A Review of the Processes and Procedures of Road Traffic Accident Mortality Data Collection in Zambia

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Abstract

Road traffic crashes (RTCs) pose significant public health challenges globally, leading to millions of deaths, injuries and disabilities each year. Low- and middle-income countries, including Zambia, bear a disproportionate burden of RTC fatalities and injuries. However, the collection and accuracy of RTC data in Zambia are hampered by various challenges, including underreporting and inadequate data collection procedures. Strengthening RTC data collection systems is crucial to accurately understand the magnitude of the problem and implement effective measures to reduce RTC fatalities and injuries. This article presents a review of RTC mortality data collection processes and procedures in Zambia, focusing on the key stakeholders involved, namely the Zambia Police Service, Health Care Facilities, and the Department of National Registration, Passports and Citizenship. The study identifies key challenges such as paper-based records, inadequate training, resource limitations, varying case definitions, and low death registration rates. The research emphasizes the need to strengthen data systems and improve coordination among stakeholders. Recommendations include establishing a multidisciplinary road crash data analysis team, utilizing technology for data collection and analysis, providing training and capacity building, conducting public awareness campaigns, and enhancing collaboration between the police, hospitals and Civil Registration and Vital Statistics (CRVS). Implementing these recommendations is crucial to improve the accuracy and completeness of RTC mortality data, leading to evidence-based road safety interventions and policies. This research contributes to the understanding of RTC data collection practices in Zambia and provides valuable insights for policymakers, researchers, and practitioners in addressing the challenges in RTC mortality data collection.

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1. Introduction

Road traffic crashes (RTCs) continue to be a pressing global issue, ranking among the leading causes of death, injury, and long-term disability. According to the latest available data, an estimated 1.35 million lives are lost each year on roads worldwide, with an additional 50 million people sustaining injuries (WHO, 2019). Vulnerable road users, including cyclists, motorcyclists, and pedestrians, bear the highest burden from these incidents, accounting for over half of all road traffic deaths (WHO, 2020). The far-reaching impact of RTCs encompasses severe physical, social, psychological, and economic consequences, with a significant toll on individuals, families, and entire communities. It is estimated that RTCs cost countries from 2% to 5% of their annual gross domestic product (WHO, n.d.; Gopalakrishnan, 2012)

While road traffic crashes affect every country, low- and middle-income countries (LMICs) bear a disproportionate burden. Despite accounting for approximately 60% of the world's vehicles, LMICs account for a staggering 93% of global traffic fatalities (WHO, 2020). This alarming disparity remains largely neglected in these countries, even as urbanization and motorization rates continue to rise (Bachani, et al., 2017). The interventions implemented to address this problem in LMICs have been largely uncoordinated, sporadic, and ineffective (WHO, 2019).

Sub-Saharan Africa faces the highest rate of traffic fatalities globally, with 26.6 deaths per 100,000 population, whereas Europe boasts the lowest rate at 9.3 deaths per 100,000 (Kazeem, 2019). In many African countries, road transport is the most affordable and accessible means of travel due to the expense and limited availability of air and rail transport. However, numerous factors contribute to the greater burden of RTCs in Sub-Saharan Africa, including a high number of vulnerable road users, poor transport conditions (such as the lack of seatbelts), overcrowding, and low-quality, poorly maintained vehicles (Lagarde, 2007). In 2011, the UN General Assembly launched the Decade of Action for Road Safety with the goal of halving the number of injuries and deaths on the roads. Unfortunately, no African country has reported significant progress towards this goal, and the number of deaths remains alarmingly high (Bonnet, et al., 2018). The recently launched Global Plan for the Second Decade of Action for Road Safety (2021–2030) places particular emphasis on addressing crashes in LMICs (WHO, 2021).

Accurate and reliable data collection pertaining to road traffic crashes plays a pivotal role in reducing road traffic injuries and fatalities. High-quality road traffic data serves multiple purposes, including documenting the nature and magnitude of the problem, monitoring and evaluating the effectiveness of intervention measures, and providing insights into the social and economic costs of crashes and the value of life (WHO, 2010). Moreover, robust traffic crash data is essential for tracking progress towards achieving the revised target 3.6 of the UN's Sustainable Development Goal (SDG), which aims to halve the global number of deaths and injuries from road traffic accidents, as well as SDG Target 11.2, which calls for enhancing road safety and expanding access to transport systems, including public transport (Nneka & Namita, 2021).

