A Systems Approach to Improving Registration and Certification of Medico-Legal Deaths in Ghana

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Abstract

Vital statistics generated from a well-functioning civil registration and vital statistics serve as a source of reliable and timely data for health policy programming and planning. The United Nations recommends recording vital statistics on at least four vital events: births, deaths, marriages and divorces. In many sub-Saharan African countries, civil registration systems do not perform to acceptable international standards. Death registration is low compared to birth registration and the quality of vital statistics on causes of death is particularly poor. In Ghana, death registration coverage is about 25 percent and the quality of vital statistics on causes of death is less than 10 percent. The government of Ghana adopted a systems approach using business process mapping to analyze the challenges in the registration of medico-legal deaths. The results show a cumbersome process that burdens the family of a deceased person with notifying a death and following through with the registration process. Additional barriers such as cost and travel time to registration centers preclude the notification, creating a missed opportunity for registering, certifying and generating vital statistics on medico-legal deaths. System challenges such as the coroner investigation process further delays and sometimes impedes the registration process.

1.0 Introduction

A well-functioning civil registration and vital statistics system registers a vital event (including deaths), issues a certificate, compiles and disseminates vital statistics, including cause of death information. Countries with well-functional civil registration systems benefit from having reliable and accurate data for effective planning and policy interventions. Death is one of the vital events recommended by the United Nations to be recorded in a country's civil registration and vital statistics (CRVS) system. Data on the death registration coverage and vital statistics on causes of death are particularly useful for health policy programming and planning.

Civil registration and vital statistics systems in many low- and middle-income countries perform poorly and do not generate quality vital statistics for policy and planning. The situation is particularly dire in sub-Saharan Africa. The level of death registration in sub-Saharan Africa is low and the quality of cause of death statistics is poor. The findings of a survey conducted by the United Nations Economic Commission for Africa revealed that only four (4) countries in Africa have death registration coverage and cause of death statistics of acceptable international standards and only eighteen (18) out of fifty-four (54) countries record and produce a report on deaths annually.

In Ghana, the level of death registration coverage has stagnated around $20-25$ percent. The quality of the vital statistics is less than 10 percent. Several factors contribute to the low coverage of death registration and poor quality of cause of death statistics in Ghana's civil registration and vital statistics system. For example, different institutions are involved in the process of registering a death. Further, these institutions operate silo and parallel systems causing fragmentation in the civil registration system. Another factor that contributes to low levels of death registration in Ghana is the cultural sensitivity surround deaths, particularly those deaths considered as unnatural. Additionally, the medical and legal processes involved in the registration of unnatural deaths hinders registration of medico-legal deaths due to the cumbersome, tedious and prolonged process. As part of efforts to address these challenges with the goal of improving mortality statistics and enhancing the functioning of the civil registration, the government of Ghana implemented the Mortality Statistics Project under the Global Grants Program funded under the Bloomberg Data for Health Initiative. The project was implemented in collaboration with multiple stakeholders including the Ghana Statistical Service and the Ghana Police Service. The Mortality statistics project sought to achieve three aims: (1) establish a system of routine data collection on medico-legal deaths in Ghana, (2) increase the level of death registration coverage for medico-legal deaths and (3) integrate the process of registering and certifying medico-legal deaths into the national civil registration system for generation of vital statistics.

2.0 Methods
2.1 Stakeholder Engagement Process
Ghana employed a multistakeholder approach in implementing the Mortality Statistics Project. The first step in the project implementation was a consultative stakeholder engagement. The aim of the stakeholder engagement was to bring together all the different actors involved in the different processes in the registration of a medico-legal death. These stakeholders include relatives of the

deceased person, registration officials at the civil registration agency (district, regional and national level), police officers, pathologists (coroners), officers of the national ambulance service, national fire service and the prison service as well as statisticians from the Ghana Statistical Service.

2.2 Business Process Mapping

Following the initial consultative stakeholder engagements, a business process mapping exercise was carried out involving all the stakeholders. The business process mapping exercise aimed to develop business process maps for different scenarios of medico-legal deaths including cases of murder, suicide, homicide, death from a road traffic accident, death in a fire and death due to drowning among others. The business mapping exercise aimed to document the detailed the process involved in the registration process, specifying the role of each stakeholder in the process.

