SCHOOL OF PUBLIC HEALTH

COLLEGE OF HEALTH SCIENCES

UNIVERSITY OF GHANA

ASSESSMENT OF THE INTEGRITY OF THE ROUTINE MENTAL HEALTH REPORTING SYSTEM IN THE SHAI-OSUDOKU DISTRICT IN THE GREATER ACCRA REGION OF GHANA

BY

BENEDICTA OWUSU - APPIAH

(10446250)

THIS DISSERTATION IS SUBMITTED TO THE UNIVERSITY OF GHANA, LEGON IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF THE MASTER OF PUBLIC HEALTH DEGREE

OCTOBER, 2020

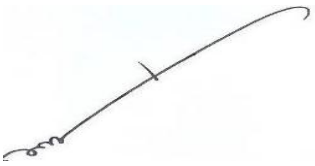
DECLARATION

I declare that this project work represents my own independent work and has not been previously submitted to the University or any other institution for the award of any other degree, except where due acknowledgement has been made on all other works that were used.

……..…. 18th August, 2021

BENEDICTA OWUSU – APPIAH **DATE**

(STUDENT)



……. 18th August, 2021

DR. BENEDICT WEOBONG **DATE**

(ACADEMIC SUPERVISOR)

ABSTRACT

Background: Globally, Routine Health Information Systems exist but many health care systems do not focus on mental health. Few countries routinely collect data on mental health as part of their national Health Information Systems. In 2018, Ghana added mental health reporting to DHIMS-2 (the national portal for routine reporting of service delivery data).

Objective: This study sought to understand the context-specific routine mental health reporting system, by estimating the accuracy ratio of new mental health cases (outpatient) and further determining the use of Standard Operating Procedures for mental health information, and identifying challenges associated with the work and data flow of mental health services

Methodology: A landscape analysis was employed using a mixed method (both quantitative and qualitative) to assess the integrity of the routine mental health reporting system in the Shai-Osudoku District. All three (3) facilities which rendered mental health services in the district were part of the study. The data abstraction form was used to extract data from primary sources, reporting forms and DHIMS-2. Service providers were interviewed to solicit information on existing primary data collection tools, Standard Operating Procedures and challenges with the data/workflow processes. Microsoft Office Excel version 2016 was used for the analysis.

Findings: The accuracy of new mental health cases (outpatient) data in the Shai-Osudoku District was 5.5% over-reported. Meanwhile, other individual facility data depict that there was 9.1% over-reported data at Agomeda Health Centre and a 100% accuracy rate at Osudoku Health Centre. For DHMIS-2 reported data, all facilities reported a 100% accuracy ratio except Osudoku Health Centre which under-reported its data by approximately 44%.

The participants used improvised notebooks to collect primary data of their clients in the communities and recorded them into their registers at the health facilities after their daily or

weekly community visits. The flow of data was found to be done by reporting data to the Health Information Officer at the district who then input the data into the District Health Information Management System 2 (DHIMS-2). Some of the challenges that affect accurate mental health data collection were inadequate standard recording books and infrastructure.

Conclusion: The study observed some over-reported facility data in two health facilities and under-reported DHIMS-2 data in one facility. Primary data of clients were mostly collected using improvised books at the communities. There were SOPs in some of the facilities which were used with varied frequencies and on various occasions. Mental health data reporting starts at the facility after which the data is given to the Health Information Officer at the district level for data entry in DHIMS-2. The institutional care directorate of the mental health unit of the Ghana Health Service should provide standard registers and enough SOPs to mental health units of the various health facilities in the Shai-Osudoku District and other mental health service providing facilities. This will help improve easy data capture and standard reporting in all levels of health care delivery.

DEDICATION

This thesis is dedicated with immense love to my family: My husband Evans Larte Lartey and my daughters- Kimberly and Gabriella Lartey.

ACKNOWLEDGEMENT

To God be the most Glory for this great achievement!!!

I cannot disregard the immense support I received from numerous people; I sincerely acknowledge and appreciate every contribution. I will however want to express my deepest appreciation and gratitude to the following persons:

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Special thanks also go to Michael Matey Mensah and Stephen Boadu who helped me to collect the data for this study.

To my parents, sisters, friends and all other loved ones…God bless you all.

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LIST OF ABBREVIATIONS

DHIMS	–	District Health Information Management System
DHIS	–	District Health Information System
GHS	–	Ghana Health Service
HIS	–	Health Information System
HISP	–	Health Information System Program
HMIS	–	Health Management Information System
IGF	–	Internally Generated Fund
LMIC	–	Low Middle Income Country
MHA	–	Mental Health Authority
MHIS	–	Mental Health Information Systems
PPMED	–	Policy, Planning, Monitoring and Evaluation Division
PRISM	–	Performance Routine Information System
RHIS	–	Routine Health Information System
SOP	–	Standard Operating Procedures
WHO	–	World Health Organization

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

Having a robust Health Information System (HIS) facilitates strong health systems to achieve better health outcomes. This helps to get the right information at the right time to decision and policymakers to help them make informed choices about patient care, health program planning, and resource allocation. Data integrity refers to the total accuracy, completeness, consistency and reliability of data throughout its life cycle. The integrity of data can be compromised during the replication or transfer of any data but can be preserved using methods for error checking and validation procedures. Sadly, the process of building and improving a HIS is rarely linear and understanding of what combinations of interventions improve HIS performance has been limited (Evaluation, 2019). Almost all developing countries use routine health information systems from the lowest level of health care providers to the highest level of decision-makers empowering users at all levels. The information from such systems is used also for resource allocation and strategy development (Wagenaaret et.al; 2016).

In Ghana, the District Health Information Management System (DHIMS-2) is a Health Information Systems Program (HISP) that is supported by the Department of Informatics of the University of Oslo. It is however managed by the Ghana Health Service (GHS) – Policy, Planning, Monitoring and Evaluation Division (PPMED) with support from multiple partners to manage data from routine service delivery. Mental Health is a neglected area in healthcare in Ghana; services related to mental health have long been provided in the country but there was no structured reporting system for data generated.

Measure Evaluation states that, Health Management Information Systems (HMIS) are systems

for data collection purposely designed to support planning, management, and decision making in health facilities and organizations and is one of the building blocks essential for health system strengthening by the World Health Organization (WHO). The WHO further defines a Mental Health Information System as one designed to collect, process, analyse and disseminate and use information concerning services and essentials of the mental health of a population emphasizing the fact that such systems should be used for action and not just for data gathering.

1.2 Problem Statement

One of the core blocks of health systems is Health Management Information Systems (HMIS). It serves to store recorded routinely generated data that emanates from service delivery points and administrative records which are later retrieved and processed to enhance decision making processes to track indicators and improve health outcomes. Quality data is essential to have safe and reliable healthcare delivery using data from health facilities to monitor outputs and set targets (Endriyas et al., 2019). To improve and provide effective mental health services, Mental health information systems (MHIS) are important (Bimerew, 2019).

However, in Sub-Saharan Africa, many countries do not routinely collect data on mental health except for a few such as Ghana and Nigeria that have been able to incorporate mental health data as part of their routine data collection even at the district health information system level branded as DHIS (Ahuja et al., 2018). Another research by Ahuja et al., 2018 reiterates this fact stating that many routine information systems are seen to be unreliable to even track important indicators on health services rendered and system performance of which mental health is included. Furthermore, inconsistent approaches to data and lack of expertise are some factors known to affect the quality of data (Ali et.al, 2018). With so much advancement in technology

concerning health information systems, the expectation would have been to have very reliable data in use for effective action. However, this seems not to be the situation, especially in most developing countries. In developing countries, health information systems are thought of as having many flaws in the quality of data it churns with data collated from routine service delivery. Key issues that have been found to affect the quality of data are lack of consistent approach to data and lack of professionalism on the part of service providers (Syed et al., 2018). Mental health needs are often ignored in the delivery of health services and health information systems as well. Globally, several countries have health information systems; but these systems do not generate mental health-related data or utilize the data if there is any in there; this situation affects the quality of data that might be collected (WHO, 2005).

Ghana has gone beyond this hurdle by designing and implementing three (3) mental health reporting forms (i.e. Mental Health Client Status, Mental Health Community Report & Mental Health Reporting Form) in DHIMS-2 as part of the nationwide routine reporting system in the year 2018 which is reported monthly. This has helped to achieve the objective set by WHO as part of the Mental Health Action Plan (2013-2020) for its member states (which includes Ghana) to strengthen information systems, evidence and research for mental health. It further calls for all member states to routinely collect and report on a core set of mental health indicators for local and national planning to provide a standard way of comparing indicators globally (National Academies of Sciences, Engineering, 2016). In essence, it is therefore prudent to have quality mental health data in the routine health information system to be able to track the core mental health indicators for the country. However, not many resources have been put in to ensure the quality of data reported. Data collection tools such as standard registers are unavailable to ensure completeness and accuracy of data compiled; this means that data is not gathered in a standard

way. Service providers improvise registers using notebooks and other self-designed tools to capture and report on service delivery.

In 2013, the World Health Organization reiterated the above fact indicating that most low and middle-income countries do not have routine mental health reporting systems, making it difficult to comprehend what might be needed by local populations and to plan effectively (WHO, 2013). In some instances, a Routine Health Information System may capture data of low quality while in other situations it may capture quality data but not have it being used for action (Evaluation, 2011).

This study, therefore, focused on the availability of primary data collection instruments whiles accuracy was the extent to which the reporting form had the value of its source i.e. from registers. Accuracy was selected because prior information received from the District Health Directorate indicated the timeliness and completeness of reporting for the Monthly Client Health Status form as 100% for the period under review but there was however no information on the level of accuracy or any data quality audit. This is reiterated by Dooling (2014) that the reliability and integrity of healthcare data start with the initial documentation of accurate and complete patient health records. This study was therefore conducted to assess the integrity of the routine mental health reporting system in the Shai-Osudoku District.

Shai-Osudoku district was purposefully selected because it is one of the very few districts that have facilities offering mental health services in the Greater Accra Region apart from the major facilities (Pantang and Accra Psychiatric Hospitals) where earlier studies on mental health information systems have been carried out. Moreover, there has been no evaluation of this nature in the Shai-Osudoku District. Additionally, due to the limited budget resources of the researcher, the Shai-Osudoku District was selected for proximity.

