

HEALTHCARE PROVIDERS' PRACTICES AND PERCEPTIONS
TOWARDS PATIENT SAFETY INCIDENT REPORTING AND
MANAGEMENT IN LUSAKA DISTRICT

BY

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DEDICATION

This study is dedicated to my late father Michael Yali and my late mother Jane Kasongo Yali. It is also dedicated to my son, Jason B.Yali, for the happiness you have brought into my life and also to his mother, Laura Mapani for understanding and support during my entire postgraduate academic life.

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DECLARATION

I, **Gabriel B. Yali** declare that this dissertation submitted to the University of Zambia as partial fulfillment of the award of the degree of Master of Public Health (Health Policy and Systems Management) is my own work and has not been submitted either wholly or in part for another degree to this University or any other or Institute for higher education.

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CERTIFICATE OF COMPLETION OF DISSERTATION

The undersigned certify that they have read the dissertation and are satisfied that it is the original work of the author under whose name it is being presented.

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LIST OF ACRONYMS

MoH : Ministry of Health

PSI : Patient Safety Incident

UTH : University Teaching Hospital

AE : Adverse Event

WHA : World Health Assembly

COHSASA : Council for Health Service Accreditation of Southern Africa

WHO : World Health Organization

DEFINITION OF OPERATIONAL TERMS

Patient Safety – is the reduction of risk of unnecessary harm associated with healthcare to an acceptable minimum.

Near-miss – is an incident which did not reach the patient

Adverse event – is an incident that results in harm to a patient that is related clinical care, in contrast to disease complications or underlying disease

Patient Safety Incident (PSI) - is an event or circumstance that could have resulted, or did result, in unnecessary harm to a patient.

Incident type – a descriptive term for a category made up of a common nature, grouped because of shared or agreed features

Incident / Event – an unexpected, unintended occurrence that results in injury or has potential to cause harm

Error – the failure of a planned action to be completed as intended or use of a wrong plan to achieve an aim

System – a set of interdependent elements (people, processes, equipment) that interact to achieve a common aim

Patient outcome – is the impact upon a patient which is wholly or partially attributable to an incident

ABSTRACT

Many studies from a number of different nations around the world have consistently demonstrated unacceptably high rates of medical injury and preventable deaths. Patient safety has been, and still is, a cause for concern in health care systems all over the world. WHO is providing technical support to Member States in developing reporting systems, reducing risk, and in formulating evidence-based policies. However, research shows that patient safety and quality of care information from developing countries especially from the African region is still infrequent and limited in scope. In addition, a number of research studies in developing countries have suggested that frontline healthcare practitioners have concerns about patient safety and care, and yet most of these studies have not looked at what their views in terms of challenges are. Therefore, this study aimed at identifying health workers' views on barriers related to safety of patients receiving clinical care in selected health institutions in Lusaka district.

In-depth, face to face interviews with frontline health care practitioners were conducted which included physicians, nurses, clinical officers, hospital managers and administrative officers. The total sample was 33 and was collected at two largest hospitals in Lusaka, one offering mental health and the other one acute health services.

Participants brought out significant challenges and concerns related to patient safety that were broadly categorized into two major themes, that is, health worker-related and institutional-related challenges. These included under-reporting by health workers, under-staffing, physical environment and equipment, bed capacity inadequacy and overcrowding, and inadequate policy guidelines.

Health workers highlighted a concern that most incidents or errors committed by them were going unreported or rarely reported and they felt that something should be done about it for the sake of the safety of patients. They further stated that they faced challenges in maintaining patient safety because of lack of guidelines, standardized reporting system, overcrowding of patients, poor hospital building design and staff shortages. All these factors make it challenging to maintain some safety measures for patients.

In as much as patient safety is one of the priority areas in most health care systems of developing countries, reporting of incidents is not being done across the health care system. A number of factors are acting as barriers. There is a lot more that need to be done in order to improve the safety of patients in most developing countries and thus, with the current trend, patient safety incidents (PSIs) will continue harming patients receiving clinical care as long as these barriers exist.

Key words: Patient Safety Incidents (PSI), World Health Organization (WHO), Healthcare providers

CHAPTER ONE

INTRODUCTION

1.1 Background Information

Since the 1999 influential report called “To Err is Human” by the Institute of Medicine (IoM) (Kohn et al., 2000) patient safety has been positioned as a core public health issue of concern to the public, professionals, institutions and agencies involved in healthcare. Over the past fifteen years, since that seminal document was published, the ubiquitous occurrence of adverse events has been unveiled with clarity and determination (Stelfox et al., 2006), and a greater understanding of the burden due to unsafe care, its characteristics and circumstances is more clear today (Jha et al., 2013).

Thomas and colleagues (2000) defined “adverse events” (AEs) as significant harm experienced by patients as a result of medical care. They also defined it as unintended injuries or complications resulting in prolonged hospital stay, disability at the time of discharge or death and caused by healthcare management rather than by the patient’s underlying disease process. Adverse events, temporal harm events and near misses are collectively termed as incidents, thus in this study, the use of the term “incident” will refer to any of three types of harms that occur to patients in healthcare organizations.

According to the Health Department of South Africa (2016), a Patient Safety Incident (PSI) is an event or circumstance that could have resulted, or did result, in unnecessary harm to a patient. The use of the word “unnecessary” in this definition recognizes that errors, violation, patient abuse and deliberately unsafe acts occur in healthcare. These are considered incidents.

In recent years, the focus in thinking about AEs has shifted from the person approach—blaming individuals for errors—to the systems approach. The systems approach assumes that people will make mistakes, and that the system that surrounds them should provide a safety net for these mistakes (Jackson et al., 2006). Therefore, efforts to eliminate AEs should be directed towards a particular system (Dankelman, 2005). Dankelman (2005) further reports that this new approach (the systems

approach) has shifted the focus of the debate on AEs from the legal consequences associated with personal responsibility, to a more constructive point of view, clearing the way for thinking about solutions.

In the aftermath of the report (“To err is human”) by the IoM (Kohn et al., 2000), many large studies have been performed concerning AEs, some of them nationwide in trying to reduce these errors as a matter of an international concern. Population-based studies from a number of nations around the world especially in developed countries where systems of reporting patient incidents have been well developed, have consistently demonstrated unacceptably high rates of medical injury and preventable deaths (WHO, 2005).

In May 2002, the World Health Assembly (WHA) passed a resolution, which urged countries to pay the greatest possible attention to patient safety and requested the Director-General of WHO to carry out a series of actions to promote patient safety. The Resolution outlines the various responsibilities of WHO in providing technical support to Member States in developing reporting systems, reducing risk, formulating evidence-based policies, fostering a culture of safety and encouraging a research agenda on patient safety. The resolution ensured that the drive for safer health care becomes a worldwide endeavor (COHSASA, 2017).

In response, a global effort, the World Alliance for Patient Safety, was launched by WHO in 2005 to galvanize and facilitate efforts by all Member States to make health care safer. In view of this, the World Alliance for Patient Safety convened a Drafting Group to initiate and take forward a work program aimed at defining, harmonizing and grouping patient safety concepts into an internationally agreed classification in a way that is conducive to learning and improving patient safety across systems (WHO, 2005).

1.2 The WHO normative guidelines

The ultimate measure of a successful incident reporting system is whether the information it yields is used appropriately to improve patient and organization safety (WHO, 2009).

The characteristics of successful incident reporting systems suggested by the WHO are shown in the Table below:

Table 1: Characteristics of successful incident reporting systems (source: WHO, 2009)

CHARACTERISTIC	DESCRIPTION
Non-punitive	Reporters and involved parties are free from punishment as a result of reporting.
Confidential	The identities of the institution, reporter and the patient should not be revealed to third party.
Independent	The reporting system must be independent of any authority with the power to punish the reporter or organization.
Expert analysis	Reports are evaluated by experts who understand the clinical circumstances and are trained to recognize underlying systems causes.
Timely	Reports must be promptly analyzed, and recommendations must be disseminated to those who need to know, especially when serious hazards are identified.
Systems oriented	Recommendations should focus on systems, processes or products improvements, rather than being targeted at individual performance.
Responsive	The organization receiving reports is capable of disseminating effective recommendations, and the target organizations must commit to implementing recommendations.

Though patient safety research and activity has traditionally been preoccupied with high-income countries (HICs), recent years have seen a shift of focus to low-income

countries (LICs) (Syed et al., 2009). A growing global policy emphasis is evident on the need not just to enable universal access to care, but to ensure that care is of sufficient quality to be effective and does not cause harm to patients (Aveling et al., 2015).

Most of the patient safety and quality improvement efforts have been made at the international level, particularly by the World Health Organization (WHO, 2011). However, in the African region, some countries such as South Africa have in the last decade paid increased attention to patient safety. Recently, there have been more local organizations in the region with the aim of galvanizing actions to improve patient care including accreditation efforts connected to the United States based Joint Commission International (JCI) and the Council for Health Service Accreditation of Southern Africa (COHSASA) organization in South Africa (COHSASA, 2017).

This study will help to understand the local initiatives put forth aimed at patient safety and thereby partially sealing the information gap in practice related to the implementation of best practice, patient safety culture and quality of care improvement measures in the African region. The results/findings from this study will also act as a benchmark for advice to the policy formulators. In addition, the outcome of this study will stimulate further research and that the information obtained will be used for further reference on patient safety incident reporting and management.

1.3 Statement of the problem

Ongoing accidents of tragic harm to patients and the growing complexity of healthcare systems show the need to make healthcare safer, for the patients, as well as healthcare providers and society (WHO, 2009). Patient safety has been, and still is, a cause for concern in healthcare systems all over the world. Every year, approximately 900 000 incidents and near misses are reported around National Health Service (NHS) care of the United Kingdom (UK), of which about 2000 result in death (National Audit Office, 2008). Costs associated with preventable events accounted for an estimated \$119 million of the \$324 million cost worldwide, equating to 1.3% of the \$9.2 billion Medicare inpatient expenditures for the month or about \$1.8 billion annually (Levinson, 2010). Aside from the direct harm to the patient, patient safety

incidents in hospitals have been linked with direct medical costs, as indicated by a number of studies outside Europe which have impacted on health budgets (WHO, 2010).

However, research shows that patient safety and quality of care information from the African region is still infrequent and limited in scope (Carpenter et al., 2010). They further stated that, it is not known whether a safety intervention such as the WHO Guidelines on Hand Hygiene in Healthcare designed to prevent healthcare-associated infections at the point of care or the Surgical Safety Checklist, which is designed to improve the safety in surgery, have been implemented. There is also scant evidence of local initiatives and systems put in place in healthcare organizations to ensure patient safety and care is effective, appropriate, and safe in the African region (WHO, 2011). Therefore, there remains an information gap in practice related to the implementation of best practice, patient safety culture and quality of care improvement measures in the region.

