, which provided real-time mortality data from both health facilities and communities. Prior to the implementation of the RMS, Uganda's existing mortality surveillance systems were fragmented and often unreliable. Health facility mortality data reported via the District Health Information Software version 2 (DHIS2) was aggregated and delayed, posing challenges to timely decision-making. At the community level, mortality data reported by Village Health Teams (VHTs) was collected quarterly, frequently lacking crucial details and leading to underreporting.

##### ***Implementation Approach for RMS***

The RMS project kicked off in November 2020, with a multidisciplinary team from UNIPH, MoH, NIRA, and international partners like the US Centres for Disease Control and Prevention (US CDC) and Africa Centres for Disease Control and Prevention (Africa CDC). The system was implemented in 15 Regional Referral Hospitals (RRHs) and 15 districts across five high-burden regions in Uganda.

1. **Training and Capacity Building:** Developed and distributed comprehensive mortality surveillance tools and training materials, including line lists, implementation guidelines, and standard operating procedures tailored to the local context. Furthermore, virtual and physical training sessions for medical records officers at RRHs and VHTs in selected districts were conducted.
2. **Data Collection and Reporting:** Established daily and weekly reporting mechanisms at health facility and community levels. At the community level, a system for coded SMS reporting from VHTs to streamline data collection and ensure accuracy was implemented. VHTs were tasked to notify all deaths through mTrac using coded alert Short Message Services (SMS) to report deaths to 6767, which were then compiled and analysed centrally. At the health facility level, data were collected from various registers and reported electronically using a line list.
3. **Mortality Surveillance Dashboard:** A dashboard was developed in the eIDSR and District Health Information System 2 (DHIS2) to enhance data visualization and accessibility. This dashboard to-date provides a user-friendly interface for health officials to monitor real-time mortality data, analyse trends, and make informed decisions.

4. Data Analysis and Dissemination: Conducted regular data analysis to generate real-time insights on mortality trends and shared findings with stakeholders through weekly review meetings and technical reports.

### ***Lessons Learned***

1. Integration and Harmonization: The RMS highlighted the need for integrating mortality surveillance with existing health data systems. Continuous efforts are required to harmonize multiple surveillance structures and ensure government ownership and sustainability.
2. Continuous Capacity Building: Ongoing training and support for health facility staff and VHTs are crucial. Regular refresher courses and updates on new data collection tools and methods help maintain data quality and reporting rates.
2. Incentives and Support: Providing incentives to VHTs and focal persons significantly improved reporting rates. Similarly, incentives for data collectors ensured consistent and accurate reporting. Consider non-monetary incentives and recognition programs to maintain motivation. Ongoing support and supervision are crucial for maintaining high data quality and reporting standards.
3. Stakeholder Engagement: Successful implementation relied on strong collaboration and buy-in from key actors and partners. Regular dissemination of findings to stakeholders fostered trust and facilitated informed decision-making.
4. Enhancing DHIS2 Capabilities: DHIS2 can be utilized to perform unforeseen functions. Customization of the DHIS2 dashboard and integration of the RMS dashboard with the notification section of Form 100 improved reporting.

### **2.11.3.2 Implementation of Continuous Quality Improvement projects to Improve Mortality Surveillance**

The UNIPH through its training arm has conducted numerous quality improvement projects aimed at improving mortality data reporting, notification and certification at regional and district level within the country. Lessons from an ongoing quality improvement project to improve death notification at seven (7) regional referral hospitals in Uganda highlighted a need to improve health facility staff understanding of the importance of death notification and the importance of obtaining health facility administration buy-in for timely supervision and enforcement of mortality surveillance.