1.3 Conceptual Framework

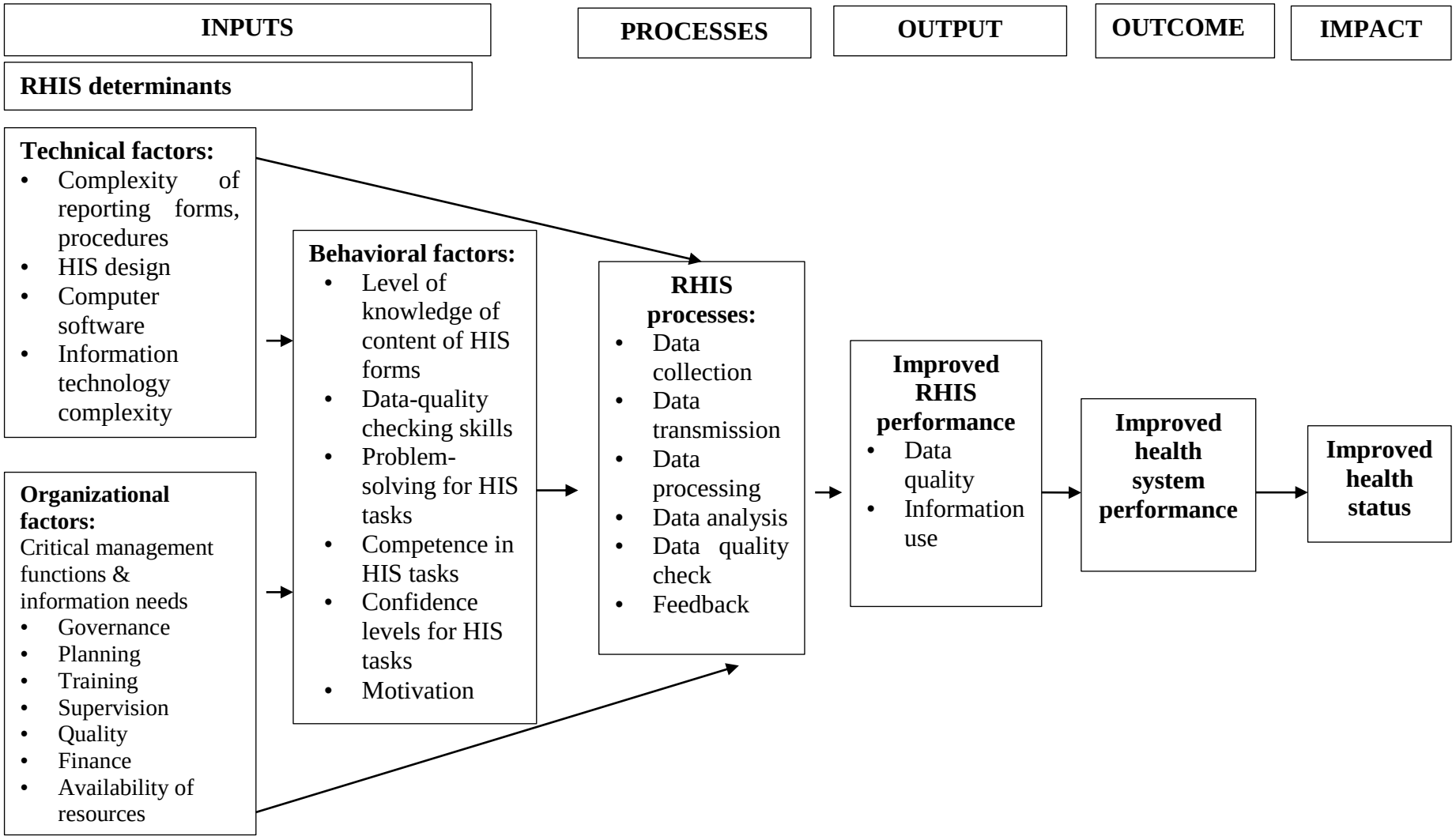

Figure 1: Conceptual framework adapted from Measure Evaluation – PRISM Conceptual Model

The conceptual framework in Figure 1 was adapted from the PRISM conceptual framework which was designed by MEASURE Evaluation and John Snow Inc. to broaden the analysis of routine health information systems to include 3 factors (behavioural, organizational and technical determinants) which are related and determines the success of a HIS and similarly help to identify the strengths and weaknesses of the 3 factors (Evaluation, 2011).

The conceptual framework provides an elaborate picture of how an RHIS performs and interventions needed to strengthen it, showing the input, processes, output and outcome determinants affecting data integrity and the needed processes to be addressed to improve the mental health reporting system in the Shai-Osudoku District.

Technical determinants

Technical factors are those that serve as primary supporters for a good Health Information System. The absence or lack of these may compromise data integrity/ accuracy. Examples are developing a standard set of indicators, building the capacity of mental health service providers, having well-designed data collection forms & mental health registers, SOPs, and using the national routine reporting system (DHIMS-2) for data transfer, analysis and presentation.

Organizational determinants

These are factors related to work climate that influences the collection, processing, analysis and use of data. The involvement of leadership in issues of data is crucial and needs a myriad of investment strategies such as training, supportive supervision, making resources available, etc; to track performance indicators and accomplish organizational goals, mission and vision.

Behavioural determinants

These are individual behaviours of mental health service providers that have the possibility of having an impact on the routine mental health reporting system. The motivation of staff through extrinsic and intrinsic ways can boost their confidence in using the data generated. Mental Health service providers need to be empowered and held accountable for their actions.

1.4 Research Questions

1. Are standard primary data collection tools available for mental health information?
2. What is the level of accuracy of outpatient new cases?
3. Are Standard Operating Procedures (SOPs) available and in use for mental health?
4. What is the work and data flow of mental health services and what are its challenges?

1.4.1 Research Objectives

1.5 Aim of the study

This study aimed to understand the context-specific routine mental health reporting system in the Shai-Osudoku District.

1.5.1 Study Objectives

1. To examine the level of accuracy of new cases (outpatient) between registers, reporting forms and DHIMS-2
2. To identify the availability of standard primary data collection tools for mental health information in the Shai-Osudoku District

3. To determine the availability and use of Standard Operating Procedures for mental health information
4. To identify challenges associated with the work and data flow of mental health services

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Health Information Systems

Health Information Systems (HIS) serve as one of the core building blocks of a health system identified by the World Health Organization. As much as each of these core blocks is important, health information forms the basis for decision making using quality health information within each block from population and health facility-based sources (Kihuba et al., 2014); thus highlighting the importance of health information systems (Ledikwe et al., 2014). Health Information systems are known to consistently produce information that is accurate, timely and reliable for decision-makers. There are several Health Management Information Systems (HMIS) that exist within a health information system not excluding that for mental health services. An HMIS refers to data generated through health services at the facility level (Upadhaya et al., 2016). Using HMIS together with epidemiological surveys and routine monitoring data can help to measure and track the quantum of people that receive mental health services. Health information systems that contain data on mental health are a useful source for mental health care delivery. Increasingly, health information systems are in use in various healthcare settings to improve service delivery and achieve quality data (Ahuja et al., 2018).

When a health information system provides quality data, strong public health systems can be built while using evidence-based data to take decisions by formulating policies and allocating resources. Data of high quality has dimensions such as accuracy and validity, reliability, completeness legibility currency and timelines, accessibility, meaning or usefulness (WHO, 2003), integrity, and confidentiality (Ledikwe et al., 2014). Data quality is important at all levels of the healthcare system mainly to plan and help allocate resources judiciously at both the local

and national levels, this requires all persons within the healthcare system to put in their best for this to be realized. Ensuring data quality requires that right from the initial contact with the client, data is captured to suit all the dimensions of quality data. Two major principles to having data quality are to ensure that the data is accurate and valid so that it can be used for effective communication and be useful as well (WHO, 2003). Data of high quality is defined as any data that is consistently available and reliable across the entire health system and provides accurate information when compared to population-level surveys (Gimbel et.al; 2017). The quality and efficiency of healthcare administration are highly dependent on the quality of patient information recorded, processed, and monitored for the incidence of illness (Bimerew, 2019).

A workshop report in Uganda supports the critical role of strong HIS in building strong health systems to achieve better health outcomes. It adds that having a strong HIS ensures that information gets to the domain of the right people at the right time, enabling informed choices about patient care, health program planning, and resource allocation (Evaluation, 2019). Upadhaya et al., (2016) argued that though HMIS has its challenges, it offers the opportunity for one to routinely track the progress of targets and objectives of the health system to improve on performance. An HMIS has data that is more timed and relevant to managers for decision-making as it can help them prioritize where to focus.

2.2 Mental Health Information Systems

The World Health Organization defines a Mental Health Information System (MHIS) as a system that is designed for collecting, processing, analysing, disseminating and using information about a mental health service and the mental health needs of the population it serves (WHO, 2005). Many developing countries allocate less than 1% of gross domestic product to

mental health care, despite some mental disorders being among the top five causes of disability (Bimerew, 2019). The mental health sector in Ghana has mainly been funded by the government with some other little support from Internally Generated Funds (IGF) from health facilities and donations (Roberts et al., 2014). Across several countries, there is no direction as to what the source and process of gathering mental health information should be. In such situations, there is no presence of separate mental health information systems but rather there is some level of reporting on some indicators through the routine HMIS (Upadhaya et al., 2016). There were some previous efforts to implement a mental health information system in Ghana, South Africa and Uganda, however, they could not be sustained (Ahuja et al., 2018) due to inconsistent use, and the data not being aggregated and reported. The study recommended that a health information system should be improved to facilitate data collection and analysis and properly managed by providing training to staff on records and records keeping (Roberts et al., 2014).

In 2012, the Mental Health Act was passed in Ghana to address challenges that the sector is faced with, which among other issues included health information systems. Doku & Awakame (2012) in a study stated the need to have an information system that supports mental health service delivery. Mental healthcare just like other aspects of the general healthcare system also generates a quantum of data that needs to be managed through an information system to help support legal requirements as per the Mental Health Act.

According to the 2018 Annual report by the Mental Health Authority (MHA) in Ghana, the authority depends on data from health facilities that report through the routine health reporting system – DHIMS-2; after the authority developed standard data collection tools and trained Health Information Officers & Mental Health Personnel in 2018. Sadly, there are no standard registers to collect primary data at service delivery points. Thus, informing the need to carry out

this study to find out how facilities collect data and collate for submission and entry on the DHIMS-2 database. However, in the schedule of the Authority for 2019, there was a plan to print and distribute mental health registers which are yet to be realized (Mental Health Authority, 2018).

2.3 Routine Health Information Systems

Data that is gathered regularly and used in the planning of services is known as routine data. Routine health systems are those that generate data from both public and private health facilities and institutions, as well as at community-level healthcare posts and clinics, at regular intervals of a year at least. The data gives a picture of health status, health services, and health resources. Most of the data are gathered by healthcare providers as they go about their work, by supervisors, and through routine health facility surveys. The sources of those data are generally individual health records, records of services delivered, and resource health records (Evaluation, 2016). A study by Dagnew et al., 2018 also emphasizes the above by stating that a Routine Health Information System (RHIS) is the backbone for planning and management of health services at district levels as it can play an important role in effective and efficient health service delivery, decision making, and the improvement of the program.

Routine Health Information Systems are generally thought to be of poor quality, however; their use has been successful in other areas to evaluate programs related to malaria, immunization, tuberculosis, and others. Over time, the quality of data from RHIS has improved tremendously through better ways of managing data using electronic data systems to collate, analyze, and disseminate data for action. Routine Health Information Systems provide an avenue for data to be aggregated and disaggregated at all levels within a country, this helps to offer specific actions

to the various levels. It can also help to assess if an intervention has been successful at any level of implementation, this can however not be gotten from other community surveys. Routine Health Information Systems allow one to understand typical patterns and trends of data (Wagenaar et al., 2016). Some other authors also indicate that routine HMIS comprising of the national, subnational, facility and community levels are primary data sources for routine health planning and evaluation.

