ASSESSMENT OF FACTORS INFLUENCING PERFORMANCE OF COMMUNITY HEALTH VOLUNTEERS IN DETECTION AND REPORTING OF PRIORITY DISEASES IN KWANZA SUB-COUNTY, TRANS-NZOIA COUNTY, KENYA

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DECLARATION

This thesis is my original work and has not been presented for any Degree in any other university

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DEDICATION

I dedicate this work to my wife Helen Chepkemei, children Leon Alati, Lavine Makokha, and Samantha Nabwire for their support during the entire period of study.

ABSTRACT

The report released by the World Health Organization in the year 2006 acknowledged that there was a critical shortage of professional health workers which was posing a challenge to provision of healthcare services, particularly in low income countries. In Kenya, community health volunteer 's workforce was adopted as a cost effective strategy in addressing the health needs of the underserved communities. However, despite the engagement of CHVs in the Kenyan healthcare system there is still increase in the number of cases that occur at the community level which are not reported to the link facilities. Currently, there is no evidence available on what influences CHVs performance in disease surveillance in Kwanza Sub county. The reporting rate for the Sub county was 47% in 2019 which is below the national target of 80%. This study therefore sought to asses the factors influencing performance of community health volunteers in detection and reporting of priority diseases. Specifically, the study aimed at determining the influence of socio-demographic factors on detection and reporting priority diseases, establish timeliness and completeness of disease surveillance reports submitted by the CHVs, identify priority diseases reported by community health volunteers and establish the health system factors influencing detection and reporting of priority diseases. The study employed a descriptive cross-sectional research design where data was collected from 156 of the sampled 199 community health volunteers. Quota sampling method was used to select the respondents from the 33 community units. A semi -structured questionnaire was used to collect data from the respondents. Descriptive analysis involved the use of frequencies, percentages, mean and standard deviation. Inferential analysis involved use of multiple regression in order to determine the strength of relationship between the independent variables (socio demographic and health system factors) and detection and reporting priority diseases. Significance was tested at 5%. Results from the multiple regression analysis indicated that that socio demographic factors($p=00.1$), and health system factors ($p=0.001$) were the main influencers of performance of community health volunteers in Kwanza Sub County. The study also established that provision of reporting tools ($p=002$) and challenges faced by community health volunteers ($p=0.003$) were significant predictors of performance of community health volunteers in detection and reporting priority diseases in Kwanza Sub County. The study concluded that that socio demographic and health system factors were significant predictors of performance of community health volunteers in Kwanza Sub County. The study concludes that the County government of Transnzoia should develop a policy to guide implementation of community health services and put more emphasis on provision of stipends to motivate the community health volunteers in order to improve their performance in of detection and reporting priority diseases

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LIST OF ABBREVIATIONS AND ACRONMS

AIDS	:	Acquired Immuno-Deficiency Syndrome.
CBDS	:	Community Based Disease Surveillance.
CBHIS	:	Community Based Health Information System.
CBSV	:	Community based surveillance volunteers
CDC	:	Centre for Disease Control and Prevention.
CHA	:	Community Health Assistants.
CHEW	:	Community health extension workers.
CHU	:	Community Health Unit.
CHV	:	Community Health Volunteers.
CHS	:	Community health Strategy
DHIS	:	District health information system.
HER	:	Electronic Health records
ELR	:	Electronic Laboratory Reports.
GIS	:	Geographical Information system.
HA	:	Health Agents.
HBC	:	Home based care.
HIE	:	Health information exchange.
HIV	:	Human Immune Deficiency Virus.
HMIS	:	Health Management Information System.
HAS	:	Health Surveillance Assistants.

IDSR : Integrated Disease Surveillance and Response.

KEPH : Kenya Essential Package for Health.

KHSSP : Kenya Health Sector Strategic Plan.

KII : Key Informant Interview.

KNBS : Kenya National Bureau of Statistics.

MDG : Millennium Development Goals.

MOH : Ministry of Health

NGO : Non -Governmental Organization.

PHO : Public Health Officer.

SCHRIO : Sub County Health Records Information Officer.

SCHMT : Sub County Health Management Team.

UNICEF : United Nations Children and Education Fund.

USA : United States of America.

WHO : World Health Organization.

DEFINITION OF TERMS

Completeness: Completeness is the degree to which reports submitted covers all indicators of concerned. All the priority diseases detected should be reported to the next level. It is computed by getting the number of reports received from CHVs divided by the number of expected reports and multiplying by 100 to get a percentage of the completeness.

Community-based surveillance (CBS) : The systematic detection and reporting of events of public health significance within the community by community members. CBS incorporates both indicator-based and event-based surveillance methods. Under CBS, focal persons are identified to report cases or events to the designated focal point at nearby local health delivery points.

Disease surveillance: Disease surveillance is an information-based activity involving the collection, analysis and interpretation of large volumes of data originating from a variety of sources. The information collated is then used to evaluate the effectiveness of control and preventative health measures.

Service delivery: Refers to organization and management of inputs and services to ensure access, quality, safety and continuity of care across health conditions, across different locations and over time.

Timeliness: The total number of reports received on time in relation to the total number of reports expected.

Performance: Refers to the extent in which community health volunteers attain the objective of providing health services to the residents of the community unit by detecting and reporting priority diseases.

CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Globally, there is an acute shortage of human resources for health (HRH), and the greatest

burden is borne by low-income countries especially in sub-Saharan Africa and some parts of

Asia. This shortage has not only considerably constrained the achievement of health-related

development goals but also impeded accelerated progress towards universal health coverage

(UHC). In Kenya, the total number of the health workers currently employed in the County

Departments of Health as well as in the public, faith-based organization (FBO), and private-for-

profit health facilities is estimated at 31 412. These numbers are below the required of 138 266

healthcare workers as per the Norms and Standards Guidelines by the Ministry of Health.

(Health, Report of the training needs assesment of Kenyas health, 2015).

In order to offer better health services in Kenya, the Health Sector Strategic Plan III (2012–2017)

structured service delivery into four main tiers: tier 1, community; tier 2, primary care level; tier

3, county level; and tier 4, national level. The Kenya Health Policy defines eight policy

imperatives including health infrastructure. To guide the development of a robust health

infrastructure, the Ministry of Health reviewed and developed Norms and Standards for

infrastructure of human resource for health based on the defined population coverage by tiers.

Tier 1 covers a population of 5000 people, a dispensary covers 10 000 people, a health center

covers a population of 30 000 people, a primary hospital covers 100 000 people, and a secondary

care hospital covers a population of one million, while a national teaching and referral hospital

covers a population of five million people. It also took into consideration the complexity and the degree of specialized care reflected at each level of the defined tier.

Efficient use of the existing health workforce including community health volunteers is considered as a short-term stop gap measure while deliberate efforts are being put on retention policies and increased production of human resource for health. A community health unit is a health service delivery structure within a defined geographic area covering a population of approximately 5,000 people or as the Devolved unit may decide in their legislation (Transnzoia, 2022).A Community Health Unit (CHU) comprises of households organised in functional villages or sub-locations and formally recognised as the first tier in Kenya's health system. A CHU shall serve a prescribed size of the population and will be supported by a prescribed number of Community Health Volunteers (CHV) and Community Health Assistants (CHA) based on determinants such as population density. The CHU shall be governed by a Community Health Committee (CHC), which shall be linked to a primary health care facility to support the CHU's implementation of its activities (Health, Kenya Community health Policy, 2020-2030, 2020).

Community health volunteers (CHVs) are defined as health workers carrying out functions related to healthcare delivery and health promotion at the grassroots level; they have some form of training in the context of intervention but have no formal professional or paraprofessional certificate or degree in tertiary education or health professions. CHVs are a bridge between communities and formal health systems. Community health volunteers play a key role, especially in resource-limited settings, and bring on board some key attributes such as socio-cultural advantage as socio-cultural brokers who understand cultural norms, proximity, and 'meeting people where they are' among others (Fletcher Njororai, 2021).

Variations exist in structure, implementation, and types of CHVs programs in different parts of the world. There are variations in training, remuneration and practice settings, levels of knowledge, single or multiple health focus, administrative support, and health facility affiliation. An extensive report by the World Health Organization indicates that many factors may contribute to the performance of CHVs, including contextual factors, country health policies, intervention-related factors, competence and motivation, affiliation, and more. In some countries, CHVs are salaried workers and an official part of the health sector, while in other countries, they are volunteers at the village level (Health, Kenya Community health Policy, 2020-2030, 2020).

Evidence shows that CHV programs can effectively deliver key maternal and child health interventions in primary and community health care, including interventions to increase childhood immunization and breastfeeding rates . Existing studies show that CHV services could be enhanced by socio demographic factors like age, marital status gender, religion, level of education and health system factors like recruitment, workload and retention policies (Fletcher Njororai, 2021). CHVs motivation could be enhanced by policies on incentives, career perspectives and supervision. In addition, basic training and continuing education have been reported to have an influence on CHV 's performance (Transnzoia, 2022). Community supports can also enhance CHVs performance.

Disease surveillance provides vital data for disease prevention and control programs. Disease surveillance information is reported in a hierarchical order from the communities through districts and region to the national health system. Community health volunteers play a significant role in monitoring disease occurrence at the community and are expected to report to the link facilities within agreed timeliness . At each sub-national level, the public health system contributes to the problems of completeness, timeliness and data quality. To date, disease

surveillance data reporting continues to be dominated by systems which tend to produce incomplete, untimely and unreliable information leading to poor quality data for planning and decision-making (Adokiya, 2022).

These weaknesses are further compounded by disease-specific programs which continue to implement separate surveillance systems leading to overburdening of health personnel. As a result, efforts to strengthen disease surveillance through implementation of new interventions such as the integrated disease surveillance and response (IDSR) are attracting increased attention which emphasizes on electronic reporting system.

