

**DETERMINANTS OF REPORTING RATES FOR HIV TESTKITS; A CASE OF
MERU COUNTY, KENYA**

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FOR THE CONFERMENT OF THE DEGREE OF MASTERS OF SCIENCE IN
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DECLARATION

This thesis is my original work and has not been presented for a degree at any other university.

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DEDICATION

I dedicate this thesis to my dear family and friends for the moral support they have offered so far. May God bless them.

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I acknowledge my supervisors, Dr. Caroline Kawila and Ms. Lillian Muiruri, for their effort and guidance to see me through the process of proposal writing. My family for their moral support and my employer for allowing me time to work on my Project.

ABSTRACT

Ministry of Health has adopted reporting rates as a measure for improving health service delivery in terms of ensuring the health commodities and products supplied to the facilities are reported accurately at the end of the month for proper planning. Uninterrupted health commodity supply is determined by ensuring commodity reports are uploaded into District Health Information System 2 platform which is a national system for consolidating consumption data. It is this data that the national allocation committee uses to quantify and project HIV test kits required by facilities on quarterly basis. The main objective of the study was to assess the factors that influence reporting rates on HIV test kits in Meru County while the specific objectives are to determine the influence of the availability of the recommended reporting tools for HIV test kits, to examine the influence of human capacity on reporting rates for HIV Test kits, to assess the influence of the availability of standard operating procedures on reporting rates for HIV test kits and to determine the influence of organizational factors on reporting rates for HIV test kits. The study embraced quantitative research design where quantitative approach was used. The study target population was 270 Healthcare workers in Meru County to assess the role or the factors that affect the reporting rates of HIV test kits. The study used purposive sampling technique to sample the respondents that are Health care workers who are responsible for consolidating facility level HIV test kits reports in Meru County. Therefore the sample size was 270 health care workers. The study used semi structured questionnaires and data extraction sheet to collect the data. Majority 153(, 61.2%) were familiar with the recommended data reporting tools (MOH 643) ($\chi^2=101.76$, $p<0.05$) slightly more than half of the Healthcare workers were regularly trained in the recommended data reporting tools (MOH 643 tool) 145, (58.0%) ($\chi^2=6.4$, $p<0.05$). Approximately 101(40.4%) indicated that recommended data reporting tool(MOH 643) is adequate in capturing the consumption data of the HIV test kits ($\chi^2=77.67$, $p<0.05$). Most of the respondents disagreed that there were enough staffs in the facility to fill the consumption data of the HIV test kits. The respondents agreed to the statement that they were aware of HIV test kits policies that are in place and the agreed that the policies were helpful at their work. The respondents agreed that they had a supervisor whom they report to in the course of their work and that their supervisor was not always available for consultation. There was strong positive relationship that was significant ($p<0.05$) between reporting rates and availability of the recommended reporting tools ($\rho=.693$, $p<0.05$) while a strong positive relationship existed between reporting rates and availability of standard operating procedures ($\rho=.814$, $p<0.05$) and a strong positive relationship between the reporting rates and human capacity ($\rho=.896$, $p<0.05$) and support supervision ($\rho=-.407$, $p<0.05$) and thus presence of enough staff, availability of standard operating procedures, supportive supervision all affects reporting rates for HIV test kits. The coefficient of determination obtained from the model was .663 and this indicated that the regression model explained only 66.3% of the factors that explained reporting rates on consumption data of HIV test kits in the county. In conclusion, recommended data reporting tools to capture HIV consumption data were inadequate. Inadequate training among health care workers, SOPS and guidelines were not well displayed at service delivery points and support supervisions by county and sub county team were not adequate. The study recommended capacity building among health care on reporting tools for HIV test kits, avail adequate commodity reporting tools for HIV test kits, Standard operating procedures to be displayed in service delivery points and there is a need for county/sub county team to conduct regular support supervision to facilities.

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ABBREVIATIONS AND ACRONYMS

ACT	Artemisinin-based combination therapy
CMS	Central Medical Stores
DHIS	District Health Information System
FDA	Food and Drug Administration
GMP	Good Manufacturing Practice
HCWs	Healthcare workers
HRH	Human resources for health
KEMSA	Kenya Medical Supplies Authority
HCWs	Healthcare workers
MOH	Ministry of Health
RDT	Rapid diagnostic tests
SOPs	Standard Operating Procedures
SPSS	Statistical package for social sciences
WHO	World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

As indicated by the World Health Organization, structure for health frameworks a well-working health framework guarantees fair admittance to fundamental clinical items, immunizations and advancements of guaranteed quality, security, adequacy and cost-viability, and their logically solid and financially savvy use. To accomplish these destinations, public approaches, principles, rules and guidelines that help strategy are required, data on costs, the situation with global economic alliance and the ability to set and arrange costs; , solid assembling rehearses when they exist in-nation and quality appraisal of need items; acquirement, supply and capacity, and conveyance frameworks that limit spillage and other waste; and backing for sane utilization of meds, products and gear, through rules and methodologies to guarantee adherence, lessen opposition, augment patient wellbeing and preparing.

World Health Organization (WHO, 2007) has identified commodity management as one of the pillar that is key for the achievement of universal health care. To promote service delivery, health commodities need to be accurately accounted and reported using the approved reporting structures to ensure continued and uninterrupted service delivery throughout the year

Many developed countries in Europe and America introduced and use commodity reporting systems to track the consumption data of key health commodities and among the key player is the USAID which supports from the HIV, TB, malaria, reproductive health and family programs (Management Science for Health Commodity report, 2018). In Africa, most

countries are still struggling to establish a robust commodity accountability and reporting systems due to limited resources allocated by the government to promote commodity reporting and management. In Kenya, upon HIV kits distribution to facilities by KEMSA team, sites are required to account for them at the end of the month. Consumption data on HIV test kits are usually consolidated by use of a standardized commodity reporting tools (MOH 643) by health Care Workers on monthly basis. Upon consolidation, MOH 643 reporting tools are submitted to respective sub county medical Laboratory Coordinators (SCMLTs) for uploading into DHIS. This should be done before 5th day of the following month. Sub county Medical Laboratory Coordinators (SCMLTs) then consolidate commodity reports for all facilities within the sub county and uploaded into District Health Information System (DHIS). On quarterly basis, HIV test kits are allocated using data already populated in DHIS. Average month consumption (AMC) calculated based on commodity data available on average. The National allocation committee allocates HIV test kits guided by the available data in DHIS following bottom-up approach. Final distribution list of HIV test kits from National allocation committee is then shared with National AIDS and STI Control Program (Nascop) for approval. Then approved list of HIV test kits is then shared with Kenya Medical Supplies authority (KEMSA) for distribution to the facilities and the cycle continues. Many health healthcare facilities including Ministry of Health through KEMSA have adopted reporting rates as a measure for improving health service delivery in terms of health products and commodities supply.

Uninterrupted health commodity supply is determined by ensuring commodity reports are uploaded into DHIS platform which is a national system for consolidating commodity consumption data. The reporting rates on the consumption data also enhances National allocation committee and KEMSA's ability to make databased decisions that will, in turn, mean better access to health commodities for clients.

National allocation committee/Nascop heavily depends on county reports for effective forecasting, supply planning, procurement, and distribution of essential health commodities in case of HIV test kits. Provision of and the availability of consumption data on HIV test kits improves the accuracy of the quantification of Rapid Diagnostic kits (RDTs), and this decreases the risk of stock outs and expiries.

As previously mentioned, unlike Antiretroviral drugs, which are distributed through a parallel system, HIV test kits are currently stored and distributed through the integrated Central Medical Stores system for public health commodities. There are various factors that affect provision of consumption data of HIV test kits and the ultimately the reporting rates of the HIV test kits in the health facilities. These factors include training of healthcare workers (HCWs), presence of Policy and guidelines, and availability of recommended reporting tools and effectiveness of support supervision. According to Hutchinson et al, (2016), they indicated that the HIV test kits for reporting needs HCWs who are well trained as HCWs are expected or required to perform each type of HIV test (screening, confirmatory, and tiebreaker test) and thus reporting rates in the actual study may not vary and the subsequent filling the necessary documentations to facilitate the reporting rates on the consumption data.

Currently in Kenya, HIV test kits are usually reported using MOH 643 reporting tool. Untrained or lack of trainings among the health care workers on procedures on how to fill can affect reporting rates for HIV test kits globally and Meru County is no exception. In Kenya, the Ministry of Health (MOH) 643 reporting tools are usually filled by Health Care Workers in their respective health facilities which are in turn submitted periodically on monthly basis to Sub county medical laboratory technologist who then upload the data into District Health Information System (DHIS) and these reporting tools provides test kits consumption data which indicates surplus or deficits and this data provides Central Medical stores allocations.

For proper filling of the consumption data, healthcare workers must be well prepared and trained on the number of HIV tests for various reporting kits during a training seminars (such as various screening tests and three confirmatory tests, per Health care worker), and the Ministry Of Health should perform the training programmes on the Health Care workers may increase the effectiveness and efficacy as well as proficiency of use of the HIV test kits and this will increase the HIV test kits reporting rates. The preparation of these non-research center staff individuals around lab testing quality framework gives lab information and abilities required for exact and dependable HIV testing.

Pottie et al. (2014) suggested that availability of standard operating procedures among HCWs is yet another hindrance or factor that may affect the reporting rates of HIV test kits. The quality (exactness and dependability) of the test outcomes created in any setting is basic to the test units detailing rates. To guarantee the nature of testing and limit blunders, a quality framework that tends to all parts of the testing (arrangements, handled, methodology and some other exercises) is fundamental and this is where Policy and guidelines should be well implemented and followed to the letter (Pottie et al., 2014). In Kenya especially in Meru County, kits, Policy and guidelines refers to the management HIV kits at facility level from the delivery point i.e. Kenya Medical Supplies Authority (KEMSA) to service delivery point where they are utilized, consolidation of usage data to accurately filling the data into MOH 643 tool which is then submitted to Sub county Medical Laboratory Technologist for him to upload in the District Health Information Management (DHIS) system and this is affected by various factors in the county to which this study sought to address. A quality Standard operating procedure in the management system of test kits are important in any testing setting facilities as this might affect the overall reporting rates on the HIV test kits usage an some facilities do not have them.

Support supervision on the health care workers is another parameter that should be well implemented in all testing centers as it would affect the reporting rates. According to World Health Organization(WHO,2014), there is the need to ensure accurate and reliable HIV testing, careful attention should be given to competencies of the individuals performing these tests and this should entails continues supervision of the healthcare workers on accounting for the HIV test kits. Direct support and supervision for the testing personnel i.e. medical laboratory technologist (MLT) should include initial and on-going training on essential quality service aspects and periodic evaluation of each person testing and overall filling the test kits as this might affect the reporting rates. Standardized training programmes should be developed and should be inclusive of support supervision among the HCWs especially the MLT who are responsible for uploading HIV test kits consumption data into DHIS system. In the light of above, this study sought to address them/ bridge the gap.

1.2 Statement of the Problem

In Meru county, erratic shortage of HIV test kits has been recorded overtime making it hard for the programs achieve the required HIV testing targets by both the donors and ministry of Health. According to the National program (Nascop), Meru County has feature overtime as one of the county scoring low in terms of HIV test kits reporting rates in comparison with other counties across the country.

According to the data obtained from District Health Information System (DHIS, 2018) in Meru County, the reporting rates of HIV test kits is at 83% on average which is less than the target of 100% for all sites receiving the kits and this may be affected by the various challenges as outlined i.e. presence of Standard Operating Procedures, training of the Health Care Workers, availability of recommended reporting tools and effectiveness of support supervision. Further, there is no known study that has been done in Meru County to assess the

various factors that affect the efficiency and proficient reporting rates in HIV test kits and this study seeks to address/ bridge this gap.

1.3 Objectives of the Study

1.3.1 Broad Objective

The broad objective of this study is to assess determinants of reporting rates on HIV test kits in Meru County.

1.3.2 Specific Objectives

- i. To determine whether the availability of the recommended reporting tools affect the reporting rates for HIV test kits in Meru County.
- ii. To examine the influence of human capacity on reporting rates for HIV Test kits in Meru County.
- iii. To assess the influence of the availability of standard operating procedures on the reporting rates of HIV test kits in Meru County.
- iv. To determine the influence of organization factors on the reporting rates for HIV test kits in Meru County.

1.4 Research Questions

- i. Does the availability of recommended reporting tool affect the reporting rates for HIV test kits in Meru County?
- ii. What is the influence of human capacity on reporting rates for HIV Test kits in Meru County?
- iii. What is the influence of the availability of standard operating procedures on reporting rates for HIV test kits in Meru County?

- iv. Does the organization factor influence reporting rates for HIV test kits in Meru County?

1.5 Justification of the Study

The potential benefits of HIV test kits have been particularly highlighted for people in need of testing who are unable or hesitant to access existing services, as well as those in need of more frequent retesting because of high ongoing risk. According to the data obtained from Ministry Of Health, in Meru County, there are erratic shortages of HIV test kits in between the quarters. Overtime, Meru County has been flagged by the national program, (Nascop) with low reporting rates compared with others counties across the country. Allocation of HIV test kits is usually done on quarterly basis by the counties then shared with National allocation team for consideration. Underreporting of the kits into District Health information System (DHIS) may be one of the contributing factors.