In Ghana, DHIMS-2 is used to manage routine health information from mental health services provided at the facility level across the country. There are three (3) reports namely Mental Health Client Status, Mental Health Community Report and Mental Health Reporting Form.

2.4 District Health Information Management System

The DHIMS-2 is a web-based platform that is used to manage routine data generated within the healthcare systems. The system allows health facilities to collate and upload aggregate summaries of data generated from service provision to the DHIMS-2 database; which is accessible to the district, regional and national levels. Data entry is done at several levels depending on the availability of both humans and logistics (Kayode et al., 2014).

Across LMIC, paper-based health information systems are used at most facility levels, except for a few that use electronic health records. The paper-based system which is often aggregated feeds into the decentralized DHIMS-2 which is used to compile reports periodically for different users or stakeholders.

2.5 Data Availability

Primary data is any data that is attained from its source such as tally sheets, medical records of clients, registers, just to mention a few. This data is gotten as a result of services that are provided to clients. The study by Kayode et al.,(2014) showed that most errors in data are committed when collating primary data, suggesting that providing well-designed/ standard registers to service providers to use to capture data will ensure uniformity of data capture at all levels of the health care system for achievement of quality data.

2.6 Standard Operating Procedures

The Ugandan Ministry of Health (2010) defines Standard Operating Procedures (SOP) within a health information system, as written and documented processes that describe how routine activities related to good management practices are to be performed in a consistent way across each subsystem. Some of the good management practices are data collection and compilation, analysis, storage, data processing, record storage, handling of urgent data requests/ needs and management of the devices/ tools/ appliances used to manage the data.

In Ghana, the Ghana Health Service has developed a comprehensive SOP for health information to strengthen the health system, for which health information is a core block. Currently, there is a 3rd edition of the SOP (2017) which is in use after careful review of some existing and new reporting forms which provides definitions for variables to ensure conformity to operational definitions. The essence of this is to ensure and enhance information useful for decision making and improve efficiency in service delivery, supervision and monitoring and help to build the capacity of health workers (Ghana Health Service, 2017).

The World Health Organization (2005) has noted that healthcare providers often do not have

standard instructions on how to manage the whole data process as they usually get little or no training in data collection methods. A study by Kayode et al., 2014 stated that the use and adherence to the SOP by service providers who handle data can help prevent common sources of errors.

2.7 Data Flow

Information flow within any HIS involves collecting, processing, analysing, dissemination and use of data. At the facility level, routine data being generated from service delivery points are to be documented into standard registers and then from the registers into standardized reporting forms which are submitted to the next level by the 5th of each ensuing month after the head of a facility has reviewed and endorsed the reports after validation. These reports are then verified and entered in the District Health Information Management System (DHIMS-2). The United Nations (2018) defines a register as a systematic collection of unit-level data organized in such a way that updating is possible.

2.8 Standard primary data collection tools for Mental Health Information

An imperative way to measure a change in a system is the use of standard tools in an MHIS by being able to gather the minimum required information using appropriate tools to collect minimum data set that is most essential to providing information relevant for use (Bodart et al., 2000). The goal of the Mental Health Information System as emphasized in Bodart's publication is not to just gather data, but also to enable decision-making. Bilsker et al. (2002) published an article on the routine outcome measurement by mental healthcare providers which indicated the importance of a Mental Health Information System to use well-defined indicators to summarize

information relevant to a particular phenomenon, in a given situation and also to measure change. Considering mental health care, indicators are measures that are purported to summarize information important to the mental health service and the population that it serves.

2.9 Information accuracy and consistency factors

Information is of the essence for evidence-based decision making at all levels of the mental health system. Policymakers need accurate information to make judicious use of limited resources; plan and design more efficient and effective services; manage the monitoring and evaluation of services, and for clinicians to offer tailored, good quality, and evidence-based care (Cibulskis et al., 2002). However, there is an overwhelming load of inappropriate data. Health service supervisors and health workers at service delivery points report on incomplete data, inaccuracies and discrepancies from primary sources; they also rarely are given any feedback on the data reported to higher levels (Robey & Lee, 1990); and usually, findings from submitted reports or other analysis are not available to policy-makers and planners.

2.10 Standard Operating Procedures for mental health information

Health workers hardly have standardized guidelines on data processes to collect data and receive little or no training in data collection methods. In developing countries where MHIS exists, personnel whose duty it is to design and maintain Health Information Systems frequently lack an adequate understanding of mental health (Dartnall et al., 1998). Dartnall found that for example, this results in diagnosis not being classified accurately, with activities of mental health providers not also being adequately tracked, and the quality of data varying between different service levels. Poor data collection is often a result of the heavy workload of health workers that tends to

stress them out and to management's lack of an information policy and accompanying regulations (Robey & Lee, 1990), in other words, the unavailability and lack or inadequate use of standardized operating procedures increase the chances of churning out poor quality data. To ensure the availability of quality information for decision making appropriate systems need to be in place within these services. A mental health information system aims to improve the effectiveness and efficiency of services related to mental health and ensure more equitable delivery by empowering managers and service providers to make much more informed decisions to improve the quality of care.

2.11 Workflow and data flow of mental health services

Several WHO consultations with a range of countries, suggests that essential information for mental health service planning is simply not available **(**Lippeveld et al., 2000). Though there are several benefits to an information system, many of these systems are faced with a myriad of problems. Mental health needs are often neglected in the management of health services and health information systems (HIS). There are glaring examples globally from the world of health information systems that do not routinely collect and utilize mental health data; despite evidence of the significant burden of diseases associated with mental disorders (Andrews et al., 2000). During the process of implementation of the MHIS, several barriers are envisaged to happen at collection, processing, analysis, dissemination and use stages. In the case of MHIS, particularly in developing countries, the situation is worse due to inadequate personnel, equipment, infrastructure and training. (Faydi et al., 2020).

CHAPTER THREE

3.0 METHODOLOGY

3.1 Introduction

This section provides an overview of the methods and techniques that were employed in conducting the study. It focuses on the study design, a brief profile of the study area, study population and how the elements in the population were selected. It also looks at how data was collected and analyzed and concludes with ethical considerations for the study.

3.2 Study Design

A descriptive cross-sectional design was employed for this study using a mixed-method for the data collection. Landscape analysis was used to review existing documents, interviewing key informants and observing work and data flow at the three (3) study sites that provide mental health services in the district. Landscape analysis is similar to situational analysis; it offers a thorough assessment by using either primary or secondary data or both to describe a problem.

The focus of the study was to review the Mental Health Client Status Reporting Form (Appendix D) to ascertain the level of accuracy of one data element (New cases – outpatient) data from the period of January 2019 to December 2019. This data element was strategically selected because it is reported on by all the three (3) facilities that were part of the study. Furthermore, the period of review was purposefully selected because datasets for this period were locked and therefore could not be altered to affect the results of this study.

For the review of documents, secondary data from registers/ other primary data collection instruments, the monthly client health status reporting form and DHIMS-2 were extracted and verified for accuracy using a designed data collection tool.

Additionally, an unstructured interview guide using open-ended questions was used to interview key informants comprising of Psychiatry Nurses, Community Mental Health Officers, and Registered Mental Health Nurses that meet the inclusion criteria to solicit information from them. The key informants who were interviewed were health service providers who directly use either the registers or data collection tools and are involved in the data collection process and were available at the time of the study and also have a working experience of not less than 2 years.

During the data collection phase, challenges relating to the collection, processing, analysis, dissemination and use of data were identified. These included processes regarding documentation of data into standard registers and the process of transfer of these data into standardized reporting forms for submission to the next level by the 5th of each ensuing month. These reports are further verified and entered in the District Health Information Management System (DHIMS-2).

3.3 Study Site Description

The study was carried out in the Shai-Osudoku district found in the southeastern part of Ghana. It is one of the old districts in the Greater Accra Region and occupies 21% of the land area (about 721.0 square kilometres). It is bounded on the North-East by North Tongu District; to the North West by Yilo and Manya Krobo Districts; to the West by North Akwapim District; to the South-West by the Kpone Katamanso District; to the South by the Ningo-Prampram District; and the East by Ada West District. The land is flat with isolated hills. Among the hills are the ancient 'Shai hills" which is a site for tourist attractions. The district is predominantly rural with farmers, petty traders and fishermen. The main road networks passing through the district which are

tarred are; Dodowa-Somanya road and Accra-Akosombo road. The few other tarred roads are in very poor condition. In the rainy season, most of the villages are inaccessible except with a four-wheel-drive in some settings. At the same time, the scattered nature of the population means that a lot of effort is needed to reach a few people. The commonest form of transportation in the district is the motorcycle. There are twenty-two (22) Electoral areas that are coterminous with the CHPS zones in the district. There are four area councils - two at the Dodowa sub-district (Dodowa and Ayikuma) and two at Osudoku (Asutsuare and Osuwem) within the two traditional areas notably the Shai and Osudoku traditional areas. The district has five (5) administrative sub-districts namely; Agomeda, Ayikuma, Dodowa (District Capital), Duffor and Osudoku, with a projected population for 2020 of 63,499. In healthcare provision, the district has a District Hospital, 3 Health Centres, 10 CHPS compounds in 26 demarcated CHPS Zones, a Private Hospital, a Mission Hospital, Private Clinic and a Maternity Home.

The district is purposely selected for this study because of its proximity to the researcher.