1.2 Statement of the Problem

Despite increased efforts for strengthening health systems, many developing countries especially in sub Saharan Africa still fall short of the required staffing capacity for health workers. Volunteering community health workers have been engaged in a number of countries to try and help solve certain basic community health problems. Community-based health volunteer system has presently gained its popularity in developing countries to overcome the increasing demand for health care services and the shortage of formal health care providers. The unique role of CHVs as culturally competent mediators between providers of health services and the members of diverse communities, as well as CHVs' effectiveness in promoting the use of primary and follow-up care for preventing and managing disease have been extensively documented and recognized for a variety of health care concerns including asthma, hypertension, diabetes, cancer, immunizations, maternal and child health, nutrition, tuberculosis, and HIV and AIDS (Melvin Hsien Liang Chung, 2017).

Community health services program has been implemented in Kenya since 2006. We have had two strategic plans to guide how the program is implemented. The 2006 strategic plan focused on;

providing level 1 services for all, building the capacity of the community health extension workers (CHEWs), strengthening health facility–community linkages and strengthening the community to progressively realize their rights for accessible and quality care. The second strategic plan covered the period 2014 – 2019 and focused on; strengthening the delivery of integrated, comprehensive, and quality community health services for all population cohorts, strengthening community structures and systems for effective implementation of community health actions and services at all levels, strengthening data demand and information use at all levels and strengthening mechanisms for resource mobilization and management for sustainable implementation of community health services (Health, Kenya Community health Policy, 2020-2030, 2020).

Community health focusses on taking services closer to individuals, families and communities and increasing their participation in health. Strong community health structures are the foundation for disease prevention and health promotion and hence reduction in the burden of disease (Health, Utilizing the community health strategy to respond to covid 19, 2020).

Through Community health strategy, households and communities are empowered with skills to take an active role in health and health-related development by increasing their knowledge, skills and participation. The intention is to strengthen the capacity of communities to assess, analyze, plan, implement and manage health development initiatives thereby effectively contributing to the Country 's socio-economic development.

CHVs are the lowest level (level 1) of health providers. In Kwanza Sub County, Community Health Volunteers (CHVs) are an underutilized resource. They are the primary source for disseminating public health initiatives and programs, expected to detect and report priority diseases, but are not given appropriate compensation and support for their work. It is also difficult to track the level of

training of CHVs and whether they are able to provide appropriate health services and disseminating health information.

CHVs performance is marked by unanswered questions of long-term sustainability and program effectiveness. Despite them having been trained on the tasks they are expected to perform including disease surveillance, the intra county reporting rate for Kwanza Sub County for week 39 of 2019 was 44 % which is below the county reporting rate of 87 % against the national target is 80% . The reporting rates for the same period in the neighboring counties performed as follows: Bungoma 100%, West Pokot 75% , Elgeyo Marakwet 95% , Uasin Gishu 87% and Kakamega 100% (DDSR, 2019).

In the recent past, several cases of communicable diseases have been reported in the Sub County which has been missed by CHVs as foot soldiers in disease surveillance. Also, a number of cases that occur at the community level are not captured in the reports submitted to the link facilities (SCHMT, 2019). The failure by CHV 's to detect and report these cases called for interrogation on their performance in disease surveillance. Therefore, the study provides evidence on socio demographic and health system factors influencing performance of community health volunteers in detection and reporting of priority diseases in kwanza Sub County and therefore assist the department of health of Trans-Nzoia County in instituting corrective measures.

Table 1.1*:* **2019 Week 39 IDSR reporting rate in Transnzoia**

Name of Sub County	Actual reports	Expected reports	Percentage
Kiminini	18	19	95%
Saboti	23	24	96%
Endebess	9	9	100%
Cherangany	30	30	100%
Kwanza	7	15	44%
Total	87	97	87%

1.3 Study Objectives

1.3.1 Main Objective

To asses the factors influencing performance of community health volunteers in detection and reporting of priority diseases in kwanza Sub-County, Trans-Nzoia County, Kenya.

1.3.2 Specific Objectives

i. To determine the influence of socio demographic factors on detection and reporting of priority diseases in Kwanza Sub-County, Trans-Nzoia County, Kenya.

ii. To establish the timeliness and completeness of disease surveillance reports submitted by the community health volunteers in Kwanza Sub-County, Trans-Nzoia County, Kenya.

iii. To identify the priority diseases reported by community health volunteers in Kwanza Sub-County, Trans-Nzoia County, Kenya.

iv. To establish the health care system factors influencing detection and reporting of priority diseases by community health volunteers in Kwanza Sub-County, Trans-Nzoia County, Kenya.

1.4 Research Questions

i. What is the influence of socio- demographic factors in detection and reporting of priority diseases in Kwanza Sub-County, Trans-Nzoia County, Kenya?

ii. How timely and complete were the reports submitted by community health volunteers in Kwanza Sub-County?

iii.   Which priority diseases were reported by community health volunteers in Kwanza Sub County, Trans Nzoia County, Kenya?

iv.   What is the influence of health system factors on detection and reporting of priority diseases by community health volunteers in Kwanza Sub-County?

1.5 Justification of Study

This study provides evidence based information to aid the County in addressing socio demographic and health system factors affecting performance of community health volunteers in detection and reporting of priority diseases. It helps the county realize the noble role of community health volunteers and further serves a critical role in providing information to form rational foundation for policy making in community health services by county governments. The results of the study can be utilized to help decision-makers in county governments, particularly at the management level in formulating or revising policies to enhance efficient and effective prevention and control of priority diseases. Furthermore, the findings of the study are important to the national parliament and county assemblies in formulating legislations to support community health services in   the counties. The study benefits the academic world as it adds to the existing knowledge and understanding of the role of community health volunteers in disease surveillance. The study is of great importance to future researchers and academicians since it provides baseline information for further studies. In addition, due to the limited existing studies on this field, not only results but also research approach and survey process of this research is a significant reference for other studies.

1.6 Significance of the Study

The community-based approach is the mechanism through which households and communities strengthen their role in health and health related development by increasing their knowledge, skills and participation. The purpose is to strengthen the capacity of communities to access, analyze, plan, implement and manage health and health-related development initiatives so that the interventions can contribute effectively to the country 's socio-economic development. In addition, the approach recognizes the pivotal role of the health system in supporting community efforts. It is through partnership between the system and the communities that improvement can be realized and sustained. The integration requires mechanisms and structures that provide the necessary linkage. Such structures would enhance and enable effective CHV program at the community level as well as at the interface between tiers one to four.

Therefore, as the demand to scale up detection and reporting of priority diseases increases in Kenya, there was need to conduct this study in order to delineate performance of CHV's in detection and reporting priority diseases. The findings of the study will act as a basis for remodeling the implementation of community-based disease surveillance in the study area. Socio demographic and health system factors had an influence on detection and reporting of priority diseases. This will create interest and will result in improved detection and prompt reporting of priority diseases and therefore active participation by the community members in disease surveillance.

1.7 Scope of Study

The study interrogated factors influencing community health volunteers in detection and reporting of priority diseases at community level in Kwanza Sub-County of Trans-Nzoia County. Community based disease surveillance (CBDS) is a crucial benchmark for program planners and

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managers but needs specific definition, impact on what and impact over what period. CBDS is discussed in relation to a range of impacts that include mortality and morbidity trends.

1.8 Limitation of the study.

The study focused only on socio economic and health system factors influencing performance of community health volunteers in detection and reporting of priority diseases. Therefore, the findings of this study give a narrow view on factors influencing the performance of community health volunteers in Kwanza Sub County, Transnzoia County. The study has addressed this limitation by expressly highlighting the scope of the study to prevent possible inaccurate generalizations of the study findings. In carrying out this study it was anticipated that some of the respondents would not be willing to provide the required information. Therefore, other studies may consider carrying out research on other factors like socio cultural. Considering the expansive geographical locations and distribution of community health volunteers in Kwanza Sub county; was expected to pose a challenge in data collection as regards time. Research assistants were used to minimise the challenge. Data was collected at a time when Covid 19 was at its peak. The researcher ensured that all government protocols and guidelines were observed.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter aims to discuss most of the relevant past works that have been done by other researchers in the field of community disease surveillance. It highlights the variables that have been found out that set the foundation for research which clarified and put in the perspective the variables of the study and how they were measured.

2.2.1 Community Health Volunteer.

The concept of using community members to render certain basic health services to the communities from which they come from has at least 50-years history. Community health volunteers provide health services at community level (level 1) and support community for their initiatives to improve their health status (Health, Community health volunteers basic module hand book, 2013).

The CHVs should be members of the local communities they are selected to serve in. To qualify as a CHV, individuals shall be required to meet the following conditions: citizens of Kenya, meets the requirements of Chapter Six of the constitution, above the age of 18 and of sound mind, (S)he must be a responsible and respected member of the community, is self-supporting and understands that the role of a community health volunteer does not draw a monthly income, is willing and ready to provide services to the community without charging, (S)he must be a resident (including overnight stay) of respective community that is selecting him / her for a continuous period of not less than five years prior to the appointment date ,is a form four leaver

and literate, unless where the situation does not allow and is not disqualified for appointment to office by the above criteria or by any law (Health, Kenya Community health Policy, 2020-2030, 2020).

Community health workers (CHWs) have a unique intermediary position between communities and the health sector. They form an essential group of health workers in many low- and middle-income countries (LMICs), delivering promotive, preventive and (limited) curative health services. CHWs have been shown to contribute to the improved health of rural and poor communities. There are many types of CHWs, depending on the country and setting. All have in common that they are health workers performing tasks related to healthcare delivery, that they have received some training focused on the activities they need to carry out in the context of the intervention(s) they implement and that they have no formal professional or paraprofessional certificate or tertiary education degree (Maryse C. Kok, 2017).

A study on factors influencing the performance of community health workers in Kisumu West found out that 40% of them were non-active even though they were submitting monthly reports (Rose Evalyne Aseyo, 2018).