In addition, Baker (2004) stated that nearly all published studies on patient safety incident reporting to date, have been from developed countries, with scanty to no reports from developing or transitional economies. This knowledge gap is a serious limitation to understanding the extent of the problem at the global level and, more importantly, in developing countries such as Zambia.

1.4 Justification

It was thus imperative that a study like this one be conducted to explore how patient safety incidents were being reported (captured), analyzed and learnt from, to improve patient safety in some selected Zambia's health care institutions. With patient safety incidents on a rise as suggested by medical literature, there was a need of carrying out a study to understand how patient safety incidents were being reported. It is by reporting that further actions can be taken to avoid future occurrences. In addition, so far, according to the literature that was reviewed, the researcher never came across any study which has been conducted and published on this topic in Zambia, and thus, the current study has helped establish how reporting and management of incidents are being carried out, especially at the selected health institutions.

1.5 Significance of the study

The current study has highlighted the health care providers' practices as related to patient safety and reporting of incidents in particular. In addition, it has brought out the views and opinions of health workers who are working in direct contact with patients (frontline health workers) and also those in managerial positions. The principal investigator (PI) has also made recommendations to policy formulators on how reporting and managing of incidents at the institutions under study can be improved. It is hoped that the findings from this study has been useful in understanding the systems, policies and measures put in place in health care organizations aimed at ensuring the safety of patients receiving health care. Furthermore, the findings may be used by stakeholders and key players in health to put in standardized systems of reporting incidents across health care organizations aimed at improving learning from incidents to avoid future occurrences. In addition, the outcome of the current study will stimulate further research and that the information obtained will be used for further reference on patient safety incident reporting and management.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Thousands of errors occur in healthcare systems around the world every single day. Patient safety has therefore become an issue of immense importance, in both first and third world contexts. The World Health Organization (WHO, 2005) reports that about 50% of healthcare errors are considered preventable and with an estimated average of 10% of all in-patient visits resulting in some form of unintended harm, the need to tackle patient safety is clear. Patient safety is first and foremost a clinical problem, but it is also an important cause of wasted resources. Documentation of the scale of iatrogenic harm to patients has been accelerating since 1991, with one of the first hospital population studies by Brennan and colleagues in New York State (Brennan et al., 1991). Studies progressed to national estimates, and the focus moved from negligence to preventability (Michael et al., 2007).

According to the Department of Health (2002), errors in the health care system are due to a diverse interaction of human behavior, socio-cultural aspects, technical aspects of the system, as well as a range of system weaknesses. Various categories of errors present as an overlap between human and system causes. When working conditions lead to circumstances in which it is easy to commit an error, this is known as a 'latent error or 'system failure.'

2.2 Benefits of Reporting Incidents in improving patient safety

Developing a patient safety culture in a health care facility is among the priority recommendations by the international health community and incident reporting has been considered as an indispensable pillar (Mahajan, 2010). According to El-jardali et al., (2011), the first step in developing a patient safety culture is assessing the existing safety culture. Runciman and colleagues (2006) added that common understanding on the importance of patient safety, communication based on mutual trust, synchronized information flow, commitment from the leaders, and the existence of non-punitive approach for incident reporting are among the major predictors of positive patient safety culture in health organizations.

An inclusive and systematic approach to incident reporting would help learning from errors and adverse events within the same setup. Moreover, the record would serve as a source of learning that helps other patients in different parts of the world (Malik et al., 2010). Through incident reporting, various kinds of errors can be traced and discussed among health professionals and preventive mechanisms can be designed (Hashemi et al., 2012). Furthermore, incident reporting is a mechanism which enables health professionals to disclose unintended injury and near misses caused by a healthcare system or a health professional.

Other studies include one done by Anderson and colleagues (2013) in London. The overall aim of this study was to examine the perceived effectiveness of incident reporting in improving patient safety in mental health and acute hospital settings. Policy documents from both hospitals were identified and analyzed and semi-structured interviews were also conducted. It was found that incident reporting was perceived by respondents, as having a positive effect on safety, not only by leading to changes in care processes but also by changing staff attitudes and knowledge.

It was concluded that incident reporting could be a powerful tool for developing and maintaining an awareness of risks in healthcare practice. However, using incident reports to improve care is challenging and the study highlighted the complexities involved and the difficulties faced by staff in learning from incident data.

2.3 Regional efforts towards ensuring patient safety

According to Baker (2004), preventable harm to patients resulting from their healthcare is unacceptable at any time. Patient safety is first and foremost a clinical problem, but it is also an important cause of wasted resources. Keeping patients safe can also be viewed as a public health problem and a human rights issue (Baker, 2004). In Africa little is known and information is limited in scope about patient safety culture (Carpenter et al., 2010).

In 2015, a study was conducted in Ethiopia by Wami and colleagues to assess the level of patient safety culture and associated factors in Jimma zone Hospitals, southwest Ethiopia. In-depth interviews were conducted using semi structured interview guide to collect the qualitative data and content analysis was then performed. The study established that the overall level of patient safety culture was

low. Working hours, level of staffing, teamwork, communications openness, reporting an event and exchange of feedback about error were associated with patient safety culture. Therefore, interventions of systemic approach through facilitating opportunities for communication openness, cooperation and exchange of ideas between healthcare workers are needed to improve the level of patient safety culture (Wami et al., 2015).

The WHO World Alliance for Patient Safety in conjunction with the Ministries of Health of Egypt, Jordan, Kenya, Morocco, Tunisia, South Africa, Sudan, and Yemen and the WHO Eastern Mediterranean and African Regions (EMRO and AFRO) took up the challenge of estimating the extent of harm that was caused by healthcare in selected hospitals in these countries (WHO, 2009). The research project started in 2006 with two objectives. The primary goal was to assess the frequency, cause, and preventability of adverse events in hospital patients in the participating countries, all of which are either low income countries or countries in economic transition (WHO, 2010). They reviewed 15,548 records, and out of these, 8.2% showed at least one adverse event, with a range of 2.5% to 18.4% per country. Of these events, 83% were judged to be preventable, while about 30% were associated with death of the patient. About 34% of adverse events were from therapeutic errors in relatively non-complex clinical situations. Inadequate training and supervision of clinical staff or the failure to follow policies or protocols contributed to most events.

They realized that unsafe patient care represents a serious and considerable danger to patients in the hospitals that were studied, and hence should be a high priority public health problem.

The South African government has now gone a step further by including patient safety in their National Core Standards and it was one of their ministerial priorities for 2010/2015. Initiatives at least are being taken throughout their health sector in reducing the impact of incidents. Thus, in July 2015, South Africa's Department of Health issued a policy guideline on patient safety incidents that provides guidance on processes and systems for organizational reporting, management and investigation of incidents. Compliance with this Policy Directive is mandatory for all Health Professionals working in public Primary Health Care establishments and Hospitals in South Africa and that all hospitals, district offices, provincial offices and national

office must have a Patient Safety Committee (Health Department of South Africa, 2016).

2.4 Setbacks to effective reporting of patient safety incidents

Reporting incidents is widely recognized as an important method for improving safety in health care, and many countries have established their own systems of reporting incidents (Vincent, 2010). However, reporting systems, both local and national, are overwhelmed by the volume of reports and fall short in defining recommendations for improving health care safety as they collect too much and do too little (Macrae, 2016).

A research done by Malik and colleagues (2010) on the attitudes and perceived barriers towards incident reporting among tertiary care health professionals in Pakistan, found that, unlike consultants, registrars, medical officers and nurses (more than 95% are willing to report), only 20% of house officers will report the incident that happen through them. Sixty nine percent (69%) of doctors and 67% of nurses perceive ‘administration sanction’ as a common barrier to incident reporting. Sixty percent (60%) of doctors and 80% of nurses would prefer reporting to the head of the department. With these results, they concluded that by giving immunity from administrative sanction, providing prompt feedback and assurance that the incident reporting will be used to make changes in the system, there is considerable willingness of doctors and nurses to take time out of their busy schedules to submit reports.

Ente and colleagues (2010) found that 75% of African health care professionals believed that adverse events were mistakes made by individual practitioners leading to personal guilt, depression, and remorse. Fear of blame, prosecution, and even imprisonment for medical errors may impede the reporting of patient harm in African health care settings as in other countries (Barach and Small, 2002). This fear of reporting further complicates the ability to collect incident reports or obtain open and transparent information concerning suspected adverse events. Barach and Small (2002) further stated that in many developing African health care settings, medical records are not organized well or completed properly, leading to frustration, debate, and clinical misjudgments. In the same study (Ente et al., 2010), over 53% of survey participants reported frequent or occasional rates of medical errors in their health care

facilities. They concluded to say that any clinical setting that lacks reliable data to recreate the occurrence of medical errors and adverse events, which is critical in identifying the underlying problems and the potential solutions, is bound to face enormous and daunting challenges to improve patient safety.

Another study by Marius et al., (2012) was done in Denmark and looked at reasons for not reporting patient safety incidents using qualitative in-depth interviews. While most respondents were initially positive towards the idea of reporting and learning from patient safety incidents, they actually reported very few incidents. The major reasons for the low reporting rates were found to be a perceived lack of practical usefulness, issues of time and effort in a busy clinic with competing priorities, and considerations of appropriateness in relation to other professionals.

2.5 Measures towards improving reporting of patient safety incidents

Patient safety incidents cause suffering to the patients and their relatives, waste huge amounts of money, and are a cause of stress, anxiety and burnout in clinical staff. Improving safety is not a question of ‘trying harder’, but of learning from the mistakes themselves (Tim, 2015).

Incidents are not something in themselves; they are ‘symptoms’ of a larger problem. Instead of targeting the ‘symptoms’, it seems better in the long term to target the ‘causes of the disease’ (Macrae, 2016). That is to have the health care providers learn how to cope with the infinite variability of safety issues by learning how to analyze these and how to devise corrective actions that fit their local setting. Incident reporting systems should therefore lead to social and participative learning at the local level (Ian et al., 2017).

A study by Jee-In and colleagues (2012), was conducted in Korea and aimed at exploring the barriers to and factors facilitating the operation of patient safety incident reporting systems. In this study, participants suggested several measures to overcome these barriers and implement successful ways of reporting incidents. To facilitate staff reporting, including near misses, 16 (15.4%) participants proposed introducing a rewards system. However, participants who were working in hospitals where a rewards system was already in place, either at the individual or department levels,

pointed out that rewards should be given only on a case-by-case basis, because in cases where the incident is clearly the fault of an individual, positive rewards would be inappropriate. Regarding improvements to the reporting systems themselves, the assurance of anonymity and confidentiality when reporting incidents was considered important.

In addition, Teryl (2011) in his article suggests that future incident reporting systems should place a greater emphasis on multidisciplinary team care, including physician care, and involve physicians in reporting, to be most successful and effective at preventing adverse events. He further stated that another way to modernize reporting is to ensure that reports contain the necessary information that end users need to improve safety.