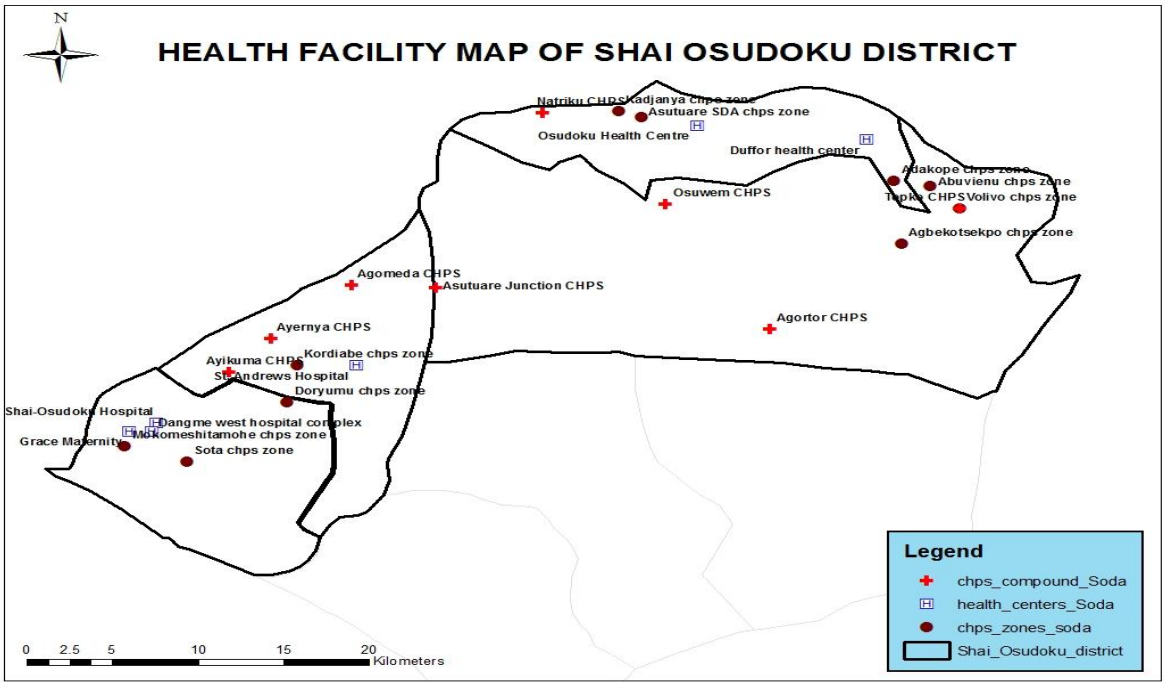

Figure 2: Distribution of Health Facilities in the Shai-Osudoku District

Source, District Health Directorate

3.4 Study Population/ Frame

All 3 public health facilities (i.e. Shai-Osudoku District Hospital, Agomeda Health Centre and Osudoku Health Centre) that provide mental health services were part of the study.

3.5 Selection and Exclusion Criteria

3.5.1 Inclusion Criteria

The three (3) health facilities that provide mental health services and routinely report in DHIMS-2 for the period under review will be part of the study.

Service providers who will be readily available during the study period will be interviewed. These service providers should have been in service during the period of review thus should have a working experience of at least 2 years.

3.5.2 Exclusion Criteria

All health facilities that do not provide mental health services in the district during the review period were not part of the study.

Service providers from any of these facilities will also not be interviewed or recruited into the study.

3.6 Sampling

Purposive sampling (non-probability) was used to select 3 public health facilities (Shai-Osudoku District Hospital, Agomeda Health Centre & Osudoku Health Centre) since they were the only health facilities that offer mental health services in the district for the period under review.

Service Providers who were available during the period of data collection and met the inclusion criteria were recruited into the study after they had expressed interest and duly consented to the interview process.

3.7 Study Variables

The areas of interest for this study were the routine mental health reporting system, availability of standard primary data collections tools, the accuracy of data in registers/reporting forms and DHIMS-2, and the availability and use of Standard Operating procedures.

The accuracy of data was reported based on facility reported data – data being reported by the individual health facilities, facility counted data – data obtained by the data collectors at the various facilities, and DHIMS-2 counted data – data obtained by the data collectors in the DHIMS-2.

3.8 Data Collection Procedure

Two data collectors were recruited and trained to administer the data collection tool for both quantitative and qualitative data at all three (3) health facilities. Quantitative data was collated from three (3) different sources (i.e. registers, aggregate or summary report, and DHIMS-2 to verify the accuracy of one data element on the Monthly Mental Health Client Status Form using a data abstraction form designed by the researcher. The dataset (Monthly Client Status Reporting form) contains 33 data elements, however, only 1 (new cases - outpatient) was assessed for accuracy. The data was sourced from the three (3) facilities that were selected for this study for the period of January 2019 to December 2019.

Health service providers meeting the inclusion criteria were interviewed to explore their views on how they go about their daily work concerning data processing. Each facility was assessed to establish the availability of an SOP and familiarity of staff to the mental health section of the SOP. The investigator/ data collector confirmed this by requesting a hard/soft copy of the SOP and also by quizzing the service provider about where to locate the section on mental health from the SOP which contains information on other general areas as well.

Qualitative information was gathered by the researcher using an unstructured interview guide. The key informant interviews were tape-recorded. The moderator sought the consent of the respondent to record and take notes on all discussions and assured the respondents of confidentiality, anonymity and privacy. All interviews were conducted between 30 to 40 minutes. After the seventh participant had been interviewed, no new themes emerged from the others who were subsequently interviewed.

Reflexivity was ensured to clear ambiguity and limit the effects of bias. It offered the researcher a sort of personal accountability to the participants interviewed. Within the context of this study,

it was crucial to consider how my professional background could have impacted participants' willingness to talk openly about their experiences, or how this knowledge might have shaped what was said. My study was designed to elicit contributions from a broad range of health workers in open disclosure. During the analytic process no particular group's views were 'privileged' over those of others; that is to say, data analysis included a process of constant comparison between accounts of each group of participants, to uncover similarities and differences, which were subsequently highlighted.

Word for word transcription was done by one research assistant and validated by the team lead. For the transcripts review process, participant data related to the person (names and cadre) were de-identified. The researcher took steps to reduce errors that may have occurred during transcription and translation by validating the typed transcripts with the audio file, checking the accuracy of the content and translation quality. In some situations, the notes taken during the interviews were used to fill in the gaps in the transcripts. The data acquired was coded by organizing and labelling it to identify existing relationships and themes using Microsoft Excel. Electronic files containing the transcripts from the study were stored in password-protected computers.

3.9 Data Analysis

Quantitative data which was obtained was entered in excel for in-depth analysis to ascertain two (2) levels of accuracy ratio and discrepancy ratio of data transfer across the various data sources using a formula (WHO, 2017). The initial level of accuracy was calculated between data from registers (facility counted data) and the monthly client health status reporting form (facility reported data) and the other was between the monthly client health status reporting form (facility

reported data) and DHIMS-2 reported data. The accuracy ratio which is also referred to as the verification ratio is very useful and serves as an indicator for data quality by summing up the reliability of a reporting system.

The formulae used were:

Accuracy ratio for facility data = $\frac{\textbf{Facility counted data}}{\textbf{Facility reported data}}$

Accuracy ratio for DHIMS-2 data = $\frac{\textbf{Facility reported data}}{\textbf{DHIMS2 reported data}}$

The results (value) obtained from the accuracy ratio was interpreted as follows based on WHO and partners standard definition for data quality (WHO, 2017):

Value < 100 – over-reporting

Value > 100 – under-reporting

Value =100 – Accurate reporting

Discrepancy ratio for facility data = 100 - Accuracy ratio for facility counted data

Discrepancy ratio for DHIMS-2 data = 100 - Accuracy ratio for DHIMS-2 counted data

For the qualitative data, a thematic analysis was done. Each transcript was given a unique identifier which was to help in obtaining anonymity. An inductive and deductive coding approach was adopted. As part of the deductive coding, a codebook was developed with themes selected from the interview guide i.e., pre-existing knowledge of the subject area. New codes were added to the codebook as the team sift through the data to fulfil the inductive aspect of the coding approach.

The analysis aimed to systematically, in a transparent manner, translate data collected into a report which accurately portray the experiences of all participants. Codes that were added to the

framework were not originally part of it, when a new code is identified, it is placed under a mother code where it best fits, this was done throughout the coding of each transcript, thus steps were taken to ensure that the experiences of all participants were taken into account. The analysis process was iterative and began during data collection and continued throughout the writing up period. The transcripts were repeatedly read and examined for the researcher to get familiarized with the content as well as to identify initial categories for thematic analysis.

A coding frame was constructed from major themes from the interview guide as well as from themes that emerged from the data during several readings and analyses. An initial list of codes was developed, this was further developed into a functional frame by identifying links between categories, regrouping and sorting them into main themes and subthemes.

The coding frame was then independently applied to the transcripts to test their applicability and to revise it accordingly. Subsequently, the codes were applied systematically to all the data manually, using a Microsoft Excel spreadsheet. Throughout the analysis, codes were constantly reviewed, and new themes were identified. Text relating to themes were pulled up and re-examined by the lead team member. Codes were refined and revised appropriately if the data warranted it.

Established codes were applied to all transcripts for final analysis. Guided by the objectives of the study, the transcripts were analyzed in terms of similarities and differences between each participants response during coding. These similarities and differences were weighed in terms of the category of staff that is responding to the guide, these were highlighted in the report. The report was written based on the themes identified during the coding process, emerging themes were added, they were all segregated into the job description of the respondent. The findings have been presented using quotes from interviews to illustrate major themes.

3.10 Data Quality Control

To ensure the accuracy of data throughout the fieldwork period, the principal investigator was abreast with all the data collection tools and oriented research assistants who were recruited as interviewers to administer data collection tools.

All data retrieval forms were validated for omissions to ensure there are minimal errors for further collation and analysis. Additionally, all interviews were recorded and transcribed and compared with handwritten notes from these sessions. Proofreading was done and copies were stored electronically in the cloud for future reference.

Interviews were all audio recorded in English and transcribed. They were compared with hand-written field notes taken during the data collection process. After proofreading and corrections, the transcripts for the interviews have been secured in the email account of the principal investigator for future reference purposes.

3.11 Ethical Issues

3.11.1 Description of Subjects involved in Study

The study population was made up of service providers who render mental health services at the three (3) selected health facilities.

3.11.2 Informed Consent

Ethical approval was obtained from the Ethics Review Committee of Ghana Health Service before the study commenced. Permission was also sought from the District Director of Health Services and heads of facilities. Participants were in no way coerced to be part of the study.

3.12 Pre-Test

Pre-testing of questionnaires and the interview guide was done at Pantang Hospital in the Greater Accra Region to ensure that questions were well framed and easy to comprehend by participants before the actual study was conducted. All gaps that were identified during the pretest phase of the study tool was reviewed and retested before the commencement of the study Information gathered from this facility was not included in the actual study.

CHAPTER FOUR

4.0 RESULTS

4.1 Introduction

This chapter entails results on the study to assess the integrity of the routine mental health reporting system in the Shai-Osudoku District of the Greater Accra Region. The results being presented are in two (2) sections. The first section describes results from observations and extraction of secondary data in an attempt to estimate the level of accuracy of the selected data element (New cases – Outpatient) from the Monthly Mental Health Client status reporting form. The second part describes qualitative data from interviews that explore factors on the availability of standard primary data collection tools, availability and use of Standard Operating Procedures (SOP) and work and data flow of mental health services.

4.2 Analysis of Quantitative Data

4.2.1 Level of the accuracy of New cases (outpatient) between registers, reporting forms and DHIMS-2

The results presented in Table 4.1 about data accuracy and discrepancy performance for new mental cases (outpatient), for the year 2019 at the Shai-Osudoku District hospital showed that the accuracy ratio for the facility reported data was 100.0% in February, March, June, July, August, September, October, November, and December. However, the accuracy rate for facility-counted data for the Shai-Osudoku District hospital for January, April, and May were found to be 66.7%, 114.3%, and 50.0% respectively. This resulted in over-reporting for January and May, while under-reporting was recorded in April. The facility-counted data accuracy rate of mental health data reporting in the Shai-Osudoku District Hospital for the year 2019 was found to be 94.5%.

This resulted in data over-reporting in the facility.