2.3 Development of a Harmonized Tool for Data Extraction

A key component of the Mortality Statistics Project was the development of a harmonized tool for extracting data on medico-legal deaths from the different institutions involved in registration and certification of medico-legal deaths. The tool was used to extract data individual level characteristics such as the age and sex of deceased persons as well as the fact and characteristics of the death such as place, date and manner of death. Information on registration of the death, the conduct of an autopsy and the cause of death were also extracted using the tool. An electronic version of the tool was developed and loaded digitally on tablets for the data compilation.

2.4 Data extraction and synchronization

The tool for extracting data on cases of medico-legal deaths was used in collating data on all cases of unnatural deaths (from road traffic accidents, drowning, fire, suicide, homicide etc.). Data extraction was first implemented in the Greater Accra region in 2020. Data collation has been extended to six additional regions since 2022. This system has been used to extract cases of medico-legal deaths in the implementing regions since 1st January 2020. Figure 1 shows the process flow map for implementing the systems approach to extracting, collating, compiling and generating vital statistics on medico-legal deaths as implemented under the mortality statistics project.

Figure 1: Process Flow for Systems approach to collating and integrating data on medico-legal deaths into national civil registration system and vital statistics system
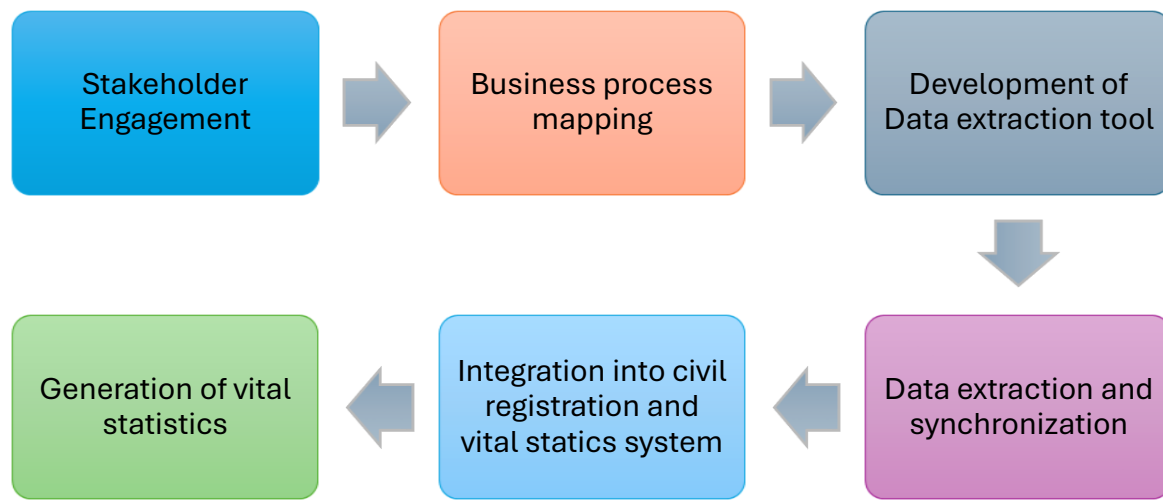

3.0 Preliminary Results

System Analysis of Registration and Certification of Unnatural Death - The Example of a Murder Case

The results of the system analysis for deaths that are suspected murder cases presented in the business process map in Figure 2 indicate that at least five different stakeholders including an informant, family members/relations of the deceased person, the police, coroner, civil registration officer are involved in the registration process. The results show a complex process, bedeviled with delays and bureaucracies, that discourages people from registering medico-legal deaths.

The first bottleneck that poses a threat to the registration of such deaths in the civil registration system is encountered at the notification stage where family members are required to present physically at a local civil registration office to notify the civil registration office about the death of a family member. This requirement places the burden of notification and the subsequent registration on the family. Where families do not see the immediate need for death registration and certification, or where barriers such as cost and travelling time exist, families may not follow through with notification of medico-legal deaths, creating a missed opportunity for registration, certification and generation of vital statistics.