Other studies have offered similar suggestions for effective improvement in incident reporting. Data quality, timeliness and credibility, leadership, and persistence in data feedback processes need to be put into consideration as they are important factors. This is according to the recommendations by Bradley and colleagues (2004). Other measures that improve reporting include demonstrating the local usefulness of data, development of external reports, follow-up from incident reporting, root cause analysis, and executive leadership walkrounds (Kaplan and Fastma, 2003).

However, more work is required to gather conclusive evidence that such measures have an impact on the level and quality of reporting, existing safety culture, and ultimately patient safety.

2.6 Key Objectives of Incident Reporting System in Patient Safety

The WHO suggested that an incident reporting system refers to the processes and technology involved in the hazards and errors capture, standardization, formatting, communication, feedback, analysis, learning, response and dissemination of lessons learnt from reported events (WHO, 2005). The WHO has further outlined key components of an incident reporting as one that should consist of types of systems, process, classification and analysis. Types of systems refer to incident reporting system that seeks to address two aims: public accountability and learning for improvement; then processes, which refers to what, who and what to report;

classification refers to the taxonomy of events and risk matrix; and analysis involves identification, summaries, trends, correlations and causal analysis (WHO, 2005).

Despite the known and well-advertised strengths of the incident reporting systems, under-reporting remains a significant problem in some countries where incident reporting systems are available (Cullen et al., 1995). However, there may be deeper cultural issues acting as barriers to incident reporting. It can therefore be assumed that, the healthcare providers, especially those in direct contact with patients/clients working in hospitals will be familiar with these events, and would have come across and reported them (Thomas et al., 2000).

2.7 Summary of the chapter

This chapter has highlighted the benefits of reporting incidents in improving patient safety, regional efforts towards ensuring patient safety, setbacks to effective reporting of patient safety incidents, and measures towards improving reporting of patient safety incidents. The importance of reporting patient safety incidents has been prioritized by the WHO and it is thus, a requirement for Member States to have a system or a way of handling these incidents. However, there are few African Member States that have set up well established means or systems of reporting patient safety incidents.

2.8 RESEARCH QUESTION

What are the perceptions and practices of health care providers with regard to patient safety incident reporting and management?

2.9 OBJECTIVES

2.9.1 GENERAL OBJECTIVE

- To explore Health care providers' practices and perceptions on patient safety incident reporting and management in Lusaka district.

2.9.2 SPECIFIC OBJECTIVES

Specifically the study will be premised on the following objectives;

- To explore health care providers' awareness of patient safety
- To identify ways in which patient safety incidents are reported and managed in the health care system
- To establish health care providers' perspectives on patient safety incident reporting and management

CHAPTER THREE

METHODOLOGY

3.1 Study design

The research study was exploratory employing a qualitative case study design which is defined as a method of obtaining in-depth information on a person, group or phenomenon to provide descriptions of specific or rare cases as stated by Feagin and others (1991). Case studies are multi-perspectival analyses. This means that the researcher considers not just the voice and perspective of the actors, but also of the relevant groups of actors and the interaction between them.

3.2 Study Site and setting

The study was conducted in Lusaka district at two hospitals, that is, the University Teaching Hospitals (UTH) and at Chainama Hills Hospital (CHH). The University Teaching Hospitals comprise of five hospitals which make up the University Teaching group of Hospitals. Thus, the investigator selected study participants from all the five hospitals of the University Teaching group of hospitals. UTH was selected because it is the nation's largest provider of a full range of primary, secondary and tertiary health care services on an in-patient and out-patient basis in the country. In addition, it is a teaching centre for most colleges and universities such as the University of Zambia (UNZA) as well as a research centre of excellence. CHH was established in 1962 and was thus, chosen because it is the oldest and largest hospital specialized in providing mental or psychiatric services in the country.

3.3 Study population

The study population consisted of hospital managers and also frontline health care practitioners (Medical Doctors, Nurses and Clinical Officers) who are involved directly with patients and have served for at least a year as a health care provider.

3.4 Sampling strategy

The sample of the study was selected purposively. Purposive sampling was employed in that, it enabled the researcher to select participants who were able to provide the most meaningful and elaborate information on the study topic. This sampling

technique is also known as judgmental, selective or subjective sampling which relies on the researcher's own judgment when choosing members of population to participate in the study.

3.5 Selection criteria

3.5.1 Inclusion criteria

An inclusion criterion is the process of selecting participants who qualify to be in the study or conditions that must be met in order to participate in a study (Norman and Jennipher, 2007). The following was the inclusion criteria in this study:

- Frontline health care providers (Medical doctors, Nurses and Clinical officers) and hospital managers who had worked for at least a year at a facility
- Both male and female workers

3.5.2 Exclusion criteria

- Those who declined to be interviewed
- Health workers who never consented to participate

3.6 Sampling criteria

3.6.1 Strategy

The study participants were selected purposively using maximum variation sampling in which different types of respondents are sampled for variation in perspectives, attributes, behaviors, experiences, incidents, qualities, situations, and so forth, ranging from those respondents that are viewed to be typical through to those that are more extreme in nature. Therefore, the sample comprised of hospital managers, nurses, clinical officers and medical doctors who were selected from each hospital of the University Teaching Hospitals. This also applied to the sample selection for Chainama Hills Hospital; however, either a medical doctor or a clinical officer was selected. In situations where more than one eligible participant was available, the researcher would then purposively select a healthcare provider/manager who had served longest.

Furthermore, snowball sampling was also used where participants would recommend to the researcher other healthcare providers who were deemed also to have adequate knowledge pertaining to the subject of the study.

Table 3.1: Number of Interviewees and their categories

Profession	Number of Interviewees	Management responsibility	Number of interviewees
Nurses	10	Senior hospital management	3
Physicians	4	Heads of clinical care	5
Clinical officers	6	Matrons	4
Total	20	Total	13

3.7 Data collection

The data was collected using in-depth interviews with frontline health care practitioners and hospital managers. The interview tool was a semi-structured interview guide which had open-ended questions. In addition, a tape recorder was used to record the interviews with permission from the participants. In-depth interviews are optimal for collecting data on individuals' personal histories, perspectives, and experiences, particularly when sensitive topics are being explored (Gentles et al., 2015). Given that the research question was about exploring the perceptions and practices of healthcare providers with regard to patient safety incident reporting and management, in-depth interviews were thus used. During interviews with participants, recordings using a tape recorder and transcripts of handwritten notes were conducted by the researcher and research assistant. Consent from respondents was sought prior to data collection. In this vein, the purpose, nature, benefits and risks of the study were explained to them including how the findings would be utilized. Some of the risks were generally discomforts in disclosing their views pertaining to the reporting of patient safety incidents and also how they were managed. However, there was no direct benefits to the participants, but the findings from the study will stimulate further future studies and also add knowledge to the existing gap.

The information that was solicited included ways in which patient safety incidents are reported and management, and how feedback is relayed to the reporters pertaining to the reported incidents.

To ensure credibility and dependability, the interview guide was pretested on 10 healthcare providers at Levy Mwanawasa General Hospital which was not one of the study sites but similar in many aspects with the study sites.

3.8 Data Management and analysis

Data analysis was conducted using the following steps:

3.8.1 Transcribing

The researcher transcribed all the interviews to produce written text of the responses. Each question with the corresponding response from the interviews was written down and it involved bringing all of information-gathering approaches which are audio recordings and hand-written notes into one written form. This involved writing out each question and answer (verbatim) from the interviews using recordings (audiotapes) and notes.

3.8.2 Analysis

The data was exported into Nvivo (version 12) matrix first, and then thematic analysis was used to analyze the data. This analysis method was used because it is simple to use and allows for flexibility in the researchers choice of theoretical framework. In addition, through this flexibility, thematic analysis allows for rich, detailed and complex description of the data (Braun & Clarke, 2006).

Nvivo software was used for the following analytic procedures:

- Storing discussion transcripts
- Creating categories through computer-assisted coding
- Moving and linking data as higher order themes emerged
- Creating basic hierarchical models of codes

Using thematic analysis, the researcher studied important information and looked for themes, commonalities and patterns to try to make sense of the information given. Overall, the data analysis followed the following steps in accordance with Braun and Clarke's six simple steps

(Braun and Clarke, 2006);

1. Familiarization with the data through review, reading, listening etc.

This step involved firstly, transcribing the interactions and then reading (and re-reading) the transcripts and/or listening to the recordings. Initial ideas were noted down.

2. Generating initial codes

In this step, the researcher started identifying preliminary codes, which are the features of the data that appear interesting and meaningful.

3. Searching for themes

This was the interpretive analysis of the collated codes. Relevant data extracts were sorted by combining or splitting, according to overarching themes.

4. Reviewing themes

This step involved combining, refining, separating, or discarding initial themes. Data within themes should cohere together meaningfully, while there should be clear and identifiable distinctions between themes.

5. Defining and naming themes

This step involved 'refining and defining' the themes and potential subthemes within the data. The researcher provided theme names and clear working definitions that captured the essence of each theme in a concise manner.

6. Producing the report

Analysis was transformed into an interpretable piece of writing by using compelling extract examples that relate to the themes, research question and literature.

3.9 Ethical considerations

Approval to conduct this study was obtained from the University of Zambia Biomedical Research Ethics Committee (UNZABREC) and from the National Health Research Authority (NHRA). In addition, permission was also sought from the management of the University Teaching Hospitals (UTH) and of Chainama Hills Hospital (CHH).

The researcher took into account ethical issues that arose during the study. Some participants thought maybe the researcher was monitoring and evaluating their work performances and thus were not keen to participate in the study. However, the participants were informed that the study was not an audit. The objectives and aims of

undertaking this study were explained to them and that confidentiality was also assured.

3.9.1 Voluntary participation

It should be a participant's choice to take part in the research (Babbie et al., 2007). And thus, the researcher never forced or coerced any participant to be part of the study. This entailed the researcher providing the potential participants with the information sheets pertaining to the study before recruitment. In the event that a participant felt like not proceeding being part of the study, they were allowed to freely withdraw their participation at any time. In addition, participants who felt uncomfortable answering certain questions were also told to be free to choose not to answer such questions.

3.9.2 Informed consent

In order to obtain informed consent, the participants were made aware of any potential dangers, advantages, disadvantages, the study procedure, and the objective of it. The researcher provided the participants with detailed information on the research methods, possible outcomes, possible associated discomforts, and the fact that the study was for academic purposes. The researcher also ensured that participants consented based on the information provided regarding the research study. In addition, the participants were also informed of the estimated time that the interviews would take.