Secondly, the reporting rates of HIV test kits through District Health information System (DHIS) in Meru County is 83% on average against a target of 100% for all sites receiving the kits. A target of 100% is usually set by National allocation committee sited in Nascop for all sites receiving HIV test kits across the country. Thirdly, there are high cases of HIV infection in the county. HIV prevalence for Meru stands at 2.4% overall with a population of Approx. 1.6Million (Kenya HIV Estimates report 2018).Meru county is a scale up county hence the need to ensure HIV test kits are available throughout. The study is also the first one to be conducted in the country hence providing crucial information to be utilized by other counties across the country struggling with HIV test kits accountability/reporting.

1.6 Limitations of the Study

The study focused on the Health Care Workers that were involved in the filing of the consumption data of HIV test kits in the health facilities in Meru County and due to the nature of their work, time for filing the questionnaire was limited and thus drop and pick method was utilized by the researcher. Another issue was the accessibility of some of the remote health care facilities and this added more challenge in the data collection process. Phone follow up was done focusing mainly on Health Care Workers from far to reach facilities within the County to ensure the right data is collected.

1.7 Delimitation of the Study

The study was undertaken in health facilities providing HIV testing in Meru County. There were a total of 270 HIV testing centers/ facilities in the county. The study population was 260 health care workers involved in HIV testing who provided responses on the factors that affect reporting rates on HIV test kits in Meru County. These factors included availability of the recommended reporting tools, health care workers training, availability of Standard operating procedures and effectiveness of support supervision.

1.8 Significance of the Study

Data on the factors that affect the reporting rates on the HIV test kits is limited and no study have been conducted in Kenya to presents reporting rates of HIV test kits. This study provided relevant information on the aforementioned factors to the Health Care Workers (HCWs) as they were pertinent stakeholders in the provision of HIV testing services and this assisted them in pinpointing the necessary factors to assess their weaknesses and build upon them. This will ultimately inform the county government of Meru of key areas to focus on to improve on HIV test kits accountability and ensure allocation of HIV test kits by the national allocation committee driven by quality data to reduce on either overstocking or under

stocking of HIV test kits within the county. Being the new study in the country, most counties will borrow heavily of areas to focus on to improve on HIV test kits accountability.

1.9 Assumptions of the Study

The study made the following assumptions

- 1) The Health care workers are conversant with the HIV test kits reporting structures
- 2) The respondents were willing to participate in the study.
- 3) The respondents provided honest and reliable responses and thus credibility was good.

1.10 Operational Definitions of key Terms

Reporting Rates	consolidation of usage data to accurately filling the data into MOH 643 tool which is then submitted to Sub county Medical Laboratory Technologist for him to upload in the District Health Information Management (DHIS) system
Policy and guidelines	Refers to the policies, processed, procedures and any other activities for the management HIV kits at facility level from the delivery point i.e. Kenya Medical Supplies Authority (KEMSA) to service delivery point where they are utilized
Human Capacity	Refers to the health care workers involved in the filing on reporting rates on consumption of HIV test kits and these HCWs are medical lab technologists.
Reporting tool	Refers to the MOH 643 usually filled by Health Care Workers in their respective health facilities which are in turn submitted periodically on monthly basis to Sub county medical laboratory technologist who then upload the data into District Health Information System (DHIS) and these reporting tools provides test kits consumption data which indicates surplus or deficits and this data provides Central Medical stores allocations
Organizational factors	In this study, it referred to the support supervision that is provided to the Healthcare workers/HCWs in filing the report rates in MOH 643 on HIV test kits.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Pottie et al. (2019) posited that the role of literature review is to provide useful background for understanding the current knowledge on a topic and this is in line with the factors affecting the reporting rates of HIV test kits in Meru County. The researcher included historical literature to give context to the topic, refine the research problem and methodology and to identify concepts related to the topic. The chapter was outline on empirical review, theoretical orientation and the conceptual framework and the gap analysis.

2.2 Recommended Data Reporting Tools for HIV Test kits

According to Martin and Simmons (2017), having the recommended reporting tools ensure the availability of quality information which is crucial for quick and rational health decisions which is relevant in health services delivery. Lack of standardized data reporting tools, notwithstanding, can cause data over-burden, leaving leaders covered under a mass of unessential, deficient, and conflicting information. Some healthcare and medical care facilities figure out how to furnish their chiefs with exact, significant information in a simple to-get a handle on format by standardizing tools used for data collection. They further noted that commodity reporting tools should be reviewed periodically or when need arises to accommodate new indicators that are key for policy formulation.

According to the Ministry of health (MOH,2018), Commodity reporting tools should be standardized, harmonized, printed and distributed targeting sites offering Health services across the country. This is then followed by sensitization meetings targeting end users who are health care workers responsible for reporting consumption data on monthly basis. Harmonisation of training curriculum on commodity reporting tools should be done and

Trainers of Trainees (TOT) identified who will then be used to cascade trainings to the various regions across the country. As public governments work with their partners to excuse numerous upward stock frameworks, a significant advance is to normalize information assortment apparatuses and detailing frameworks and designs. Information frameworks for benefactor financed vertical projects are normally intended to meet the particular detailing prerequisites of the subsidizing source. The test in excusing various equal ware the board data frameworks lies in agreeing on a base arrangement of information that the framework will give an account of to try not to over-burden it. Moreover, achievement will rely upon planning a data framework that can follow items and report use and stock information by financing source and program.

Reporting is a core functionality of health services and relevant tools whose main objective is to make repeating, standard, reports in a proficient and easy to use way. Reports are predefined and static naturally, produced either in response to popular demand of an end-client or revived occasionally through a programmed scheduler (transferred on Intranet workers or shared. drives and open to a predefined gathering of corporate clients). Key usefulness is to decreased information solidification and accumulation from different sources in a monotonous methodology (computerized, in a perfect world) from believed information sources. Reporting tools devices ought to incorporate the segments required for planning, survey, sending out, and printing reports with the venture detailing highlights to embed reporting functionalities to web and desktop applications as they provide real time consumption data of HIV test kits.

According to Management Sciences for Health (2018), Reporting tools allow data specialists and policy makers to extract also, present information in outlines, tables, and different representations so clients can discover valuable data. It can likewise permit to fabricate

paginated reports ideal for printing. A detailing apparatus is normally an application inside a DHIS site, for example, MOH 643 in wellbeing administrations. Reports gave can change in their intuitiveness. In wellbeing, static reports can't be changed by the end clients (DHS) while intuitive reports permit Sub County Medical Laboratory Coordinators (SCMLCs) to explore the reports through different orders and perception components. Intelligent reports permit boring down through different levels of the information at the snap of a catch. They likewise permit to explore, sort, channel and view the information for your particular necessities.

Numerous healthcare facilities are currently requesting a superior more siloed approach, and also a methodology which makes seeing significant knowledge, and making a genuine move, simpler. This interest has made an expanded requirement for announcing apparatuses in wellbeing medical services offices to be coordinated with the venture frameworks various divisions depend on to maintain a business.

This doesn't mean, nonetheless, that the usefulness found in big business reporting tools doesn't have its place in inserted investigation. Also, indeed, the requirement for further developed revealing and organization inside these applications has developed to an ever increasing extent. These high level revealing capacities, for example, pixel-wonderful announcing, which as it sounds is the capacity to decisively put distinctive report segments down to the pixel level, paginated reports, which permits you to effectively isolate bigger datasets into discrete pages for printing, just as report booking and exploding, which permits clients and executives to plan reports to one or numerous clients and which permits heads to blast various reports to various individuals dependent on their information consents, are all sought after also, present information in outlines, tables, and different representations so clients can discover valuable data. It can likewise permit to fabricate paginated reports ideal

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According to Muonica (2018), commodity reporting tools should be simple, easy to use and help to maintain history of data on consumption such those of HIV test kits and further; these

reporting tools should further assist improve quality of data and in business applications to generate reports like annual and quarterly comparisons of sales and salary etc. . Reporting tools should ideally be the one that can be updated and reviewed to meet the changing demands. The changes should as well reflect in the National Dashboards which should be flexible to accommodate the changing demands/trends. Available reports in the National dashboards should be such that they can be traced from when changes were done.

According to National guidelines for HIV commodity management information system, 2016, periodic audits are necessary focusing on commodities that are distributed from the national level to the facilities across the country. Checking the usage of the recommended reporting tools by facilities, interrogating reported data against the data available in the National Dashboard. This together with delivery notes can assist to trace commodity distribution, utilization and reporting by the recommended tools. Gaps identified should be discussed between the health care workers involved in commodity reporting, supervisors from either the county/sub county or the external team and develop action plans to bridge the gap(s).

Sibanda et al. (2018) pointed out that, availability of recommended reporting tools for HIV Test kits provided enough data for the number of HIV testing services offered worldwide. According to WHO (2019), between 2015 and 2019 more than 800 million people received HIV testing services in 122 low- and middle income countries and this was achieved by ensuring proper HIV test units reporting tools were set up to create the important information on HIV testing take-up. Worldwide AIDS Update (2018) brought up that in 2017, it was assessed that, universally, 75% of individuals with HIV knew about their HIV positive status, an expansion from 67% in 2015 (Global AIDS Update 2018). In spite of this advancement, 9.4 million individuals – 25% surprisingly with HIV – stay uninformed of their HIV disease

(Global AIDS Update 2018). Large numbers of those not right now profiting with HIV testing increase are key populaces , men and youngsters (matured 15–24) (Global AIDS Update 2018). Late displaying recommends the worldwide 90–90–90 targets won't be accomplished by 2020 except if endeavors are expanded, more engaged, and advancements are utilized deliberately (Stover et al 2020).

HIV self-testing (HIVST) is one advancement that can possibly arrive at the individuals who may not in any case test (Johnson et al 2019, World Health Organization; 2018), as it offers a watchful, helpful and enabling approach to test. HIVST is suggested by the World Health Organization (WHO) as an extra way to deal with conveying HIV testing administrations (World Health Organization; 2018). Proof to date has featured its job as a vital methodology to build take-up and recurrence of testing among populaces missed by existing administrations, especially key populaces in all areas and men and youngsters (aged 15–24), particularly in eastern and southern Africa. This is made possible by ensuring adequate Commodity reporting tools are available to promote accountability and ensure correct consumption data is availed that commensurate with workload to reduce on overstocking or under stocking.

According to Family Health International 360 (FHI,2019), standardized reporting tools for HIV test kits act as a monitoring guide on the update of HIV testing services within the population and further plays a key role in fostering accountability of all the HIV test kits in use and thus reporting tools for the consumption of health commodities. Consumption data once reported through DHIS which is a national reporting system helps the country to project the required test kits need over a period of time and this further helps the donors and other financiers to allocate the necessary resources to support the procurement process.

2.3 Influence of Human capacity on HIV test kits Reporting Rate

Gordon (2018) posited that preparing is a sort of action which is arranged, precise and it brings about improved degree of expertise, information and skill that are important to perform work adequately (Gordon 2018) and this is particularly relevant in the provision of consumption data on the HIV test kits through the MOH reporting tools. Training healthcare workers on the use of MOH reporting tools is critical for proper logging and uploading of consumption data on the HIV test kits.

Human resources for health (HRH) have long been recognized as the cornerstone of health sector to produce, deliver and manage services. The World Health Organization (WHO) defines the health workforce as “all the people engaged in actions whose primary intent is to enhance health.” Inadequate staffing levels, poorly trained and minimal appropriate skills and weak supervision undermine the quality of consumption data.

Training of Health care workers especially medical laboratory Technologists involved in testing patients on HIV test involves ID of the requirements for preparing and improvement and choosing techniques and projects reasonable for these necessities, plan how to carry out them lastly assessing their result brings about giving and signing in utilization information (McCourt & Derrick 2003). Visitor (1987) contends that strategies are important to guarantee that representative presentation is assessed, which thus guarantees that the fitting preparing and improvement occur. The fundamental motivation behind preparing medical care laborers in line of detailing rates proficiency is to obtain and further develop information, abilities and mentalities towards business related tasks in this regards on the use of and utilization of HIV test kits in healthcare service delivery. is quite possibly the most significant and pertinent potential helpers which can prompt both present moment and long haul benefits for people and medical care facilities.

As per Wognum (2001), surveying the preparation needs may happen at three office levels specifically; (1) vital level where necessities are dictated by top administration for example support management while thinking about emergency clinics objectives, mission, methodology and issues, which should be settled or fixed for example noticing the laxity or shortcoming in logging HIV test unit utilization information. Besides, strategic level where requirements are resolved with center administration while considering advancements needs to the coordination and participation between clinics divisions units and this falls under the lab professionals themselves and (3) functional level where necessities are resolved with lower leader the board and other medical services representatives while considering issues identified with activities, for example, execution issues of individual specialists and offices in subject. To empower a medical clinic to form human asset preparing objectives that will empower both formal and casual human asset preparing strategies and projects make a labor force in the research facility that empowers adequacy and intensity, it merits offering thought to, giving appropriate coordination just as legitimate consolidation of the requirements inside the three levels in providing accurate and consistent consumption data on Human Immunodeficiency Virus (HIV) test kits.

All testing administrations should utilize the quantity of prepared, confirmed and upheld work force to direct every one of the components of HIV testing that is satisfactory for the normal number of tests led and the quantity of individuals being served. All faculties, including those taking examples, directing testing, giving reports of HIV status and information assistants and other helper staff, should be prepared satisfactorily. All staff individuals ought to have suitable capabilities, for example, confirmations as per public rules, and exhibited capability in playing out the assignments inside their extent of work.

Both pre-administration and in-administration preparing, including intermittent boost trainings, ought to be important for the preparation necessities for all testing administrations. This is especially significant for destinations with extremely low example throughput or where Human Immunodeficiency Virus (HIV) testing is performed once in a while.