Moreover, the accuracy rate for DHIMS-2 counted data was found to be 100.0% throughout all the months of 2019. This has resulted in data accuracy of 100% for the year 2019. Hence, the DHIMS-2 counted data was generally found to be accurate in the Shai-Osudoku District hospital in 2019.

Table 4. 1: Shai-Osudoku District Hospital Data Accuracy and Discrepancy performance for New cases (outpatient) reported from January 2019-December, 2019

		Facility data accuracy and discrepancy					DHIMS-2 data accuracy and discrepancy				
Month	**[A]**	**[B]**	**Gap**	**C=[A/B]*100**	**D=[100- C]**	**Report**	**[DH]**	**Gap**	**E=[B/DH]*100**	**F=[100- E]**	**Report**
January	4	6	2	66.7	33.3	Over	6	0	100	0	Accurate
February	3	3	0	100.0	0.0	Accurate	3	0	100	0	Accurate
March	3	3	0	100.0	0.0	Accurate	3	0	100	0	Accurate
April	8	7	-1	114.3	-14.3	Under	7	0	100	0	Accurate
May	4	8	4	50.0	50.0	Over	8	0	100	0	Accurate
June	12	12	0	100.0	0.0	Accurate	12	0	100	0	Accurate
July	18	18	0	100.0	0.0	Accurate	18	0	100	0	Accurate
August	9	9	0	100.0	0.0	Accurate	9	0	100	0	Accurate
September	9	9	0	100.0	0.0	Accurate	9	0	100	0	Accurate
October	7	7	0	100.0	0.0	Accurate	7	0	100	0	Accurate
November	3	3	0	100.0	0.0	Accurate	3	0	100	0	Accurate
December	6	6	0	100.0	0.0	Accurate	6	0	100	0	Accurate
Total	**86**	**91**	**5**	**94.5**	**5.5**	**Over**	**91**	**0**	**100**	**0**	**Accurate**

NOTE: A=Facility counted data; B=Facility reported data; C= Accuracy ratio for facility counted data; D= Discrepancy rate for facility counted data; DH=DHIMS-2 reported data; E= Accuracy ratio for DHIMS-2 counted data; F= Discrepancy rate for DHIMS-2 counted data

In Table 4.2, it was found that the accuracy ratio for facility counted data in the Agomeda Health Centre for February, March, April, May, July, August, September, November, and December were 100.0% each. This has therefore yielded data accuracy reporting for these months of the year under consideration (2019). The discrepancy rate for facility counted data at the Agomeda Health Centre was found to be 9.1%. The results however showed that over-reporting was observed in January and June with an accuracy ratio of facility counted data of 33.3% and 0.0% respectively. Under-reporting was also found in October 2019, with an accuracy ratio of -100.0% at Agomeda Health Centre. Throughout the year of 2019, the accuracy ratio of facility counted data at the Agomeda Health Centre was 90.9%. The data accuracy performance for facility counted data of new mental health cases at the Agomeda Health Centre was found to be over-reported in 2019.

In addition, the accuracy ratio of DHIMS-2 counted data at the Agomeda Health Centre was found to be 100.0% throughout 2019. This yielded an overall accurate data reporting in the year 2019.

Table 4.2: Agomeda Health Centre Accuracy and Discrepancy performance for New cases (Outpatient) reported from January 2019-December, 2019

		Facility data accuracy and discrepancy					DHIMS-2 data accuracy and discrepancy				
Month	**[A]**	**[B]**	**Gap**	**C=[A/B]*100**	**D=[100-C]**	**Report**	**[DH]**	**Gap**	**E=[B/DH]*100**	**F=[100-E]**	**Report**
January	1	3	2	33.3	66.7	Over	3	0	100.0	0.0	Accurate
February	2	2	0	100.0	0.0	Accurate	2	0	100.0	0.0	Accurate
March	0	0	0	100.0	0.0	Accurate	0	0	100.0	0.0	Accurate
April	1	1	0	100.0	0.0	Accurate	1	0	100.0	0.0	Accurate
May	1	1	0	100.0	0.0	Accurate	1	0	100.0	0.0	Accurate
June	0	1	1	0.0	100.0	Over	1	0	100.0	0.0	Accurate
July	1	1	0	100.0	0.0	Accurate	1	0	100.0	0.0	Accurate
August	0	0	0	100.0	0.0	Accurate	0	0	100.0	0.0	Accurate
September	0	0	0	100.0	0.0	Accurate	0	0	100.0	0.0	Accurate
October	2	0	-2	-100.0	200.0	Under	0	0	100.0	0.0	Accurate
November	0	0	0	100.0	0.0	Accurate	0	0	100.0	0.0	Accurate
December	2	2	0	100.0	0.0	Accurate	2	0	100.0	0.0	Accurate
Total	**10**	**11**	**1**	**90.9**	**9.1**	**Over**	**11**	**0**	**100.0**	**0.0**	**Accurate**

NOTE: A=Facility counted data; B=Facility reported data; C= Accuracy ratio for facility counted data; D= Discrepancy rate for facility counted data; DH=DHIMS-2 reported data; E= Accuracy ratio for DHIMS-2 counted data; E= Discrepancy rate for DHIMS-2 counted data

The findings in Table 4.3 shows that the accuracy ratio for facility counted data at the Osudoku Health Centre throughout the year 2019 was 100.0%. This resulted in accurate reporting throughout the year 2019 in this facility. From the table, the accuracy ratio for DHIMS-2 counted data reporting was 100.0% in March, May, July, September, November, and December. Data under-reporting was found in April, June, and October with an accuracy ratio of DHIMS-2 counted data being respectively 200.0% and 400.0% each. Over-reporting was observed in January, February, and August with an accuracy ratio for DHIMS-2 counted data of 66.7%, 0.0% and 50.0% respectively. The overall accuracy ratio for DHIMS-2 counted data was found to be 144.4%, which was classified as under-reporting of new mental health cases recorded at the Osudoku Health Centre in 2019.

Table 4.3: Osudoku Health Centre Accuracy and Discrepancy performance for new cases (Outpatient) reported from January 2019-December, 2019

		Facility data accuracy and discrepancy					DHIMS-2 data accuracy and discrepancy				
Month	**[A]**	**[B]**	**Gap**	**C=[A/B]*100**	**D=[100-C]**	**Report**	**[DH]**	**Gap**	**E=[B/DH]*100**	**F=[100-E]**	**Report**
January	2	2	0	100.0	0.0	Accurate	3	1	66.7	33.3	Over
February	2	2	0	100.0	0.0	Accurate	0	-2	0.0	100.0	Over
March	0	0	0	100.0	0.0	Accurate	0	0	100.0	0.0	Accurate
April	4	4	0	100.0	0.0	Accurate	2	-2	200.0	-100.0	Under
May	5	5	0	100.0	0.0	Accurate	5	0	100.0	0.0	Accurate
June	4	4	0	100.0	0.0	Accurate	1	-3	400.0	-300.0	Under
July	1	1	0	100.0	0.0	Accurate	1	0	100.0	0.0	Accurate
August	1	1	0	100.0	0.0	Accurate	2	1	50.0	50.0	Over
September	3	3	0	100.0	0.0	Accurate	3	0	100.0	0.0	Accurate
October	4	4	0	100.0	0.0	Accurate	1	-3	400.0	-300.0	Under
November	0	0	0	100.0	0.0	Accurate	0	0	100.0	0.0	Accurate
December	0	0	0	100.0	0.0	Accurate	0	0	100.0	0.0	Accurate
Total	**26**	**26**	**0**	**100.0**	**0.0**	**Accurate**	**18**	**-8**	**144.4**	**-44.4**	**Under**

NOTE: A=Facility counted data; B=Facility reported data; C= Accuracy ratio for facility counted data; D= Discrepancy rate for facility counted data; DH=DHIMS-2 reported data; E= Accuracy ratio for DHIMS-2 counted data; F= Discrepancy rate for DHIMS-2 counted data

The overall accuracy ratio of facility counted data for new mental health cases in the Shai-Osudoku District was found to be over-reported (95.3%), with a discrepancy rate of 4.7%. Data accuracy of 100.0% was observed in February, March, July, August, September, November, and December. Over-reporting was however found in January, May, and June with an accuracy ratio of facility counted data of 63.6%, 71.4%, and 94.1% respectively. Moreover, under-reporting was found in April and October with an accuracy ratio of facility counted data of 108.3% and 118.2% respectively.

The accuracy ratio of DHIMS-2 counted data in the Shai-Osudoku district showed that the new cases - outpatient were under-reported by 106.7%. Accurate reporting (100.0%) of cases was found in March, May, July, and September 2019. However, over-reporting of cases was observed in January and August with their respective accuracy ratios being 91.7% and 90.9%. Lastly, there was an observed under-reporting in February, April, June, and October, which recorded accuracy ratios for DHIMS-2 counted data of 140.0%, 120.0%, 121.4%, and 137.5% respectively in the district.

Table 4.4: Composite Accuracy and Discrepancy performance for new cases (Outpatient) reported from January 2019-December, 2019

		Facility data accuracy and discrepancy					DHIMS-2 data accuracy and discrepancy				
Month	**[A]**	**[B]**	**Gap**	**C=[A/B]*100**	**D=[100-C]**	**Report**	**[DH]**	**Gap**	**E=[B/DH]*100**	**F=[100-E]**	**Report**
January	7	11	4	63.6	36.4	Over	12	1	91.7	8.3	Over
February	7	7	0	100.0	0.0	Accurate	5	-2	140.0	-40.0	Under
March	3	3	0	100.0	0.0	Accurate	3	0	100.0	0.0	Accurate
April	13	12	-1	108.3	-8.3	Under	10	-2	120.0	-20.0	Under
May	10	14	4	71.4	28.6	Over	14	0	100.0	0.0	Accurate
June	16	17	1	94.1	5.9	Over	14	-3	121.4	-21.4	Under
July	20	20	0	100.0	0.0	Accurate	20	0	100.0	0.0	Accurate
August	10	10	0	100.0	0.0	Accurate	11	1	90.9	9.1	Over
September	12	12	0	100.0	0.0	Accurate	12	0	100.0	0.0	Accurate
October	13	11	-2	118.2	-18.2	Under	8	-3	137.5	-37.5	Under
November	3	3	0	100.0	0.0	Accurate	3	0	100.0	0.0	Accurate
December	8	8	0	100.0	0.0	Accurate	8	0	100.0	0.0	Accurate
Total	**122**	**128**	**6**	**95.3**	**4.7**	**Over**	**120**	**-8**	**106.7**	**-6.7**	**Under**

NOTE: A=Facility counted data; B=Facility reported data; C= Accuracy ratio for facility counted data; D= Discrepancy rate for facility counted data; DH=DHIMS-2 reported data; E= Accuracy ratio for DHIMS-2 counted data; F= Discrepancy rate for DHIMS-2 counted data

4.3 Analysis of Qualitative Data

Nine (9) key informant interviews were done to obtain information on the availability of standard primary data collection tools, availability and use of SOPs and the data/workflow of mental health services from service providers in the Mental Health Unit at three (3) health facilities.