However, road traffic crash data collection and reporting systems across the African continent suffer from significant weaknesses and underdevelopment (Thomas, et al., 2017). Challenges such as irregular data, under-reporting, low specificity, inconsistent cause spectrum of road traffic injury, inaccessibility, and data release delays are prevalent issues hampering effective RTC data management throughout the region (Chang, et al., 2020). Discrepancies between the official road traffic fatalities reported by many African countries and the estimated figures provided by the World Health Organization remain substantial (WHO, 2019). A review conducted by the United Nations Economic Commission for Africa (UNECA) on the implementation of the African Road Safety Action Plan 2011–2020 further highlighted the limited progress made by many African countries in addressing key areas of road safety data management. These areas include establishing or strengthening injury data systems for health facilities, engaging local research institutions on road safety data management, building capacity for road safety data management, and ensuring mandatory reporting, standardized data usage, and sustainable funding for road safety data management (UNECA, 2015). The African Road Safety Observatory (ARSO) (SSATP, 2020), an initiative aimed at improving road safety on the continent, acknowledges the existing challenges in RTC data collection and reporting. ARSO strives to address these issues by serving as a platform for collecting, analyzing, and disseminating reliable and up-to-date road safety data in Africa. Through its collaborative efforts with governments, international organizations, NGOs, and academic institutions, ARSO aims to enhance understanding of the road safety situation, support evidence-based decision-making, and facilitate policy development to reduce road traffic accidents and casualties in the region. By promoting data collection and analysis, ARSO contributes to monitoring progress towards achieving the road safety targets set by the United Nations' Sustainable Development Goals and the African Union's Agenda 2063.

Within the African context, Zambia serves as a pertinent case study. As a landlocked country located in Southern Africa and bordered by eight neighbouring nations, Zambia relies heavily on road transport due to the expense and limited availability of air and rail alternatives. Currently, the country's official road traffic crash data solely derives from Zambia Police Records (RTSA, 2020; RTSA, 2021). However, it is noteworthy that the official national reported figure significantly underestimates the actual traffic fatalities in Zambia. The World Health Organization estimates that around 3,500 lives are lost each year due to traffic accidents in the country, which is considerably higher than the reported figures (Amend & FIA Foundation, 2019). Astonishingly, approximately 50% of fatalities are not captured in the official reporting of road traffic crashes in Zambia.

The lack of complete and reliable information regarding the locations, timings, and circumstances of road traffic fatalities hinders the effective design and enforcement of interventions in the areas where they are most needed to prevent future deaths (Segui-Gomez, et al., 2021; Mwale, et al., 2023). Monitoring road traffic crash-related data necessitates a multi-sectoral approach that engages various stakeholders and fosters collaboration. Therefore, in this article, we undertake a comprehensive review of the processes and procedures related to RTC mortality data collection in Zambia. Our objective is to identify potential areas for improvement and provide recommendations to enhance the overall data collection process. Through a comprehensive examination of the existing data collection processes and procedures, this research aims to contribute to the development of a more robust and reliable road traffic crash data collection system in Zambia,

ultimately facilitating evidence-based decision-making and the implementation of effective road safety interventions.

2. Literature Review

Road traffic crashes present significant public health challenges worldwide. Global reports estimate that approximately 1.35 million lives are lost, and an additional 50 million people are injured in road traffic crashes each year (WHO, 2019; Sleet, et al., 2011; Gopalakrishnan, 2012). RTCs are the leading cause of death among individuals aged 5 to 29 years, who represent the most economically active population group (WHO, 2020; Gopalakrishnan, 2012). Despite having the lowest motorization rates, low- and middle-income countries bear the largest burden of fatalities and injuries (Mohan, 2002; RTSA, 2020). Vulnerable road users, including pedestrians, cyclists, two-wheeler riders, and passengers on public transport, are particularly affected by road traffic crashes. The World Report on Road Traffic Injury Prevention (WHO, 2004) predicts an 83% increase in RTC fatalities in developing countries by 2020, compared to a projected 27% decrease in developed countries. Furthermore, an RTC injury imposes a significant strain on healthcare budgets, with the 2018 Global Status Report on Road Safety estimating that RTCs cost countries between 2% and 5% of their GDP (WHO, 2019).