Chuang (2013) completed an investigation and noticed that preparation is best in rousing and holding great HR inside association. While early exploration on key HRM supported the improvement of arrangements of best practices, we take as our reason the confidence in packaging of elite work rehearses or having a framework way to deal with HRM as best in guaranteeing authoritative execution. Critically, it has been noticed that preparation is a vital component of the heaps of works on emerging from research on superior work frameworks Chapagain (2009) in medical care settings. Recent research likewise demonstrates a causal connection between high responsibility works on (counting preparing) and upgrades in a detailing rates in announcing wellbeing commodities (Collins, 2011; Kwon et al., 2010; McClean, 2011). Burma, (2014) inferred that training is a factor that upgrades worker responsibility and commitment and amplifies employee potential.

The training cycle is perhaps the most unavoidable techniques for increasing and upgrading the usefulness of people and imparting hierarchical objectives to staff and in this regard to the reporting rates that are expected to be uploaded in the DHIS (Rama & Shaik, 2012). Organizational training activities are perceived as having the option to become wellsprings of upper hand through their effect on workers' efficiency (Hutchings et al., 2009). As the requirement for current and future successful managers increments in a wide range of medical services, preparing projects and CME and configuration apparatuses for the assessment interaction become more significant in detailing utilization information. These assertions evidentially make a notice about the significance of preparing in medical care

offices. It has been affirmed that medical services offices with more reformist HCWs-arranged strategies have dominated, abandoning the opposition (Hutchings et al., 2009). This is essentially on the grounds that when wellbeing offices put resources into individuals, in their realizing, what they receive consequently is higher ability and more noteworthy skill that further develops spirit and productivity (Chuang, 2013)

Preparing emphatically affects setting them up to be more successful in their work, expanding their specialized capacities, relational capacities, cooperation, work certainty and work inspiration (Hutchings et al., 2019). Preparing action stays an exceptionally huge piece of human asset improvement (HRD) practice even in the medical care area. The preparation cycle is additionally a drawn out learning intercession explicitly intended to help singular representatives seek after their vocation desires (e.g., short-and long haul, here and there the current work, and inside and outside the association) and all the while to help medical care offices get ready human resources for present and future demands (Elarabi & Johari, 2014). Preparing intercessions can fill in as a vocation arranging opportunity for representatives and a HR the board cycle for the association. Accordingly, conscious courses of action of preparing mediations work with representatives' arranging of their long-range professions and empower the association to deal with its HR both, thus, and cultivate maintainable execution of the association (Hamid, 2011; Stredwick, 2014).

WHO (2020) showed that HIVST Kits can be appropriated by HCWs such as drug specialists, prepared friends and others who can convey the units straightforwardly to the informal communities. Prepared people group laborers, companions and friend instructors have been demonstrated to be successful in assembly endeavors and the conveyance of HIVST units just as in working with linkages through informal organizations, wellbeing offices and local area outreach, especially in key populaces, men and youngsters (Drake

2017; Lippman et al., 2019). In spite of the fact that wellbeing laborers and drug specialists are likewise ready to convey HIVST packs, contemplations show they require extra preparing and data about HIVST to have the option to offer sufficient help and work with linkage to additional testing, avoidance and treatment (Greacen et al., 2018; Nersesian et al., 2013). Utilizing people group mobilizers chose by the nearby local area has been successful for accomplishing great HIVST take-up and linkage to VMMC and ART in southern Africa (Lippman et al., 2019; Nersesian, 2013). Trained healthcare workers, advisors, peers and different frameworks can likewise work with linkages by giving data and guiding through phone hotlines and informing administrations by means of the Internet or online media (Gichangi et al., 2018).

2.4 Availability of Standard Operating Procedure and HIV test Kits Reporting Rates

Policy and guidelines are necessity in the provision of quality health services. Standard Operating Procedures refer to the written documents that describe step-by-step instructions on how to perform various operations a testing site. Detailed instructions on all aspects of testing must be available in all testing facilities. The main purpose of the standard Operating Procedure is to: firstly, the Standard Operating Procedures (Policy and guidelines) should be implemented to describe how to perform various operations in a testing site in case of test kits. Secondly Standard Operating Procedures provide step-by-step instructions to Health Care Workers on collecting consumption data and subsequent uploading them. Thirdly, the Standard Operating Procedures (SOPs) provide a training tool for new staff members on the protocols for undertaking collection of consumption data of HIV test kits in in this regard, the tracking of supply and demand can be estimated as per the region or health facility requirements.

Ideal Policy and guidelines that should be on hand at the sites to increase the reporting rates should include: Daily routine schedule on testing clients and collection of consumption data. Country health policies and algorithm. Pertaining utilization of HIV test kits. Policy and guidelines should entail the safety measures that encompass safety precautions, accidental spillage management, preparation of disinfectant, post-HIV exposure guidelines. Standard Operating Procedures (SOPs) further should provide the protocol for blood collection including finger prick and venous blood and the test procedures to be undertaken and the logging and uploading of consumption data on the test kits used and in this regard, reporting rates of the utilization of Human Immunodeficiency Syndrome (HIV) test kits would be improved.

All health faculties should keep inventory of all supplies and materials used for testing to ensure interruptions to testing do not occur in regard of Standard Operating Procedures (SOPs) on the reporting rates of HIV test kits utilization. Regular maintenance of an inventory record for test kits and other supplies used for testing should be undertaken by the support supervision with the assistance of Medical laboratory technologist and other staff members in the health facilities. Consumption data should be in a position to determine and be able to determine re-order levels for each item in the inventory. Policy and guidelines should be able to provide overview perform quality checks on receipt of new test kits and supply and update inventory record. Keeping a track of inventory tends to avoid expiration of test kit reagents by following the “first expiry, first out” concept and lastly policy and guidelines should also indicate be able to store test kits appropriately and in accordance with manufacturer instructions.

According to FHI (2019) many countries are still trying or developing necessary strategic plans necessary for the implementation of Policy and guidelines that are needed for scaling up utilization and use/consumption.

According to WHO (2020), they pointed that national policies and regulations are prerequisite for promotion, support implementation of sound practices for HIVST. Further, national guidelines are a must pre-requisite for the development of regulations, including the capacity to procure and import products. In most settings, until an intervention is included in national guidance implementation and scale-up efforts are limited. However, in some countries even though an HIVST policy may be in place products are not registered and can only be used for research, preventing the roll-out of wide-scale HIVST implementation. To effectively scale up HIVST and achieve impact, clear and supportive policies and regulations need to be developed, disseminated and implemented, particularly to enable access to quality-assured products specifically designed for self-testing. Dissemination of these policies and regulations in the health sector and among communities, particularly those who will be involved in HIVST implementation, should be prioritized. Efforts also need to be made to minimize the time gap between HIVST policy development and product availability in order not to delay implementation.

Agarwal (2020) carried out a study on Standard operating procedures for HIV & Syphilis Screening of pregnant women. He found out that presence of SOPs that dictate on the procurement of HIV test kits and other health commodities were paramount in assessing when and which facilities were running on which health commodities.

According to Clark and Hoghins (2019) in the study that focused on the monitoring evaluation and reporting Indicator guide, presence of SOPs that mandated and regulated all logistical activities are crucial in determining stock outs and prioritizing all high-risk areas.

2.5 Organizational factors and HIV test kits reporting rates

Supportive supervision is a way to deal with supervision that underscores tutoring, joint critical thinking, and two-way correspondence between the chief and those being administered. It advances excellent program execution and staff maintenance by reinforcing connections inside a framework, zeroing in on the ID and goal of issues, streamlining the designation of assets, advancing elevated requirements, useful cooperation, and fortified correspondence (Djibuti, 2009).

Djibuti, (2019) further demonstrated that the supportive supervision approach can be instrumental in reinforcing general wellbeing projects and general wellbeing results. With regards to a medical care framework, supportive supervision empowers and enables medical care workers to viably recognize and take care of issues, work with collaboration, give administration, and screen and work on their own presentation.

As per Asante and Roberts (2017), supportive supervision can be carried out or applied at different levels inside a general health system. For instance, for a given general wellbeing intercession, supportive supervision can serve to fortify assistance conveyance at the office level; general wellbeing program execution at the sub-public level; and program organization, observing, and assessment at the public level. Practically speaking, supportive supervision is something other than guaranteeing that the work is being finished: supportive supervision is active fully intent on building limit of the supervisee by setting guidelines, planning client driven devices, coordinating and supporting abilities and information development, and working with critical thinking for quality and cycle improvement. At last, this serves to further develop staff maintenance and execution and the nature of the administrations being conveyed (United State Agency for International Development [USAID], 2010).

Support supervision is necessary to promote proper information flow on the utilization of HIV test kits and accountability/reporting. Supportive supervision is generally perceived as fundamental for further developing health laborer execution and accomplishing the health Sustainable Development Goals (SDGs). It is a cycle whereby chiefs and administrators direct and urge faculty's to advance their presentation in a supportive climate and remember them when they accomplish an undeniable degree of execution. In contrast to conventional ways to deal with supervision, in supportive supervision the manager works intimately with individuals the person in question regulates to build up objectives, screen advance and recognize openings for development.

All HIV quick test units that are provided to Counties more likely than not been assessed for execution in-country independent of the US Food and Drug Administration (FDA) and Good Manufacturing Practice (GMP) endorsement. Nation level assessment of Human Immunodeficiency Syndrome (HIV) fast tests will happen at three distinct levels all pointed toward keeping up with solidness and exact result of HIV quick testing. • The choice of test packs for in-country execution assessment depended on past evaluation by World Health Organization (WHO) and Center for Disease Control (CDC) or other free worldwide association with significant mastery.

Support supervision at a public level should guarantee that test packs are assessed by the National Reference Laboratory according to prerequisite to bar every one of those that don't meet the presentation details. Public help supervision should make that all reports and records should be made do with global positioning framework to guarantee that all testing locales have current data available and obsolete ones are eliminated from the framework. Maintenance times for chronicled archives and records ought to be set up. Standard supportive supervision and progressing tutoring of all staff are fundamental. Guaranteeing the

mental and physical prosperity of Human immunodeficiency infection (HIV) testing providers is basic and critical.

Bailey et al. (2020) carried out an efficient audit of supportive supervision as a methodology to further develop essential healthcare administrations in Sub Saharan African. They tracked down that supportive supervision can expand work fulfillment and health specialist inspiration. Further, Supportive supervision then again is seen as an ideal decision for clinical consideration settings since it overturns customary thoughts of supervision and spotlights on assistance rather than assessment. Inspective methodologies place the onus of fixing issues on the staff while a supportive or facilitative supervision intends to help staff to take part in critical thinking through specialized help, limit building, and asset arrangement. Supportive supervision can advance quality enhancements by fortifying connections inside the framework, recognizing and tackling issues, and augmenting asset assignment.

Avortri et al. (2019) in their investigation found that reviews have connected supportive supervision to positive results, for example, work inspiration, maintenance, fulfillment and better performance.²⁹ Supervisory elements of assignment help, social and passionate help and relational collaboration have been featured as advantageous results for health workers.³⁰ Additionally, proof shows that further developing supervision quality has a more noteworthy effect than expanding recurrence of supervision alone.

Madede et al discovered no genuinely critical contrasts between health workers work fulfillment scores pre-supportive and post-supportive supervision.³⁶ Bosch-Capblanch et al in an orderly audit to find out whether supervision positively affects the nature of PHC in LICs and center pay nations set that the drawn out viability of supervision is obscure. Proof features three primary factors that add to administrative results including task help (e.g.,

arrangement of substantial business related exhortation, guidance, support preparing and learning exercises like training), social and passionate help.

Karuga et al. (2019) sought to exhibit the impacts of a preparation intercession on the way to deal with and recurrence of supervision of CTC suppliers of health care. They found that managers had moved the supervision closer from being controlling and regulatory to training, mentorship and critical thinking. Changes in the recurrence of supervision were found in Kitui just, whereby huge declines in bunch supervision were met with expansions in home visit supervision. Chiefs and CHVs announced the intercession was useful and it reacted to limit holes in supervision of CHVs.

According to study done Dieleman et al. (2019) supervisors that provide supportive feedback play very important part of performance management processes and in the overall reporting rates in health commodities in healthcare facilities. Supportive superiors in an organization need to know how they are performing. Through the feedback, managers and superiors get how they get that information and it should be based on factual evidence. It refers to results, events, critical incidents and significant behaviors that have affected performance in specific ways. The feedback should be presented in a way that enables the HCWs to recognize and accept its factual nature in reporting rates (Elarabi, & Johari 2014) while Giblin et al. (2016) argued that in essence, feedback should be description of what has happened, not a judgment and in their regard supportive supervision is key in development of high reporting rates and accountability at the place of work. Positive feedback should be given on the things that the individual did well in addition to areas for improvement. Gibb (2011) pointed out that HCWs are more likely to work at improving their performance and developing their skills if they feel empowered by the process.

2.6 Reporting Rates for HIV Test kits

Consumption data on HIV test kits is usually reported using Ministry of Health (MOH) 643 which is a standardized reporting tool. This is usually done every 5th day of the following month by Health care workers. Filled MOH 643 tool is then shared with respective Sub county Medical Laboratory Coordinator (SCMLC) at the sub county level. The commodity data captured is then uploaded into District Health Information System (DHIS) which is a National reporting system that is accessible to everyone including partners, National allocation team and other key stakeholders.