Community Health Strategy is an approach for delivery of Kenya Essential Package for Health. KEPH targets everybody in all age groups in the community through the life cycle focus instead of limiting the services and activities to specific groups like mothers and children. And to tackle the health concerns of everybody in the community, Kenya Essential Package for Health divides the community by age groups because each age group has different health needs. And the age groups are referred to as 'Age Cohort' in the Community Health Strategy (Health, Community health volunteers basic module hand book, 2013).

2.2.2 Duties of a community health volunteer.

The main duties of the CHV will be as follows include delivery of key health messages to households, registration of households at frequencies stipulated in current guidelines, guide community on health improvement and disease prevention, treat common ailments and minor injuries with support and guidance from CHAs, diagnose, treat, manage or refer accordingly, common childhood illnesses such as diarrhoea, malaria, malnutrition and pneumonia, with support from the CHA, stock the CHV kit with supplies provided through the respective link facility or other mechanisms outlined in the guidelines/strategy g. Refer cases to respective link facilities , promote care seeking behaviour and compliance with treatment and advice ,visit homes to determine the health situation and initiating dialogue with household members to undertake the necessary action for improvement , recognise danger signs among household members and refer as appropriate and participate in community dialogue and action days organized by CHAs/CHCs (Health, Kenya Community health Policy, 2020-2030, 2020).

2.3 Socio Demographic Factors of CHVs.

The performance and motivation of CHVs are influenced by various inherent characteristics of CHWs, such as their age, gender, ethnicity, and even religion, which affect how they are 14 perceived by community members and their ability to work effectively . However, the titles, the demographic profile and the deployment of CHVs have varied enormously across countries (Phillip Wanduru, 2016).

In a study in Kuching District on role Performance of Community Health Volunteers and Its Associated factors the success of CHV programme depends on the factors influencing the role performance of CHVs themselves. Factors such as sociodemographic status, motivation (extrinsic and intrinsic motivator, altruism, skill, and performances), and organizational input

(selection and recruitment process, training, and supervision) play an important role in making sure CHVs perform in contributing to the overall performance of the organization. Besides, all these factors, knowledge is another important component that associated with the role performance. Generally, CHVs with good knowledge tend to have good role performance. For example, in the disaster preparedness plan, it has become an essential issue for everyone to be involved since the incidence of natural disasters such as flood, draught, and earthquakes is becoming increasingly common. Therefore, CHVs have become the front liners to help the community in the emergency phase to prevent loss of life (Melvin Hsien Liang Chung, 2017)

2.4 Timeliness and completeness of reports by CHVs.

Modern surveillance practice is shifting toward greater reliance on electronic transmission of disease information. The adoption of electronic health records (EHR) systems and health information exchange (HIE) among clinical organizations and systems, driven by policies like the ‗meaningful use' program in the United States, is creating an information infrastructure that public health organizations can leverage for improving surveillance practice. According to the U.S. Centers for Disease Control and Prevention (CDC), health departments currently receive up to 67% of their total laboratory-based reports for notifiable diseases as electronic laboratory reports (ELR). However, provider-based case reporting continues to be largely paper-based via fax machines (Jean Maguire van Seventer, 2017).

In a study conducted in Northern Ghana to addresses important aspects of public health system strengthening, implementation of the DHIMS2 in 2012 has showed some improvements in IDSR data reporting at the sub-national level, which supports similar findings from SSA of progress in reporting completeness and timeliness associated with either IDSR system or DHIMS2 implementation. These increases in completeness and timeliness are likely due to the internet-

based reporting and reports submission through personal mobile phone call reminders in the DHIMS2 as it had been reported from other countries (Martin Nyaaba Adokiya, 2016).

A study by (Dixon et. al.,2017) on completeness and timeliness of notifiable disease reporting in the United States   illustrate that provider reporting rates, as well as case reports completeness and timeliness, have room for improvement. They further identify the opportunity for greater information system integration between clinical and public health organizations, which the federal government meaningful policy initiative may help to achieve.

 According to officers from the Ministry of Health -Health Information Unit, the data collected by CHVs should be based on defined indicators, use standardized data collection tools and submitted promptly to the CU level so as summaries can be done by the CHEW.

 Several tools are used by CHVs which include: Referral form (MOH 100): used to refer patients from community who require further management at a health facility, filled and given back to the client with instructions regarding further management, if any, to be undertaken at the community by the CHV. It acts as a feedback to the referring CHV, Household Register (MOH 513): used to collect and record data on households when a community health unit is established, determines the overall health status in the community health unit, Community Health Volunteers Service Delivery Log Book (MOH 514): a diary used by CHVs to collect and record information from the households during their visits as they give messages and services. The logbook should be submitted to the CHEW for summary at the end of every month, Community Health Extension Worker (CHEW) Summary (MOH 515): a summary of the work of the CHVs. A copy of MOH 515 is uploaded in DHIS2 every month by the Sub county health information officer, Chalk Board (MOH516): a chalk board which displays the general health status of the community health

unit, the demographic characteristics of the population served by the CHU that are updated every six months, and services that are reported monthly by CHEWs. It is a replication of the CHEWs summary. The information displayed outlines the action areas for the community. It is usually displayed in the link facility on ordinary days, and carried to the dialogue venue during community dialogue days to trigger the community members to action to improve poorly performing indicators (WHO, 2019).

2.5 Priority   IDSR Diseases.

The WHO Regional Office for Africa suggests the following communicable and non communicable diseases and conditions or events as priorities for integrated disease surveillance in the African Region .The diseases or conditions are recommended because they are: (a) required internationally under IHR (for example, smallpox, poliomyelitis due to wild-type poliovirus, human influenza caused by a new subtype, SARS); (b) diseases with highly epidemic potential to cause serious public health impact due to their ability to spread rapidly internationally (for example, cholera, plague, yellow fever, viral haemorrhagic fever); 22 (c) principal causes of morbidity and mortality due to communicable diseases and conditions in the African Region (for example, malaria, pneumonia, diarrhoeal diseases, tuberculosis, HIV/AIDS, maternal deaths and injuries); (d) priority non-communicable diseases or conditions in the region (high blood pressure, diabetes mellitus, mental health and malnutrition) (WHO, 2019).

Kenya being a signatory member of the UN, is committed to achievement of SDG goal 3 on ensuring good health and well-being for all by the year 2030. SDG target 3.8 spells out the need to achieve Universal Health Coverage that includes financial risk protection, access to quality essential health services, medicines and vaccines for all (Health, Kenya Community health Policy, 2020-2030, 2020).

Currently, seven diseases and conditions are identified to be reported weekly to the next reporting level. Reports should include the total number of cases and any deaths seen during the week (Monday to Sunday). Reports should be sent to the Health Centre every Monday, using the weekly reporting format (University, 2022).

Community Health Volunteers will notify the CHA of any notifiable disease encountered within their areas of work according to the national disease surveillance and response guidelines. They will also report notifiable diseases by any means including mobile phones, report any unusual events within the community for investigation and document such cases in relevant community disease surveillance data registers and refer with immediate effect((Health, Kenya Community health Policy, 2020-2030, 2020).

Most acute disease events first occur at the community level and takes time to become recognized and documented within the formal health system through the established health facility-based Integrated Disease Surveillance and Response (IDSR) reporting system • Strengthening capacity for disease surveillance at community level is therefore vital to bridge the gap between the facility and the community by enhancing community participation in disease surveillance (E1, 2018).

2.6 Health System Factors that Influence the Detection and Reporting of Priority Diseases.

Globally, there is an acute shortage of human resources for health (HRH), and the greatest burden is borne by low-income countries especially in sub-Saharan Africa and some parts of Asia. This shortage has not only considerably constrained the achievement of health-related development goals but also impeded accelerated progress towards universal health coverage (UHC). Like any other low-income country, Kenya is experiencing health workforce shortage particularly in

specialized healthcare workers to cater for the rapidly growing need for specialized health care (Health, Report of the training needs assesment of Kenyas health, 2015). Efficient use of the existing health workforce including task shifting is under consideration as a short-term stop gap measure while deliberate efforts are being put on retention policies and increased production of human resource for health (HRH).

Inadequate training and lack of effective supervision reduces the interest and enthusiasm of volunteers and this could affect the retention and sustainability of their activities. In urban environment, CHVs face challenges that limit their capacity to be involved in behaviour change interventions. Frequent refresher trainings and other engagement platforms play an important role in the work output of CHVs (Mutegi Kevin, 2020).

Responses from community health volunteers during a focused group discussion at Karagita community unit in Nakuru indicated that there was need for them to be remunerated, given transport bikes and uniforms, kits and medicines as well as being continuously trained so that they keep taking care of the welfare of the community members. They cited their challenges as limited resources from the government and partners. This was evident because facilities such as bicycles, CHV KITs and IEC materials had not been supplied. These are important for effective participation in health programs (Hussein, 2020).

In another study exploring factors that motivate, and the challenges faced by community-based surveillance volunteers (CBSVs) in the Northern Region of Ghana, the community emerged as an important motivating factor in terms of altruism, a sense of duty to the community and gaining community respect and pride. This was enhanced by community selection of the volunteers. Major challenges included incorrect community perceptions of CBSVs, problems with transportation and equipment, difficulties conducting both volunteer and farm work and late

or minimal payment for ad hoc tasks such as National Immunization Days. Most CBSVs recognized that they were volunteers, understood the constraints of the health system and were not demanding remuneration (Adokiya, 2022).