Public health efforts to combat RTCs in most African countries are hindered by the lack of reliable data to inform an effective response (Adeloye, 2012). Reported data often suffer from underreporting, exemptions from reporting, poor sampling techniques, and inconsistent case definitions (Adeloye, et al., 2016; WHO, 2019). Statistics on road traffic crashes, fatalities, and traffic injuries in low-income countries are primarily obtained from police records and sometimes hospital registry data, both of which are susceptible to underreporting (Sasser, et al., 2005; Razzak & Luby, 1998; Mwale, et al., 2023). Research consistently indicates high levels of underreporting, especially in low- and middle-income countries when based on official records (Samuel, et al., 2012; Zavareh, et al., 2008).

To address the problem of underreporting in countries with unreliable death registration systems, the World Health Organization statistically models regional and country estimates of traffic deaths in its global status reports. In the 2018 report, Africa had the highest estimated fatality rate at 26.6 per 100,000 population, compared to the reported fatality rate of 7.2 per 100,000 population (WHO, 2019). The low reported fatality rates on the continent indicate a significant problem of underreporting due to inadequate or non-existent road traffic crash data systems. This issue directly impacts health planning, including prehospital care, emergency care, and other government agency responses (Adeloye, et al., 2016).

Road traffic crash data are essential tools for the development, implementation, and assessment of highway safety programs aimed at reducing road traffic crashes. Accurate and reliable data collection is critical for understanding road traffic operational problems, identifying hazardous road sections, determining risk factors, formulating accurate diagnoses and remedial measures, and evaluating the effectiveness of road safety programs (Abdulhafedh, 2017). Road safety data is utilized by various agencies and organizations, including law enforcement for identifying at-fault parties in road traffic crashes, insurers for investigating traffic crash claims, road safety researchers for accessing reliable traffic crash databases, decision-makers for developing long-term strategic plans for traffic and highway safety, and highway safety

administrators for public education purposes (Abdulhafedh, 2017).

Most countries rely on police data for national reporting and tracking trends in road traffic crashes over time, as the police are often called to the crash scene and collect detailed information on the circumstances of the crash for investigations. However, it is widely recognized that there is a significant degree of underreporting and lack of reliable data on the nature and severity of injuries within police databases (IRTAD, 2011; Naji & Djebarni, 2000) Data from police sources tend to underreport injuries and deaths due to poor traffic police response and follow-up on injured victims, as well as variations in traffic fatality definitions for real-time and chronological data capture (Chand, et al., 2021)] Other factors contributing to underreporting, as highlighted in the literature, include a lack of reporting to relevant departments (Wu, et al., 2016; Ahmed, et al., 2017), inadequate adherence to operational definitions used to classify road traffic injuries and deaths (WHO, 2010), unqualified or inexperienced staff, outdated or unfinished reporting, incomplete statements (Odonkor, et al., 2020), and performance-based administrative policies that may incentivize traffic police and road safety agencies to report fewer deaths and injuries to avoid criticism or secure rewards (Alcorn, 2011; Ahmed, et al., 2017). To supplement data collected by the police, many countries are utilizing hospital and Civil Registration and Vital Statistics (CRVS) data (Abdulhafedh, 2017). Additionally, other valuable sources of road traffic crash data include emergency services, local authorities, and insurance companies (PIARC, n.d.).

The lack of reliable information and data for an evidence-based public health response remains a major challenge in addressing road crashes in Africa (Chokotho, et al., 2013; Adeloye, et al., 2016). Underreporting of injuries and deaths leads to an underestimation of the severity of the public health problem and distorts road traffic mortality trends when underreporting fluctuates over time (2017).

Several studies have assessed the data collection methods of road traffic crash data in the African Region. For instance, a study conducted by (Redi, 2015) investigated Ethiopia's road traffic crash data collection and management system. Findings indicate low compliance with international standards, such as the Model Minimum Uniform Crash Criteria (MMUCC) (NHTSA, n.d.) and the World Health Organization's road safety data system manual (WHO, 2010) underscoring deficiencies in the existing crash data collection systems. These outcomes emphasize the need for a standard and consistent method of reporting in the country's crash data collection and management system. Another investigation, undertaken by (Abena, et al., 2021) provides a summary of a literature review of traffic data collection methods, advantages and disadvantages, similarities and differences, affordability and adaptation, and some Intelligent Transport System collection methods that have been used in Ghana. This study advocates for the adoption of modern collection methods to enhance data quality, efficiency, and effectiveness for optimal project planning and transportation management. In a study by (Segui-Gomez, et al., 2021) proposed a minimum set of road safety indicators for data collection, analysis, and reporting. The study also provides valuable insights into the processes and procedures of collecting data on road traffic crashes/accidents in Africa. These studies collectively offer invaluable perspectives into the assessment of road traffic crash data collection methods across the region.