4.3.1 Background characteristics of respondents

The results from Table 4.5 on the key informant interviews indicates that the majority of the respondents were from the Shai-Osudoku District Hospital and Agomeda Health Centre (4 participants each). The result also indicated a greater number (5) of the participants were Registered Mental Health Nurses. Many of the remaining participants had 2-5 years of work experience (6 participants), while a majority (5 participants) had training college (nursing) as their highest educational level.

Table 4.5: Sociodemographic characteristics of respondents

Item	Number (9)
Facility	
Shai-Osudoku District Hospital	4
Agomeda Health Centre	4
Osudoku Health Centre	1
Cadre	
Psychiatry Nurses	2
Community Mental Health Officers	1
Registered Mental Health Nurses	6
Years of working experience	
2-3	2
4-5	4
>5	3
Highest level of education	
Training College	8
University	1

4.3.2 Type of routine mental health services provided at the various facilities

The results obtained from the key informant interviews conducted in all three (3) health facilities have shown that all the participants were able to describe the mental health services they provide in the facilities.

The most common mental health services provided in all the facilities where the interviews were conducted were popularly grouped into community-based and health facility-based services. According to the study participants, community-based services involved case finding, home visits, health talks and referral. The participants further explained that during case finding; addresses of mental health patients are obtained from the facility or hospital, then staff from the facility go into the community to locate these patients and encourage them to go for their monthly review at the facility and health talks mainly on the causes of mental illness and its management is given to them. The participants were able to demonstrate competence in mentioning the various means and strategies used to conduct the community-based services, as highlighted in the quote below.

*"Okay, when we go for case finding we get the address from the hospital and then we go round, follow up with the address and find the case and talk to them by encouraging them to come for their monthly review at the facility and we give health talk too at the facility" (Registered mental health nurse, **AG 01**).*

This study has found that most of the routine mental health services like admissions are not performed in all the facilities except Shai-Osudoku District hospital that does it for only mild cases for a short duration but refers severe cases to Pantang Hospital. This is because that mental health unit mainly offers community mental health services. As such, they only offer services for new case finding and defaulters tracing which are on an outpatient basis.

"*Okay, here is a community mental health so we don't do most of the things that happen in the ward like admissions so basically we take care of clients, we go out to look for new cases, trace defaulters and we also attend to them in the facility" (Registered mental health nurse, **AG 02**).*

In this study, it was found that for community-based mental health services, some mental health workers did their case searching by visiting places like prayer camps, herbalists, taxi ranks, schools, churches, Mosques, and any other places where many people gather, to offer mental health-related education to the community members.

"We *also go to prayer camps, herbalists and wherever we can find mental health clients and you educate them to see the importance of bringing them to the hospital. We also give education to the public, in schools, taxi ranks and anywhere we find people" (Registered mental health nurse, **AG 03**).*

"Okay basically this is a community psychiatric unit, here we don't do admission but what we do is we do out-patients services, we do home visits, we do counselling, we do contact tracing and we do health talk in schools and organization so yes basically that's what we do here" (Mental health nurse, AG 04).

Furthermore, the participants interviewed threw more light on the different types of services they provided. The participants noted that community-based mental health facilities offer services on an outpatient basis, that is, they do not admit patients. What is mainly done in such facilities is case search, tracing of defaulters, giving of medication, health talks and home visits.

*"Okay, here is a community mental health facility so we don't do most of the things that happen in the ward like admissions so basically we take care of clients, we go out to look for new cases, trace defaulters and we also attend to them in the facility" (Registered mental health nurse, **AG 02).***

"Okay basically this is a community psychiatric unit, here we don't do admission but what we do is we do out-patients services, we do home visits, we do counselling, we do contact tracing and we do health talk so in schools and organization so yes basically that's what we do here" (Mental health nurse, ***AG 04****).*

In this study, it was also found that mental health nurses visit the homes of their clients every week, and conduct follow-up on defaulters to ensure that they are taking their prescribed medications. This helped them to identify patients who are sometimes faced with the difficulty of procuring their medications due to lack of funds. In instances like these, mental health nurses occasionally used their own money to pay for medications for such patients.

"About mental illness and other things that we do too and then we visit our clients we check on them to see if they are taking their medication regularly … Their homes, every week we visit them, those who defaulted we chase up, we follow up to see if they are still on it or they are not taking it" (Psychiatry Nurse, ***DD 01****).*

"We use our own money because we take the medicines from the pharmacy, we liaise with the pharmacy and they give us the psychotropic drugs so we keep it here so when we sell them we account to them, so when our clients come like this and say today I don't have money, you have no choice because you want to protect that client you have no choice for the client to relapse you end up using your own money to pay for it" (Psychiatry Nurse, ***DD 01****).*

For health facility-based services too, mental health workers do just as they do in the community. In some instances where pregnant women are due to deliver through caesarean section, these women are counselled before the procedure to allay anxiety. This is usually done by giving health talks at the antenatal care clinics on postpartum depression or postpartum psychosis.

"I do go to maternity to give health education too on causes of mental illness, … I psyche them for CS … to allay anxiety, and so far when they go I get a good report that there's nothing like fear just to prevent complications and things, so it encourages me and the staff at maternity too.

*We discuss postpartum depression or postpartum psychosis, just give health education over there" (Psychiatry Nurse, **DD 01**).*

The mental health services provided by participants in this study included home visits, institutional-based health talks, case finding, and school health talks.

*"Home visiting, case finding, home tracing, school health talks, organizational talks" (Registered mental health nurse, **OS 01**).*

4.3.3 Availability of standard primary data collection tools for mental health information in the Shai-Osudoku District

The results of the study indicate that there are currently no standard registers in use by service providers for mental health though standardized monthly reporting forms are available; though the Mental Health Authority planned to provide this in 2019 (Mental Health Authority, 2018). This in essence affects the quality of data being collated by service providers, however, the absence of standard registers does not prevent service providers from collecting data on the services they provide regardless of challenges with the process.

In this study, the health workers noted that they used improvised notebooks to record contact details of identified mental health patients in the respective communities. Participants alluded that they collect primary data of their clients using their improvised books. Additionally, registers that were being used at these facilities were not well designed to capture mental health data. At the Shai-Osudoku Hospital, a standard ward register was in use for capturing services rendered on an outpatient basis; this does not facilitate the capture or documentation of accurate data. For instance, some mental health workers shared their views this way on the issue in the following conversation:

Q. Please describe the register you use in collecting your primary data

R. We have an improvised register that we take" (Registered mental health nurse, ***AG 01****).*

Q. Okay, so when you go out to provide community-based services, how do you capture data on services provided away from the facility during community-based service programs?

*R. Oh we take notebooks along so when we go and we give health education to a group we record it as health education given to this or that groups, the females, the males, their number so when we do that it's a form of... It's a way of capturing information and after the talk, you may be surprised that some of the people will listen to your education and say with this, we know of a client or someone with the condition in this house so it's a form of case search and after they tell you, they direct us to their homes and there we capture their information, their age and all that, we take their contacts as well (****DD 02****)*

Furthermore, participants have at least a register at the facilities that are used to record clients' information. However, when they are going for case search, they create an improvised record book for data capturing. After the end of a day's work, they transfer all information from the improvised records book into their data capture register once they return to the facility. They create several categories of data capture variables in these improvised books, these include the name of the client, age, relatives and their contact information, and medical history, among others.

"We take a small notebook and then we write the number of clients that we visit. For case search when we are searching for new clients we write it, so we have a big notebook here when we come we enter" (Psychiatry Nurse, ***DD01****).*

"I take clients history and client information, the name, the age, relatives, number of children, the marital status and all that ... In my improvised notebook" (Registered mental health nurse,

OS 01).

The participants of this study noted that they used notebooks such as home visits books, the health talk books and the school visit books in collecting the various primary data at the community level. The health workers used these books to write the daily activities on case finding which served as evidence to the performance of their duties.

"We have the home visits books, the health talk books and the school visit books" (Registered mental health nurse, ***AG 03)***.

"Okay, we have a book to that effect, that when we go to that community, the date, where we go to, the kind of people we associate with, we put it to writing so there's a book there that can give evidence of this" (Psychiatry Nurse, ***DD 03)***.

4.3.4 Availability and use of Standard Operating Procedures for mental health information

In trying to understand whether participants were aware of the standard operating procedures (SOP) of health information management in the Ghana Health Service, which spells out specific mental health capturing and reporting; it was found from the results in this study that not all service providers were aware of the existence of any SOP. The results showed that a participant of this study was not aware of any SOP that presents standard mental health data capturing. If there was any, the facility was not going according to what has been outlined in it.

Out of the three (3) health facilities, Agomeda Health centre was the only facility that had the printed portion of the SOP that relates to mental health. Concerning the ability of participants to describe the content of the SOP, a participant indicated that the content is linked with the various headings in their reporting forms, according to him, the SOP puts an explanation to each heading.

Few of the participants indicated that they use the SOPs with a varied frequency of their use between the different health facilities where it is available. Some participants use it only when they are doing their monthly validation, while others used it during diagnosis. It is however worthy to note that few participants of this study were open to the fact that, they did not use the SOP even though they had it. For participants in this study who used the SOP, it was found that some used it two weeks before the day of interviews, whilst one participant who used it during validation did so three (3) months ago.

"Yes, I'm aware. Yes, I have a printed portion here" (Registered Mental Health Nurse, ***AG 01*****).**

"Yes, I have heard it before but ... not seen it before" (Psychiatry Nurse, **DD 01).**

"Yes, with the SOP I am aware of it but we are not really practising it here, we are not doing it here. No, we don't have one currently" (Registered Mental Health Nurse, **DD 04).**

Q. How often do you use it?

R. During monthly validation (Registered Mental Health Nurse, ***AG 02****).*

R. *Okay I must be honest, not so much" (Registered Mental Health Nurse,* ***AG 04).***

Participants' familiarity with the domains of the SOP in the area of mental health was sought. The participants in this study were quizzed on their understanding of the following variables new cases, relapse, defaulter, recurrent, voluntary and involuntary treatment as captured in the SOP. Almost all participants who were able to identify these domains gave their right definitions, even though a few of them gave slightly different definitions, but with the main ideas being captured.

"A new case for us is someone who hasn't been here before so first time coming to the unit and that is what we classify as a new case because sometimes someone will come and say that five years ago I went to Pantang but for here it's a new case for us even though it's an old case" (Registered Mental Health Nurse, ***AG 04).***

"A relapse case is when the person is on treatment and maybe after some time, the person comes back to the old state" (Registered Mental Health Nurse, ***AG 02).***

"So defaulter is somebody who has refused to come for review on his day of the appointment or his scheduled date" (Psychiatry Nurse, ***DD 03)***

Voluntary client: *"When the person walks in by himself that I can see that I'm not all that well" (Registered Mental Health Nurse,* ***AG 01*****)**

Involuntary client: *"That one is a form of treatment that we impose on the individual without his consent, we realized that with the condition or whatever behaviour the person is exhibiting is a threat to the family and the society so we use our own discretion to treat the person" (Community Mental Health Nurse,* ***DD 02*****).**

4.3.5 Challenges associated with the work and data flow of mental health services

Generally, it was observed that data primarily emanates from both community-based and institutional-based services. Daily, as the health workers provide their routine services, they record them in improvised books and prepare a summary report at the end of the reporting period using existing standard reporting forms to the next level for data entry in DHIMS-2. Mental Health Staff at all these facilities are not engaged in the data entry process into DHIMS-2.