2.7 Conceptual framework

Independent Variables   **Intermediate variable**   **Dependent Variable**

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┌─────────────────────┐        ┌──────────────────────┐
│ Socio- demographic  │        │ National/County      │
│ factors that        │        │ government support of│
│ influence reporting │───────▶│ CHVs                 │
│ of priority diseases│        │                      │
│ (age, gender,       │        │   • Capacity         │
│ religion, education │        │     building         │
│ level, occupation). │        │   • Financial        │
└─────────────────────┘        │   • Logistics        │
         ▲                     └──────────────────────┘
         │                                 │
         ▼                                 ▼         ┌──────────────────────┐
┌─────────────────────┐                              │ Performance of CHVs: │
│ Timeliness and      │                              │ reporting   of priority│
│ completeness of     │───────▶                       │ diseases    (malaria,│
│ disease             │                              │ diarrhea, cholera, VHF,│
│ surveillance reports│                    ──────────▶│ measles, AFP, NNT,TB,│
└─────────────────────┘                              │ Guinea worm.         │
         ▲                                           └──────────────────────┘
         │
         ▼
┌─────────────────────┐
│ **Priority diseases**│
│ **reported by CHVs** │───────▶
└─────────────────────┘
         ▲
         │
         ▼
┌─────────────────────┐
│ Health care system  │
│ factors influencing │
│ CHVs to detect and  │
│ report   priority   │───────▶
│ diseases (supervision,│
│ stipend, tools,     │
│ training)           │
└─────────────────────┘
```

2.8 Research Gap.

An evaluation of community health strategy implementation in Kenya found out that there was an established link between the community and the health facilities. This was mainly through the coordination between CHA/CHEW and the CHV 's who participated in identifying cases of illnesses at the community level and referring them to the Nurse-CHEW at the health facility. The CHEW at the health facility would compile the information and forward to the SCHRIO. The CHV 's in the CUs referred patients with a written note to the CHEW in the health facility for cases they were unable to handle.

In Kwanza Sub-County, completeness and timeliness of CHV's reporting of priority diseases is sub optimal as several cases meeting the Lay case definition have failed to picked at community level and reported to the next levels. This is what prompted the researcher to carry this study to establish the factors influencing performance of community health volunteers in detection and reporting of priority diseases.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

The chapter looks at the methods used in the assessment of factors affecting performance of public community health volunteers in detection and reporting of priority diseases in Kwanza Sub County, Transnzoia County, Kenya. This chapter is structured into study area, research design, target population, sample size, sampling procedures and research instruments. It also presents the methods used for measuring validity and reliability of the research instruments, data collection and data analysis procedures.

3.2 Study Area

Kwanza Sub-County is one of the 5 sub- Counties in Trans Nzoia County and covers an area of 466.9 Sq. Km. Geographically, it is located on latitude 01º09'51‖ N and 35º00'00.0‖ E (Latitude; 1.1641; Longitude: 35.0000). Administratively; Kwanza Sub-County is divided into four wards namely: Kwanza, Keiyo, Bidii and Kapomboi. Kwanza has a population of 201, 087. The main economic activity is small scale agriculture mainly, maize, coffee and livestock.

The Sub County has one public sub county hospital, Kwanza Sub County hospital, four health centres, twelve dispensaries and four clinics. The average distance to the nearest facility is 5 km, and the county doctor to population ratio and nurse to population ration is 1: 11,000 and 1: 2,051 respectively. According to the World Health Organization, the recommended ratio is 250 healthcare workers, which includes physicians, nurses, and midwives, per every 100,000.

3.3 Research Design

Research design is the path through which researchers need to conduct research. It shows the path through which these researchers formulate their problem and objective and present their results from the data obtained during the study. This research design shows how the research outcome at the end will be obtained in line with the objectives of the study (Sileyew, 2019).According to Shirima et al ,2020 a research design provides a study framework for streamlining the scope of the scope and mechanics through which the study objectives are achieved. The research design is the researcher's overall plan for obtaining answers to the research questions. In this study, descriptive research design was adopted. The design provides the researcher a plan to control how the study will be guided, control, without interfering or influencing the study environment (Shirima, 2020). This research design was ideal for this study since it enabled the researcher to examine the factors affecting performance of CHVs in Kwanza Sub-county.

A descriptive survey allowed the researcher to describe behavior as it occurred in the environment. This was done through asking a series of specific self-reported questions which allowed for an anonymous peek inside the thought processes of large numbers of people simultaneously thus creating an opportunity to describe what was not outwardly observable. Descriptive survey was best used to understanding and knowledge about the behavior and thought processes of the CHVs.

3.4 Study Variables

In the study, the independent variables were Socio-demographic characteristic (gender, age, education level and occupation) timeliness and completeness of reports, reported priority

diseases and health system factors while dependent variables were performance of community health volunteers in detection and reporting of priority diseases.