In conclusion, the literature highlights the importance of reliable road safety data for effectively addressing the problem of road traffic crashes. While various data sources are available, the quality and accuracy of the data are often compromised

by inadequate data collection procedures and underreporting. Efforts to improve road safety data in Sub-Saharan Africa should focus on standardizing data collection methods, enhancing the capacity of data collectors, and addressing barriers to reporting road traffic crashes.

One significant gap and limitation in the existing literature concerning reviews and assessments of road traffic crash data in the region is the absence of a systems thinking approach. This deficiency results in a lack of comprehensive evaluation of the interconnected components within the entirety of road traffic crash data collection systems. Road traffic crash data collection is intricate and involves multiple stakeholders from various sectors, including law enforcement, healthcare providers, insurance companies, local authorities, and Civil Registration and Vital Statistics (CRVS) agencies. Given its complexity, addressing these gaps becomes pivotal in developing more effective and nuanced road safety strategies that consider the diverse contexts within Africa and the intricate interrelationships among the various elements within data collection systems.

3. Methodology

This study was conducted between October 2021 and November 2022 in Lusaka, with the aim of undertaking a comprehensive review of the processes and procedures related to RTC mortality data collection in Zambia. To initiate the review process, consultation meetings were conducted with key stakeholders involved in RTC mortality data collection in Zambia. These stakeholders included representatives from government agencies, local authorities, law enforcement, healthcare providers, and non-governmental organizations (NGOs) working in the field of road safety. The purpose of these meetings was to validate the accuracy and reliability of the existing data collection processes and procedures, as well as to gather insights into potential areas for improvement.

Following the consultation meetings, a comprehensive review and analysis of the business processes pertaining to the collection of road safety data in Zambia were conducted. This involved conducting a document review of existing documentation, reports, policies, and procedures related to RTC mortality data collection. Additionally, structured interviews were conducted with key stakeholders to validate the existing processes, gather insights, and identify challenges and opportunities for improvement.

To evaluate the effectiveness of the data collection process, the business process map was assessed against a performance matrix consisting of four criteria: fit for purpose, satisfaction of business requirements, process delays and interruptions, and time and resource efficiency. This evaluation was done through a combination of surveys, stakeholder interviews, and analysis of existing data. The surveys and interviews measured stakeholders' satisfaction with the current data collection processes and identified areas for improvement. Time-motion studies and data analysis were conducted to identify any delays, interruptions, and resource inefficiencies within the process.

Based on the findings from the performance matrix evaluation, the business process map was updated to incorporate the identified improvements. Recommendations were provided to enhance the data collection process, addressing the areas of concern highlighted in the performance matrix. These recommendations focused on improving the overall efficiency,

accuracy, and reliability of the RTC mortality data collection process in Zambia. The proposed recommendations were informed by a synthesis of stakeholder feedback, data analysis, and best practices from similar contexts. By incorporating these recommendations, it is expected that the data collection process will be more streamlined, effective, and aligned with the needs of stakeholders

4. Findings

In Zambia, three authorities are primarily responsible for the generation, transmission, and storage of RTC fatality data: the Zambia Police Service (ZP), the Department National Registration, Passports and Citizenship (DNRPC) under the Ministry of Home Affairs and Internal Security (MOHAIS), and health facilities under the Ministry of Health (MOH). An overview of the data collection procedures was conducted for each institution, revealing major challenges faced by each.

4.1. Zambia Police

The police, in accordance with the Zambia Police Act, are responsible for regulating and controlling traffic, investigating RTC causes, and processing cases in court. Upon receiving a report of an RTC, police officers rush to the scene, identify casualties, clear the roadway, and collect witness information. Casualties are then transported to the nearest health facility for medical attention. The police record statements, compile dockets, and generate reports. Fatalities require certification by a medical doctor and may undergo a post-mortem examination to provide a deeper understanding of the cause and circumstances surrounding the individual's death. Some shortcomings in the data collection process include:

- The data collection system is primarily paper based, leading to difficulties in retrieval and transmission of information.
- Many officers collecting RTC data lack adequate training.
- Inadequate resources are allocated to data capturing and recording.
- Inadequate resources (vehicles, computers, office space, human capital) hinder the data collection process.
- Members of the public and authorities at healthcare facilities may fail to report some RTCs to the police.
- Inconsistent and varying case definitions contribute to data discrepancies. For instance, a notable disparity arises between police records, which maintain data on road traffic deaths for up to one year, and hospital records where road traffic crashes (RTCs) are registered as secondary causes of death only after a postmortem examination has been conducted. While this secondary cause of death is generally coded consistently within the initial month after death, a considerable number of cases go unrecorded. Civil Registration and Vital Statistics (CRVS) data, on the other hand, typically code causes based on information from the health facility's MMCD form.
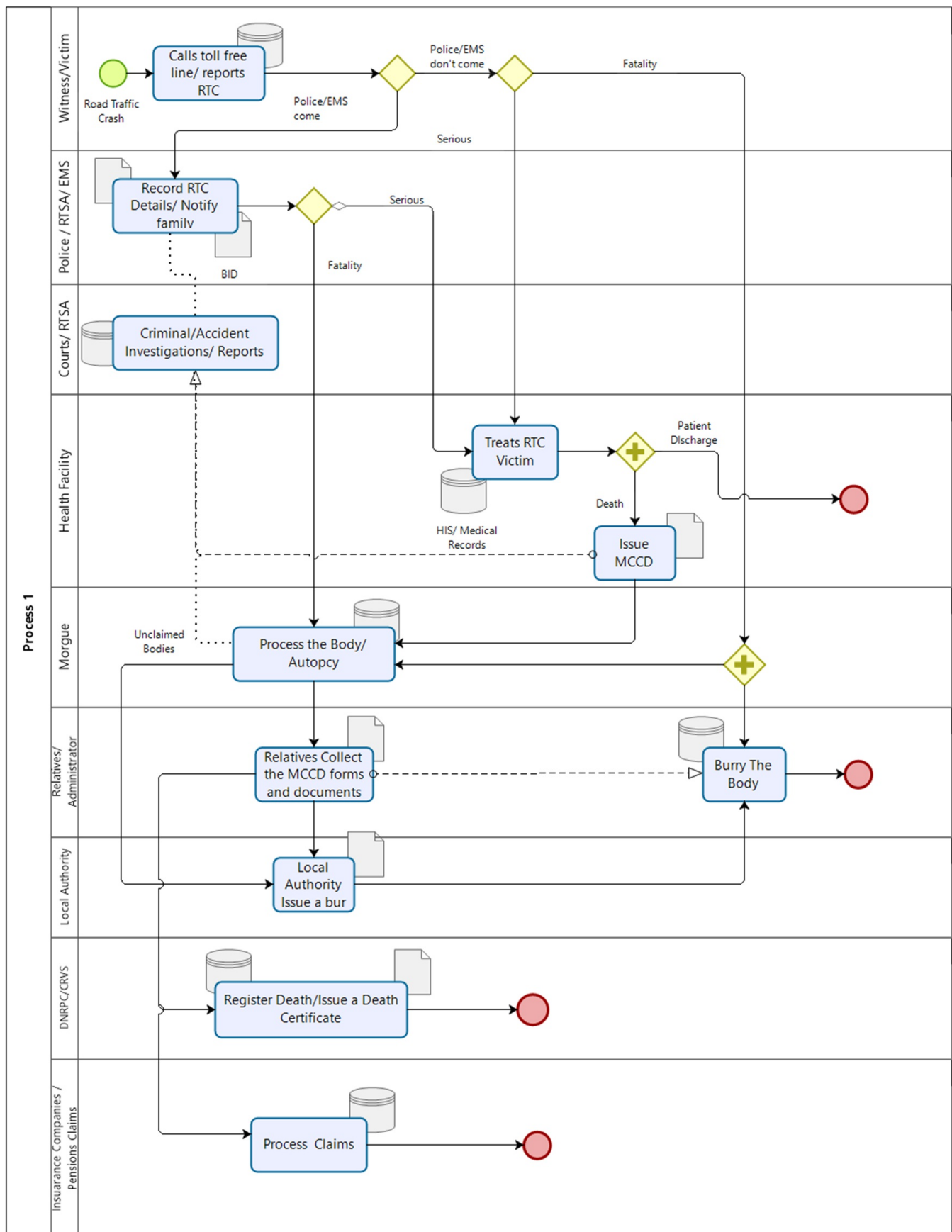
Figure 1. *Business Process Map illustrating the processes and procedures involved in the collection of road traffic fatality data in Zambia.*