### **2.11.3.3 Operational Research to generate new Learnings on Mortality in Uganda**

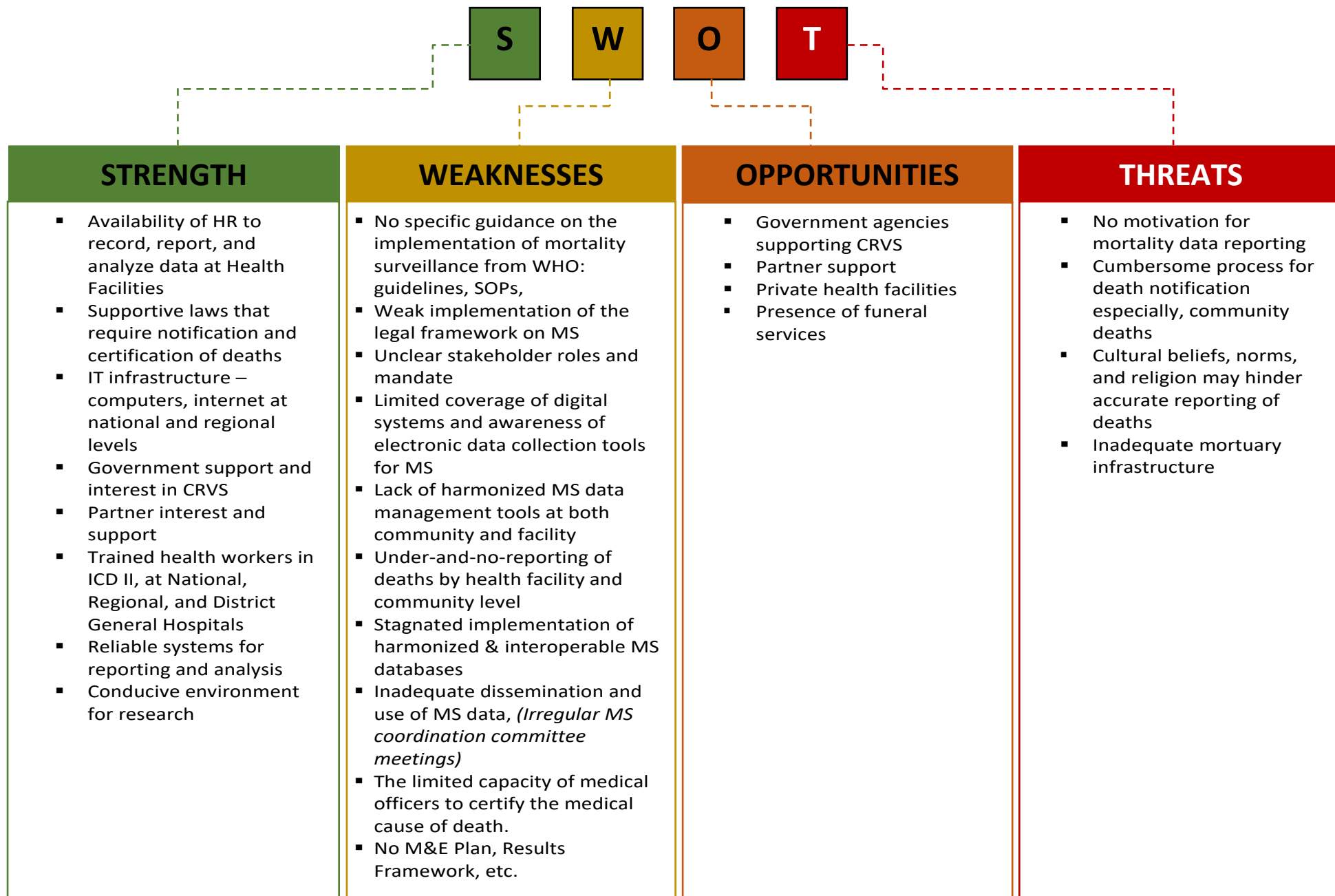
UNIPH has conducted various studies in the last 10 years to support public health research for generation of new knowledge products to strengthen mortality surveillance. These include: epidemiological studies to understand risk factors to mortality in various districts, investigations of increased community deaths, evaluation of existing disease / program specific mortality surveillance and descriptive studies to support utilization of existing mortality data in the DHIS2 system.