3.5 Study Population

Shirima et al (2020 explained that a target population should have some observation characteristics to which the researcher intends to generalize the result of study. Based on community strategy approach, 5000 households make one community health unit which is headed by 10 CHVs. The study population were 330 health workers in the cadre of community health volunteers (CHVs) working in the 33 community units within Kwanza Sub County Transnzoia County.

3.6 Sampling Design

3.6.1 Sample Size Determination

Sampling is the process of selecting a subset of cases in order to draw the conclusion of the entire set (Kothari and Gaurav, 2014). The sampling frame for this study consisted of all 330 the CHVs in the 33 community units in Kwanza Sub County. The sample size was calculated using (Yamane, 1967:886) formula, $\{n=N/1+N\ell^2\}$, where

n= sample size

N= population of study

ℓ= margin of error

Given that N=330 and ℓ=0.05

This gives: n = 330/ {1+ (330 x 0.05^2)}

=181 participants

Add 10% (18) for non- response

=181+18

= 199 Participants

The sample size was proportionately apportioned to one sample group, 330 community health volunteers selected from the primary target population. The proportion of the sample size to be selected from each of the 4 wards was calculated using the following formula: Ward proportional sample size = (Total Sample Size/Total Population Size) x Ward Population Size. The distribution of the sample is shown in Table 3.1.

Table 3.1: Sample size distribution table

Kwanza Participants Wards	Sub County	Number of CHV's	Sample
Kwanza		110	66
Keiyo		120	73
Bidii		40	24
Kapomboi		60	36
Total		330	199

3.6.2 Sampling Procedure

The selection of the community health volunteers to be included in the study samples was done through quota sampling method. Quota sampling is method of gathering representative data from

a group (Shirima, 2020).Application of quota sampling ensured that sample group represented the population chosen by the researcher. The study adopted this sampling method to ensure that the community health units in Kwanza Sub County are adequately represented in the sample of the study. Therefore, 4 quotas namely Bidii, Kapomboi, Kwanza and Keiyo wards were identified. The researcher allocated weights to the various wards based on the proportion of community health volunteers in the wards. The proportion of the sample size allocated for each of the wards was based on the weights allocated. After obtaining the sample size for each ward, the study adopted convenience sampling method to select the community health workers who were included in the study. The researcher went round the community units across the different wards explaining the purpose of the study to various community health volunteers health workers and selecting those who gave their consent to participate. This process was repeated until the size of each subgroup was obtained.

3.8 Piloting of Data Collection Tools

Data collection tools were pretested to 10% (19) respondents (CHV 's and   CHEWs) in Kiminini Sub -County, Trans Nzoia County which had the same socio-demographic characteristics. Kiminini Sub-County was not included in the study. The data collected was analyzed and used to improve the reliability of data collection tools.

3.9 Data Collection Techniques and tools.

The study used semi-structured questionnaires to collect data from the community health volunteers and (Appendix II). The questionnaire was used because of its economy, it ensures anonymity, permits use of the standardized questions and has uniform procedures, provides time

for subjects to think about responses and it is easy to score (Shirima, 2020). The questionnaire was made up of closed ended and open ended questions to avoid being too rigid and quantify data especially where structured items were used (GARG, 2020).This method aided the study to collect enough information, which otherwise would have been impossible by using interviews and observations. The questionnaires were structured in four major sections including: - Socio Demographic Characteristics; Timeliness and completeness of reports; Priority IDSR diseases reported; and health system factors that influence performance of CHVs in detection and reporting priority diseases.

3.10 Validity and Reliability of data Collection Tools

3.10.1 Validity of Data Collection Tools

Validity refers to the degree to which an instrument measures what it is supposed to be measuring. In other words, a valid instrument actually measures the concept it is supposed to measure (Middleton, 2019). In this study, construct and content validity was used to assess the validity of the instruments by means of assessing the adequacy, appropriateness, inclusiveness and relevancy of the questions to the subject under study. Expertise of the supervisor and professionals was sought to judge whether or not the instruments reflect the known content.

3.10.2 Reliability

According to Polit and Becker, refers to how consistently a method measures something. If the same result can be consistently achieved by using the same methods under the same circumstances, the measurement is considered reliable. the consistency with which the instrument the target attribute (Middleton, 2019). In this study, reliability of the instrument was tested by means of the Cronbachs Alpha which is the most common means of testing internal consistency of the items,

using the SPSS package. Internal consistency reliability refers to the extent to which all the sub-parts of an instrument will measure the identified attributes. By rule a lenient cut-off of .60 is common in exploratory research; the alpha should be at least .70 or higher to retain an item in an adequate scale. (Bill, 2011).

3.11 Data collection procedure.