3.9.3 Ensuring no harm

According to Babbie et al. (2007), social research "should never injure the people being studied or participating, regardless of whether they volunteer to be part of the study or not." This signifies that the participant should be informed of the risks and that the researcher should try by all means to reduce harm as much as possible. In this study, some participants felt some discomfort in disclosing what they felt about the subject of this study, however, they were encouraged that their honest responses to the questions was very important for future studies and also informing policy.

3.9.4 Confidentiality and Anonymity

Anonymity and confidentiality were observed and maintained at all times in the processes of collection, capturing, and reporting of the information.

Babbie (2008, p. 71) states that a research “guarantees confidentiality when the researcher can identify a given person’s responses but promises not to do so publicly.”

The researcher explained to the participants how the data would be stored and that the data would be accessed only by the researcher and the supervisor involved in the research. De Vos et al., (2005) reported that confidentiality requirements in research probe the researcher to take responsibility and extra guard of the information that he is furnished with. In this vain, the researcher withheld names of the respondents in the findings and that the data had no bearing to individual respondents. This was done both during data collection and write up of the research report. Instead of using names, the researcher used participant codes to maintain confidentiality.

4.0 Dissemination Plan

The obtained information would be disseminated through the University of Zambia accredited Journals and also to international peer reviewed journals. The findings would also be availed to the Ministry of Health. In addition, the two hospitals would also be notified of the findings for possible improvements on patient safety incident reporting and management.

4.1 Plan for Disposal of Research Materials

All research materials that contained participants’ responses will be destroyed after seven years in line with ethical approval standards. All voice recordings were deleted immediately after completion of transcription.

CHAPTER FOUR
FINDINGS OF THE STUDY

4.1 PARTICIPANTS

The participants were 33 healthcare practitioners; 19 at the University Teaching Hospitals (UTH) and 14 at Chainama Hills Hospital which is a mental hospital. They included medical doctors, clinical officers, nurses and managers. At UTH, 22% were doctors, 75% were nurses and 3% were hospital managers. At Chainama Hills Hospital, 3% were doctors, 10% were clinical officers, 82% were nurses and 5% were hospital managers.

Table 4.1 below shows a summary of the key codes, themes and categories that were identified during the interviews.

Table 4.1: Summary of findings

MAJOR THEMES	SUB-THEMES (CATEGORIES)
Awareness on patient safety	<ul style="list-style-type: none"> • Clinical care and safety • Patient safety messages disseminated through meetings
Incident reporting process	<ul style="list-style-type: none"> • Verbal reporting • Paper-based system
Management of reported incidents	<ul style="list-style-type: none"> • Investigation process • Implementation of changes • Feedback to staff
Challenges and concerns related to patient safety	<p>Health worker-related concerns</p> <ul style="list-style-type: none"> • Under-reporting by health workers • Under-staffing • Poor accountability <p>Institutional-related challenges</p> <ul style="list-style-type: none"> • Infrastructure inadequacies and equipment • Bed capacity inadequacy & Overcrowding • Inadequate policy guidelines • Lack of standardized reporting system

4.2 AWARENESS ON PATIENT SAFETY

4.2.1 Clinical care and safety

Some of the health workers interviewed said that the patients receiving clinical care need to be free of hazards whenever they are admitted. They reported that patients have the right to be nursed in an environment that provides safety for them with minimum to no harm. One of the participants at Chainama Hills hospital said the following;

“We make sure that there are no pieces of broken bottles like glasses. Yah, we don’t have any cables hanging around, because that can be a weapon. We make sure that the environment does not have metal bars lying around because that is also a weapon to both fellow patients and staff. So and of course we don’t leave chemicals anyhow unattended to. We don’t leave our drug rooms open because we nurse patients who are suicidal.” (IDI 4)

A Head of Clinical Care at one of the University Teaching Hospitals also shared similar views about patient safety awareness as follows:

“Well, safety is paramount and it’s our core business to ensure that patients are safe. Because patients come for the treatment of their ailments using whatever means we have, but safety is a compound of that treatment care. Because we do not want them go home with other injuries or complications as a result of poor safety measures (IDI 16).

4.2.2 Patient safety messages disseminated through meetings

One of the issues that respondents brought out was that they sometimes held meetings on patient management with messages on patient safety such as how to transfer an unconscious patient from one ward to the other. They said that they usually conducted or held clinical meetings where they outline some patient safety issues to members of staff sometimes.

“So when it comes to awareness campaign, I can say that we have continuous education or health clinical meetings every Thursdays, and the reason is to

reorient staff on patient care and that's one way. And then we have meetings where staff members present to fellow staff on how some things or procedures such as patient transfers can best be done appropriately to minimize harm to the patients.” (IDI 26)

4.3 INCIDENT REPORTING PROCESS

4.3.1 Verbal reporting

Errors were being reported differently across departments and hospitals with no standardized way of doing it. One of the ways of reporting the participants was that ‘verbal reporting’. Participants said that most of the reporting of patient safety incidents was done by word of mouth which entails a health worker reporting to his/her supervisor verbally.

“We just sometimes communicate verbally like for me if I am confronted that you were on duty and this drug seems like it was not administered. This is because we have too many things to do at once and we can't manage reporting everything by writing down.” (IDI 05)

They, however, said that it was important to report patient incidents in written form than verbally as this would act as a way of reference for future incident occurrences for the purposes of learning from them.

“However, I can say that as health workers we are too busy to document any incident that happens, and so we rarely put it in written.” (IDI 30)

“..I would say rarely in written but mainly it is done verbally. And you see, verbal reporting is not even professional because it needs to be written and documented for future references so that if the same incident happens, you can simply refer to the well documented (written) incident for learning purposes too.” (IDI 21)

4.3.2 Paper-based system

The other way of reporting incidents that came up from the respondents was that of writing them down in books (incident books), which was especially done by the

nurses and reporting incidents using checklists. Usually if the reported incident was recoverable, then a supervisor would try to find means and ways of recovering it.

“Sometimes there are some incidents that we just write down in an incident book and then you tell your supervisor that there is this incident and then find means and ways of rectifying it”. (IDI 18)

“So we have incident books as Nurses where we record incidents especially what I can call “environmentally-caused” incidents such as patient falls, even though we still don’t record each and every incident that happens. (IDI 14)

“we just write incidents in an incident book and then you tell your supervisor that there is this incident and then find means and ways of rectifying it. Just right there and then when you find out as a supervisor you should find a way of, if it is recoverable you try to find what you can do to recover it”. (IDI 23)

4.4 MANAGEMENT OF REPORTED INCIDENTS

4.4.1 Investigation process

When an incident had occurred and had been reported by a nurse or a clinician to their supervisor, the supervisor would then personally review and assess/investigate what really led to the occurrence of the incidence. Sometimes, if an incident that had been reported was perceived to be complicated, a meeting would be called upon to discuss it and clinicians would then assess if there was any injury or caused any complications to the patient’s condition. However, some respondents said they did not receive adequate information about incidents and did not know how the investigation process was done.

“We would call up a meeting, say when they report that an environmental incident has happened such as a patient has fallen and it is written. So the clinicians would be called to assess if there is an injury or cut and it will be documented and the person who has reported will see that something is being done”. (IDI 26)

Another respondent added that;

“I think for our health system in Zambia, we are more reactive than proactive, not until something big happens that is when we can decide to do something about it. Unless let’s say, someone wants to follow it up that’s when you try to get concerned about what really happened to the patient”. (IDI 17)

4.4.2 Implementation of changes

The next step after the incident investigation process is that of implementing the recommendations. In both hospitals, the participants described that sometimes error rectification and implementation of recommendations was done almost immediately and at times longer than necessary after an incident happened because of lack of proper and consistent guidelines about how to manage incidents. And this was done especially after consulting the senior fellow health workers who could be even supervisors at times.

“...we are guided as things happen, of course through consulting from your senior as and when a particular incident happens and then you are guided just like that. This is so because we lack proper and clear guidelines.” (IDI 23)

In addition, because the implementation of recommended changes took a long time to happen participants said that this actually made it difficult for them to track and trace the recommendations concerning the reported incident. This is because they would have long forgotten about the incident.

“We also have concerns regarding recommendations which are not SMART [specific, measurable, achievable, realistic and timely]. They take very long to be implemented sometimes even a year and therefore very hard to actually track and trace...” (IDI 28)

4.4.3 Feedback to staff

One of the issues and concerns that emerged was that of the feedback system used. Participants described their experiences with feedback as one that was rarely given to the reporter, and if it was given, it would have taken a very long time after an incident was reported. They suggested that the healthcare system needed to have a feedback

loop that responds to incidents rapidly with action-oriented mechanisms to recover from the incident, to put in immediate remedial and preventive measures to the affected services with the participation of the reporter.

“So for the feedback, I think we don’t have also a system or a channel of giving feedback to the healthcare provider who has reported. Because even the way the forms have been designed and all especially for the absconders we don’t get any feedback. (IDI 21)

“It is not always that you receive feedback. Sometimes you would receive feedback and the way forward, and sometimes no feedback at all. So you will just forget and continue with your life. So those few times I would receive feedback means that you would have followed it up yourself.” (IDI 13)

Another respondent said that;

“..From my own observations, the feedback system is also not effective. We need something that can enhance the feedback process. The few incidents that I have witnessed being reported I haven’t seen any quick response about them from the people who have been reported to.” (IDI 09)

4.5 CHALLENGES AND CONCERNS RELATED TO PATIENT SAFETY

In the following sections, themes concerning the challenges faced by staff in relation to effective maintenance and observance of safety measures towards patient management are presented.

4.5.1 Health worker-related concerns

4.5.1.1 Underreporting

The participants also highlighted a concern that most incidents or errors committed by them were going unreported or rarely reported and they felt that something should be done about it for the sake of the safety of patients.

“Errors (incidents) of such nature where by a health worker commits them are rarely or just not reported. They just get reported only if someone else has seen them committing or maybe when a patient’s condition complicates”. (IDI 27)

“..Unfortunately our minds are oriented to reporting incidents only to situations maybe a patient fought with a fellow patient, or maybe thieves broke into the ward or a patient fall. Otherwise, errors (incidents) of such nature where by a health worker commits them are rarely or just not reported” (IDI 12).

They further stated that despite statistics or figures about the frequency of incidents occurring in health facilities not available, the number of incidents being committed by health workers could be high.

“.....I think they are usually common and frequent especially us who will be trying to inject a violent patient. But I think they are not reported as people just somehow escape without letting the authority know that something bad happened to the patient or the patient complaining about it. I cannot give any percentage or figure because there are no records as they rarely report errors committed by them.” (IDI 2)

4.5.1.2 Staff shortages and reporting

Most of the participants often reported and emphasized the impact on patient safety of staff shortages, which they linked to national shortages of trained personnel. Specifically, they highlighted that patient safety incident risks increased during busy or emergency periods, night shifts (when staffing levels were even lower), or when staff had to work additional or extra-long shifts (e.g. working the day shift following a night shift).