Figure 2: Business Process Map for registration and certification of an unnatural deaths (the case of murder)
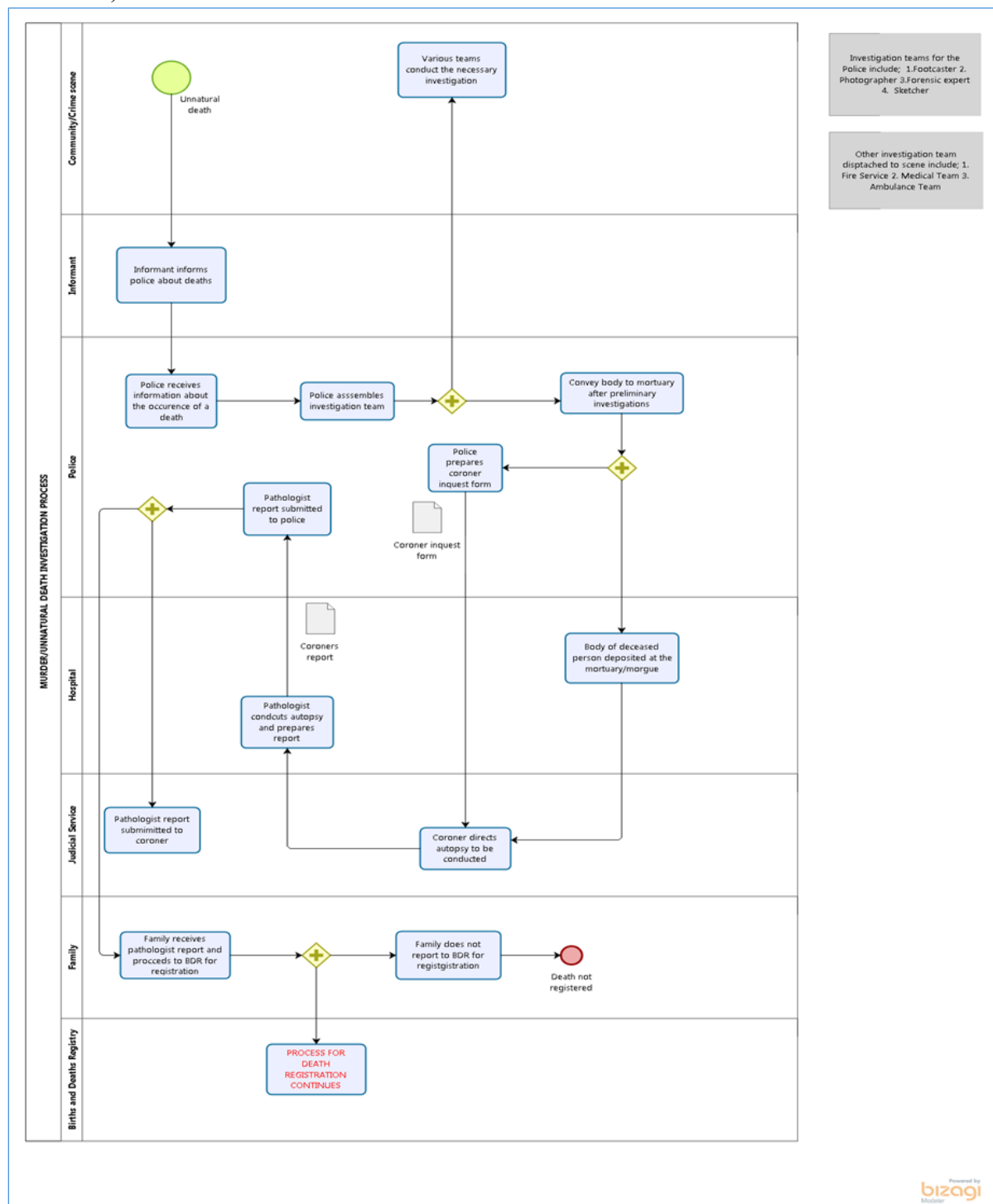
Source: Ghana Mortality Statistics Project, 2020