Data collection was done by the researcher with the help of four research assistants with experience in data collection. The two research assistants were final year KMTC students and were recruited from Kitale Campus. They were further trained on how to administer and fill in the questionnaires for the purpose of assisting in data collection. The questionnaires were self-administered to the sample participants using drop and pick method. Each participant was given a questionnaire at their respective community units. The researcher and the assistants went round the community units across the different wards talking to various community health volunteers. Clear information about the research was given to allow them make informed decision regarding their participation in the study. Those who agreed and consented to participate in the study were given the questionnaire to fill and hand back to the research assistants. This process was repeated until the sample size of each group was obtained.

3.12 Data Analysis and Presentation

The researcher checked for the completeness of the questionnaires immediately after they were returned. The excel software was used to capture and store the raw data from the questionnaires. Data from the community health volunteers was treated independently throughout the process of analysis. The raw data was then cleaned and coded for ease of analysis. Thereafter, the cleaned data was exported to the Statistical Package for Social Sciences (SPSS) version 22 for analysis. Data collected was analysed using both quantitative and qualitative methods.

The data collected was analyzed by use of descriptive statistics since the nature of the data was quantitative. Descriptive statistics is the discipline of quantitatively describing the main feature of a collection of information (Trochim et al, 2006). Descriptive statistics such as mean, standard deviation and frequency distribution were used to analyze the data. Data presentation was done by the use of charts, graphs, percentages and frequency tables. Data in section one of the questionnaire was analyzed using frequency distributions and percentages to determine the profile of respondents. Data in section two of the questionnaire was analyzed using mean scores and standard deviations. The study also employed inferential statistics to establish the relationship between demographic characteristics and reporting of priority diseases by CHVs in Kwanza sub County. Specifically, the study used Spearman correlation to establish this relationship.

$$y = \alpha + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + \varepsilon$$

Where: y = Logistics Performance

α = Constant β_1…

β_5= the slope representing degree of change in independent variable by one-unit variable.

x_1= Age

x_2= Education level

x_3= Marital status

x_4= Years of service

3.13 Ethical Considerations

Ethical approval was obtained from the Jaramogi Oginga Odinga Teaching and Referral Hospital Institutional and Research Committee (JOOTRH/ IRC). Permission to carry out research was obtained from Maseno University, School of Graduate studies and National Commission for Science, Technology, and Innovation (NACOSTI). Authority to conduct the study in the study area was obtained from the County Commissioner, County Director of Medical Services and County Director of Education. A written Informed consent was obtained from all study participants prior to recruitment in the study. Participants 'confidentiality, privacy, anonymity and Covid-19 protocol was strictly observed.

CHAPTER FOUR

RESULTS

4.1 Introduction

The findings of the study are presented in this section as per the study objectives. The findings are from a sample of 156 participants who were accessible for the study. Data collection was done from 1st July-30thSeptember 2021. The response rate for Community Health Volunteers (CHVs) was 156 (80%). According to Mugenda and Mugenda (2003) a response rate of 50% or more is adequate to represent the views of the target population.

### 4.2 Socio-Demographic Characteristics of Community Health Volunteers.

Socio-demographic features are known determinants of an array of health states and events such as age, marital status, gender, religion and highest level of education attained. Demographic features of the participants are presented below.

4.2.1: Age of the respondents

The study further sought to establish the age of the respondents. The findings are stipulated in the figure below.

Figure 4.2:

Age of the respondents

Age of respondents

7.7 1.3
31.4
21.2
38.5

■ 20-29 ■ 30-39 ■ 40-49 ■ 50-59 ■ >60
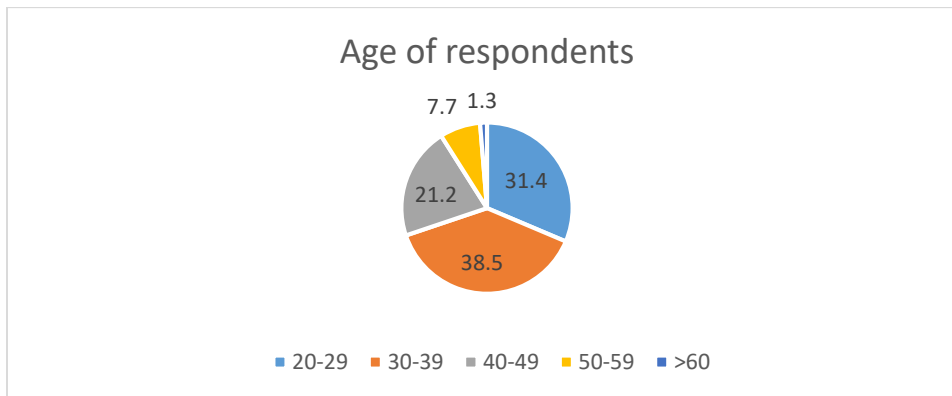
From the study findings presented in the figure above, most (38.5%) of the respondents were aged between 30-39 years, 31% were between 20-29, 7.7% were aged between 40-49, 7.7% were aged between 50-59 years while 1.3% were aged beyond 60 years. This implies that majority of the CHVs in Kwanza Sub County were aged between 30-39 years. From these findings, age is a key determinant of CHVs performance. The study also established that the age category of 30-39 years that performed the best also constitutes the highest population per age category among the CHVs. This indicates that the management of Kwanza Sub County are aware of the age is a factor in as far as productivity is concerned.

4.2.2: Marital Status

The researcher also sought to find out the marital status of the respondents. The findings are shown in the figure below.

Figure 4.3.

*Marital status of the respondents*
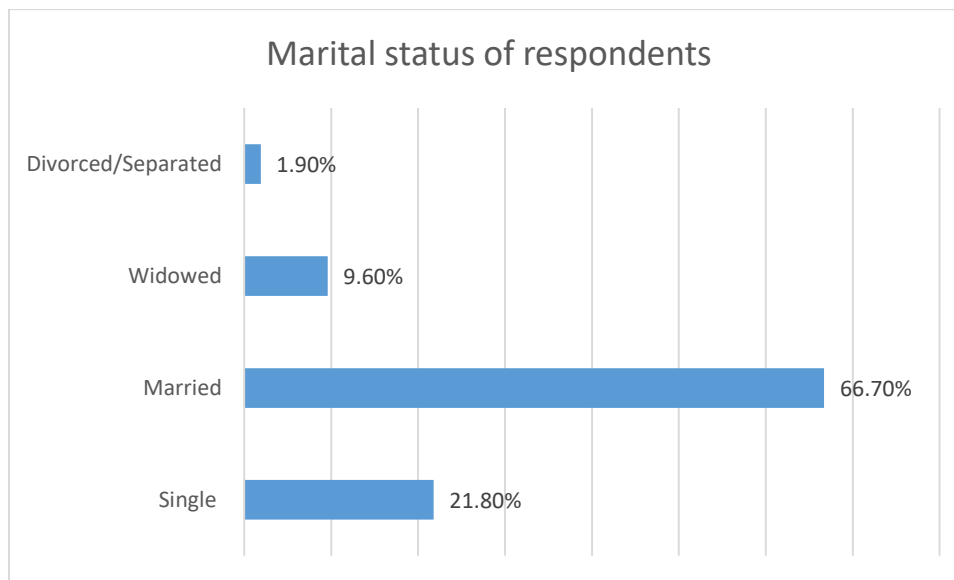
From the study findings, majority (66.7%) of the CHVs were married while 21.8 % were single, 9.8% were widowed and 1.9% were divorced or separated. This implies that majority of the CHVs in Kwanza were married. Married people have more family obligations and require more stability and security regarding their work. Therefore, they are expected to be more committed to their current tasks they are performing than their unmarried counterparts.

4.2.3 Gender of the Respondents

The researcher sought to find out the gender of the respondents. The findings are shown in the figure below.

Figure 4.4

Gender of respondents

Gender of respondents

51.30%   48.70%
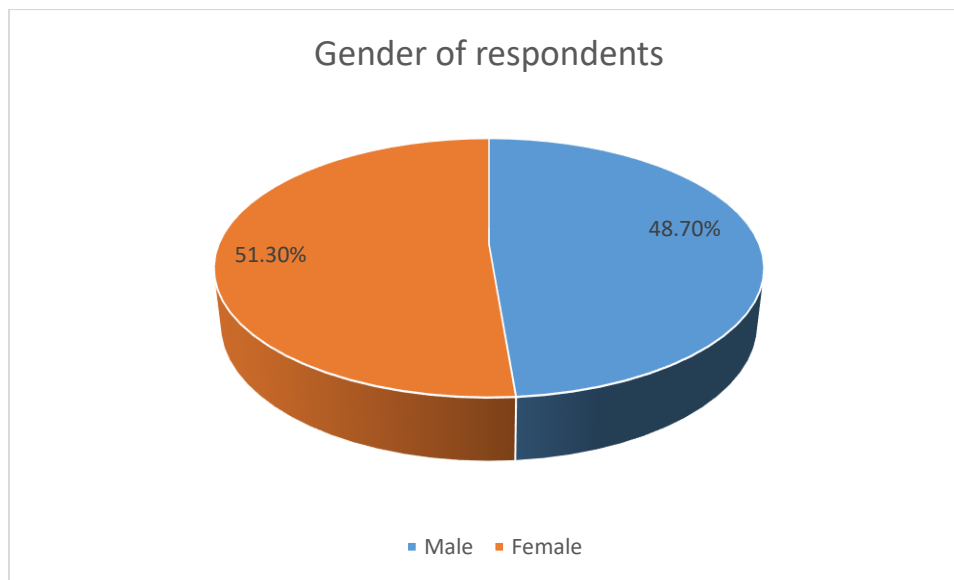
■ Male   ■ Female