#### **2.11.3.4 Support to Strengthening CRVS in Uganda**

UNIPH has supported strengthening of CRVS together with all relevant stakeholders through the Data for Health initiative with since 2019. The notable achievements include improving Medical Certification of Cause of Death (MCCoD) in all hospitals and health center IVs through: 1) training at least 3 hospital staff in MCCoD (Doctor's, Mid-wives/Nurses and Medical Records Officers), 2) holding MCCoD webinars for clinical staff (Epidemiologists, Biostatisticians and Medical Records personnel), 3) supporting MCCoD recording and reporting and 4) weekly monitoring of MCCoD performance against total deaths reported at each regional referral hospital (RRH) since June 2023 (on a developed dashboard in DHIS2). Additionally, hospital death review committees other than MPDSR committees have been supported to conduct weekly death review meetings for MCCoD, quarterly MCCoD performance review presentations with RRH Directors to encourage routine MCCoD and development of the MCCoD Course Unit for Medical schools among others.

## 2.12 SWOT Analysis

Table 1: Showing the SWOT Analysis for Mortality Surveillance in Uganda





### 3.0 STAKEHOLDERS AND PARTNERSHIPS

The success of Uganda's Mortality Surveillance program depends on the joint efforts of the government and stakeholders. The government will play a key role in policy development, resource allocation, and capacity building. In this Mortality Surveillance roadmap, the government will advocate for supportive policies, allocate necessary funds and personnel, and enforce legal frameworks for death notification and registration. Additionally, the government will be responsible for providing leadership through coordination mechanisms, governance structures, and regulatory frameworks to ensure smooth implementation of mortality surveillance. Stakeholders, including NGOs, the private sector, and development and implementation partners, academia and research institutions, will complement these efforts by actively participating in data collection, advocating for digitalization, and supporting community involvement in overall implementation of mortality surveillance (Table 3). Their role will include, but not limited to, training initiatives, fostering partnerships, and contributing to quality assurance through regular reviews and adherence to standardized procedures. The collaboration between the government and other stakeholders is crucial for establishing a comprehensive MS system that effectively addresses public health challenges in Uganda. The overall aim of this collaboration is to overcome challenges in Mortality Surveillance, ensuring accurate and timely data for informed public health decisions. This joint effort underscores the importance of coordination, capacity building, and shared responsibility in the pursuit of improved health outcomes for the Ugandan population.

#### 3.1 Stakeholder Mapping

MS stakeholders will be presented in into two categories: - Data producers and Data Users. It is important to note that some data users are as well data producers as illustrated below.

**Table 3: Major data producers and users for mortality data in Uganda**

Mortality Data Producers	Mortality Data Users
<ul style="list-style-type: none"> <li>● Health facilities (public and Private)</li> <li>● Ministry of Defense (Military institutions and Military HF, Barracks, Detention Centers, Funeral Homes)</li> <li>● Local Councils (Village/Parish /Subcounty)</li> <li>● Religions leaders (Village)</li> <li>● TBAs (Village)</li> <li>● Prisons (Barracks, HF, Dentation centers, Funeral Homes) Specified geographical Areas</li> <li>● Traditional Healers (Village)</li> <li>● Funeral Homes (Urban Centers, Specified geographical Areas)</li> </ul>	<ul style="list-style-type: none"> <li>● MOH</li> <li>● Parliament</li> <li>● National Planning Authority</li> <li>● NIRA</li> <li>● Ministry of Internal Affairs (Police, Prisons, Army)</li> <li>● Academia</li> <li>● UBOS</li> <li>● Implementing Partners</li> <li>● Cultural Leaders</li> <li>● Developments Partners</li> </ul>