4.2. Health Care Facilities

When an RTC victim arrives at a health facility, their details are collected before being seen by a clinician. patient record files are created, and data are collected from various points within the facility, including the emergency or casualty unit, general outpatient departments, wards, mortuaries, and hospital archives. Challenges in the data collection process within health care facilities include:

- Reliance on paper-based records and registers, leading to delays in data retrieval and consolidation. Lack of standardisation in the variables collected in the different registers.
- Non-adherence to standardized coding and categorization of the cause of death.
- Differences in health facility setups, including the limited capacity of some mortuaries.

4.3. Civil Registration and Vital Statistics (CRVS)

In the event of a fatal RTC, the police issue a Brought-in-Dead (BID) report, which is presented to a health facility for death certification or post-mortem examination. The BID certificate or coroner's report is then taken to the local authority for death notification. The Department of National Registration, Passports and Citizenship registers and processes the death application using the International Classification of Diseases (ICD) coding. Challenges in the CRVS data collection process include:

- Low death registration rates, particularly in rural areas, where individuals may not visit DNRPC offices to obtain death certificates.
- Lack of harmonization with other data sources, such as police and hospital databases.
- Differences in the categorization of the cause of death among health practitioners.

4.4. Pensions and Insurance Companies, Other Claims

Relatives or estate administrators are responsible for making insurance and death benefit claims for RTC victims. Insurance and pension companies usually require a police report, death certificate, and their own forms to process claims.

In the Zambian context, the process of insurance companies receiving police reports and death certificates follows established procedures rather than a legal mandate. When a road traffic crash (RTC) occurs in Zambia, the involved parties, often relatives or estate administrators seeking insurance claims, take the initiative to obtain the necessary documentation for claims processing.

Upon an RTC, individuals involved in insurance claims initiate the process by requesting a police report, which is a key document substantiating the incident's details. This report is obtained through direct engagement with the relevant law enforcement agencies responsible for investigating the crash.

Similarly, the death certificate, issued by the appropriate Zambian authorities, serves as official confirmation of the individual's passing. This certificate is a critical component for insurance and pension companies to validate claims.

To facilitate efficient claims processing, insurance companies in Zambia usually require the submission of both the police report and the death certificate, accompanied by any specific forms mandated by the respective insurance providers. While there is no legal requirement for law enforcement agencies to automatically forward crash-related reports to insurance companies, they cooperate closely with the claimants and provide these reports upon request.

5. Discussion

The study analysed RTC mortality data collection practices and procedures from key stakeholders. The basic business process was deemed effective and fit for purpose, but components from each stakeholder resulted in missed data. The comparison of the three data sources revealed differences in the number of records contained in each source. The following subsections provide a discussion for each data source, highlighting the likely causes of these differences.

5.1. Police Data

Official statistics on road traffic fatalities in Zambia are primarily reported from data collected and compiled by the Zambia Police Service. The police database is the largest of the three databases due to their mandate to investigate fatal and serious RTCs and their countrywide presence. However, a quantitative analysis conducted in Zambia by (Mwale, et al., 2023) revealed that approximately 42% of RTC deaths are captured in hospital and CRVS databases but not included in the police database. Several factors contribute to the incompleteness of the police database, including inadequate resources for updating records from health facilities, difficulties in collecting and compiling data due to paper-based records, and insufficient linkage with other databases and varying case definitions. Additionally, delayed police response in rural areas can result in victims being taken directly to health care facilities without police involvement, leading to unreported cases. Challenges also arise in tracking victims who have been admitted to health facilities, particularly in updating police records in the event of a subsequent fatality. Relying solely on police data underestimates the number of RTC deaths and provides an inaccurate picture of the problem. These findings indicate significant underreporting of RTC deaths in the police database, providing an inaccurate representation of the problem.

5.2. Hospital Data

The study found that the hospital database identified additional and different RTC death records compared to the police and CRVS databases. Many RTC casualties are admitted to hospitals and taken to mortuaries without being reported to the police. Challenges impacting the completeness of hospital data include inadequate linkages between various hospital registers, paper-based records hindering data retrieval and management, non-compliance with standardized cause of death certification by clinicians, and variations in data systems among health facilities. Quantitative analysis indicates that compared to the police and CRVS database, the hospital database contains only 31% of road traffic deaths in Zambia (Mwale, et al., 2023). These findings highlight the need for better integration and coordination between hospitals and the police to ensure comprehensive reporting of RTC deaths.