“We need if I am not mistaken, a ratio of 5 patients to 1 nurse, but unfortunately sometimes we just have maybe 3 or 2 nurses against maybe, at some point we are even having 75 to 100 patients. So it is not that safety issues are not being addressed, it is only because we are having issues with staffing as well as resources to implement some of the safety measures. This actually makes it challenging to ensure the safety of patients on our wards”. (IDI 14)

Another health worker at the University Teaching Hospitals (UTH) also added to say that;

“....so it is very difficult for that one nurse to be able to be in all the places at the same time. So you will find that it is not their wish that they don't handle the patients according to the standards, but they are just overwhelmed because it is not just one thing they are supposed to do but there are so many tasks that they have to perform and they just get overwhelmed sometimes.”
(IDI 18)

4.5.1.3 Poor accountability

The other challenge which was brought out was the issue of balancing between being blamed for reporting and the feeling of responsibility. Some respondents said that they don't feel the need of reporting or rather were scared or reluctant to report incidents as they perceived the existence of a blame culture that they related to low levels of reporting. They further stated that low levels of reporting were due to them being afraid of being punished such as being fired, suspended or merely just being reprimanded. In both hospitals, respondents said that balancing the need for accountability and a no blame culture was necessary but sometimes challenging.

“...There is always that feeling that you will be blamed and even being punished if you report an incident. However, we still have to report as this is still a responsibility as well of all the members of staff because there are some incidents which cannot be predicted and others are predictable to an extent there maybe some negligence. But balancing the two has always been a challenge.” (IDI 11)

4.5.2 Institutional-related challenges

4.5.2.1 Bed capacity inadequacy and Overcrowding of patients

Inadequacy of bed capacity was said to be a very big concern that makes it challenging to maintain some safety measures of patients. The participants said that the wards were at times overcrowded with patients so much that they improvised beds by laying mattresses on the floor, a situation they thought was very unfortunate and compromised the recovery of patients.

“The wards are rapidly getting full each day and the bed capacity of the wards is not being increased. You will find that some patients will be put on

the floor, of course on a mattress, because of inadequacy of beds as you have observed yourself. In addition, even the same patients who would be on beds will be too close to each with a small space separating the beds.” (IDI 15)

4.5.2.2 Infrastructural inadequacies and equipment

In this study, almost all of the respondents stated how the material and physical context greatly affected their ability to provide and deliver safe care to patients. They described how the condition of some hospital departments was so poor in terms of poor lighting, broken windows, inappropriate building design, difficulty in controlling traffic of patients’ visitors and malfunctioned electrical sockets.

“we have patients absconding from the wards because the structure, the way the hospital is designed, I think the buildings are not that ideal. Firstly, the material that was used is ordinary material which is not ideal for a psychiatric hospital.” (IDI 01)

“you see, our dormitories are not lockable for the patients and also there are some broken windows that need to be repaired which the authorities have failed to repair.” (IDI 22)

“In the hospital, we are supposed to have beds which have rails, so much that it helps even the people who procured the equipment to know that in the hospital, because someone can change their condition at any time, we have to have beds that can be railed and we can bring the rails down.” (IDI 19)

4.5.2.3 Inadequate policy guidelines

Frontline health workers including managers such as heads of clinical care (HCC) said that policy guidelines on patient safety were not available and added that they were an urgent need that the government needed to look into. Some of the health workers’ unions and councils such as the General Nursing Council (GNC) also called upon the relevant ministry to come up with stringent policy guidelines on patient safety.

“..the written guidelines as per display, we haven’t displayed those guidelines but it is something as a nation we should be thinking about to write up so that

the patients can also know. Currently, what we have are just the patients' rights.” (IDI 11)

“Communication is the backbone of life, so we are told the channels of communication that whenever there is something happening on the ground it has to be channeled horizontally or vertically whichever. So it depends, otherwise at nursing school we are told to be reporting and also here at work but there is nothing that is written down in black and white that this is the guideline on how to go about incidents.” (IDI 14)

4.5.2.4 Lack of standardized reporting system

There was a variation in the way incidents were reported across different departments in the two hospitals. Respondents highlighted the challenge they faced in maintaining patient safety which they attributed to a lack of standardized reporting system for all the health professions. They further stated that if patient safety was to be enhanced, a way (system) of reporting that did not blame or criticize the reporter was appropriate in the healthcare system.

“Well like I said it is not adequate, otherwise there is no real or good system which I think should be worked on. So the system is poor as it is not structured and so I am sure we are missing out a lot of things in our practice as health workers. We need policies that will help shape the reporting system in our health facilities.” (IDI 06)

“We get away with so many things, and just maybe because the people are poor, they don't know their rights, or they don't understand the system, of which it is not right. In my view, we need to have a system in place for us as healthcare providers in my view without any doubts for all the health professions.” (IDI 12)

“..It should be able to protect the worker who has reported and not punishing them. If anything goes wrong, I think the blame should be on the system and not the person who has reported and maybe try to find ways of improving it.” (IDI 17)

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.1 Health care providers' awareness on Patient Safety

The results of the current study indicate that health care providers are very much aware that patient safety is a priority in the day to day service delivery of health care to health care seekers. This implies that despite some incidents going unreported (under-reported), health workers are fully aware that they need to maintain safety of patients as they receive clinical care at all times. Health workers' understanding and awareness about patient safety is advocated for by several organizations worldwide including the World Health Organization (WHO). According to the World Health Organization (WHO, 2014), voluntary reporting by health care providers depends on their awareness, but because many health institutions in developing countries including Zambia, are yet to develop standardized reporting systems across their health systems, many incidents remain frequently under-reported, if not unreported.

Hotton et al., (2014) in their study conducted in England, stated that traditionally medical education has focused on morbidity and mortality reviews to promote learning around how care could be improved. However, these meetings are frequently only attended by doctors and focus on individual performance and not system improvement; the lessons learnt remain within the medical team and not shared with the whole hospital system where they could promote system-wide learning and identification of those system issues that might compromise safety. In contrast, the current study shows that medical education including morbidity and mortality reviews to promote learning are attending by different health care professionals involved in clinical care service delivery.

5.2 Incident reporting process

In the current study, it was interesting to learn that the two hospitals where the study was conducted were reporting incidents verbally and at times reporting by writing them down in incident books and checklists. It must be mentioned that incident books are only used to report incidents by nurses and not doctors, clinical officers and hospital managers. In this study, some managers and clinicians even wondered why

nurses report errors (incidents) in incident books. However, they added to say that maybe it was how they were trained at nursing school. This implies that only a few number of health care providers, in this case, nurses, report/document incidents which occur to patients receiving clinical care.

According to Barach and Small (2002), incident reporting is well accepted in safety critical industries such as aviation, as a method for improving safety, and is now well established in healthcare systems in many developed countries. For example, in the United Kingdom (UK), hospital incident reporting is a component of individual hospital risk governance processes and a key requirement for National Health Service (NHS) organizations (Rooksby, 2007).

Studies conducted in other countries on incident reporting show consistency with the results of the current study. According to a study by Hewitt et al., (2016) conducted in Belgium, they stated that historically, incident reporting was on paper, done exclusively by nurses, and was seen as punitive. The fact that it was a paper-based system tended to restrict its use to nurses. Some participants in their study stated that the whole sort of paper incident report used to be largely just nursing generated. These findings from their study could be one of the possible explanations as to why the paper-based incident reporting system was predominantly utilized by nurses at the two settings where the current study was conducted.

Another study by Anderson et al., (2013) conducted in two large teaching hospitals in London found similar results. One of them was providing acute healthcare and the other one offering mental healthcare. They found that both hospitals had an electronic reporting system as the main way of reporting incidents. However, the mental health hospital also operated a parallel paper-based system.

Despite their high frequency rates, the reporting of patient safety incidents in the clinical care practice is usually done in an informal manner (Barach and Small, 2002). Implying that incidents are reported and discussed verbally at morbidity and mortality review meetings. It can be concluded that without formal written/electronic reports, patient safety improvement opportunities will be very limited (Claudia et al., 2002).

5.3 Management of reported incidents

5.3.1 Investigation process

Investigation of a clinical incident is an important component of an effective incident management system and should be done timely and promptly. According to WHO (2009), incident reports must be promptly analyzed, and recommendations must be disseminated to those who need to know, especially when serious hazards are identified. Health care providers said they did not receive adequate information about incidents and did not know how the investigation process was done.

At the two study settings of the current study, when an incident has occurred and has been reported by a nurse or a clinician, the supervisor would personally review and assess/investigate what really led to the occurrence of the incident. Then for some other incidents, if they have been reported and perceived to be complicated, a meeting would be called upon to discuss them and clinicians would then assess if there is any injury or caused any complications to the patient's condition. However, some respondents said they did not receive adequate information about incidents and did not know how the investigation process was done. They are not formally involved in the incident review process done by their supervisors after reporting an incident. Thus, they generally receive little information about incident reports and related outcomes, and this has been highlighted as a weakness by many respondents in both hospitals.

Being engaged in analyzing and investigating incidents can serve as a catalyst for changing the way health care providers think about incidents and increase their vigilance. Health care providers will only learn to avert patient safety incidents once they properly analyze their own incidents (Anderson et al., 2013).

5.3.2 Risk mitigation and feedback to staff

Priority should be given to any actions that can be undertaken immediately to address the risk of an incident recurring, when it is reported or identified. For example, if a guideline was found to have been misleading or confusing for a health worker leading to an error (incident), the guideline and the health worker's interpretation of it should

be reviewed immediately. In this case, changes to the guideline or training for the nurse would be implemented appropriately, thus reducing the risk of recurrence.

Feedback to those who are reporting is one of the most important tasks. For a health worker who is reporting incidents to feel encouraged and motivated and to feel the need of reporting future incidents, he/she be kept informed of action taken about the reported incident aimed at preventing its recurrence. The current study indicates that health workers who would report an incident rarely received any feedback about the way forward for the most part. Sometimes a reporter would receive feedback (recommendations) almost immediately, especially for incidents that are not complicated. However, for complicated incidents, feedback in form of recommendations to avert the recurrence of the incident usually takes long and sometimes no recommendations at all.

Hewitt et al., (2016) in their study conducted in Belgium found similar results in that, some of the health workers who would report an incident did not know what happened to the reports they wrote. Other respondents stated that they had a vague idea of the review that happened in that, they did not know whoever else the report went to and just guessed that perhaps it went to researchers.

It is important that feedback from reported incidents is effective in healthcare systems if organizations are to learn from failures in the delivery of health care. Organizational learning has been also shown to be positively associated with the implementation success of improvement projects in hospitals (Tucker, Nembhard and Edmondson, 2007). In addition, effective organizational communication feedback systems that promote learning can promote the development of a positive safety culture within organizations (Benn et al., 2009).