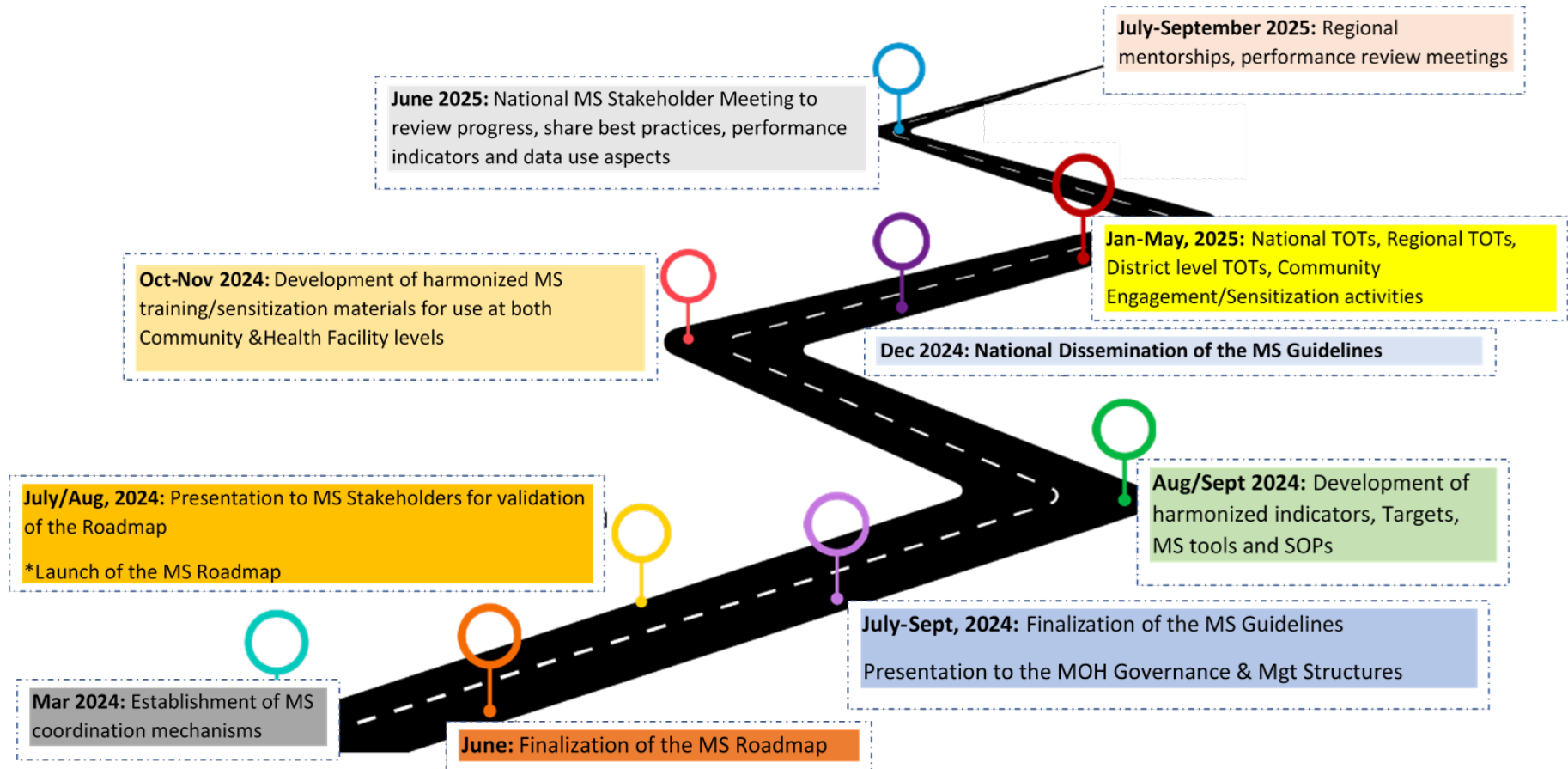
**Table 4: A summary of mortality data stakeholders with their responsibilities and scope for Uganda, 2024**