From the study findings, majority (51.3%) of the CHVs in Kwanza were female while 48.7% were male. From these results, the females seem to be more than men although by a small margin. This confirms to the fact that gender plays a critical role in CHVs performance. The question of the influence of gender on performance is highly contested one given the fight for gender equality that is ongoing across the world. Women are coming out to prove that they can equally perform as well as men, or even better. From the above results however, this has been fully achieved given the identified gap between the male and female performance.

4.2.4 Highest level of Education

The study further sought to establish the level of education of the respondents. The findings are stipulated in the figure below.
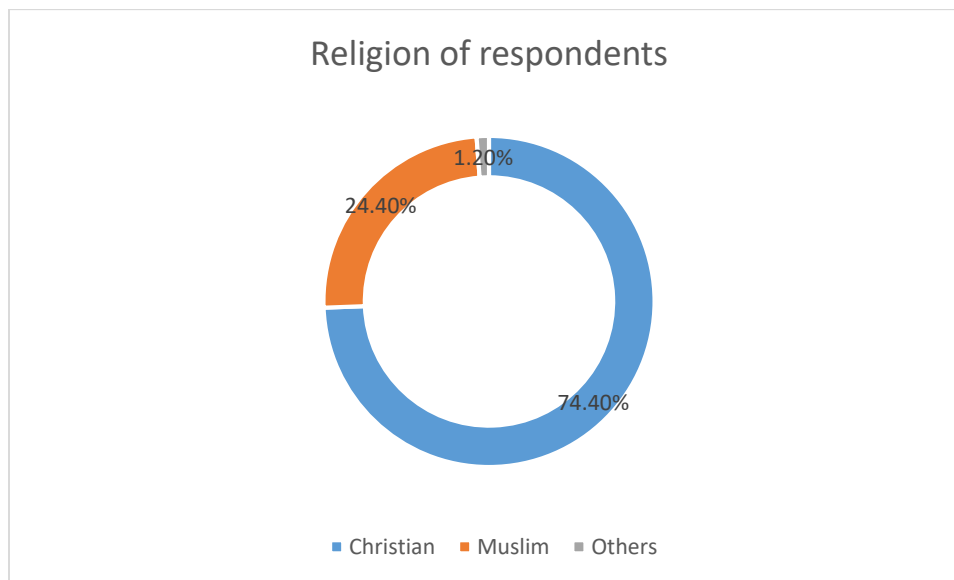
Figure 4.5

Highest Level of Education
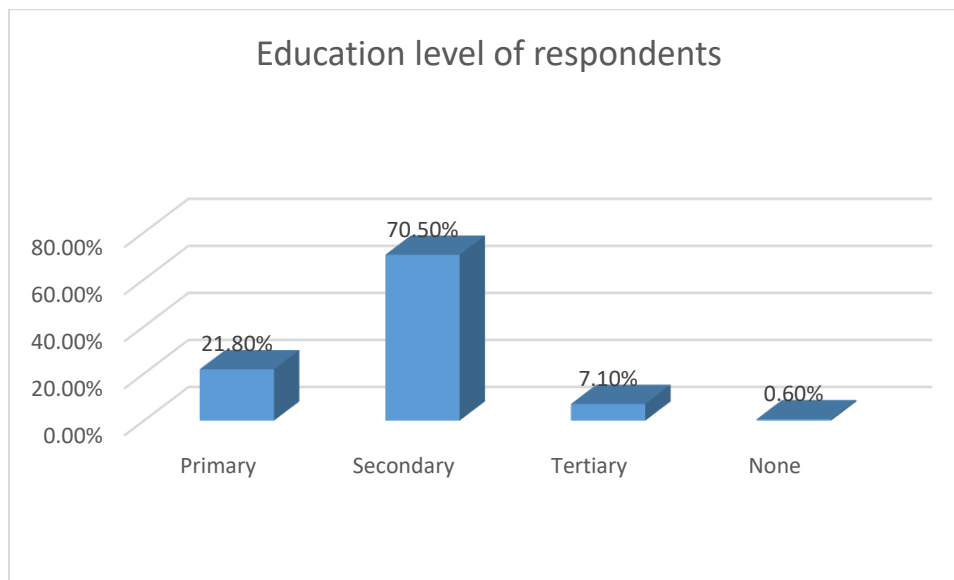
From the study findings presented in the figure above, majority (70.5%) of the respondents had secondary as their highest level of education, 7.1% had tertiary, while 0.6 % had no formal education. Secondary education was their highest level of education of most respondents. This implies that majority of the CHVs in Kwanza had secondary as their highest level of education. Education qualification highly influences CHVs performance at in reporting priority diseases. Education qualification is a highly emphasized factor while jobs are being advertised, indicating that it is a key driver in performance. Therefore, education is a factor in performance of CHVs because it determines how they identify and reporting priority diseases.

4.2.5 Religion of the respondents

The study further sought to establish the religion of the respondents. The findings are stipulated in the figure below.

Figure 4.5

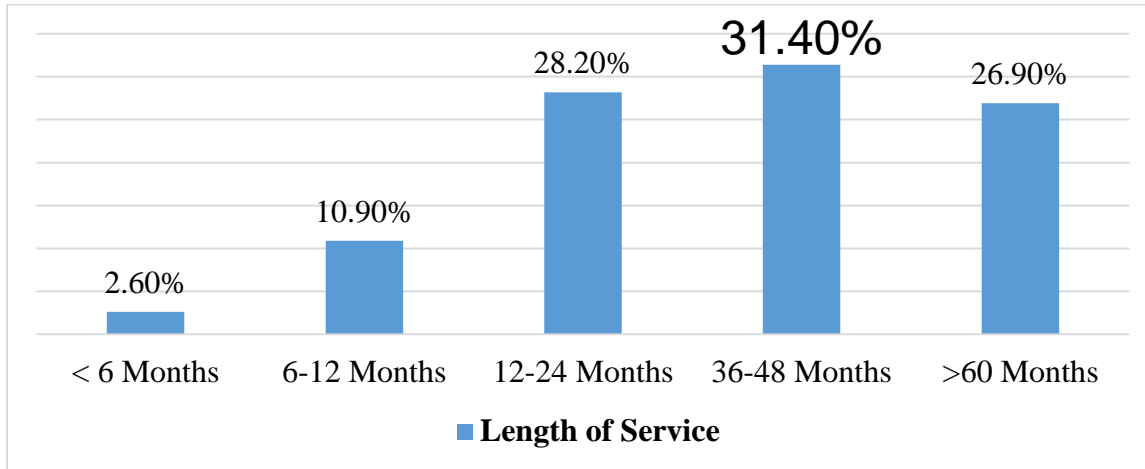**Religion of the respondents**

From the study findings presented in the figure above, majority (74.4%) of the respondents were of Christian faith, 24.4% were of Muslim faith and 1.2% had no religion. This implies that majority of the CHVs in Kwanza were Christians and this motivated their reporting of priority diseases because of the Christian ideals of helping each other. Religion plays a role on how CHVs reported priority diseases.

4.2.6 Years of experience

The study further sought to establish the years served by the respondents. The findings are stipulated in the figure below.

Figure 4. 6

Years of experience

Note: Number of CHVs=156.

From the findings in the figure above, most (34.4%) of the respondents had worked as CHVs for 3-4 years, 28.2 % for 1-2 years and 26% for over 5 years while 10.9% and 2.6 % had worked for 6-12 months and less than 6 months respectively. This implies that majority of the staff had worked as CHVs in Kwanza sub county for 3-4 years and are showing a static kind of performance trend, with the majority just managing to meet the set objectives. The average percentage of the best performers and those who are performing below targets is almost the same indicating the fact that most have already had their performance levels shaped up, given the influence of other demographic characteristics. Experience plays a critical role in dictating the manner in which Community Health Volunteers (CHV's) submit reports on priority diseases.

**4.3 Timeliness and completeness of Health Reports**

Report writing is important in disease surveillance. This informs the health managers on the activities being undertaken by the CHVs and also helps monitor disease trends for prompt response. WHO has provided a checklist for reporting timeliness and completeness of reports submitted by health workers. The reporting tools are standardized and used appropriately.

4.3.1 Report writing

The study further sought to establish the timeliness and completeness of reports submitted by CHVs on priority diseases. The findings are stipulated in the figure below.

Figure 4.7

Report writing.
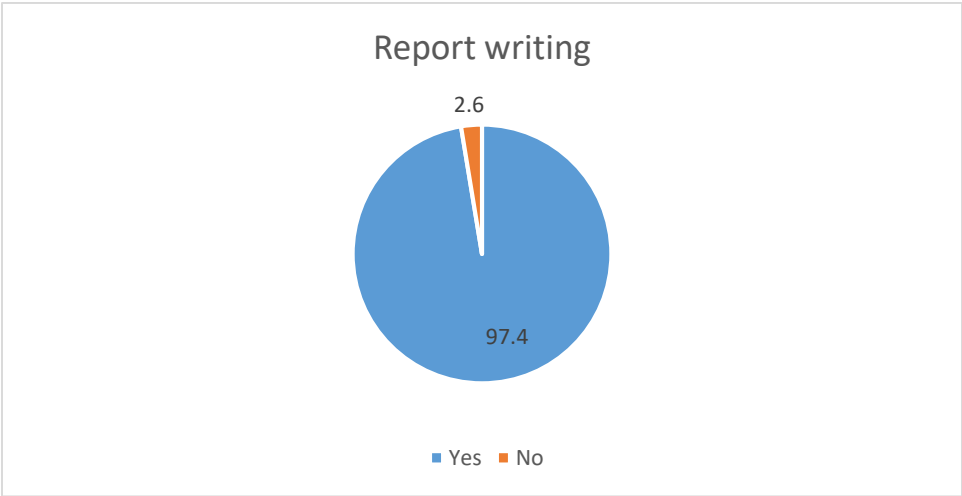
From the findings, almost all, 152 (97.4%) of the participants responded that they wrote reports for activities carried out within the households. 2.6% did not write reports. Report writing is an important indicator of CHVs performance since it informs response action which prevents further spread of priority diseases.

4.3.2: Tools used for report writing

The study further sought to establish the tools used for submission of reports on priority diseases. The findings are stipulated in the figure below.

Figure 4.8

Tools used for reporting
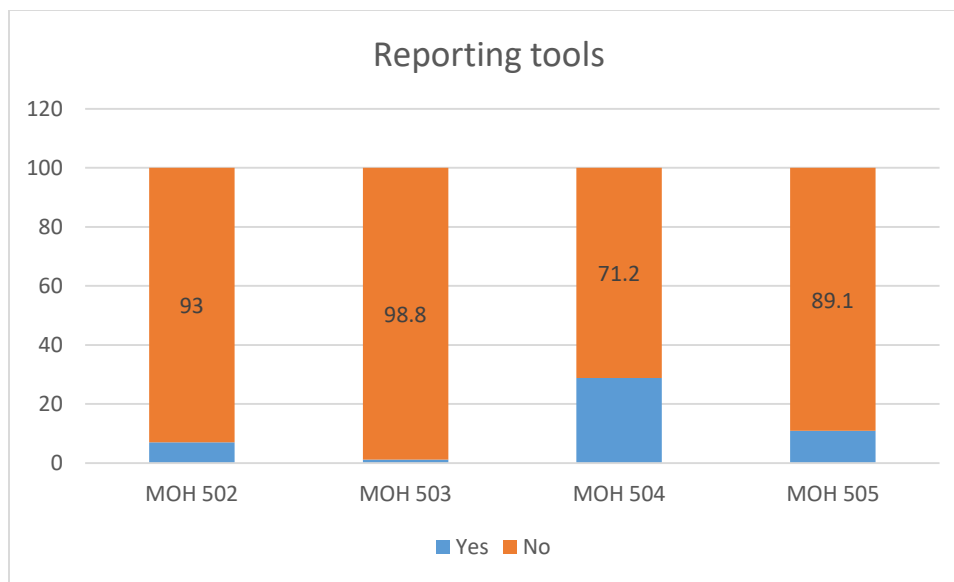
N=156

From the findings above, 28.8% had monthly reporting forms (MOH 504), 10.9% had weekly reporting forms (MOH 505).7% of the CHVs had case based reporting forms (MOH 502), 1.2% line listing forms (MOH 503), Availability and use of the correct reporting tools is key to timeliness and completeness of reports and guides the health managers on when to institute response measures.
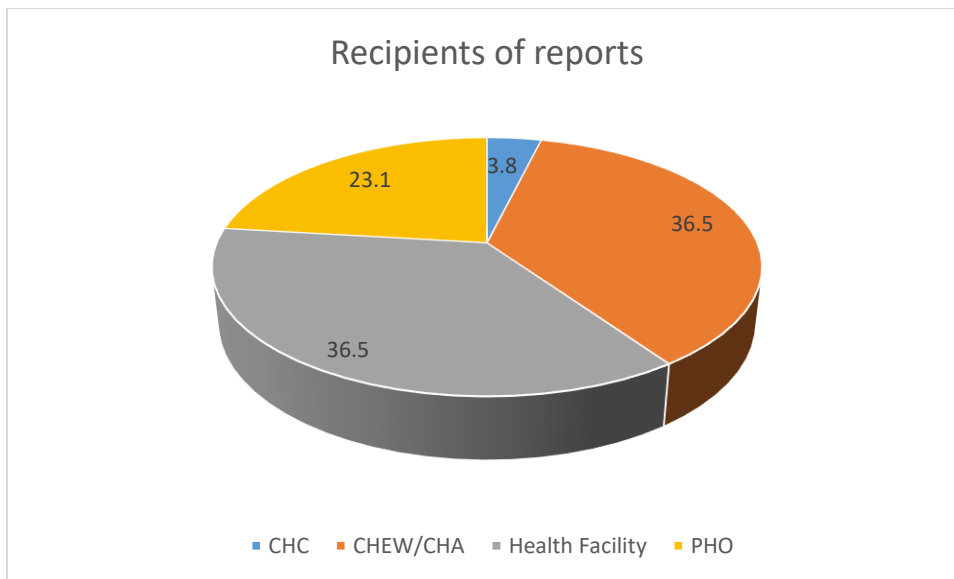
4.3.3 Recipients of reports

The study further sought to establish the recipients of reports submitted by CHVs on priority diseases. The findings are stipulated in the figure below.

Figure 4.8

Recipients of reports

From the findings above, 36.6% of the respondents submitted their reports to the health facility /CHEW/CHAs, 23.1% to the PHO while 3.8% to their respective community health community. Recipients of reports or a place where the reports are submitted contributes to the timeliness and completeness of reports on priority diseases. There might be delays in uploading of these reports because of variations in area of submission.

4.3.4 Date of submitting reports

The study further sought to establish the date of submitting reports on priority diseases by the CHVs. The findings are stipulated in the figure below.

Figure 4.9

Date of submission of reports on priority diseases.
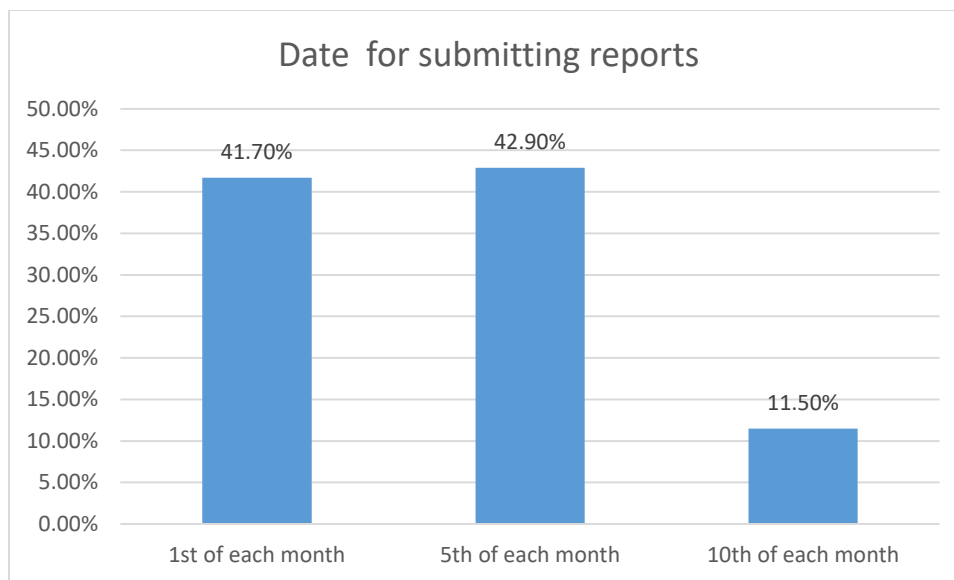
From the above findings, 42.9% of the CHVs in Kwanza submitted their reports on 5th of every successive month, 41.1% on 1st while 11.5% on 10th of every successive month. The disparities in the deadline affects timeliness and completeness of reports submitted by CHVs.