5.5 Challenges and concerns related to patient safety

5.5.1 Healthcare providers' concerns

5.5.1.1 Under-reporting and Staffing levels

Almost all health care providers have committed medical errors but they generally don't tell patients or families and also their colleagues about these errors because

disclosing errors to other people is never easy and hence, they are generally under-reported (Hobgood, 2004).

The current study has revealed that most incidents (PSI) or errors committed by clinicians and nurses go unreported or rarely reported. Nevertheless, the frequently reported incidents are that which are caused by other factors other than themselves, such as patient falls, abscondment, patient fight, among others. In addition, despite statistics or figures about the frequency of incidents occurring in health facilities not being complete and readily available, the number of incidents (errors) being committed by health workers could be. This can be attributed to lack of a standardized reporting and learning system of incidents in the health care system and a blame culture among other factors. Hewitt et al., (2016) in their study conducted in Belgium, found similar results in that, nurses and clinicians stated that they were more willing to report incidents such as patient falls and medication errors which they referred to as incidents that were easily realized.

According to the Health Department of South Africa (2016), most Patient Safety Incident Management Systems rely on detecting patient safety incidents through reporting by health professionals even though only a small number of PSIs are reported in this manner. Health researchers have established that only 10 to 20 percent of errors are ever reported and, of those, 90 to 95 percent cause no harm to patients. Therefore, information on PSIs are scanty in most establishments (Griffin and Resar, 2009). The reasons for under-reporting vary, hence the need for seeking alternative options of detecting PSIs. A non-blaming culture philosophy should be developed within health establishments to enable a conducive environment to report PSIs.

It should be noted that hospitals that report large numbers of incidents are viewed as having an effective safety culture. However, it is also recognized that only a relatively small percentage of incidents that occur are actually reported, and crucially those incidents where harm did not occur but where learning could be significant to prevent future harm (“near misses”) are not reported (Lawton, 2002). Error reporting helps to understand why errors occur, to prioritize opportunities for error prevention and to generate long term improvement in patient safety (Claudia et al., 2002).

The importance of adequate staffing in achieving quality patient care was a principal finding in the landmark report of the Institute of Medicine (IoM) Committee on the adequacy of staffing in hospitals and nursing homes (American Nurses Association, 2013). It is a well known fact that if patient safety is to be maintained and sustained, adequate staffing levels of health care providers become one of the factors to be considered as a priority in health care settings.

The current study indicates that there are considerable inadequate levels of staffing in the two settings where the study was conducted which makes it challenging for patient safety measures to be maintained. A health care facility can have safety measures put in place aimed at ensuring the safety of patients receiving clinical care. However, if there are inadequate staffing levels as well as resources to implement these safety measures then that would make it challenging to ensure the safety of patients.

A study done by Bird (2013) which was published in the Journal of the American Medical Association (JAMA) found that nurse under-staffing in neonatal intensive care units (NICU) leads to higher infection rates among very low-birth-weight babies.

5.5.1.2 Balance between blame and feeling responsible

The current study also indicates the commonly observed phenomenon that the incidents which were immediate, and often witnessed (e.g. patient falls, medical equipment failures) are better reported than the incidents which are gradual in development and also those that are caused by health workers themselves. And this was mainly due to a perceived culture of blame. These findings are consistent with a study by Kingston et al., (2004) who found that health care practitioners' concerns were predominantly over issues of blame and punishment (e.g. job insecurity and threats to future employment).

O'connor and colleagues (2010) conducted a systematic review of the literature on disclosure of patient safety incidents by both the patients and the health workers from different articles. Their findings were that both patients and health care professionals support the disclosure of adverse events to patients and their families. However, despite the support by health care professionals, they had their barriers or factors that hinder them from reporting (disclosing) incidents such as concerns over increased

litigation costs, lack of institutional support and fear of loss of reputation or damage to career progression among other reasons.

Hewitt et al., (2016) however, in their study, found that respondents were more of the view that reporting incidents was non-punitive, and that the intent was to learn from reported errors (incidents). In addition to that, the respondents suggested that medical errors in clinical practice don't favor their career, but reporting incidents should still be prioritized so that recurrence of similar incidents can be prevented in whatever way possible.

We can deduce from the findings of the current study that despite the healthcare providers being aware of maintaining patient safety, they are not very much willing to report incidents mainly for fear of being blamed which often leads to other consequences such as medico-legal litigations and loss of employment. The general understanding pertaining to the culture of blame is the belief that punitive action sends a strong message to others that errors are unacceptable and that those who commit them will be punished. However, this in turn brings in negative perceptions that the offender somehow chose to commit the error in some way, rather than them following the correct prescribed procedures.

One of the biggest challenges in changing the patient safety attitude (culture) among health workers and moving towards a safe health care system is a change from blaming people for errors to one in which errors are taken as opportunity to improve the system and prevent harm to patient. In recent years, the focus in thinking about incidents has shifted from the person approach (that is, blaming individuals for incidents) to the systems approach. To the contrary, using a systems approach to errors and failures in the system does not mean that systems thinking implies a "blame-free" culture. In all cultures, individual health professionals are required to be accountable for their actions and to maintain competence and practice ethically (Walton, 2004).

5.5.2 Organizational-related challenges

5.5.2.1 Policy guidelines and reporting systems

Policy guidelines on patient safety incident reporting and learning systems are a need in any healthcare system. Some healthcare providers and managers have a strong belief that an effective reporting system is the pillar that anchors safe practice and, within a hospital or other health-care organization, a measure of progress towards achieving a safety culture. Cooper et al., (2018) stated that, it can almost be assumed that such systems would facilitate both the identification of systemic weaknesses that contribute to errors in health care and the learning necessary to prevent such errors recurring. However, in contrast to some other high-risk institutions, where learning from accidents, mistakes and system failures appear to have led to major improvements in safety, little evidence exists that such systems have led to general reductions in the incidence or severity of patient-safety incidents (Macrae, 2016).

In the current study however, the two hospitals had no clear incident reporting and learning systems, and patient safety policy guidelines that state/indicate how incidents should be reported and managed. This entails that there is little learning from errors that is taking place and that patients are being subjected to unnecessary harm whilst receiving clinical care. In developing countries, the burden of unsafe care is unclear due to inappropriate infrastructure, insufficient human resources and poorly developed incident reporting systems (Nabilou, 2015). In addition, although several studies have demonstrated that specific interventions in the clinical care orders and processes might reduce the risk of incidents, many hospitals have no systems for recording incidents which are thus under-reported across health care organizations (Kaushel et al., 2001).

5.5.2.2 Physical environment, equipment and Overcrowding of patients

Inadequacy of bed capacity among others, is a very big concern that makes it challenging to maintain some safety measures of patients. The current study has indicated that the hospital wards are usually overcrowded with patients so much that they improvise the beds by laying the mattresses on the floor. Bed inadequacies together with increasing rates of patient admissions, is the main reason of overcrowding in the hospitals, a situation which increases the risk of incidents and

compromises the recovery of patients. For example, a study by Khorram-Manesh et al., (2009) found that there were an increasing number of hospital-related incidents mainly caused by emergency department's over-crowdings, the lack of beds and technical problems in most departments. These incidents resulted in ambulance diversions and reduced the pre-hospital capacity as well as endangering the safety of patients. Like in many other parts of the world, reduction of hospital beds and corresponding staff in combination with increasing number of out-patient treatments and coordination of activities between nearby located hospitals, have been some of the solutions to handle the economical constrain on the health care system .

CHAPTER SIX

CONCLUSION, RECOMMENDATIONS & LIMITATIONS

6.1 CONCLUSION

The World Health Assembly (WHA) in 2002 recommended to its member states to take action aimed at reducing the scale of preventable harm and deaths arising from unsafe healthcare. Almost immediately, several healthcare systems around the world responded to this call, especially developed countries. However, at the sites where the study was conducted, there are inadequate policy guidelines, a situation which makes health care providers to be reluctant to pay the greatest attention to patient safety. The current study suggests that the reporting and management of patient safety incidents (PSIs) can be improved by formulating stringent policy guidelines and supporting healthcare providers on how best reporting of incidents can be done. The findings of the current study further indicate that increased openness and honesty by healthcare providers following an incident can help minimize future occurrences of similar incidents by learning from the past incidents.

Furthermore, health care practitioners are aware that patient safety should be a priority in the health care systems. However, there is underreporting of incidents (errors) which is attributed to a number of different challenges such as the existence of blame culture, lack of standardized reporting system and understaffing. This entails that there is less learning taking place among health workers. Therefore, for learning & implementation of best practice to take place, there is need of eliminating these challenges that exist. Otherwise, with the current trend, patient safety incidents (PSIs) will continue harming patients receiving clinical care as long as these barriers exist.

6.2 RECOMMENDATIONS

- ❖ In as much as patients have the right to appropriate treatment, there are no standardized guidelines laid out on how incidents harming (near-misses inclusive) patients are to be reported once they occur. To this effect, government through the Ministry of Health (MoH) should consider formulating guidelines related to reporting of incidents concerning healthcare delivery by frontline healthcare providers and managers.

- ❖ It should also alert the policy makers that once policies relating to patient safety incident reporting and management are formulated, establishment of incident reporting systems either at national level or institutional level would then follow. There should be a standardized system of reporting incidents that does not criticize or punish the reporter but find means of preventing such from reoccurring for the purposes of learning.
- ❖ There is need for future research studies to look into how patient safety incidents are reported by other healthcare professions such as Physiotherapists, Pharmacists and Laboratory scientists among others. In addition, future studies should also be carried out among policy formulators such as the Ministry of Health (MoH) as the current study was conducted among policy implementers.

6.3 LIMITATIONS

- It is possible that the findings of the study may not be representative of health workers other than the ones recruited in the current study and other healthcare institutions in general. It is thus, imperative to conduct similar studies in other settings for comparability of research findings
- The findings in this study cannot be generalized to other healthcare organizations because the study was conducted at two large hospitals of the country with one offering mental health and the other offering acute health care. with a small sample of respondents drawn from one district in Lusaka
- Seeing that data was collected through interviews, most respondents were not free to express their views about the topic. The respondents were fearful of how an interviewer might perceive them after the interview. In order to overcome this challenge, follow up and probing questions were asked after respondents gave their initial responses. In some instances, the questions were paraphrased for the respondents.
- The study did not include the policy makers/formulators from the Ministry of Health (MoH), and as such, it could be possible that policies related to

incident reporting that carters across all different frontline health care professions have been formulated.

REFERENCES

American Nurses Association [ANA], (2013). Safe Staffing Saves Lives: ANA's National Campaign to Solve the Nurse Staffing Crisis. [online] retrieved from <http://www.safestaffingsaveslives.org/> [14th April 2018]

Anderson, R., Janet, E., Kodate, N., Walters, R., and Dodds, A. (2013) 'Can incident reporting improve safety? Healthcare practitioners' views of the effectiveness of incident reporting.' *International Journal for Quality in Health Care* 25(2), 141-150.