<b>Mortality Surveillance Stakeholders and their Roles</b>		
<b>MoH Departments</b>	<b>Other Government Ministries and Agencies</b>	<b>Partners</b>
<p><b>Department of IES&amp;PHEs:</b> The department has a mandate to coordinate Surveillance within the health sector. Mortality Surveillance is one arm of Surveillance, and hence the department coordinates MS implementation in the country through development of guiding documents and policies and ensuring data analysis &amp; dissemination of MS data to inform Public Health action.</p>	<p><b>National Identification and Registration Authority (NIRA):</b> Provides oversight for CRVS, identification, registration and certification of death. Additionally, they provide legal and administrative frameworks for deaths registration, ensuring an effective and effective civil and vital registration system.</p>	<p>Development and implementing partners such as centers for disease control and prevention (CDC), World Health Organization (WHO), USAID, CDC</p>
<p><b>Maternal &amp; Child Health Department:</b> Conducts audits for maternal and perinatal deaths reviews and builds capacity for stakeholders in Maternal and Perinatal Deaths Surveillance and Response (MPDSR)</p>	<p><b>Specialized clinical Institutions (Mulago National Referral Hospital, Uganda Cancer Institute, Uganda Heart Institute and Mulago Specialised Women Neonatal Hospital):</b> Ensures accurate and timely reporting of deaths, notification of deaths, certification of causes, and collaboration with other health facilities to ensure comprehensive mortality data collection.</p>	<p>Foundation, Africa CDC, Infectious Disease Institute (IDI), UNHCR, UNICEF, AFENET, Baylor College of Medicine Children’s Foundation Uganda (BAYLOR),</p>
<p><b>Clinical Services Department:</b> Focuses on capacity building for death notification and medical certification, providing clinical services, and setting standards and guidelines for diagnosis and cause of death determination.</p> <p>All health facilities levels (Regional referral hospitals, district hospitals, HC IVs, HC IIIs, HC IIs) support deaths</p>	<p><b>The Virus Research Institute (UVRI) and National Health Laboratory and Diagnostics Department (UNHLS):</b> Ensure quality and accuracy of laboratory data related to mortality surveillance.</p>	<p>METs, URC, FHI360, Jhpiego and TASO among provide technical, financial and policy support, coordinate with</p>

<p>reporting, notification by filling out HMIS 100, NIRA form 12 and capturing mortality data in DHIS2/MVRS systems to facilitate deaths registration.</p>		<p>national bodies, conduct capacity building activities, support research, develop tools and advocate for improvements in Mortality Surveillance.</p>
<p><b>Community Health Department:</b> Coordinates community engagement strategies, community health services and capacity building for community health workers especially VHTs and provides tools for community mortality data collection.</p>	<p><b>Makerere University School of Health Sciences (MAKSPH) and National Institute of Public Health (NIPH):</b> These among other academic institutions Implement public health research and generates new knowledge products. They also provide training curricular for mortality surveillance.</p>	
<p><b>Disease Programs e.g Malaria, TB, and HIV:</b> Collaborate in disease specific mortality Surveillance</p>	<p><b>Ministry of Internal Affairs (Directorate of Citizenship and Immigration, Uganda Police Force):</b> Identification and reporting of mortality data using officers at national, district, county and subcounty levels. They also coordinate identification and reporting of mortalities in transit.</p>	<p><b>Civil society Organizations, Community based organizations and Religious Organizations:</b> Support government programs and work with in the ministry of health to implement mortality surveillance.</p>
<p><b>MOH Division of Health Information:</b> Designs data collection tools aligned with MS stakeholder needs such as eCHIS, DHIS2, and HMIS forms among others; manage data ware housing and analytics and develop dashboards and infographics on mortality surveillance</p>	<p><b>District Leadership (DHOs, CAOs, RDCs, LCVs, Mayors and Members of Parliament):</b> Play a critical role in coordination the identification, notification and sensitization of masses for reporting of mortality data within their areas of jurisdiction.</p>	