According to The National Guidelines for HIV Commodity Information Systems, 2016, DHIS provides functionality to validate data during data entry, after entry, analysis of datasets and through data triangulation in order to improve data quality. This is done through the creation of validation rules against data elements. After a validation rule has been executed, it will display one of two outcomes – successful validation or detection of violation. Types of validation available include:-

1. Range validation: specifies the numeric range constraints for the value of a data field; checks to see if it falls within defined min-max ranges of that data element
2. Constraint validation: it is a means of implementing client side validation on web forms, mostly used in HTML forms. An algorithm is run by the web browser when a form is submitted to determine its validity, e.g. data types.
3. Type Mismatch: an error where the data type input by the user varies from that expected by the tool, e.g. entering text instead of a number. A data type is the attribute of a variable or field that determines what kind of data it can hold.
4. Numeric formula calculation: Formulas are used to perform calculations, using values entered into the formula directly or from specific fields/cells.

5. Completeness (required fields): a completeness check determines whether all required fields were filled in
6. Null/Blank entry check: “null” entry means that the data is missing or unknown. This may be because the data may not exist, but also because the user is still searching for the data. A blank entry is where data has not yet been entered, though expected.
7. Single select/ Multi select options: where a user can select only one item from a list, this is single select. Multi select allows for user selection of multiple options.

At facility level, the data is sourced from the manual/electronic data collection tools, that are filled in routinely, e.g. stock movements and inventory count from bin or stock cards and S11 (counter requisition and issue voucher), and daily usage from the Daily activity register for Lab commodities (MoH 362) or related registers. The reporting period is from the first day to last day of a month. The Consumption Data Report & Request (CDRR) forms are designed to enable the user facility to make its report to the higher level as well as to order/request commodity re-supply from the higher level (usually national level). Facility reports with facility level commodity usage and inventory data for Lab commodities are captured in DHIS2 through the Facility Consumption Data Report & Request (CDRR) for Laboratory commodities (MoH643).

Commodity reports plays a key role in assisting the national allocation team to quantify and project HIV test kits based on workload on quarterly basis. This helps to reduce on either under stocking or overstocking of HIV test kits across the country. As a standard, facilities are supposed to report 100% on HIV test kits on monthly basis to give accurate estimate of HIV test kits needs at the end of the quarter projected based on average month consumption (AMC). This follows the national guidance on commodity management by Management Science for Health commodity report, 2016 which clearly stipulate the recommend standard

to be followed from distribution of HIV test kits by KEMSA to reporting of consumption data through DHIS.

As indicated by the WHO structure for health systems a well-working health framework guarantees evenhanded admittance to fundamental clinical items, immunizations and advancements of guaranteed quality, security, viability and cost-adequacy, and their experimentally solid and practical use. To accomplish these targets, public approaches, principles, rules and guidelines that help strategy are required, data on costs, the situation with global economic accords and the ability to set and arrange costs; , solid assembling rehearses when they exist in-nation and quality appraisal of need items; obtainment, supply and capacity, and circulation systems, accessible ware revealing designs to illuminate ware projection and evaluations and backing for judicious utilization of drugs, wares and hardware, through rules and techniques to guarantee adherence, diminish obstruction, amplify patient wellbeing and training.

World Health Organization (2007) has identified commodity management as one of the pillar that is key for the achievement of universal health care. To promote service delivery, health commodities need to be accurately accounted and reported using the approved reporting structures to ensure continued and uninterrupted service delivery throughout the year.

Study done by Management Science for health (2018) indicated that many developed countries in Europe and America introduced and use commodity reporting systems to track the consumption data of key health commodities and among the key player is the USAID which supports HIV, TB, malaria, reproductive health and family programs (Management Science for Health, 2018).

According to Management Science for Health commodity report, 2016, who noted that, In Africa, most countries are still struggling to establish a robust commodity accountability and

reporting systems due to limited resources allocated by the government to promote commodity reporting and management. There are various factors that affect provision of consumption data of HIV test kits and the ultimately the reporting rates of the HIV test KITs in the health facilities. These factors include training of healthcare workers (HCWs), presence of Policy and guidelines, and availability of recommended reporting tools and effectiveness of support supervision.

According to Hutchinson et al. (2016), reporting on HIV testing kits plays a critical key role in ensuring the functional bodies mandated to quantify on either monthly or quarterly basis have enough data for accurate projections to reduce on either under stocking or overstocking of HIV test kits. These in turn assist bodies mandated to finance commodity support save on monies that can be allocated to support other program areas.

2.7 Theoretical Framework

A theoretical framework is brought about by this investigation as the construction that speculates the research issue, and guides information making process. This study was anchored on two theories.

2.7.1 Resource Based View of the Firm

The resource based view is a method of review the firm and thus of moving toward procedure. The view conceptualizes the firm as a heap of assets. It is these assets, and how they are consolidated, that make firms not the same as each other and thusly permit a firm to convey items and administrations on the lookout.

The firm is a bundle of assets and capacities comprised of physical, monetary, human and immaterial resources. The theory is adapted on the way that assets are not homogenous and are restricted in portability. The firm can interpret these assets and capacities into a benefit in

case they are important, uncommon, and matchless and the firm is coordinated to misuse these assets. Clinics or firms capacities as far as announcing devices may really permit it to make new business sectors and add an incentive for the clients as far as effectiveness and nature of testing gave from the testing it. Where healthcare offices abilities are seen fundamental in the production of upper hand it will focus closer on the design of its worth chain exercises since it will distinguish the worth chain exercises which give it upper hand.

2.7.2 Human Capital theory

Torrington (2008) clarifies that human capital implies the consolidated insight and experience of staff as a wellspring of upper hand that can't be imitated by rivals. This theory has suggestions for drawing in, connecting with, fulfilling and creating individuals in healthcare offices and this is comprehensive of training and coaching (support supervision). Whenever translated into a hierarchical setting it implies that human capital is an association's most significant item and recommends that improvement of workers implies expanding the efficiency of representatives in healthcare offices other than the officeholder firm (Green et al., 2000) or upgrading their employability in the market which may prompt turnover for better positions.

The best organizations and the best nations was those that oversee human capital in the best and proficient design by putting resources into their workers, urging workers to put resources into themselves, giving a decent learning climate including social capital just as abilities and training (Becker, 2002).

The key conviction of human capital theory is that human limit with regards to learning and thought creation is pretty much as significant as different components engaged with the interaction of creation (Lucas, 2008) and that individuals as a human asset save abilities and

potential that are promptly there to add to the cycle (Harbison, 1973). The theory contends that "people and society get monetary advantages from interests in individuals 'in a type of instruction anticipating that returns should become equivalent to or more prominent than the speculation (Becker, 1964; Sweetland, 2006). Hence, human information and ability got through interest in training is placed as a transcendent determinant of useful prevalence and that "to the extent that consumptions to upgrade such capacities additionally increment the worth efficiency of human exertion (work), they will yield a positive pace of return" (Schultz, 1961).

In the authoritative setting, human capital is viewed as a subset of hierarchical scholarly capital. Youndt and Snell (2004) exactly showed that the positive connections between hierarchical human capital and the two execution parts (i.e., return on value and return on resource) were measurably critical and basically significant. Buller and McEvoy (2012) announced that experimental examinations with Israeli healthcare facilities (Carmeli & Schaubroeck, 2005). Selvarajan et al. (2007) tracked down that hierarchical human capital (Health Care Workers) was decidedly and fundamentally identified with healthcare facilities' seriousness and proficiency. They likewise introduced research because of human assets on authoritative execution through their center skills and abilities. This investigation accordingly embraced the two hypotheses to secure the jobs of the training, supervision, Policy and rules have on the revealing rates on the health products for this situation HIV test units.

Also Wali & Zekeriya, (2013) states that human capital theory lays with the understanding that training is profoundly basic and instrumental in further developing the creation limit of a populace. Whenever rendered into an authoritative setting it implies that human capital is an association's most significant item and proposes that improvement of representatives implies expanding the usefulness of workers in healthcare facilities other than the occupant firm or

upgrading their employability in the market which may initiate turnover for better positions (McClellan & Collins, 2011) and in this way training and resulting support supervision basic in expanding the detailing rates among health facilities.

The best health offices in reporting rates are those that those that oversee human capital [healthcare workers] in the best and productive style by putting resources into their workers, urging workers to put resources into themselves, giving a decent learning climate including social capital just as abilities and training (Salas et al., 2012). Human capital theory extended the view on individuals from the conventional idea of work for actual effort to acknowledgment of them as a resource that can and ought to be promoted upon for financial additions to people and society (Dae-Bong, 2009; Wynter-Palmer, 2009).

The basic conviction of human capital theory is that human limit with regards to learning and thought creation is just about as significant as different variables engaged with the interaction of creation and that individuals as a human asset hold capacities and potential that are promptly there to add to the cycle (Wynter-Palmer, 2009). The theory contends that people and society get financial advantages from interests in individuals in a type of instruction anticipating that returns should become equivalent to or more prominent than the speculation (Dae-Bong, 2009).

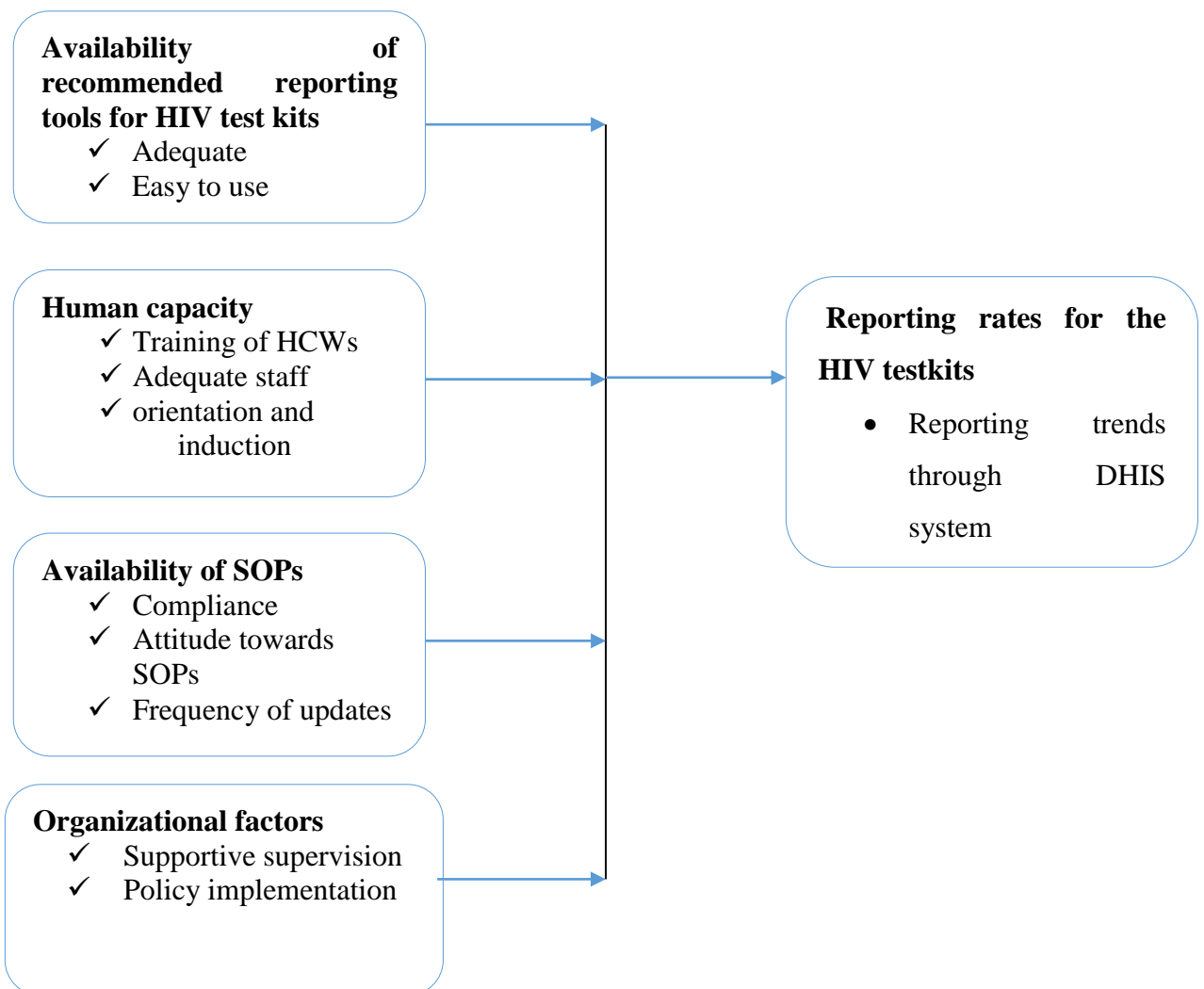
In the hierarchical setting, human capital is viewed as a subset of authoritative scholarly capital. Healthcare facilities can further develop execution from the human capital through their center skills and capacities. Chao-Ying (2012) empirically showed that the positive connections between authoritative human capital and the two execution segments (i.e., return on value and return on resource) were measurably huge and for all intents and purposes significant.

2.8 Conceptual Framework

A conceptual framework presents the relationship between the various variables in the study. In this study, the researcher conceptualizes the relationship between reporting rates and support supervision, availability of recommended reporting tools, human capacities and availability of SOPs on the reporting rates of HIV test kits. This study is based on the examination of the relationship between the dependent variable and the independent variables. The construct on which these two variables and its relationship are based as illustrated as follows.

Figure 2.1:

Conceptual Framework



CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter is mainly concerned with the description of the research methodology that the researcher used during the research process. The study further provides the steps followed during sampling technique and sample size determination, data collection instruments, piloting study, the reliability and validity of the data instruments, data collection techniques, data analysis and logistical and ethical considerations.