Aveling, E., Kayonga, Y., Nega, A. and Woods, M. (2015) 'Globalization and health,' *biomedical central health services research* 11(4), 6

Baker, G. R., Norton, P. G., Flintoft, V., Blais, R., Brown, A., Cox, J., Etchells, E., Ghali, W. A., Hébert, P., Majumdar, S. R., O'Beirne, M., Palacios-Derflingher, L., Reid, R. J., Sheps, S., Tamblyn, R. (2004). The Canadian Adverse Events Study: the incidence of adverse events among hospital patients in Canada. *Canadian Medical Association Journal*, 170 (11), 1678

Babbie, E. R. (2008). *The Practice of Social Research*. Belmont, California: Wordsworth

Babbie, E., Mouton, J., Voster, P. and Prozesky, B. (2007). *The Practice of Social Research* (7th edition). South Africa: Oxford University Press Ltd.

Barach, P., and Small, S. D. (2002). Reporting and preventing medical mishaps: lessons from non-medical near miss reporting systems. *British Medical Journal*, 3(20), 759-763.

Benn, J., Koutantji, M., and Wallace, L. (2009). Feedback from incident reporting: information and action to improve patient safety. *Quality Safe Health Care*, 18, 11-21

Bird, J. (2013). Survey: Nurse understaffing, fatigue threatens patient safety. [online] retrieved from <http://www.fiercehealthcare.com/story/survey-nurse-understaffing-fatigue-threatens-patient-safety/2013-03-21> [20th July 2018]

Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal*, 9(2), 27-40

Bradley, E., Holmboe, S., Mattera, J. (2004). Data feedback efforts in quality improvement: lessons learned from US hospitals. *Quality Safe Health Care* 13, 26–31

Braun, V., and Clarke, V. (2006). ‘Using thematic analysis in psychology’. *Qualitative Research in Psychology*, 3 (2), 83

Brennan, T. A., Hebert, L. E., Laird, N. M., Lawthers, A., Thorpe, K. E., Leape, L. L., Localio, A. R., Lipsitz, S. R., Newhouse, J. P., Weiler, P. C. (1991). Hospital characteristics associated with adverse events and substandard care. *The Journal of the American Medical Association* 265(24), 5 - 9

Carpenter, K. B., Duevel, M. A., Lee, P.W., Wu, A.W., Bates, D.W., Runciman, W. B., Baker, G.R., Larizgoitia I., Weeks, W. B. (2010). Measures of patient safety in developing and emerging countries: *a review of the literature* 42 (24), 30 – 32

Claudia L., Sharon B., De V., Merrell D. and Gail M. (2002). Perceived barriers to medical-error reporting: an exploratory investigation. *Journal of Health Care Management*, 47 (4)

Cooper, J., Williams, H., Hibbert, P. and Edwards, A. (2018). Classification of patient-safety incidents in primary care. *Bulletin of the World Health Organisation*, 96(7)

Council for Health Service Accreditation of Southern Africa (2017). Safe care launched to raise standard of healthcare in Africa. [Online] available at <http://www.cohsasa.co.za/safecare-launched-to-raise-basic-standard-of-healthcare-in-africa> [30 January 2017]

Cullen, D. J., Bates, D. W., Small, S. D., Cooper, J. B., Nemeskal, A. R., Leape, L. L. (1995). The incident reporting system does not detect adverse drug events: a problem for quality improvement. *Joint Commission Journal on Quality Improvement*, 21 (26), 541

Dankelman, J., and Grimbergen, C. A. (2005). Systems approach to reduce errors in surgery. *Surgical Endoscopy* 19 (20), 1017

Department of Health (2002). Building a Safer NHS for Patients: Implementing an Organization with a Memory. London: *Department Of Health*

De Vos, A. S., Strydom, H., Fouche, C. B., and Delport, C. S. (2005). Research at grassroots: for the social sciences and human professions. (3rd ed). Pretoria: Van Schaik Publishers

El-Jardali, F., Dimassi, H., Jamal, D., Jaafar, M., and Hemadeh, N. (2011) ‘Predictors and outcomes of patient safety culture in hospitals,’ *British Medical Health Services Research* 11(45), 45 - 56

Ente, C., Oyewumi, A., and Mpora, O. B. (2010). Healthcare professionals’ understanding and awareness of patient safety and quality of care in Africa: A survey study. *International Journal of Risk & Safety in Medicine* 22, 103–110.

Feagin, J., Orum, A. and Sjoberg, G. (1991). A Case for Case Study. Chapel Hill, NC: University of North Carolina Press.

Griffin, A., and Resar, R. (2009). IHI Global Trigger Tool for Measuring Adverse Events (Second Edition). Cambridge, Massachusetts: Institute for Healthcare Improvement; (Available on www.IHI.org)

Hashemi, F., Nasrabadi, A., and Asghari, F. (2012) ‘Factors associated with reporting nursing errors in Iran: a qualitative study,’ *British Medical Council*, 11(20), 8

Health Department of South Africa (2016). National Policy for Patient Safety Incident Reporting and Learning in the Public Health Sector of South Africa. Technical Report, South Africa.

Hewitt T., Chreim S., and Forster A. (2016). Incident reporting systems: a comparative study of two hospital divisions. *Archives of Public Health* 74: 34 (available on <https://doi.org/10.1186/s13690-016-0146-8>)

Hobgood, C., Xie, J., Weiner, B. and Hooker J. (2004). Error identification, disclosure, and reporting: practice patterns of three emergency medicine provider types. *Academic Emergency Medicine*. 11(2):196–199

Hotton E., Jordan L. and Peden C. (2014). Improving incident reporting among junior doctors. *British Medical Journal*. 3 (1)

Ian, L., Sandra, M., Jan, V., and Paul, R. (2017) ‘Learning from incidents in healthcare: the journey, not the arrival, matters’. *British Medical Journal Quality and Safety* [Online] Available at <http://dx.doi.org/10.1136/bmjqs-2015-004853> [23 September 2017]

Jackson, T., Duckett, S. J., & Shephard, J. (2006). Measurement of adverse events using “incidence flagged” diagnosis codes. *Journal of Health Services Research and Policy* 11, 21–6

Jee-In, H., Sang-IL, L., & Hyeoun-Ae, P. (2012). Barriers to the Operation of Patient Safety Incident Reporting Systems in Korean General Hospitals. *Healthcare Information Research* 18(4), 279–286.

Jha, A. K., Larizgoitia, I., Audera-Lopez, C., Prasopa-Plaizier, N., Waters, H., Bates, D. W. (2013). The global burden of unsafe medical care: analytic modelling of observational studies. *British Medical Journal*, 2013 (22), 809

Kaplan, H., & Fastman, B. (2003). Organization of event reporting data for sense making and system improvement. *Quality Safe Health Care* 12, 68–72

Kaushel R., Bates D., Landrigan C., Mckenna K., Clapp M., Federica F. and Godmann D. (2001). Medication errors and adverse drug events in pediatric inpatients. *JAMA* 285 2114 – 2120 (Available at <http://dx.doi.org/10.1001/jama.285.16.2114>)

Khorram-Manesh A., Hedelin A., and Ortenwal P. (2009). Hospital-related incidents; causes and its impact on disaster preparedness and prehospital organizations. *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine*. 17: 26

Kingston, M., Evans, S., Smith, B. and Berry, J. (2004). Attitudes of doctors and nurses towards incident reporting: a qualitative analysis. *The Medical Journal of Australia (MJA)*. 181(1), 36 - 39

Kohn, L. T., Corrigan, J. M., & Donaldson, M. S. (2000). *To err is human: building a safer health system*. Washington, DC: National Academy Press

Lawton R., and Parker D. (2002). Barriers to incident reporting in a healthcare system. *Quality Safe Healthcare*. 11: 8 – 15

Levinson, D. (2010). *Adverse events in hospitals; national incidence among medicare beneficiaries*: Department of Health and Human Services, Office of inspector general, USA

Macrae C. (2014). *Close calls: managing risk and resilience in airline flight safety*. Basingstoke: Palgrave Macmillan; [available on <http://dx.doi.org/10.1057/9781137376121>]

Macrae C. (2016) 'The problem with incident reporting,' *British Medical Journal Quality Safe Healthcare* 2, 69-71

Mahajan, R. P. (2010) 'Critical incident reporting and learning,' *British Journal of Anaesthesia* 105 (1), 69–75.

Malik, M., Ali, Y., Azeem, S., Ghulam, M., Syed, A. (2010). Attitudes and perceived barriers of tertiary level health professionals towards incident reporting in Pakistan. *North American Journal of Medical Sciences* 2 (2), 100 – 105

Marius, B. K., Anne, S. J., and Thorkil, T. (2012) 'Reasons for not reporting patient safety incidents in general practice: A qualitative study'. *Scandinavian Journal of Primary Health Care* 30 (4), 199 - 205

Michael, P., Quenon, J. L., Djihoud, A., Tricaud-Vialle, S., de Saraqueta, A. M. (2007). A French national survey of inpatients' adverse events prospectively assessed with ward staff. *Quality Safe Health Care* 16, 369

Nabilou B., Feizi A., and Seyedin H. (2015). Patient Safety in Medical Education: Students' Perceptions, Knowledge and Attitudes. *PubMed*, 10(8):1–8.

National Audit Office (2008) *Patient Safety*. London: The Stationery Office

National Quality Forum (2002). Serious Reportable Events in Healthcare: A Consensus Report. [online] Available at:
[http://www.who.int/healthsystems/universal_health_coverage/en/] [12 January 2017]

Norman, C., and Jennifer (2007) *Statistics in Health* (4th ed.), Chapman and Hall publishers.