In this study, some participants noted that the routine mental health data reports are written to know what is going on and if any changes need to be done. It was also found from this study that mental health records are kept daily and entered into the DHIMS-2 at the end of every month. Other participants gave a brief history of mental health reporting, stating it has changed from a centralized reporting to the point where they give their data to the Health Information Officer at the district who then input them into the District Health Information Management System 2 (DHIMS-2).

"Yes I think reports are written to know what is going on and if there are some changes that need to be done then it's put in place but it seems we write the report monthly for

about 2 or 3 years now but nothing has changed" (Registered Mental Health Nurse, ***AG 04).***

"To my best of knowledge we keep a record on daily basis and at the end of every month, you keep it in the DHIMS-2 form so that those who are responsible for it know what is happening so to me I think it's okay" (Psychiatry Nurse, ***DD 03).***

"Well there have been a lot of changes recently for the past years, when I came into the system, first we were going to the region to do monthly submission of reports but now I think they thought it wise because of transportation challenges and distant issues so now we were giving the reports to the facility and at the end of the year we will send it to the region but later on they changed it when the DHIMS-2 came in, so now monthly we give the monthly reports to the information guys then they input it through the DHIMS so now if you go to DHIMS-2 and you search psychiatry everything concerning our data in Shai- Osudoku, you will get it…" (Registered Mental Nurse, ***DD04).***

Moreover, this study also found that some challenges encountered by mental health staff in the Shai-Osudoku District range from inability to buy medications, lack of infrastructure and lack of funds to continue with treatment. In addition, difficulty in contact tracing as a result of inaccurate addressing system given by clients, and unwillingness to release information to health workers by family members. Participants also complained about the lack of funds to run services such as photocopying and home visits.

"Sometimes wrong house addressing system, sometimes they come to you and give you directions you can't find and sometimes relatives who are not cooperative" (Registered mental health nurse, ***AG 02).***

"Sometimes too in the information we might request from the people you might not get it, they try to hide certain vital information from you, it makes data collection not accurate because these conditions people are also comfortable to talk about it and for the first time seeing the person in the community the person might not trust you much and give out all the information that you need"(Community Mental Health Nurse, ***DD 02***).

"We don't have a ward" (Psychiatry Nurse, ***DD 01***).

"…sometimes too, getting the client to purchase the medication makes it difficult so they tend not to come and when we go and look for them too their relatives will tell you they are not around, that's how come I don't get the defaulters, sometimes I don't get

*the money for home visits, they will tell me there's no money and psychiatry doesn't fetch money for the facility" (Registered mental health nurse, **OS 01**).*

The majority of participants complained that their superiors do not prioritize issues of mental health at their facilities. This was about the lack of concern from facilities' management in providing the needed logistics to ensure the delivery of mental health services. Participants also noted a lack of monitoring visits or supportive supervision from management for mental health service delivery. Participants cited that other units in their facilities are provided with logistics and equipment to work, however, the same cannot be said for them.

*"I don't really see that … They don't take it seriously let me put it that way because if they take it seriously they would have given us the books and resources that we need to take the data but we don't have so we need to improvise" (Registered mental health nurse, **AG 01**).*

*"I think daily monitoring of the report, whoever is in charge should ensure that the right thing is been done, we don't just give it to anybody at all to take data, a superior, a supervisor should insist and ensure that the right thing is done" (Psychiatry Nurse, **DD 03**).*

*"They don't care about it because if for other units, I can remember other units from the clinical side everything they see to it that everything is intact but nobody comes here to ask me "let me see your report for the month or weekly activities or something". I can even take my itinerary and all that and they will just ignore it, you won't even see it pasted there and even when you go there, you see the other units, maybe the disease control number is there or the nutritionist but the psychiatrist, mine is not there" (Registered mental health nurse, **OS 01**).*

However, on a few occasions, interest-driven leadership was apparent with the data generated on mental health by their facility, where management engage with their staff to be abreast with what is happening in the facility.

*"With the data yes, the boss is interested in it so he ensures that when we write our report he wants to have a fair idea of what goes on before he approves of it to take it out" (Psychiatry Nurse, **DD03**)*

The participants noted that to improve the quality of data they generate at the facilities, they

should be supported by the facility management. They expressed the need for additional staff to beef up the current staff strength and also given financial support to facilitate service delivery. A few participants also believed that further training in data collection should be organized for them to help strengthen the quality of data they generate.

"I need manpower, I'm the only psychiatric nurse here and I'm a female so sometimes when I go for home visits and the clients are aggressive it becomes difficult for me" (Registered mental health nurse, ***OS 01).***

"I will humbly plead if all mental health officers could be taken through the data taking properly" (Psychiatry Nurse, ***DD 03).***

"We need financial support to move out … Sometimes because we don't have money we cannot move, we need financial support" (Psychiatry Nurse, ***DD 01).***

The results also showed that there was a lot of risks involved in the provision of mental health services, hence, those who work in such facilities should be appropriately motivated. Participant also mentioned that government should ensure the establishment of mental health hospitals in every region in the country as stipulated in the mental health law. Also, participants noted that to improve the reporting system, mental health staff should be given an improved working environment/infrastructure (That is office space) in every health facility.

"I don't have a personal unit, I have been perching, my clients too they need privacy, I don't have a personal unit" (Registered mental health nurse, ***OS 01)***

"The mental health law has been passed, ideally there was supposed to be a mental health hospital in every region but still it's not going on, we are still having three mental hospitals and they are outsourced, we are poorly resource. Mental health is very expensive and the government is not putting much into it… my suggestion and appeal are that the government should put more stakes into it so that it will be valued well and the job will be done properly, if we do it well our mentally challenged patients will also be better because we are all prone to mental health illness; nobody is free from that so it could be you today, it could be somebody else tomorrow, yes that's the problem"(Registered Mental Health Nurse, ***DD 04).***

CHAPTER FIVE

5.0 DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Discussion

This study aimed to assess the integrity of the routine mental health reporting system in the Shai-Osudoku District. High-quality information to measure the need for, and the uptake, cost, quality and impact of care is important for scaling up mental health care in Ghana.

5.1.1 Level of the accuracy of mental health information between registers, reporting forms and information management systems

Accurate information is vital for making decisions at any level of a mental health system. The present study has found that the overall accuracy and discrepancy performance for New cases (outpatient) in the Shai-Osudoku District and Agomeda Health Centre was over-reported with discrepancy rate for facility counted data of 5.5% and 9.1% respectively%. Interestingly, these two health facilities reported 100% DHIMS-2 data accuracy and with no discrepancies compared with facility counted data. The possible explanation for this could be that healthcare providers in the district did not all have standard guidelines on how to manage the whole data process because they did have adequate training on mental health data collection. This finding has the potential of affecting policy-making because accurate data and information are needed to make the most out of scarce resources; plan and design more efficient and effective services; monitor and evaluate services; and facilitate the provision of appropriate, good quality and evidence-based care (Cibulskis et al., 2002). The present study finding however supported a report by Robey & Lee, 1990; that there is an excess of inappropriate data as health service supervisors

and peripheral health workers report incomplete data, inaccuracies and discrepancies from primary data sources and rarely receive feedback on the data reported to superiors.

On facility-based data accuracy, it was found that the total discrepancy rate for facility counted data for the Shai-Osudoku District hospital was 5.5%, yielding over-reporting in that facility. This study has also found a discrepancy rate for DHIMS-2 counted data of zero throughout the year (2019). This has resulted in the data reporting category of the DHIMS-2 data accuracy and discrepancy being found as accurate in the Shai-Osudoku District hospital. Again, the data accuracy and discrepancy performance for new cases (outpatient) at the Agomeda Health Centre was found to be over-reported. Also, the DHIMS-2 data accuracy and discrepancy at the Agomeda Health Centre showed that the discrepancy rate for facility counted data was zero, leading to accurate data reporting in this facility. These observed errors in data across the facilities might have been committed during collating primary data, suggesting that providing well-designed/ standard registers to service providers to use to capture data will ensure uniformity of data capture at all levels of the health care system for achievement of quality data (Kayode et al.,2014).

Moreover, the discrepancy rate for facility counted data at the Osudoku Health Centre was accurate, while the DHIMS-2 data accuracy and discrepancy level were under-reported.

5.1.2 Availability of standard primary data collection tools for Mental Health Information

The findings in this study showed that participants collected primary data of their clients using an improvised book which is then transferred into an improvised register after they returned to the facility. The process of documenting in standard registers is a measure of ensuring data quality right from the initial contact with clients, to ensure data captured suits all the dimensions of quality data. This finding in part does not agree with the suggestion that a basic principle of any mental health information system is that it should gather the minimum required information using appropriate tools to collect minimum data set that is most essential to providing information relevant for use (Bodart et al., 2000). The non-availability of standard registers to capture data is a big hurdle that needs to be addressed as a matter of urgency by the Mental Health Authority of Ghana considering the concerns of all service providers that were interviewed. At the community level of data collection, participants used notebooks which they named as home visits books, health talk books and school visit books in collecting the various primary data. The various variables that are captured during mental health services delivery in the various health facilities included age, name, sex, duration of the condition, medications used in managing, medical histories, past psychiatric history, present history, family history, and the number of children one has. This finding agreed with the assertion that the Mental Health Information System is the use of well-defined indicators to summarize information relevant to a particular phenomenon, indicate a given situation and used to measure change (Bilsker et al., 2002). A key observation from this study however, is that there are no standard registers to collect primary data at service delivery points (community level) in the district.

5.1.3 Availability and use of Standard Operating Procedures for mental health information

In this study, the majority of the participants in this study were aware of the availability of SOP for mental health. The participants described the content of the SOP according to the various headings in their reporting forms. This finding contradicted the points by (Dartnall et al., 1998) that mental health cases are not being classified accurately, with activities of mental health providers not also being adequately tracked, and the quality of data varying between different service levels.

This finding was not also in line with the concern that poor data collection is often due to management's lack of an information policy and accompanying regulations. That is, the unavailability and lack or inadequate use of standardized operating procedures increase the chances of churning out poor quality data (Robey & Lee, 1990). A few of the participants indicated that they used the SOPs, with varied frequency, between the different health facilities where it was available.

Unfortunately, a few participants of this study did not use the SOP even though they had it at their facilities. The non-adherence to the SOP could be a possible reason as to why there are inaccuracies in the data collection process.

Some of the participants in this study used the SOP during diagnosis, two weeks before the day of interviews, whilst others used it during validation.