3.2 Research Design

The study adopted descriptive cross-sectional research design. A cross-sectional investigation is a one-time research, or an examination bound to a solitary time span (Kothari, 2004). Also, this was considered suitable for this examination as it includes gathering data at one point on schedule and the specialist doesn't control the factors or mastermind the occasions that follow and this was on assessing the determinants of reporting rates on HIV test kits in Meru County.

3.3 Target Population

As indicated by Ngechu (2004), a population is a distinct or set of individuals, administrations, components, and occasions, gathering of things or families that are being explored. This definition guarantees that population of interest is homogeneous. The study target populations were Health Care Workers dealing with HIV test kits who are 270 in Meru County.

3.5 Sampling Technique and Sample Size Calculation

3.5.1 Sample Size

Some populations are too enormous to even think about utilizing in entirety for research. In such cases, an example is utilized. An example can be characterized as the subset of a population (Hair et al., 2011). Testing is the way toward choosing few people from the population size. This choice is proposed to be a portrayal of the bigger and larger group (Mugenda & Mugenda, 2003).

The study sample was computed using Fischer et al formula. 2009, the formula $N=Z^2pq/d^2$

N = desired sample size (when target is greater than 10,000)

Z= standard deviation of required confidence level.

P= Proportion in target population estimated to have characteristics being measured.

Q=1-p

d= level of statistical significance.

No estimates are available and therefore 50% was used as recommended by Fischer et al. z statistic is 1.96 while accuracy level is at 0.05.

The sample size was $N= (1.96)^2(0.5) (0.5)/0.05^2 = 384$.

There is a total of 270 Health facilities that provides HIV testing services in Meru County and in each facility, there is one Health care worker who is responsible for filling and submitting HIV kit reports to sub county medical laboratory technologist to be uploaded in District Health Information Management (DHIS2) system on monthly basis as there is no much workload involved in updating DHIS. Therefore, the sample size was 270 health care workers.

3.5.2. Sampling Technique Utilized

This study utilized purposive sampling technique to sample the respondents i.e. Health Care workers who are responsible for reporting HIV test kits on monthly basis in Meru County, after which a census of all the 270 was undertaken

3.5 Data Collections Methods

The study used a semi structured questionnaire (see appendix I) and data extraction sheet) see appendix II) to collect the data. A questionnaire is a timetable of different inquiries planned for self-finish by study members (Brace, 2008). Questionnaire is an exploration instrument comprising of series of inquiries and different prompts for motivation behind social occasion data from respondent. Questionnaire technique is extraordinary in the collection of data since it permits the react to offer response without being affected. The investigation utilized questionnaires as they are financially savvy strategy to getting data particularly from a huge or scantily found gathering of respondents. Further, the investigation picked questionnaires as they take into account secrecy. Questionnaires were utilized in this examination as a result of the component of obscurity as a portion of the data required is touchy. Also because of the various areas of the field staff, it would be more powerful to utilize questionnaires to assemble more data. Every component in the example size was needed to finish a questionnaire.

Data extraction tool is a for collecting system based data .The tools was populated using the data extracted from District Health Information System(DHIS) system on Human Immunodeficiency Virus(HIV) test kits reports on monthly basis.

3.7 Instruments Reliability and Validity

3.7.1 Data Instrument Validity

Validity demonstrates how much an instrument estimates what it should quantify. It is the degree to which contrasts found with an estimating instrument reflects genuine contrasts among those being tried (Kothari, 2004).

The researcher carried out a pretest study to guarantee that the instruments to be utilized in the examination are legitimate and gather the data required. In light of the outcomes and

perceptions from the pretest study, the instruments was refined by altering or dispensing with improper things or by adding more things to catch more data according to the targets. Creswell (2009) says that legitimacy in a subjective report implies that the scientist checks for precision of the instruments and finding.

In the present study, this was done through the pretesting of instruments and requesting supervisors at KEMU to read the instruments and make proposals for improvement. Creswell (2009) points out that in qualitative research validity can be ensured through trustworthiness, authenticity and credibility. The researcher addressed this by being honest in data collection and using credible and trustworthy participants.

3.7.2 Reliability of Data Instruments

With regard to instruments reliability, Creswell (2003) recommends that the researcher should check the instruments and transcripts to make sure that they do not contain errors. A pretest study was done using a questionnaire targeting health facilities offering HIV testing services in the neighboring Tharaka Nithi County. The researcher double-checked all the instruments to ensure accuracy and also pretested them. (See Chapter Four pg. 44)

3.8 Data Analysis and Presentation

Data analysis is engaged with after all data has been gathered and is an interaction used to sort out the data. The sort of data analysis tool that would be utilized is subject to the kind of data, that is; is the data subjective or quantitative (Walsh & Wiggins, 2003). The gathered data was encoded and gone into electronic data analysis programming, SPSS v25 (Statistical Package for Social Sciences). Data analysis involved assessing, cleaning, changing, and displaying the gathered data determined to feature helpful data, proposing ends, and supporting dynamic.

To investigate quantitative data recurrence tables and measurable programming bundles can be utilized (Wilson, 2010). The quantitative data in this exploration was broke down by expressive insights utilizing measurable bundle for sociologies SPSS (v25) Chi Square was utilized to evaluate the meaning of individual components. The data was then introduced utilizing recurrence tables and figures.

Correlations

The study used Spearman Rank Correlation was used to test this relationship. Correlations form the foundation for some of the core statistical methods relied upon for detecting patterns in data. Most frequently, it is the Spearman product moment correlation that is being referenced when the term is used, but there are other types of correlations that serve different purposes. Spearman correlation captures the strength of the linear relationship between two data fields.

Regression model was further used whereby the dependent variable was the usage and availability of reporting tools while the independent variables included the support supervision, human capacity and availability of Policy and guidelines in the health facilities.

3.9 Ethical Considerations

As indicated by Creswell (2003) "analysts need to secure their examination members; foster trust with them; advance the honesty of exploration; guard against wrongdoing and inappropriateness that may ponder their medical services facilities or organizations; and adapt to new, testing issues" (pg. 87). To guarantee that the examination was done in a moral way for each the assumptions for all specialists, a letter from Kenya Methodist University was acquired. The scientist additionally sought after a grant from the National Council of Science and Technology and a letter of approval from County Director of Health, Meru County. Participation was voluntary through informed consent after the respondents have been

explained to the purpose of the study. During data collection, the respondents were guaranteed of their privacy and confidentiality of the data given. Protection was ensured by not recording the names of the respondents anywhere. It was clarified that the data accumulated was exclusively for scholarly purposes as it were. Further, since the respondents may be hesitant to reveal some data, the scientist consoled the respondents of utilization and privacy of the data given as it was for the academic purpose only. The study included only those participants who signed the consent form.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This segment presents the data analysis and understanding of the data gathered. The initial segment covers the socioeconomics of the respondents: the subsequent part diagrams the enlightening qualities of both the reliant and autonomous factors as per the investigation targets. The fundamental goal was to evaluate determinants of reporting rates on HIV test kits in Meru County.

4.2 Response Rate

A total of 270 questionnaires were dropped and picked and among those completed well were 250 respondents. These questionnaires were edited and coded in SPSS v25 which were then analyzed as follows. The response rate was 250(93%) and thus sample size was attained.

4.3 Reliability Analysis

The study undertook reliability test using the Cronbach Alpha. A cutoff threshold of 0.7 was chosen for the study. Cronbach alpha value obtained from the total items was found to be sufficient enough.

Table 4.1:

Reliability Statistics

Cronbach's Alpha	N of Items
.73	37

4.4 Sociodemographic Characteristics

This section presents the sociodemographic characteristics of the respondents involved in the study as presented in the Table 4.1

Table 4.2:*Sociodemographic Characteristics*

Characteristic	Fr	%	
Gender	male	179	72.0
	female	71	28.0
age bracket	between 25-35 years	55	22.0
	between 35-45 years	150	60.0
	> 45 years	45	18.0
highest education level	Diploma Level	52	21.0
	High Diploma Level	97	39.0
	Graduate/Degree Level	84	34.0
	Postgraduate Level	17	6.
period in profession	< than 1 year	17	6.8
	between 1-5 years	86	34.0
	between 6-10 years	107	43.0
	between 11-20 years	38	15.0
	> than 20 years	2	.8
long have you worked in MCH	< 1 year	4	2.0
	between 1-5 years	123	49.0
	between 6-10 years	110	44.0
	> 20 years	13	5.0
facility level are you currently deployed in	Hospital	92	37.0
	Health Center	122	48.8
	Dispensary	36	14.4

Majority of the respondents 150(60%) were aged between 35-45 years and followed by those between 26-35 years 55,(22.0%). On their highest education level, majority had higher diploma level 97,(39%) followed by those with graduate education 84,(33%) while those with either diploma level constituted 21%. The study established that majority 107,(43%) had worked at their current station for between 6-10 years while those with experience of between 1-5 years were 86(34.0%). On the period they had worked at the MCH, the study established that 110(44.0%) had worked for between 6-10 years while those with who had worked for between 1-5 years were 123(49.0%) and most worked at health centers 122,(49%) while those who worked at the dispensary and hospitals were 36(14%) and 92(37%) respectively.

4.4 Availability of the Recommended Data Reporting Tools for HIV Test kits

Table 4.3:

Availability of the Recommended Data Reporting Tools for HIV Test kits

		n	%	Chi Square	Asymp. Sig.
recommended data reporting tools (MOH 643 available)	Yes	153	61.2	101.768	.000
	No	73	29.2		
	Somewhat	24	9.6		
Period been using the recommended MOH 643 reporting tools	< 1 year	96	38.4	87.056	.000
	1-3 years	68	27.2		
	4-6 years	85	34.0		
	>10 years	1	.4		
rate of ease of use of the tool (adequate in capturing the consumption data of the HIV test kits)	Very adequate	21	8.4	172.88	.000
	Adequate	102	40.8		
	Neutral	17	6.8		
	Inadequate	71	28.4		
extent the recommended data reporting tools updated regularly to suit the current needs	To great extent	37	14.8	66.7	.000
	To moderate extent	117	46.8		
	To little extent	56	22.4		
	To least extent	40	16.0		
Agree that recommended data reporting tools are adequate and timely in capturing the consumption data of the HIV test kits	Strongly agree	5	2.0	213.49	.000
	Agree	90	36.0		
	Neutral	69	27.6		
	Disagree	5	2.0		
	Strongly Disagree	80	32.0		

The first objective of the study was to determine whether the availability of the recommended data collections tools affects the reporting rates for HIV test kits in Meru County and the response are provided in the Table 4.3.

The study established that majority 153,(61.2%) had the recommended data reporting tools (MOH 643) ($\chi^2=101.76$, $p<0.05$) and on the period they have been using the recommended MOH 643 reporting tools, a third (85,34%) indicated between 4-6 years and 68(27.2%) indicated they have using MOH 643 for between 1-3 years ($\chi^2=80.86$, $p<0.05$) while 98(38.7%) have been using the reporting tools(MOH 643) for less than one year and this

indicated great gaps in reporting rates. This agrees with the Ministry of Health (2018), that stated that Commodity reporting tools should be standardized, harmonized, printed and distributed targeting sites offering Health services across the country. This is then followed by sensitization meetings targeting end users who are health care workers responsible for reporting consumption data on monthly basis. As per the National AID/STI Coordination program standards (NASCO), commodity reporting tools are usually printed centrally and then distributed from the National level to all counties across the country. Through implementing partners support, Commodity reporting tools are then disseminated to all facilities within the county. This is then followed with sensitization meetings targeting Health Care Workers involved in commodity reporting to familiarize the staffs on their usage. Meru County has been engaging new health care workers on periodic basis throughout the year and majority of staffs engaged are mainly fresh graduates from Medical Training colleges. This explain the reason why majority 98 (38.7%) of the respondents have been using the recommended reporting tools for HIV test kits for less than a year. This calls for regular dissemination meetings to accommodate new health care workers to familiarize them on the use of the recommended reporting tools for HIV test kits (MOH 643).

Their ratings on the ease of use of commodity reporting tool (MOH 643) indicated that it was generally adequate 173, (40.8%) while 71(28.4%) said it was very inadequate and this indicated that the tool was inefficient and ineffective enough ($\chi^2=172.88$, $p<0.05$) and this might affect reporting rates. According to Monica (2016), commodity reporting tools should be simple, easy to use and help to maintain history of data on consumption such those of HIV test kits. This call for regular sensitization meetings to orientate health care workers on the recommended reporting tools.

Majority 117, (46.8%) were neutral that reporting tools were updated regularly to suit the current needs ($\chi^2=142.00$, $p<0.05$). Commodity reporting tools are usually reviewed and updated when new HIV test kits are introduced and this is usually done by National Commodity Technical working group comprising of National HIV team and stakeholders drawn from all the counties. Upon approval by Nascop, the updated tools are then printed and distributed to the facilities across the country. This agree with majority of respondents 117(47%) as been neutral as they are only aware of updated commodity reporting tools upon distribution from the national program(Nascop).

On the responses on the probe that the recommended data reporting tools are adequate in capturing the consumption data of the HIV test kits, 85(34.0%) disagreed compared to 95(38.0%) who agreed while 27.6% were neutral on the statement ($\chi^2=213.49$, $p<0.05$) and this showed commodity reporting tools (MOH 643) were not adequate enough. This disagree with Martin and Simmons (2017) recommendation that commodity reporting tools should be reviewed periodically or when need arises to accommodate new indicators that are key for policy formulation .Currently (2021), we have new HIV test kits in use i.e. OraQuick and Dual kits and they are not captured in the current reporting tools. This agrees with the respondent, 85(34%), who felt that the tools were inadequate in capturing the necessary HIV test kits data. These calls for National program (Nascop) to move with speed to ensure updated commodity reporting tools are reviewed and availed for use by health care workers to reduce on under reporting especially on the new HIV test kits (OraQuick and Dual Kits).