<p><b>Ministry of Local Government:</b> Provision of legal and administrative frameworks surrounding death registration; ensuring that the civil registration system is effectively functioning to record and certify deaths.</p>	<p><b>Cultural, religious and opinion leaders:</b> Advocate for the community to report all death events officially, sensitize the community on all reforms that inform mortality surveillance and report and declare events of death in their households/</p>	
<p><b>Uganda Prison Services:</b> MS data generation through Death notification and reporting</p>	<p><b>CHEWS, Parish Chiefs, Parish Development Committee and Health Assistants:</b> Report on who has died, when, where, and reason for death, a community linkage and coordination with the formal systems Keep village records up to date and support notification of death by filling NIRA form 12 with all details relating to the event of death and forwarding the same to the sub-county officials for onward registration.</p>	

#### 4.0 ROAD MAP PROGRESS CHART FOR THE FIRST YEAR OF IMPLEMENTATION



### 5.0 COSTED STRATEGIC OBJECTIVES TO IMPROVE MORTALITY SURVEILLANCE IN UGANDA

Strategy	Activity Descriptions	Deliverable	Means of Verification (MoVs)	Year 1				Year 2				Year 3				Budget (Ugx) Unit	Freq	Budget (Ugx) Total	Responsible Office
				Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4				
<b>Specific Objective 1.2: To Strengthen Leadership, Governance, and Coordination Mechanisms for Mortality Surveillance at all levels</b>																			
<b>MS Coordination Mechanism</b>	Activity 1.1.1: Bi-Annual MS Stakeholders meetings	Updates from stakeholders on MS implementation, MS Data review with stakeholders, opinions, and guidance on how to move MS agenda forward in a harmonised manner at all levels of implementation.	MS meeting reports, MS Attendance list, Invoices/Receipts for the meeting venue and other logistics		X		X		X		X		X		X	50,000,000	6	300,000,000	MOH-IES&PHE Department
<b>MS Coordination Mechanism</b>	Activity 1.1.2: Quarterly MS Coordination Committee meetings	Synchronization of efforts and alignment of strategies to achieve common objectives for MS.	MS meeting reports, Attendance registers, and invoices from the training venue	X	X	X	X	X	X	X	X	X	X	X	X	20,000,000	12	240,000,000	MOH-IES&PHE Department

<b>MS Coordination Mechanism</b>	Activity 1.1.3: Procurement of equipments and other logistics to support cOrdinations	Procurement of electronics equipment including; Laptops, external discs, bundles, and Internet bundles to facilitate MS coordination , real-time data collection, and analysis for MS.	Purchased laptops, receipts for Airtime and data bundles, and external disc drives	X	X	X	X									27,980,000	1	27,980,000	MOH-IES&PHE Department
<b>MS Coordination Mechanism</b>	Activity 1.1.4: Benchmarking to countries with established government mechanism for mortality surveillance	To leverage Zambia's experience and success in MS implementation to accelerate our progress, maximize resources, time, and avoid errors.	Benchmarking Reports, Air tickets and Boarding pass and Benchmark reports				X									163,000,000	1	163,000,000	MOH-IES&PHE Department
<b>Development of guidelines, Harmonise SOPs &amp; Tools for MS</b>	Activity 1.1.5: Development of Guidelines, indicators, targets, Harmonised tools & SOPs for MS	Develop standardised guidelines, SOPs, and tools for mortality surveillance to be used at	Finalised Guidelines, SOPs, and Tools; Meeting reports.		X	X										250,000,000	1	250,000,000	MOH-IES&PHE Department