5.3. CRVS Data

The Department of National Registration Passport and Citizenship under the Ministry of Home Affairs is mandated to carry out the registration of all vital events in Zambia. The Civil Registration and Vital Statistics System in the country remains underdeveloped. The 2017 Vital Statistics report reveal that the overall coverage rate for death registration stands at 19% with urban registration rates of 45.2% and rural rates at 0.9% (Zambia Statistics Agency, 2020). Quantitative analysis reveals that the CRVS database in Zambia captures an additional 23% of RTC deaths not found in the police and hospital database (Mwale, et al., 2023). The major limitation of death registrations in Zambia is that despite the existence of laws which requiring reporting and registration of vital events such as births and deaths, the system relies on voluntary registrations as it is left to the relatives of the diseased to go to the DNRPC offices (or their agents) to register the death and collect the death certificate. CRVS officers are not available throughout the country especially in rural areas making it harder for the victims' relatives to register the death. This also leads to huge time lags between when the death occurs and when the death is registered. The deaths in which there are no benefits to be claimed by the relatives or administrators will rarely be registered. These challenges are also highlighted in a study conducted by Kazonga & Mwinga (2020). Another major challenge of the CRVS data base is the inaccurate coding and classification of Road Traffic Crash Fatalities resulting in them not being correctly attributed and counted.

6. Conclusion

This study analysed the level of underreporting of RTC data by comparing data from the police, hospitals, and the CRVS system. The review of RTC data collection processes and procedures identified areas for improvement to enhance the quality and completeness of RTC fatality data. Strengthening data systems requires a multisectoral approach and collaboration among stakeholders. The comparison and matching of multiple databases revealed that no single database provides sufficient information to accurately assess the burden of road traffic injuries in the country. The study found that the actual number of traffic deaths is far greater than the official data indicates, emphasizing the need to strengthen RTC data systems for a more accurate understanding of the problem.

7. Recommendations

*Establish a multidisciplinary road crash data analysis and reporting team:*It is recommended to establish a multi-sectorial team responsible for compiling and analysing RTC data from multiple departments. This team would facilitate data linkage, validation, and provide comprehensive information on road traffic injuries and deaths.

Use technology for RTC data collection, transmission, analysis, and reporting Introducing electronic data collection tools and systems would enhance data collection, management, and facilitate harmonization and linkages among various sources. Developing and strengthening electronic RTC crash data systems, as well as integrating case-based data into health information systems, is crucial.

Training and Capacity Building: Continuous training should be provided to police officers, healthcare providers, and other stakeholders on the use of electronic data collection tools, the importance of collecting quality and complete data, and standard definitions recommended by WHO. Clinicians should receive training on correctly classifying and coding RTC deaths in health facilities.

Sensitization and Community Outreach: Public awareness campaigns should be launched to educate the public on the importance of reporting all traffic crash casualties to the police. Sensitization efforts should also focus on informing the public about the procedures for registering deaths and obtaining death certificates from the DNRPC.

Policy to Enhance Collaboration with Police and CRVS: The Ministry of Health should develop and implement policies that ensure the presence of police and CRVS staff at level one hospitals and above. This would facilitate accurate notifications and registration of deaths and other vital events, reducing delays and improving data quality.

In conclusion, this study highlights the need to improve RTC data collection in Lusaka, Zambia. The findings reveal significant underreporting of RTC deaths in the police database, with additional fatalities captured in hospital and CRVS databases. To address these challenges, it is recommended to establish a multidisciplinary road crash data analysis and reporting team, utilize technology for data collection and management, provide training and capacity building to stakeholders, conduct sensitization and community outreach programs, and develop policies to enhance collaboration between the police and CRVS. We also recommend conducting a nationwide assessment of road traffic crash data collection systems and procedures. This would facilitate the gathering of data from subnational levels, ensuring uniformity and enabling an examination of potential distinctive challenges and adjustments that could enhance the process. By implementing these recommendations, Zambia can improve the accuracy and completeness of RTC data, leading to more effective road safety measures and policies.

Statements and Declarations

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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The perspectives and opinions presented in this article are solely those of the authors and should not be construed as representing the official policies or positions of any institutions with which the authors are affiliated.

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