4.5 Influence on Human capacity on HIV test kits reporting rates

The second objective was to examine the influence of human capacity on commodity management on reporting rates for HIV Test kits in Meru County and the Table 4.3 presents the summary of the responses. It was established that slightly more than half, 145(58%) of

the Healthcare workers were regularly trained in the recommended data reporting tools (MOH 643 tool) (145, 58.0%) ($\chi^2=6.4$, $p<0.05$) and this might explain the poor reporting rates and the number of trainings annually were only once 127,(50.8%).. Approximately 101(40.4%) recommended that data reporting tool (MOH 643) is adequate in capturing the consumption data of the HIV test kits ($\chi^2=77.67$, $p<0.05$). Majority of the respondents indicated that they were they were trained once (127, 50.8%) while 104(41.6%) indicted that they were trained twice and further query indicated that this once trainings affected the reporting rates due to inadequate competence. Capacity building plays a key role in ensuring Health care workers understand what is expected of them and in this case reporting tools. As per the data, majority 127(51%) of the health care workers were only trained once which is inadequate to empower health care workers on commodity reporting. Regular capacity building through continuous medical educations (CMEs) plays a key role in refreshing health care workers on what is required of them. This should be coupled with clear orientation and induction plan for the new health care workers joining the service. This agrees with Kamonde (2019) who cited that either pre-service or in service trainings, including periodic refresher trainings, should be part of the training requirements for all the testing services. Development of training matrix to define capacity building gaps plays a key role in ensuring universal coverage among health care workers. This can be done systematically guided by certain principles. This is agrees with Wognum (2001),who said assessing the training needs may occur at three facility levels namely; (1) strategic level where needs are determined by top management i.e. support supervision while considering hospitals goals, mission, strategy and problems, which need to be resolved or fixed i.e. noting the laxity or inefficiency in logging HIV test kit consumption data. Secondly, tactical level where needs are determined with middle management while considering developments needs to the coordination and cooperation between hospitals departments units and this falls under the lab technicians

themselves and (3) operational level where needs are determined with lower executive management and other healthcare employees while considering problems related to operations such as performance problems of individual workers and departments in subject. It was established that the trainings were not quite adequate in the capture of consumption data on HIV test kits as 101(40.4%) cited inadequate compared to 104(41.6%) who indicated they were adequate ($\chi^2=39.56$, $p<0.05$). Inadequate trainings, 101(40%), in the capture of consumption data for HIV test kits can be as a result of perception among the health care workers. Most health care workers don't agree with onsite trainings rather they preserve hotel based trainings as the ones that are effective. Due to reduced resource allocation by the implementing partners and county government, health care workers need to be sensitized on the importance of facility level mentorship that is less costly as staffs are not relocated from their place of work hence adequate time is available to attend to the needs of the clients.

On the usefulness of the trainings, the study noted that trainings were not useful 159,(63.6%) compared to 76(30.4%) indicated that the trainings were useful ($\chi^2=89.8$, $p<0.05$). majority of the respondents 104,(41.6%) disagreed that there were enough staffs in the facility to fill the consumption data of the HIV test kits useful compared to 103(41.2%) who agreed to the statement ($\chi^2=109.52$, $p<0.05$) and inadequate staff can lead to burnouts and responsibilities overload and this can affect the overall reporting rates. Human resource for Health as one of WHO building blocks plays a key role as one of the drivers towards achieving quality service delivery. Adequate staffing equates to reduced burnouts and helps spread the workload making it possible for health care workers to consolidate monthly reports at ease.

Table 4.4:***Influence on Human capacity on HIV test kits reporting rates***

		Frequency	Percent	Chi Square	Asymp. Sig.
regularly trained in the recommended data reporting tools(MOH 643 tool)	Yes	145	58.0	6.4	.011
	No	105	42.0		
number of times are you trained in a year	Once	127	50.8	77.67	.000
	Twice	104	41.6		
	Thrice	19	7.6		
Training on recommended data reporting tools (MOH 643) adequate in capturing the consumption data of the HIV test kits	Very adequate	22	8.8	39.56	.000
	Adequate	82	32.8		
	Neutral	45	18.0		
	Inadequate	59	23.6		
rate the adequacy of the training on filling the recommended data reporting tools(MOH 643) for capturing the consumption data of the HIV test kits	Very Inadequate	42	16.8	134.58	
		30	12.0		
	Very Adequate	87	34.8		
	Adequate	35	14.0		
extent did you find the training useful	Inadequate	77	30.8	89.800	.000
	Very Inadequate	20	8.0		
	Extremely useful	14	5.6		
	Very useful	62	24.8		
	Somewhat useful	86	34.4		
	Not so useful	73	29.2		
agree that there are there enough staff in the facility to fill the consumption data of the HIV test kits useful	Not at all useful	15	6.0	109.520	.000
	Strongly agree	13	5.2		
	Agree	90	36.0		
	Neutral	43	17.2		
	Disagree	87	34.8		
	Strongly Disagree	17	6.8		

4.6 Availability of Standard Operating Procedures and HIV test Kits Reporting Rates

Table 4.5:

Availability of Standard Operating Procedure and HIV test Kits Reporting Rates

	Mean	Std. Deviation	Chi-Square	Asymp. Sig.
I am aware of HIV test kits policies that are in place	3.8840	0.65134	189.648	.000
The policies are helpful in my work	3.8880	0.70814	312.480	.000
The policies are clear, unambiguous and concise	4.0040	0.59109	246.096	.000
Standard operating procedures are well displayed at work station	3.7360	0.63555	68.768	.000
Majority of the staff implement the Standard operating procedures	3.4960	0.76703	110.256	.000
I have a copy of the Standard treatment guidelines and HIV test kits	3.3695	0.70713	141.281	.000
I often use the guidelines for reference	3.7120	0.70359	155.696	.000
The guidelines are helpful source of information	4.0440	0.69570	159.440	.000

The third objective was to assess if the availability of Standard Operating Procedures (SOPs) influence reporting rates of HIV test kits in Meru County. The study established that the respondents agreed to the statement that they were aware of HIV test kits policies that are in place (3.88 ± 0.65) ($\chi^2=189.6$, $p<0.05$) and the agreed that the policies were helpful at their work (3.89 ± 0.708) ($\chi^2=312.48$, $p<0.05$). The respondents agreed ($4.0 \pm .59$) that policies are clear, unambiguous and concise ($\chi^2=246.09$, $p<0.05$). Nascop as a national program have developed standards operating procedures that define steps to be followed in receiving, accounting and reporting of HIV test kits. The documents after development are usually disseminated throughout the country targeting all facilities for health care workers to refer. This agreed with the respondent that the Policy and guidelines are available and they are aware of their existence. The documents are well packaged with clear simple language that is understood by the health Care Workers. This further agreed with WHO (2020), who stated that national policies and regulations are prerequisite for promotion, support implementation

of sound practices for HIV test kits management. The respondents were not sure (neither agreed nor disagreed) that Standard operating procedures are well displayed at work station ($3.7 \pm .63$) ($\chi^2=68.76$, $p<0.05$). Majority ($3.5 \pm .76$) were not sure if the majority of the staff implemented the Standard operating procedures ($\chi^2=110.25$, $p<0.05$) and that they had a copy of the Standard treatment guidelines and HIV test kits ($3.3 \pm .70$). Majority of the Healthcare workers indicated that they often used the guidelines for reference ($3.71 \pm .70$) and these guidelines were helpful source of information ($4 \pm .69$) ($\chi^2=159.44$, $p<0.05$). Health care workers usually develop attitude towards policy documents that are regularly availed to the facilities by different program areas. This includes but not limited to family planning, Non communicable diseases (NCD), HIV/TB among others. Different programs usually develop various versions of Policy and guidelines that are supposed to be adhered to by health care workers. This usually brings some fatigue among health care workers as they are supposed to keep on referring frequently. Overtime National testing algorithm has changed and this has resulted to new Policy and guidelines being developed, printed and disseminated to facilities for Health Care Workers to use. This have brought some confusion especially to Health Care Workers because of the changing trends and what is required of them to management HIV testing commodities.

As a way of ensuring adherence to the standard operating procedures and policy documents, regular updates are required to ensure health care workers are sensitized on the new changes and this will help in the utilization of the information as stipulated in the policy documents for proper implementation.

4.7 Organizational factors and HIV test kits reporting rates

Table 4.6:

Organizational factors and HIV test kits reporting rates

	Mean	Std. Deviation	Chi- Square	Asymp. Sig.
I have a supervisor whom I report to in the course of my work	3.8080	0.73025	159.376 ^a	.000
The supervisor is always available for consultation	3.0600	2.18253	84.89	.000
The supervisor gives valuable feedback	3.8040	1.14316	122.32	.000
Supervision is adequate and builds capacity	3.4680	1.34768	64.5	.000
I have attended training(s) and or workshop(s)	3.4378	1.34597	80.900	.000
The training was educative and informative	3.4400	1.30430	50.520	.000
New staff are taken through an induction training on as part of orientation process	3.4200	1.36052	73.00	.000
The supervisor has developed a hospital formulary which is reviewed periodically	3.7800	1.11741	171.32	.000

The fourth/last objective was to determine if organization factor by the County/Sub County teams influences reporting rates for HIV test kits in Meru County and the responses are provided in the Table 4.6. It was established that the respondents agreed ($3.8 \pm .73$) that they had a supervisor whom they report to in the course of their work ($\chi^2=159.37$, $p<0.05$) and that their supervisor was not always available for consultation (3.06 ± 2.1) ($\chi^2=84.89$, $p<0.05$). Sites within the county are usually manned under the leadership of the County and sub county health teams whose mandate is to make regular visits mainly on monthly basis to facilitate information flow, share feedback and also boost staffs morale. And this agreed with Asante and Roberts (2017), who said supportive supervision can be implemented or applied at multiple levels within a public health system. New staffs are usually inducted on leadership structure and this agreed with the respondents that they had a supervisor whom they report to. Due to resource constrains, county/sub county teams are not usually facilitated on monthly basis to visit sites under their jurisdiction making the respondents have a feelings of their

unavailability but consultations are usually done using the available technology (WhatsApp). This disagrees with respondents that supervisors are not always available for consultation and yet each county/sub county have active WhatsApp platforms which connect all health care workers within the county. On the statement that if supervisor often provided valuable feedback, the respondents agreed (3.8 ± 1.1) ($\chi^2=122.32$, $p<0.05$).

Majority of the staff disagreed that the supervision was adequate and builds capacity (3.4 ± 1.34) ($\chi^2=64.5$, $p<0.05$) and further disagreed that they had attended training(s) and or workshop(s) (3.4 ± 1.34) ($\chi^2=80.9$, $p<0.05$). According to Avortri et al. (2019) studies have linked supportive supervision to positive outcomes such as job motivation, retention, satisfaction and better performance. Information flow on change of national guidelines is usually done by National or county/sub county teams by visiting sites or organizing sensitization meetings at the county/sub county level and ensuring guidelines are followed to the letter by visiting sites regularly. This ultimately helps promote quality service delivery and improve health outcomes. This agreed with Djibuti, (2009) who indicated that the supportive supervision approach can be instrumental in reinforcing general health projects and general health results. With regards to a health care framework, supportive supervision empowers and engages health care workers to successfully recognize and take care of issues, work with collaboration, give initiative, and screen and work on their own presentation.

It was established that new staffs were not taken through an induction training on as part of orientation process (3.42 ± 1.36) ($\chi^2=73.0$, $p<0.05$) and the respondents further asserted that supervisor had developed a hospital formulary which were reviewed periodically (3.8 ± 1.1) ($\chi^2=171.32$, $p<0.05$). According to Bailey et al. (2020) who carried out a methodical survey of supportive supervision as a system to further develop essential healthcare administrations in Sub Saharan African, they tracked down that supportive supervision can expand work

fulfillment and health laborer inspiration especially to the existing and new staffs joining the field. They further noted that supervision plays a key role in ensuring that health workers are supported and assisted to do the right thing. This is usually done by supervisors from higher office (either National, County/sub county levels) to facilities within the county. This facilitates information flow, updates and boost health care workers morale. County should allocate enough adequate resources to facilitate county/sub county team to visits sites regularly. Well-structured plan should be put in place to ensure health care workers are updated on changes of policy guidelines in a well-coordinated way and induction plan for all staffs joining the service or on transfer. County/sub county team should foster spirit of communication with staffs within their jurisdiction either by phone calling, site visits or by use of the available technology i.e. WhatsApp group. Through this, the health care workers feel supported.

4.8 Reporting rates for HIV Test kits

Consumption data for HIV test kits is reported using MOH 643 which is the only recommended national reporting tool. The reports are then consolidated by Health care workers every 5th day of the following month then submitted to Sub county Medical laboratory Coordinators (SCMLCs) who then consolidate for the various facilities within the sub county and upload into District Health Information System (DHIS). DHIS auto calculates reporting rates based on the number of facilities that have reported against the overall number of HTS sites within the Sub County and the County as a whole for the month.