		National, Sub-national for a harmonise implementation.																	
<b>MS Coordination Mechanism</b>	Activity 1.1.6: Mapping and engagement of key stakeholders at national level	4W matrix developed, analysed and disseminated	Efficient partner coordination			x			x			x				20,000,000	3	60,000,000	WHO/MOH-IES&PHE Department
<b>MS Coordination Mechanism</b>	Activity 1.1.7: Support MS surveillance in special interest groups {Army, Police, Refugee camps, etc}	Strengthening mortality notification and reporting in special interest groups	Monthly and quarterly reports	X	X	X	X									76,000,000	2	152,000,000	WHO/MOH-IES&PHE Department
<b>Specific Objective 1.2: To build the capacity of different stakeholders at all levels to capture mortality data on all public health threats and institute a mechanism for integrating it within the existing systems.</b>																			
Conducting comprehensive baseline assessment to identify gaps, challenges and best practices for MS in Uganda	Activity 1.2.1: Conduct baseline Assessment for MS and data analysis	To identify gaps and challenges, set priorities, and engage stakeholders on MS to inform public health response. It will also allow us to tailor MS interventions to the local	Document reviewed, stakeholders' feedbacks validation reports, reports and data collection tools used. Analysis output, tables and final reports	X	X											98,000,000	1	98,000,000	MOH-IES&PHE Department



		context and maximise resources.																
Training of Trainers	Activity 1.2.2: Training and Capacity Building at the National level	To build the capacity of the national MS teams to provide training at the sub-national levels.	MS training materials, assessment reports receipts for training venues, and attendance list.			X									90,000,000	1	90,000,000	MOH-IES&PHE Department
Training of Trainers	Activity 1.2.3: Training and Capacity Building at the Regional level	To build the capacity of the Regional MS teams to provide training at the district level. The national-level MS team will participate to provide oversights and compliance.	MS training materials, assessment reports receipts for training venues, and attendance list.			X	X	x	x	x	x				50,000,000	16	800,000,000	MOH-IES&PHE Department
Training of Trainers	Activity 1.2.4: Training and Capacity Building at the District level	To build the capacity of the district MS teams to provide training at the health facilities and	MS training materials, assessment reports receipts for training venues, and attendance	X	X	X	X	x	x	x	x				40,000,000	146	5,840,000,000	MOH-IES&PHE Department

		community levels. The national-level MS team will participate to provide oversights and compliance.	list.																
Capacity building	Activity 1.2.5: Training and Capacity Building of Health workers in Health facilities in Medical Certification of cause of Death. Focus will be on RRHs, General Hospitals, HCIVs and HCIIIs	To build the capacity of the teams to conduct mortality surveillance activities. The national-level MS team will participate to provide oversights and compliance.	Mentorship Reports, and policy brief.	x	x	x	x	x	x	x	x	x	x	x	20,000,000	146	2,920,000,000	MOH-IES&PHE Department	
Capacity building and trainings	Activity 1.2.6: Sensitization and Capacity Building of Community health workers, LCs, Community leaders at the Community Level	To build the capacity of the teams to conduct mortality surveillance activities. The national-level MS team will participate to provide	MS training materials, assessment reports receipts for training venues, and attendance list.	X	X	X	X	X	X	X	X	x	x	x	30,000,000	146	4,380,000,000	MOH-IES&PHE Department	

		oversights and compliance.																
Capacity building and trainings	Activity 1.2.7: Mentorships and Supportive supervision, Monitoring and evaluation		Mentorship Reports, and policy brief.	X	X	X	X	X	X	X	X	X	X	X	181,000,000	3	543,000,000	MOH-IES&PHE Department
Capacity building and trainings	Activity 1.2.8: Build capacity to conduct verbal autopsy and support its implementation on country wide	Number of people trained to conduct verbal autopsy in each district	Training reports, activity reports	X	X	X	X	X	X	X	X	X	X	875,000,000	1	875,000,000		
<b>Total Budget</b>																<b>16,738,980,000</b>		

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