Participants in this study were able to define the most common terms of mental health services delivery as captured in the SOP; new cases, relapse, defaulter, recurrent, voluntary and involuntary treatment.

5.1.4 Challenges associated with the work and data flow of mental health services

Some participants of this study noted that the routine mental health reporting system has changed from a centralized reporting to a point where they give their data to the Health Information Officer at the district who then input them into the district health information management system 2 (DHIMS-2).

In this study, some challenges encountered by mental health staff in the Shai-Osudoku District ranges from lack of required and standard recording books, inability to buy medications, lack of infrastructure, inadequate staff, to lack of funds to continue with treatment. This finding agreed with what was reported by (Faydi et al., 2020) that during the implementation of an MHIS, several barriers of inadequate personnel, equipment, infrastructure and training will inevitably be encountered, during data collection, processing, analysis, dissemination and use. It was also found in this study that the staff face difficulty during contact tracing as a result of inaccurate addresses given by clients and unwillingness on the part of some family members to release information to health workers.

It was also found from this study that issues of mental health were not prioritized at the facilities. This was about the lack of concern from facilities' management in providing the needed logistics to ensure the delivery of mental health services. This finding could be associated with the claim that globally, health information systems rarely collect and utilize routine data related to mental health; despite evidence of the significant burden of disease posed by mental disorders (Andrews et al., 2000). However, one participant indicated that his facility management had an interest in the data generated by the facility and engages with them to be abreast with what is happening in the facility about mental health.

5.2 Conclusion

This study has found that the accuracy of mental health data in the Shai-Osudoku District was over-reported with a discrepancy rate for facility counted data of 95.3%. On the other hand, the DHIMS-2 data accuracy and discrepancy in the Shai-Osudoku district was found to be under-reported with a discrepancy rate of 106.7%. The most common mental health services provided in all the facilities were community and health facility-based services. The participants used improvised notebooks to collect primary data of their clients in the communities and record them into their registers at the health facilities after their daily or weekly community visits. In the facilities, study participants mainly undertake case search, tracing of defaulters, giving of medication, health talks and home visits.

In addition, it was found that not all participants of this study were aware of the existence of SOP in the system. Some participants indicated that they used the SOPs, with a varied frequency of their use between the different health facilities. Participants in this study used the SOP during diagnosis, before the day of interviews, whilst others used it during the validation of monthly reports.

The flow of data was found to be done by reporting data to the Health Information Officer at the district who then input the data into the district health information management system 2 (DHIMS-2). The challenges encountered by mental health staff in the Shai-Osudoku District ranges from lack of required and standard recording books, inability to buy medications, lack of infrastructure and lack of funds to continue with treatment. In addition, difficulty in contact tracing as a result of inaccurate addressing system given by clients and unwillingness to release information to health workers by family members.

5.3 Recommendations

1. The mental health unit of the Ghana Health Service under the institutional care directorate should consider building the capacity of service providers for mental health on how to use the SOP and also provide standard registers to the mental health units of the various facilities in the Shai-Osudoku District and other health facilities in the country.

This will ensure easy data capture and standard reporting at all levels of health care delivery. Preferably, it can print out only the section from the SOP that relates to mental health for distribution to all mental health service providers.

2. Management of the Osudoku Health centre should make a separate unit for mental health service delivery in that facility. This will ensure the privacy of clients and increase their willingness to give out the needed information for case management.

3. The activities of the mental health workers are quite involving and risky. Therefore, these health staff should be supported by the management of the health facilities and additional staff added to their facility to assist with work.

4. Further training and re-training on data collection should be organized for staff by the Mental Health Authority to help strengthen their knowledge and skills in the collection of quality data and accurate data reporting.

5. Future research should be conducted on the trends of data accuracy reporting rate in the Shai-Osudoku District, with attention to the reasons that result in the variation of data accuracy across individual months of the year.

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APPENDICES

APPENDIX A: Informed Consent Form

School of Public Health, College of Health Sciences – University of Ghana

Title of study: Assessment of the Integrity of the Routine Mental Health Reporting System in the Shai-Osudoku District in the Greater Accra Region

Researchers Name: Benedicta Owusu – Appiah

Researchers phone number: 0244155610

Department: Social and Behavioural Sciences (SOBS)

Background

Dear participant, Benedicta Owusu – Appiah is my name, I am a student at the School of Public Health, University of Ghana, Legon. I am undertaking a study on the **Assessment of the Integrity of the Routine Mental Health Reporting System in the Shai-Osudoku District in the Greater Accra Region.** The study hopes to establish the level of data quality of mental health information and also explore the views of service providers on how to improve the situation in the Shai-Osudoku District.

The study will involve the collection of secondary data and interviewing of service providers of mental health to provide a better understanding of the study topic.

This is purely academic research which forms part of my work for the award of a Master of Public Health degree. I would be very grateful to have you as part of this study.

Procedure

The study will recruit Service providers of mental health who are mainly involved in the collation of data and have minimum working experience of 2 years or more. You will be required to sign an

informed consent form to establish your voluntary participation in the study.

An unstructured interview guide will be used to solicit responses from you. All conversations will be recorded and handwritten notes were taken as well.

Risks and Benefits

The study will not cause any discomfort to you as a participant. It is hoped that the results obtained

this study will be used by policymakers and health providers to improve the quality of mental

health information for decision making and planning purposes.

Right to refuse

Participation in this study is voluntary and participants can choose not to answer any particular question or all questions. You are at liberty to withdraw from the study at any time. However, it is encouraged that you participate since your opinion is important in determining the outcome of the study.

Anonymity and Confidentiality

I would like to assure you that whatever information is provided will be handled with

strict confidentiality and will be used purely for research purposes. Your data will not be shared with anybody who is not part of the research team. Your identity will not be disclosed in the material that is published.

Before Consenting

Do you have any questions that you wish to ask? If you have questions later, or anything you wish to seek clarification regarding the research, you may contact the Principal Investigator – Benedicta Owusu – Appiah on 0244155610 or Nana Abena Apatu on 0503539896.

Consent

I……., declare that the purpose of the study has been thoroughly explained to me in the English language and I have understood. I hereby agree to answer the questions.

Signature……. **Date**……/……/……

Thumbprint……

Interviewer's Statement

I, the undersigned, have explained this consent form to the subject in English or Twi language that he/she understands the purpose of the study, procedures to be followed as well as risks and benefits involved. The subject has freely agreed to participate in the study.

Interviewer's signature……

Date……/……/…….. **Address**……

STUDY TOOLS

APPENDIX B: Data Retrieval Form for Data Accuracy of Mental Health Client Status Reporting Form

Please retrieve data for the data element for the reporting period of Jan - Dec 2019

Facility Name……. **Data Element**……New Cases – Outpatient…….

S/N	Month	**Recount** the number of data **recorded** during the reporting period by reviewing the **source documents** (**tally sheet or register**) [**A**]	**Copy** the data reported by the facility during the reporting period from the **Mental Health Client Status Reporting Form** [**B**]	Calculate the Accuracy ratio of **recounted** to **reported** data. [**A/B] *100 (**Verification Factor –VF**)** **[C]**	Result interpretation **Under**-reporting or **over**-reporting	Data discrepancy rate [**100- C]**	**Extract** the data **entered** in **DHIMS** during the reporting period from the **Mental Health Client Status Reporting Form** **[D]**	Calculate the Accuracy ratio of **entered** to **reported** data. [**B/D] *100 (**Verification Factor – VF**)** **[E]**	Result interpretation **Under**-reporting or **over**-reporting	Data discrepancy rate **[100- E]**
1	January									
2	February									
3	March									
4	April									
5	May									
6	June									
7	July									
8	August									
9	September									
10	October									
11	November									
12	December									
	Total									

A—Recounted data from tally sheet or register **B**—Facility monthly summary report **D**–DHIMS data

Percentage of Accuracy ratio **(A/B*100 or B/D*100)**

Under-reporting--- Recounted data is greater than (>) 100% of facility summary Reported data

Over- reporting---Recounted data is less than (<) 100% of the facility summary Reported data

Data accuracy level of the study is good and can be used for planning and decision making if the discrepancy rate is less than 1

APPENDIX C: Interview Guide for Healthcare Providers

Code of respondent…/…..

Date of Interview…./…../…….

Initial of Interviewer……. **Name of Facility**……**Subdistrict…….**

A. DEMOGRAPHIC AND JOB INFORMATION (*Please include this section in the recording)*

1. Sex: Male/Female 2. Cadre: …….. 3. Years of practice…...
4. Highest level of education…….

B. BASIC INFORMATION

1. Can you please describe to me the mental health services that you provide at this facility?
   ***Probe** for details, ask if he/she offers facility/community-based services.*

   If the provider offers community-based find out where and how he/she captures data on the services provided when away from the facility?

2. Please describe the registers you use in collecting primary data? How many registers do you use in collecting primary data?
   Probe to find out what variables are in these registers and whether the registers are standard or improvised.

3. Are you aware if there is an SOP for mental health? Do you have an SOP to guide your process of data collection?
   If the provider does not have an SOP please skip to question (d)
   a. Please describe the SOP? ***Probe for evidence***
   b. Probe to find out where the officer can locate that for Mental Health

c. Do you use it? If yes, how often and when was the last time you used it?
d. Please explain to me these terms as related to your area of work

New case, Relapse, Defaulter, Recurrent, Voluntary treatment, Involuntary treatment

4. What is your opinion about the routine mental health reporting systems?
5. What are some of the challenges you encounter in data management in your health facility? *Please give details on these challenges*
6. Do you think mental health data is of priority to your superiors? ***Please elaborate***
7. Do you have any recommendations to strengthen the quality of data generated at your level?
8. Please suggest any idea(s) to improve the routine mental health reporting system?

Handout this sheet to the service provider to fill before/after the interview

1. Can you please describe the routine process of collating data in your health facility on the following basis?
    a. Daily

    b. Weekly

    c. Monthly

    d. Quarterly

    e. Annually

APPENDIX D: Monthly Mental Health Clients Status Form
Name of

Facility……..……..Subdistrict……..

District……..……..Region…….Month…….Year……

Activity	Male	Female	Total
New cases - Outpatients			
New cases - Inpatients			
New cases through active case search			
Voluntary treatment			
Involuntary treatment			
Insured clients			
Non-insured clients			
Deaths			
Relapsed			
Defaulters			
Recurrent			
Clients with adverse medicine reaction			
Clients received from traditional & herbal centres			
Clients received from faith-based healing centres			
Patients brought to the facility in chains or shackles			
Clients received from criminal justice institution and special institution (police cells, security services)			
Admissions voluntary			
Admissions involuntary			
Admissions court order			
Admissions by certificate of urgency			
Seclusions (confinement of mental patient)			
Absconded			
Discharges			
Vagrants treated			
Repatriated clients			
Repatriated clients received			
Clients with physical disabilities (motor, vision, speech, hearing)			
Perinatal depression			
Postpartum psychosis			
Attempted suicide			
Suicides			
Clients referred (in)			
Clients referred (out)			