On quarterly basis, the national allocation committee allocate HIV test kits based on the reported data through DHIS. This means as a standard all HTS testing sites have to submit consumption data for HIV test kits on monthly basis by use of recommended MOH

643.Underreporting of HIV test kits translates to low allocation of HIV test kits which ultimately trigger erratic shortages throughout the year.

The table below demonstrates reporting rates for the various sub counties within Meru County from January to December 2019

Table 4.7:

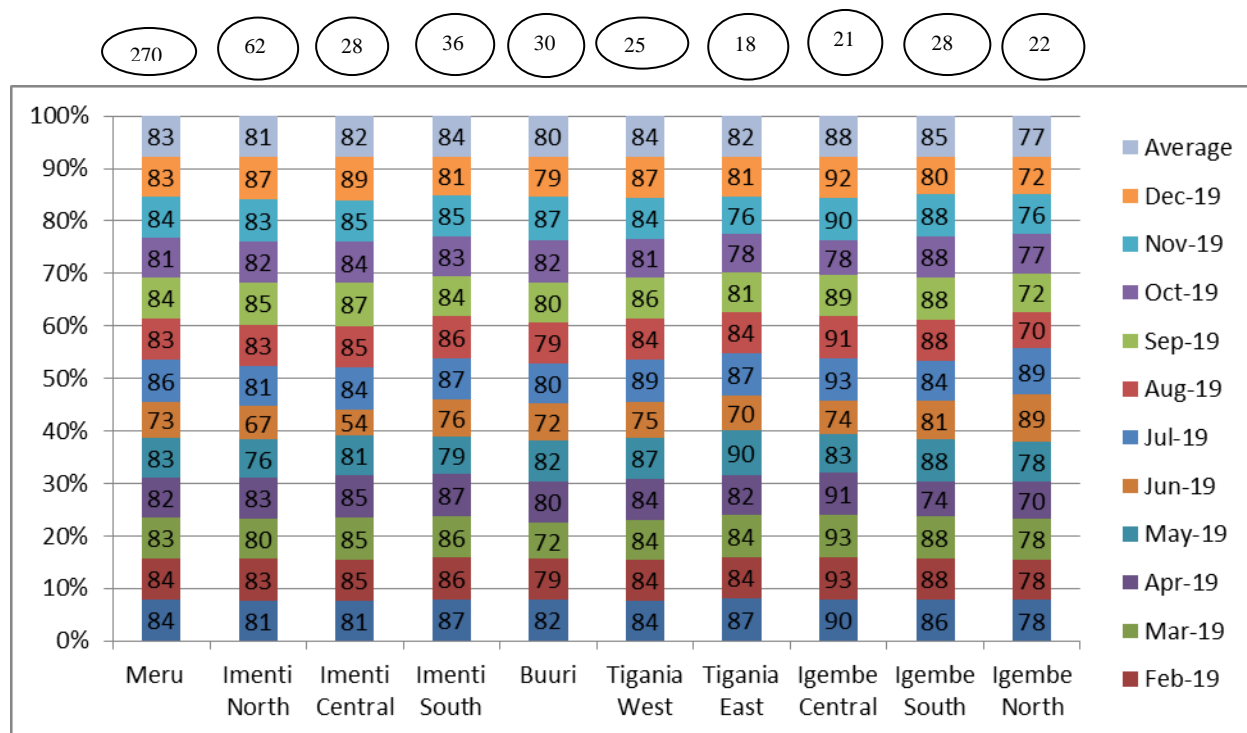
% reporting rates for HIV test kits for 9 sub counties, Meru County (Jan-Dec 2019)

Source DHIS

%REPORTING RATES FOR HIV TESTKITS BY USE OF MOH 643-JAN-DEC 2019										
	County	Sub county								
Month	Meru	Imenti North	Imenti Cent	Imenti Sout	Buuri	Tigania West	Tigania Eas	Igembe Central	Igembe South	Igembe North
Jan-19	84	81	81	87	82	84	87	90	86	78
Feb-19	84	83	85	86	79	84	84	93	88	78
Mar-19	83	80	85	86	72	84	84	93	88	78
Apr-19	82	83	85	87	80	84	82	91	74	70
May-19	83	76	81	79	82	87	90	83	88	78
Jun-19	73	67	54	76	72	75	70	74	81	89
Jul-19	86	81	84	87	80	89	87	93	84	89
Aug-19	83	83	85	86	79	84	84	91	88	70
Sep-19	83	85	87	84	80	86	81	89	88	72
Oct-19	81	82	84	83	82	81	78	78	88	77
Nov-19	84	83	85	85	87	84	76	90	88	76
Dec-19	83	87	89	81	79	87	81	92	80	72
Average	83	81	82	84	80	84	82	88	85	77

Table 4.8:

Graphical outlook on % reporting rates for HIV test kits for Meru County



On average, Meru County achieved 83% reporting rates for HIV test kits from January to December 2019 which is way below the National recommended target of 100%. This is a cumulative performance for the 9 sub counties within Meru County accounting for 270 HTS target sites. During the period (Jan-Dec 2019), Igembe Central Sub County registered the highest performance of 88% reporting rates on average with Igembe North sub county registering the lowest of 77% over the same period. This agreed with Management Science for Health Commodity Report, 2016, that stated that in Africa, most countries are still struggling to achieve maximal reporting rates for health commodities. This is due to various factors which among them include organizational, human capacity, Standard operating procedures to guide HIV test kits reporting, and availability of the recommended data reporting tools among others. A slogan ‘No commodity reports No HIV test kits supply’ has been in force from National HIV program (NASCO) to counties across the country.

According to WHO, (2007), all health commodities are supposed to be reported at 100% which is contrarily to 83% achievement for Meru county from January to December 2019 on average. This, if not checked can trigger erratic shortages of HIV test kits overtime. This further informs why Human capacity, availability of the recommended reporting tools for HIV testkits, Organisational factors(Upper management support) and availability of the SOPs to guide in HIV test kits reporting among others should be looked into to ensure achievement to 100% reporting rates for HIV test kits.

Low reporting rates for HIV test kits make it difficult for key stakeholders to allocate the necessary resources to procure the right quantities equivalent to the demand. According to Hutchinson at al. (2016), reporting on HIV testing kits plays a critical key role in ensuring the functional bodies mandated to quantify on either monthly or quarterly basis have enough data for accurate projections to reduce on either under stocking or overstocking of HIV test kits and allocate the necessary resources.

Table 4.9:
Correlation Matrix

		Reporting Rates	avdrt	hcc	avSOP	Orgf	
Spearman's rho	Reporting Rates	Rho value	1.000	.693*	.896*	.814*	.407*
		Sig. (2-tailed)	.	.025	.050	.015	.050
avdrt		Rho value	.693*	1.000	.157*	.125*	.649
		Sig. (2-tailed)	.025	.	.013	.048	.029*
hcc		Rho value	.896*	.125*	1.000	.108	-.277
		Sig. (2-tailed)	.050	.048	.	.089	.069
avSop		Rho value	.814*	.108	.157*	1.000	.214
		Sig. (2-tailed)	.015	.089	.013	.	.079
Orgf		Rho value	.407*	.649	.277	.214	1.000
		Sig. (2-tailed)	.050	.029*	.069	.079	

*. Correlation is significant at the 0.05 level (2-tailed).

The Table 4.9 presents the correlation between study variables. It was found that there was strong positive relationship that was significant ($p < 0.05$) between reporting rates and

availability of the recommended reporting tools ($\rho=.693$, $p<0.05$) while a strong positive relationship existed between reporting rates and availability of Standard Operating Procedures(SOPs) ($\rho=-.814$, $p<0.05$) and a strong positive relationship between the reporting rates and human capacity ($\rho=.896$, $p<0.05$) and organizational factors($\rho=.407$, $p<0.05$) and thus Human Capacity, availability of Reporting reporting tools, Availability of SOPs and Organizational factors all affects reporting rates for HIV test kits.

Table 4.10:

Regression model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.814 ^a	.663	.709	3.63258

a. Predictors: (Constant), Orgf, avdrt, avP&G, hcc

The coefficient of determination obtained from the model was .663 and this indicated that the regression model explained only 66.3% of the factors that explained/affected reporting rates on consumption data of HIV test kits in the county. Thus, other factors that were not captured in the model explained 32.7% and this explained the f statistics which indicates that the model was significant (f_{cal} . $p<0.05$).

Table 4.11:

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	137.643	4	34.411	10.185	.046
	Residual	45532.581	245	185.847		
	Total	45670.224	249			

a. Dependent Variable: Reporting Rates

b. Predictors: (Constant), Orgf, avdrt, avSops, hcc

As per the table, there is significant relationship between Dependent variable (Reporting rate) and independent variables (Organizational factors, Human Capacity, Availability of SOPs and Availability of reporting tools)

Table 4.12:***Coefficients***

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error			
1 (Constant)	82.877	16.544		5.010	.000
Availability of data reporting tools	.087	.174	.032	4.498	.019
Human Capacity	.047	.241	.013	3.197	.044
Availability of Standard Operating Procedures	.017	.500	.002	.134	.073
Organizational Factors	.121	.184	.042	4.657	.012

a. Dependent Variable: Reporting_Rates

The coefficients Table 4.12 indicates that holding other factors constant, the reporting rates using the MOH 643 reporting rates was 83. A unit change in human capacity led to .047 unit increases in the reporting rates compared to a .087 increase for a unit change in availability of reporting tools (MOH 643). A unit change in availability of SOPs in the health facilities led to .017 increases in reporting rates while a unit change in Organizational factors led to a .121 increase in reporting rates.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter highlights the results discussion, conclusions and the recommendations based on the study's objectives.

5.2 Summary

The study sought to determine the factors that affected reporting rates in the use of HIV test kits. The study established that majority of the respondents were aged between 35-45 years and a third had their highest education level and majority had higher diploma level. The study established that majority approximately 43% had worked at their current station for between 6-10 years while a third had experience of between 1-5 years. It was found that there was strong positive relationship that was significant ($p < 0.05$) between reporting rates and availability of the reporting tools ($\rho = .693$, $p < 0.05$) while a strong positive relationship existed between reporting rates and availability of SOPs ($\rho = .814$, $p < 0.05$) and a strong positive relationship between the reporting rates and human capacity ($\rho = .896$, $p < 0.05$) and Organizational factors ($\rho = -.407$, $p < 0.05$) and thus availability of Recommended reporting tools, availability of SOPs, Organizational factors and Human Capacity all affects use reporting rates for HIV test kits.

The coefficient of determination obtained from the model was .663 and this indicated that the regression model explained only 66.3% of the factors that affected/explained reporting rates on consumption data of HIV test kits in the county. In the regression model holding other factors constant, the reporting rates using the MOH 643 was 83. A unit change in human capacity led to .047 unit increases in reporting rates compared to a .087 increase for a unit change in availability of recommended data reporting tools (MOH 643). A unit change in

availability of SOPs in the health facilities led to .017 increases in reporting rates while a unit change in Organizational factors led to a .121 increase in reporting rates.

5.3 Conclusion

5.3.1 Availability of the Recommended Data Reporting Tools for HIV Test kits

Most of the study respondents were familiar with the recommended data collection tools (MOH 643) and a third been using the reporting tools, between 4-6 years. Their ratings on the easiness of use of MOH indicated that it was generally adequate while almost third said it was very inadequate and this indicated that the tool was inefficient and ineffective enough and this might affect reporting rates. Majority were neutral that reporting tools were updated regularly to suit the current needs and this is due to unavailability. The recommended data collection tools were inadequate in capturing the consumption data of the HIV test kits.

As per the study, there is adequate availability of recommended data reporting tools to aid in reporting HIV test kits though the tools need to be updated to accommodate new test kits currently in use.

5.3.2 Influence of Human capacity on HIV test kits Reporting Rate

It was noted that slightly more than half of the Healthcare workers were regularly trained in the recommended data reporting tools approximately 40.4% cited that recommended data reporting tools (MOH 643) was adequate in capturing the consumption data of the HIV test kits. Most of the Healthcare workers were trained once and further query indicated that this once trainings affected the reporting rates due to inadequate competence. These trainings were not quite adequate in the capture of consumption data on HIV test kits. Further, these trainings were not useful. As per the study, it's clear that trainings plays a key role in ensuring health care workers are capacity build enough to capture consumption data of HIV test kits in the reporting tool (MOH 643). These are the reports that are then submitted to the

sub county medical laboratory coordinators to be uploaded into DHIS to improve on reporting rates for HIV testkits. This should be achieved through regular engagements with county and other key actors.

5.3.3 Availability of Standard Operating Procedures and HIV test kits reporting rates

The Healthcare workers were aware of HIV test kits policies that are in place and the further the policies were helpful at their work. The various policies on reporting rates were clear, unambiguous and concise. The respondents were not sure (neither agreed nor disagreed) that Standard operating procedures are well displayed at work station and this might have affected the reporting rates. Majority were not sure if the majority of the staff implemented the Standard operating procedures and that they had a copy of the Standard treatment guidelines and HIV test kits. Majority of the Healthcare workers indicated that they often used the guidelines for reference and these guidelines were helpful source of information. As per the study, it's clear that availability of standard operating procedures (SOPs) plays a key role in improving reporting rates for HIV test kits. Policy and guidelines and other key guidelines should be availed and Health Care Workers staffs sensitized on their use on regular basis

5.3.4 Organizational factors and HIV test kits reporting rates

Most healthcare workers in the study had a supervisor whom they report to in the course of their work though supervisors were not always available for consultation but often provided valuable feedback. Most staff disagreed that the supervision was adequate and builds capacity and further they had not attended training(s) and or workshop(s). It was established that new staffs were taken through induction training on as part of orientation process.