O'connor, E., Coates, H., Yardley, L and Wu, A. (2010). Disclosure of patient safety incidents: a comprehensive review. *International journal for Quality in Health Care* 22(5), 371 - 379

Rooksby, J., Gerry, R. and Smith, A. (2007). Incident reporting schemes and the need for a good story. *International Journal Medical Information*, 76, 205 - 211

Runciman, W. B., Williamson, J. A., Deakin, A., Benveniste, K. A., Bannon, K. and Hibbert, P. D. (2006) 'An integrated framework for safety, quality and risk management: an information and incident management system based on a universal patient safety classification', *Quality and Safety in Health Care*, 15(1), 82–90

Stelfox, H. T., Palmisani, S., Scurlock, C., Orav, E. J., Bates, D. W. (2006). The 'to err is human' report and the patient safety literature. *Quality Safe Health Care*, 15, 174

Syed, S. B., Gooden, R., Storr, J., Hightower, J. D., Rutter, P., Bagheri, S., Lardner. A., Kelley, E., Pittet, D. (2009). African partnerships for patient safety: a vehicle for enhancing patient safety across two continents. *World Hospitals Health Service* 45(4), 7-24

Teryl, K. N. (2011). Incident Reporting: More Attention to the Safety Action Feedback Loop, Please. *Agency for Healthcare Research and Quality* 34, 54-57

Tim, F. (2015). The importance of critical incident reporting – and how to do it. *Journal of Community Eye Health* 28(90), 26–27

Thomas, E. J., Studdert, D. M., Burstin, H. R., Orav, E. J., Zeena, T., Williams, E. J., Howard, K. M., Weiler, P. C., Brennan, T. A. (2000). Incidence and types of adverse events and negligent care in Utah and Colorado. *Journal of Medicare* 38, 61–71

Tucker, A., Nembhard, I. and Edmondson, A. (2007). Implementing New Practices: An Empirical Study of Organizational Learning in Hospital Intensive Care Units. *Journal Storage (JSTOR)*, 53 (6), 894-90

Vincent, C. (2010) *Reporting and learning systems* (2nd ed), Chichester: Wiley Blackwell, 75–95.

Walton M. (2004). Creating a "no blame" culture: have we got the balance right? *Quality and Safety in Health Care*, 13:163 - 164

Wami, S., Demssie, A., Wassie, M. and Ahmed, A. (2016) ‘Patient safety culture and associated factors: A quantitative and qualitative study of healthcare workers’ view in Jimma zone Hospitals, Southwest Ethiopia’ *biomedical central health services research* 16(45), 495.

World Health Organization (2005). Information from Technical Paper - Regional Strategy for Enhancing Patient Safety. Regional Committee for the Eastern Mediterranean Region

World Health Organization (2005). World Alliance for Patient Safety: WHO Draft Guidelines for Adverse Event Reporting and Learning Systems. *From Information to Action*, Geneva, Switzerland.

World Health Organization (2009). Conceptual Framework for the International Classification for Patient Safety Version 1.1: Final Technical Report. Geneva, Switzerland.

World Health Organization (2011). Patient Safety Campaigns. [Online] Available at <http://www.who.int/patientsafety/campaigns/en/>. [24March 2017]

World Health Organization (2010). Patient safety [online] Available at: www.who.int/patientsafety/en/ [15 March 2017]

World Health Organization (2014). Reporting and learning systems for medication errors: The role of pharmacovigilance centers. Retrieved from <http://apps.who.int/medicinedocs/documents/s21625en/s21625en.pdf> [accessed on 30/09/2018]

APPENDICES

BUDGET

<u>Item description</u>	<u>Unit Cost (ZK)</u>	<u>Quantity/Person days</u>	<u>Total (ZK)</u>
<u>RESEARCH ASSISTANT (RA)</u>			
Research Assistant × 1	200	15	3,000
<i>Sub-Total</i>			3,000
<u>LOGISTICS</u>			
Researcher's transport costs	100	30	3,000
voice recorder	500	1	500
<i>sub-Total</i>			3,500
<u>ADMINISTRATIVE COSTS</u>			
Printer	1,500	1	1,500
Toner	250	2	500
Paper	40	3	120
Note book	15	10	150
Pens	2	10	20
Pencils	1	10	10
<i>Sub-Total</i>			2,300
<u>COMMUNICATION</u>			
Air time			300
Internet bundles			400
<i>Sub-Total</i>			700
<i>Grand Total</i>			10,200

APPENDICES

8.1 PARTICIPANT INFORMATION SHEET

Study Title: Healthcare providers' practices and perceptions on patient safety incident reporting and management in Lusaka District

Principle Investigator: Gabriel B. Yali

Introduction

I am the investigator on this study and a student in the school of Public Health at the University of Zambia (UNZA). I am going to read to you an information sheet that explains the research study you are being asked to join. Please, feel free to ask any questions before you agree to join. You may also ask questions at any time after joining the study. Further, you are free to withdraw from this study at any time.

Purpose of study

The World Health Organization (WHO) is in a hurry to reduce and altogether prevent patient adverse events or patient safety incidents that occur in health institutions world over. However, according to WHO, there is scant evidence of local initiatives and systems put in place in healthcare organizations to ensure patient safety and care is effective, appropriate, and safe in the African region. Thus, there is an information gap in practice that remains related to the implementation of best practice, patient safety culture and quality of care improvement measures in the region.

The findings will be useful in making recommendations to key stakeholders and that the outcome will stimulate further research and reference on patient safety incident reporting and management in some health institutions of Lusaka district. Furthermore, it is hoped that the findings will be used by stakeholders and key players in health in putting measures aimed at increasing the awareness of reporting patient safety incidents by health workers.

Confidentiality

Information collected from you will be kept strictly confidential and can only be shared with your permission and anything you write on the consent form will be kept completely confidential even afterwards.

Your name and your position will not be used to identify you including also, the information that will be collected from you. I would greatly appreciate your honest response during the interview. You do not have to answer any question you do not want to, I will skip that question and continue with the following questions. You can choose to end participation in the study any time you want.

Procedure

If you agree to participate in this study, you will be asked some questions pertaining to patient safety incident reporting and management that is practiced at your institution. Further, questions related to your opinions or views on patient safety will also be asked. Hence, if you agree to participate, then you will be engaged in an in-depth interview on the matter under study.

Risks/discomforts to subject or others

If you agree to take part in the study, the information required in this study are your perceptions on patient safety incident reporting and also how these incidents are reported and managed. There may be some discomfort in disclosing what you feel about this subject and also how the reporting is done, however, your honest responses to these questions are very important for future studies and also informing policy makers and stakeholders on the reporting of incidents at your institution. Your responses will be treated with confidentiality, but if you experience any discomforts and would like to discontinue, you are free to do so.

Benefits

If you agree to participate, there are no direct benefits to you but you will be contributing to the understanding of the systems and measures put in place in

healthcare organizations aimed at ensuring the effectiveness of patient safety. It is hoped that the findings would stimulate further studies and that the information obtained will be used for further reference on how patient safety incident reporting and management is undertaken in Zambia's healthcare system.

Voluntary participation

Participation in this study is out of your free will without any coercion. You are free not to answer any question deemed personal or otherwise. However, you are at liberty to withdraw from the study at any time without penalty or giving any reasons.

Who to call if you have any questions or problems

1. Contact, principle investigator
Gabriel B. Yali, on +260978373765 / +260964135754
University of Zambia
School of Public Health, P.O Box 50110, Lusaka-Zambia
Email: gabrielyali@rocketmail.com

2. Dr. Selestine Nzala (Supervisor)
University of Zambia
School of Public Health, P.O Box 50110, Lusaka-Zambia
Cell #: 0979176779

3. Dr. Joseph Zulu (Co-supervisor)
University of Zambia
School of Public Health
Cell #:0971591388

For ethical queries, please contact

4. The Secretary
University of Zambia Biomedical Research Ethics Committee
(UNZABREC)

Ridgeway Campus, P.O Box 50110 Lusaka-Zambia

Email: unzarec@unza.zm

8.2 INFORMED CONSENT FORM

Your participation in this study is purely voluntary. If you have not understood or would not consent to it, you are free to refuse or withdraw. You have the right to clarification and ask as many questions as you may wish to:

Your signature (or thumbprint/mark) on this form means:

- You have been informed about the research study's purpose, procedures, possible benefits and risks.
- You have been given the chance to ask questions before you sign.
- You have voluntarily agreed to be a study participant in this research study.

If there is any part of this explanation that you do not understand, you should ask the investigator before signing or contact the addresses above.

Signature of Participant

Date of signature

For more information and clarifications, kindly contact the following addresses below:

1. Dr. Selestine Nzala (Supervisor)

University of Zambia

School of Public Health, P.O Box 50110, Lusaka-Zambia

Cell #: 0979176779

2. The Secretary

University of Zambia Biomedical Research Ethics Committee
(UNZABREC)

Ridgeway Campus, P.O Box 50110 Lusaka-Zambia

Email: unzarec@unza.zm

INTERVIEW GUIDE

Objectives	Questions	Follow-up Questions	Comments/Observations
<p>To explore healthcare providers' awareness on patient safety</p>	<p>What do you know about the safety of patients receiving clinical care?</p> <p>What are the key health safety concerns at this institution?</p> <p>Which of the above patient safety incidents often occur frequently?</p> <p>How often do incidents occur?</p> <p>What is your comment/view regarding awareness of patient safety among staff members?</p>		
<p>To explore ways in which patient safety incidents are reported and managed in the healthcare system</p>	<p>Do you document/report patient safety incidents that happen?</p> <p>How are the reports handled/managed?</p> <p>Do you receive feedback pertaining to the reported incidents?</p>	<p>If you do report, then how is reporting done?</p> <p>How are the reports handled thereafter?</p> <p>Is it all the incidents that are reported?</p> <p>If so, how do you receive feedback from the reported incidents?</p> <p>What is your general comment about the feedback system?</p>	

	<p>What strategies have been put in place to tackle these incidents?</p> <p>How is patient safety monitored at this facility?</p> <p>Are there any guidelines that require or mandate you as health workers to report?</p>	<p>How effective are these strategies?</p> <p>If so, do you think they adequately address the safety issues of the patients?</p> <p>How are the guidelines been disseminated to staff members?</p>	
<p>To document healthcare providers' perspectives on patient safety incident reporting and management</p>	<p>How satisfied are you with the way incidents are reported?</p> <p>What are your general views on patient safety incidents (PSIs)?</p> <p>What is your assessment of the handling process of incidents?</p> <p>What should be done to enhance;</p> <ul style="list-style-type: none"> - Reporting - Handling and - Feedback of reported incidents 		



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1st June, 2017

The Permanent Secretary Health Services

Ministry of Health

Lusaka District

Lusaka

Dear Sir/Madam

RE: REQUEST FOR AUTHORITY TO UNDERTAKE A RESEARCH STUDY

The Department of Health Policy and Systems Management wishes to introduce Mr. Gabriel B. Yali (2016144800) who is currently studying for Master of Public Health (MPH).

Mr. Yali has completed the first part of the degree (coursework) and is now preparing to conduct research whose title is **“Healthcare providers’ practices and perceptions on patient safety incident reporting and management in Lusaka district.”**

A research proposal has been developed to that effect. However, prior to submission of the proposal to the Ethics Committee for approval, authorisation from you is required indicating that you will allow our student to interview the Health workers in Lusaka District.

Therefore this is to kindly request for your permission for him to interview the health workers at Chainama Hills College (CHH) and University Teaching Hospital (UTH) in Lusaka District.

We appreciate your support to our Masters programme and the student.

Yours sincerely

Dr. H. Halwiindi

ASSISTANT DEAN – POSTGRADUATE