From the study, it's evident that supervisors should conduct supportive supervision as a way of empowering health care workers to manage consumption data for HIV test kits and reports

using the recommended reporting tools. This should be coupled with onsite trainings that are very for Health Care workers to improve on commodity management.

5.4 Recommendations

5.4.1. Recommendations on Research findings

To improve of reporting rates for HIV test kits in Meru County, there is a need to ensure recommended reporting tools for HIV test kits are updated to accommodate the new upcoming kits. As per the study ,85(34.0%) of health care workers indicated that recommended data reporting tools for HIV test kits should be updated to accommodate new test kits. This should be a collaborative effort between the County leadership and the National program mandated to review, print and distribute reporting tools for HIV test kits to facilities across the county. Once distributed, sensitizations meetings should be done targeting Health Care Workers involved in reporting of HIV test kits across the county. Sensitisations should also include new guidelines and Standard operating procedures (SOPs) in use and ensure the documents are availed and utilized regularly.

On Organizational factors, the study has shown Support supervision should be intensified by the county and sub county leadership. Respondents indicated that they are aware of their supervisors but rarely are they available for consultation. Site visits by the supervisors to facilities can play a key role in ensuring health care workers are mentored and supported on the need to management and report HIV test kits. Collaborative effort between the county and other key actors in health is very key for resource mobilization to facilitate the County/sub county team to make regular visits to the facilities. Clear work plan should be developed to guide site visits on monthly /quarterly basis.

On Human capacity, majority of respondents 104, (41.6%) indicated that there is need to engage more health care workers to facilities. This is to spread the workload and ensure

enough staffs are available to fill and submit monthly reports on HIV test kits to the sub county team. County/Sub county team should be guided by facility level workload and the existing policies such as scheme of service to distribute health care workers by levels of facilities and if possible engage more health care workers to improve on service delivery.

5.4.2 Recommendations for Further Research

The study sought to determine the factors that affected the reporting rates on HIV test kits in Meru County. A total of 250 respondents were involved in the study and future study should seeks to address the same issue can use higher sample size in order to increase the reliability of the data. The coefficient of determination was .663 and thus other factors that affected the reporting rates for consumption data for HIV test kits were not captured and further studies are needed.

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APPENDICES

Appendix I: Consent Form

Kenya Methodist University
Department of Health Systems Management

Dear Respondent

My name is Paul Gathii, a Masters student from Kenya Methodist University pursuing a Master of Science in Health Systems Management. I am conducting research on “*Determinants Of Reporting Rates For Hiv Test kits; A Case Of Meru County .*”. You have been identified as a potential respondent to this study. Any information you give is purely for academic purposes and will be handled with utmost confidentiality. Through this note, I seek your informed consent to participate in the study. Please remember that you are free to decline. By appending your signature, informed consent will be assumed.

Procedure to be followed

Participation in this study will require that I ask you some questions. I will record the information from you in a questionnaire check list. You have the right to either accept or decline participation in this study. You will not be penalized nor victimized for not joining the study and your decision will not be used against you nor affect you at your place of employment.

Please remember that participation in the study is voluntary. You may ask questions related to the study at any time. You may decline to respond to any questions and you may stop an interview at any time. You may also stop being in the study at any time without any consequences to the services you are rendering.

Discomforts and risks.

Some of the questions you will be asked are on intimate subject and may be embarrassing or make you uncomfortable. If this happens; you may refuse to answer if you choose. You may also stop the interview at any time. The interview may take about 15 minutes to complete.

Benefits

If you participate in this study you will help us to strengthen service utilization of *Determinants of Reporting Rates for HIV Testkits; A Case Of Meru County* in Kenya and other Low-in- come countries in Africa. This research is critical to strengthening service delivery as it will generate new knowledge in this area of burden of service and quality of care that will inform decision makers to make decisions that are research based.

Rewards

There is no reward for anyone who chooses to participate in the study.

Confidentiality

Your name will not be recorded on the questionnaire and the questionnaires will be kept in a safe place at the University.

Participant’s Statement

The above statement regarding my participation in the study is clear to me. I have been given a chance to ask questions and my questions have been answered to my satisfaction. My participation in this study is entirely voluntary. I understand that my records will be kept private and that I can leave the study at any time. I understand that I will not be victimized at my place of work whether I decide to leave the study or not and my decision will not affect the way I am treated at my work place.

Name of Participant: **Date**.....

Signature.....

Investigator’s Statement

I, the undersigned, have explained to the volunteer in a language s/he understands the procedures to be followed in the study and the risks and the benefits involved.

Name of Interviewer

Date..... Interviewer.....

Signature.....

Contacts

In case you have any questions, you are free to contact the following;

	Email	Contacts
Dr. Carolyne Kawila	<u>caroline.kawila@kemu.ac.ke</u>	Supervisor
Ms Lillian Muiruri	<u>Lillian.Muiruri@kemu.ac.ke</u>	Supervisor
Paul Gathii	<u>paulgathiiwanjiru1981@gmail.com</u>	Chief
	<u>m</u>	Investigator

Appendix II: Research Questionnaire

Please (tick) where appropriate or fill in the required information on the spaces provided. The questionnaire is divided in the following segments.

SECTION A: Sociodemographic Characteristics

1. What is your age bracket? (Tick appropriate response)

Less than 25 years ()

Between 26-35 years ()

Between 36-45 years ()

More than 46 years ()

2. What is your highest education level? (Tick appropriate response)

Certificate level ()

Diploma level ()

Higher Diploma level ()

Graduate/Degree level ()

Others-specify.....()

3. For how long have you worked in your current station?(Tick appropriate response)

Less than 1 year ()

1-5 years ()

6-10 years ()

Over 10 years ()

4. For how long have you worked in MCH before? (Tick appropriate response)

Less than 1 year ()

1-5 years ()

6-10 years ()

Over 10 years ()

5. Which facility level are you currently deployed in? (Tick appropriate response)

Hospital ()

Health centre ()

Dispensary ()

SECTION B: Technical questions

AVAILABILITY OF THE RECOMMENDED REPORTING TOOLS FOR HIV TESTKITS

1. Are the recommended data reporting tools available in this facility (MOH 643)?

Yes ()

No ()

Somewhat ()

2. For how long have you been using the recommended MOH 643 reporting tools?

Less than 1 year ()

1-3 years ()

4-6 years ()

7- 9years ()

10 Years and above ()

3. How do you rate the ease of use of the tool? Inadequate in capturing the consumption data of the HIV test kits?

- a) Very Adequate
- b) Adequate
- c) Neutral
- d) Inadequate
- e) Very Inadequate

4. To what extent does the recommended data reporting tools updated regularly to suit the current needs?

- To extremely great extent
- To great extent
- To moderate extent
- To little extent
- To least extent

5. To what extent do you agree that recommended data reporting tools are adequate in capturing the consumption data of the HIV test kits?

- a) strongly agree
- b) Agree

- c) Neither agree nor disagree
- d) Disagree
- e) Strongly disagree

6. How do the how recommended data reporting tool (MOH 643) reach facilities?

INFLUENCE ON HUMAN CAPACITY ON HIV TESTKTS REPORTING RATE

7. Are you regularly trained in the recommended data reporting tools(MOH 643 tool)

Yes ()

No ()

8. If yes, how many times are you trained in a year?

Once

Twice

Thrice

More than three times

9. Are the recommended data reporting tools (MOH 643) adequate in capturing the consumption data of the HIV test kits?

a) Very Adequate

- b) Adequate
- c) Neutral
- d) Inadequate
- e) Very Inadequate

10. How do you rate the adequacy of the training on filling the recommended data reporting tools (MOH 643) for capturing the consumption data of the HIV test kits?

- a) Very Adequate
- b) Adequate
- c) Neutral
- d) Inadequate
- (e) Very Inadequate

11. To what extent did you find the training useful?

- Extremely useful
- Very useful
- Somewhat useful
- Not so useful
- Not at all useful

12. Do you agree that there are enough staffs in the facility to fill the consumption data of the HIV test kits useful?

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

AVAILABILITY OF STANDARD OPERATING PROCEDURES AND HIV TESTKITS REPORTING RATES

13. On the scale provided below, please indicate the level to which you agree with the description on that factor that influence reporting rates on HIV test kits in Meru County. Tick (✓) where appropriate

Key: SD= Strongly Disagree, D=Disagree NS =Not Sure A=Agree SA=Strongly Agree

Statement	SD	D	NS	A	SA
i. I am aware of HIV test kits policies that are in place					
i. The policies are helpful in my work					
i. The policies are clear, unambiguous and concise					
i. Standard operating procedures are well displayed at work station					

Statement	SD	D	NS	A	SA
7. Majority of the staff implement the Standard operating procedures					
8. I have a copy of the Standard treatment guidelines and HIV test kits					
9. I often use the guidelines for reference					
10. The guidelines are helpful source of information					

14. What is your general attitude towards the presence of Policy and guidelines at your workplace?

ORGANIZATION FACTORS AND HIV TESTKITS REPORTING RATES

On the scale provided below, please indicate the level to which you agree with the description on that factor that influence reporting rates on HIV test kits in Meru County. Tick (✓) where appropriate

Key: SD= Strongly Disagree, D=Disagree NS =Not Sure A=Agree SA=Strongly Agree

organization factor by the County/Sub County	SD	D	NS	A	SA
1. I have a supervisor whom I report to in the course of my work					
2. The supervisor is always available for consultation					

6.	The supervisor often gives valuable feedback					
7.	Majority of the staff feel that the supervision is adequate and builds capacity					
7.	I have attended training(s) and or workshop(s) on Rational drug use					
8.	The training was educative and informative					
8.	New staff are taken through an induction training on commodity reporting tool(MOH 643)					
8.	The supervisor has developed a hospital formulary which is reviewed periodically					

DATA EXTRACTION TOOL

	Reporting Trends through DHIS											
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Facility	201	201	201	201	201	201	201	201	201	201	201	201
	9	9	9	9	9	9	9	9	9	9	9	9
MeruA												
MeruZ												

	Reporting Trends through DHIS											
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Facility	201	201	201	201	201	201	201	201	201	201	201	201
	9	9	9	9	9	9	9	9	9	9	9	9
MeruA												
MeruZ												

Appendix III: Research Approval Letter



KENYA METHODIST UNIVERSITY

P. O. Box 267 Meru - 60200, Kenya
Tel: 254-064-30301/31229/30367/31171

Fax: 254-64-30162
Email: deanrd@kemu.ac.ke

DIRECTORATE OF POSTGRADUATE STUDIES

September 18, 2020

Commission Secretary,
National Commission for Science, Technology and Innovations,
P.O. Box 30623-00100,
NAIROBI.

Dear sir/ Madam,

RE: PAUL GATHII (HSM-3-3862-2/2011)

This is to confirm that the above named is a bona fide student of Kenya Methodist University, Department of Health Systems Management undertaking a Degree of Master of Health Systems Management. He is conducting research on, *'Determinants of reporting rates for HIV test kits. A case of Meru County'*

We confirm that his Research proposal has been defended and approved by the University.

In this regard, we are requesting your office to issue a permit to enable him collect data for his research.

Any assistance accorded to him will be appreciated.

Thank you.



Dr. John Muchiri, PHD.
Director Postgraduate Studies

Appendix IV: Approval letter



KENYA METHODIST UNIVERSITY

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June 12, 2020

KeMU/SERC/HSM /16/2020

Paul Gathii
Kenya Methodist University

Dear Paul,

SUBJECT: DETERMINANTS OF REPORTING RATES FOR HIV TESTKITS; A CASE OF MERU COUNTY

This is to inform you that Kenya Methodist University Scientific Ethics and Review Committee has reviewed and approved your above research proposal. Your application approval number is KeMU/SERC/HSM/16/2020. The approval period is 12th June 2020 – 12th June 2021.

This approval is subject to compliance with the following requirements

- i. Only approved documents including (informed consents, study instruments, MTA) will be used.
- II. All changes including (amendments, deviations, and violations) are submitted for review and approval by Kenya Methodist University Scientific Ethics and Review committee.
- III. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to KeMU SERC within 72 hours of notification.
- IV. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to KeMU SERC within 72 hours.
- V. Clearance for export of biological specimens must be obtained from relevant institutions.

- VI. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal
- VII. Submission of an executive summary report within 90 days upon completion of the study to KeMU SERC.

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) <https://oris.nacosti.go.ke> and also obtain other clearances needed.





REPUBLIC OF KENYA

Ref No: 657951

RESEARCH LICENSE



This is to Certify that Mr. Paul Gathii Wanjiru of Kenya Methodist University, has been licensed to conduct research in Meru on the topic: DETERMINANTS OF REPORTING RATES FOR HIV TESTKITS; A CASE OF MERU COUNTY for the period ending : 25/September2021.

License No: NACOSTI/P/20/6876

657951

Applicant Identification Number



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION.

Date of Issue: 25/September/2020

Signature of Director General

Director General NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION.

Verification QR Code



NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

CONDITIONS

1. The License is valid for the proposed research, location and specified period
2. The License any rights thereunder are non-transferable
3. The Licensee shall inform the relevant County Director of Education, County Commissioner and County Governor before commencement of the research
4. Excavation, filming and collection of specimens are subject to further necessary clearance from relevant Government Agencies
5. The License does not give authority to transfer research materials
6. NACOSTI may monitor and evaluate the licensed research project
7. The Licensee shall submit one hard copy and upload a soft copy of their final report (thesis) within one of completion of the research
8. NACOSTI reserves the right to modify the conditions of the License including cancellation without prior notice

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