4.4 Priority diseases reported by Community health volunteers.

Reporting refers to the process by which surveillance data moves through the surveillance system from the point of generation (community level to the national KHIS system. It also refers to the

process of reporting suspected and confirmed outbreaks. Different reporting systems may be in existence depending on the type of data and information being reported, purpose and urgency of relaying the information and where the data/information is being reported. The priority diseases reported by the CHVs in Kwanza sub county is as follows:

4.4.1 Priority diseases reported by community health volunteers

The study further sought to identify the priority diseases reported by CHVs. The findings are stipulated in the figure below.

Table 4.1

Priority Diseases reported by Participants.

Priority Disease	n	%
Communicable Disease	3	1.9
Cholera	1	0.6
Cough	8	5.1
COVID-19	8	5.1
Diabetes	3	1.9
Diarrhea	26	16.7
High Blood Pressure	13	8.3
HIV	4	2.6
Injuries	1	0.6
Malaria	47	30.1
Measles	5	3.2
NCD's	2	1.3
Malnutrition	9	5.8
Polio	6	3.8
Tuberculosis	10	6.4
Typhoid	10	6.4

N=156

From the above findings, majority of the respondents (30.1%) reported Malaria as the main disease occurring at community level, followed by diarrhea which was reported by 16.7% of the

respondents, Typhoid and Tuberculosis were reported by 6.4% of the respondents. The study findings show that the main priority disease occurring at community level is Malaria.

4.5 Health Systems Support

Health system Support accorded to CHVs enables them to perform their tasks with ease and makes them feel motivated in their work. The study used several parameters to assess the impact of the health system support on reporting of priority diseases.

4.5.1 Support Accorded to Participants

The study further sought to establish whether the study participants received any type of support from the health managers. The results are presented in figure 4.10 below.

Figure 4. 10

Support to Participants
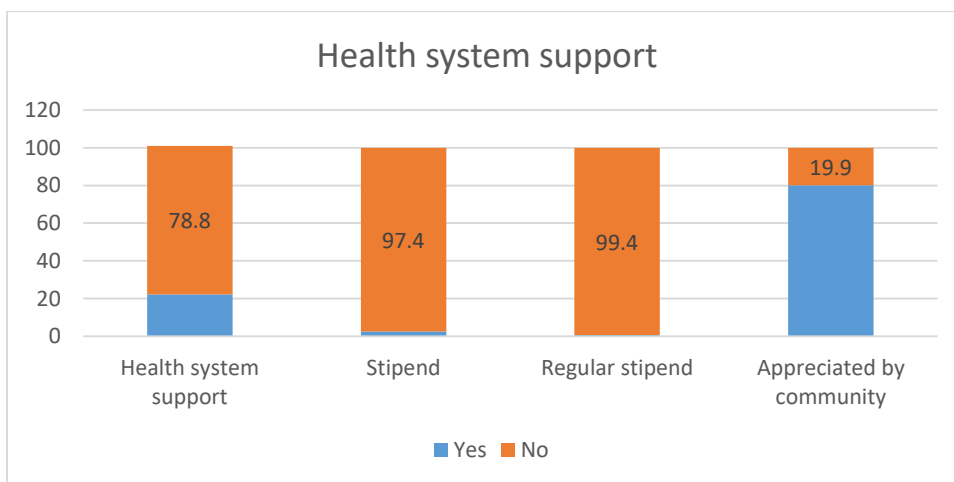
As shown in Figure 4.6, a high number of the participants, 123 (78.8%) did not receive support. In fact, almost all, 152 (97.4%) participants did not receive any form of remuneration for their work. Of the 4 (2.6%) who received some form of remuneration, 3 (1.9%) of them received an amount less than one thousand Kenyan Shillings (Ksh.), however, regularity of this payment was not guaranteed for the 3 participants. All, 4 (2.6%) of the participants who reported to be receiving payment were paid by Non-Governmental Organizations within their units. On the other hand, most, 125 (80.1%) of the participants reported that their work was appreciated by the community. The most prevalent from of appreciation accorded to the participants was thanksgiving; 83 (53.2%).

Figure 4. 11

Nature of Support
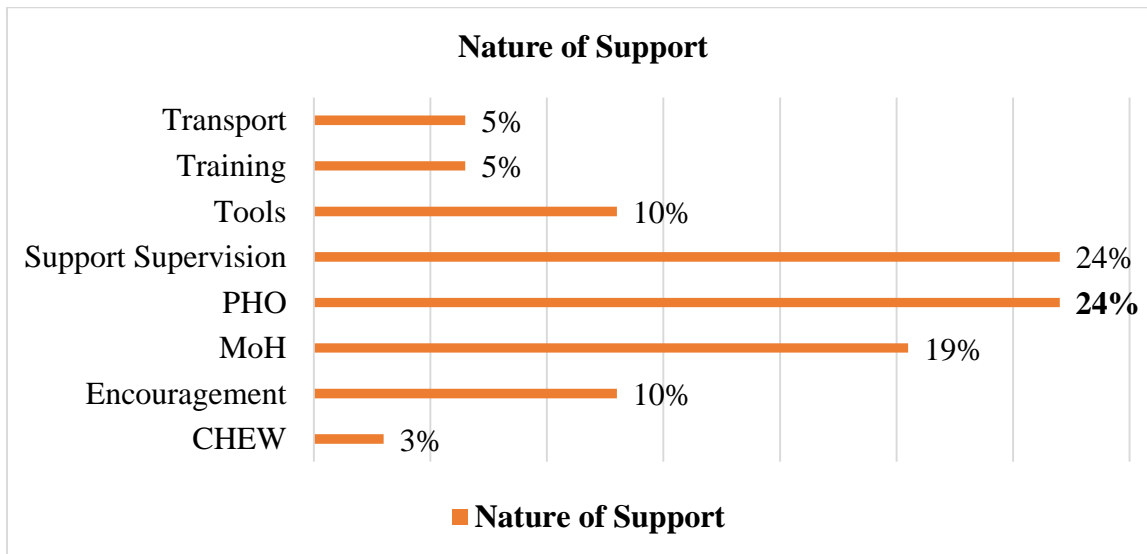
On inquiry on the expected type of support, 24% of the respondents received support supervision from health managers(CHEWs/PHOs) 10% received reporting tools, 5% had received training and had transport. This assisted them to perform the assigned tasks.

43

4.5.2 Motivation

On motivation, slightly more than average; 80 (51.3%) reported that service to humanity was their primary motivation to partake in various health support activities within the community.

Table 4. 9

Nature of Motivation

Motivation	n	%
Money		
Yes	13	8.3
No	143	91.7
Service to Mankind		
Yes	80	51.3
No	76	48.7
Training		
Yes	75	48.1
No	81	51.9
Community Acceptance		
Yes	54	34.6
No	102	65.4

N=156

Upon further probing on support to facilitate their work, a paltry; 41 (26.3%) of them affirmed that they received such support, on frequency of support, most of the participants; 16 (10.3%) received both occasional and always form of support (Table 4.9). The most common forms of support were support-supervision and support by Public Health Officer (PHO) whereby 10 (6.4%) of the participants had been accorded such support respectively.

4.5.3 Supervision

A high number; 111 (71.2%) of the participants reported that they were supervised while they were performing the tasks assigned to them. For most; 66 (42.3%) of the participants, supervision was

done once in a month. On a similar note, the Public Health Officer (PHO) was the commonly involved person in supervision as reported by most; 48 (30.8%) of the participants. More than average, 102 (65.4%) of the participants received feedback from the supervisor, whereby for most of this; 86 (55.1%) the feedback was adequate. In regards to receipt of performance results, a high number; 107 (68.6%) of the participants received results of their performance. 77.3% (115) respondents did not receive support from the health system. This imparted on their performance at community level.

Figure 4. 10

Supervision Frequency

Frequency of Supervision

2.60%

12.20%

14.10%

42.30%

■ **Once** ■ **Twice** ■ **Thrice** ■ **None**
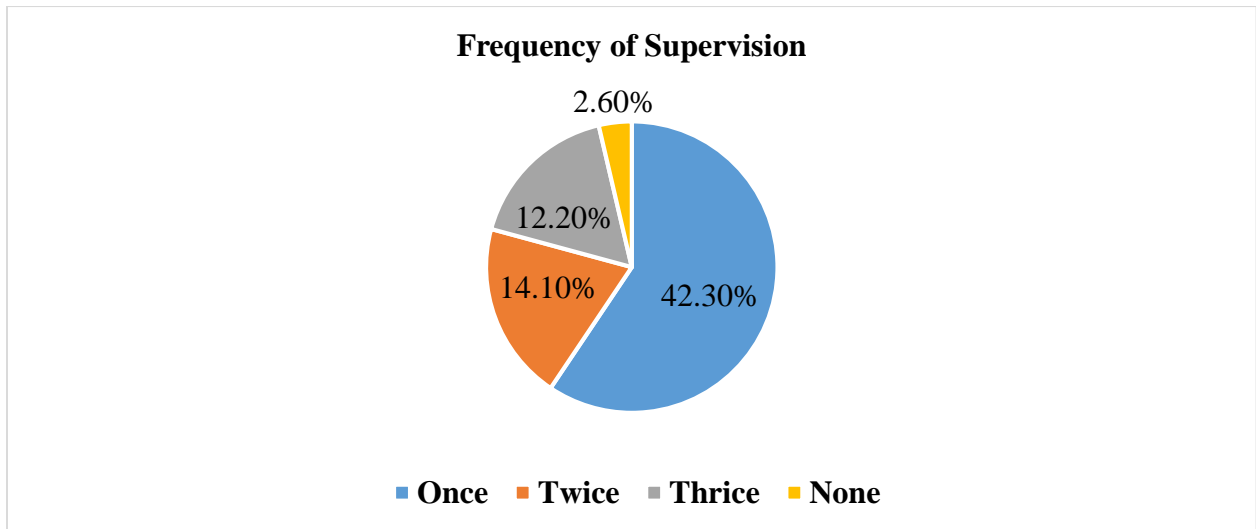
Figure 4. *11*

Person Involved in Supervision

Figure showing horizontal bar chart:
- None: 5.10%
- PHO: 30.80%
- CHEW: 29.50%
- CHC Members: 5.80%

■ Person Involved in Supervision
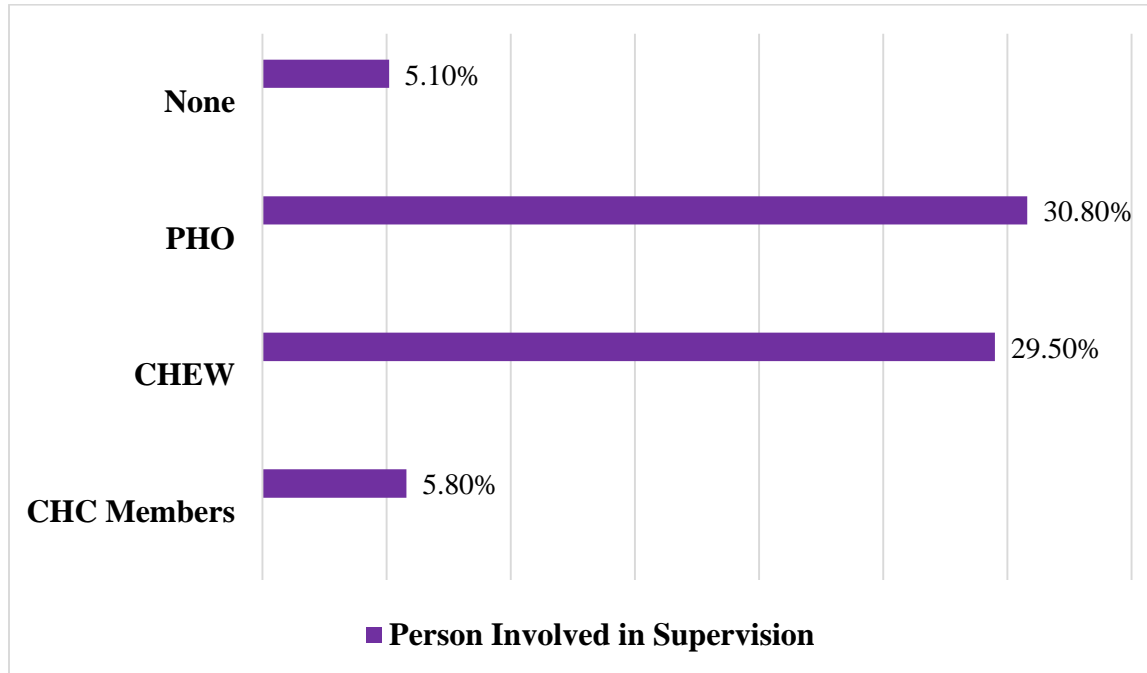
4.5.4 Feedback

Provision of feedback on disease surveillance reporting serves as a basis through which CHV's can know their strengths and weaknesses; hence, capitalize on the strengths as a means of improving noted weaknesses. As shown in Table 4.3, the study reports that 94 (60.3%) of the participants received feedback pertaining the reports they submitted. In addition, a high number of the participants, 54 (34.6%) received feedback in a timely manner and for most of the participants, 46 (29.5%), the feedback was given on regular basis.

4.5.5 Incentive for CHVs.

As shown in Figure 4.13, the most advocated form of incentive by the participants was salary or stipend whereby a large number of them; 115 (73.7%) advocated for it.

Figure 4. 13

Probable Incentive.
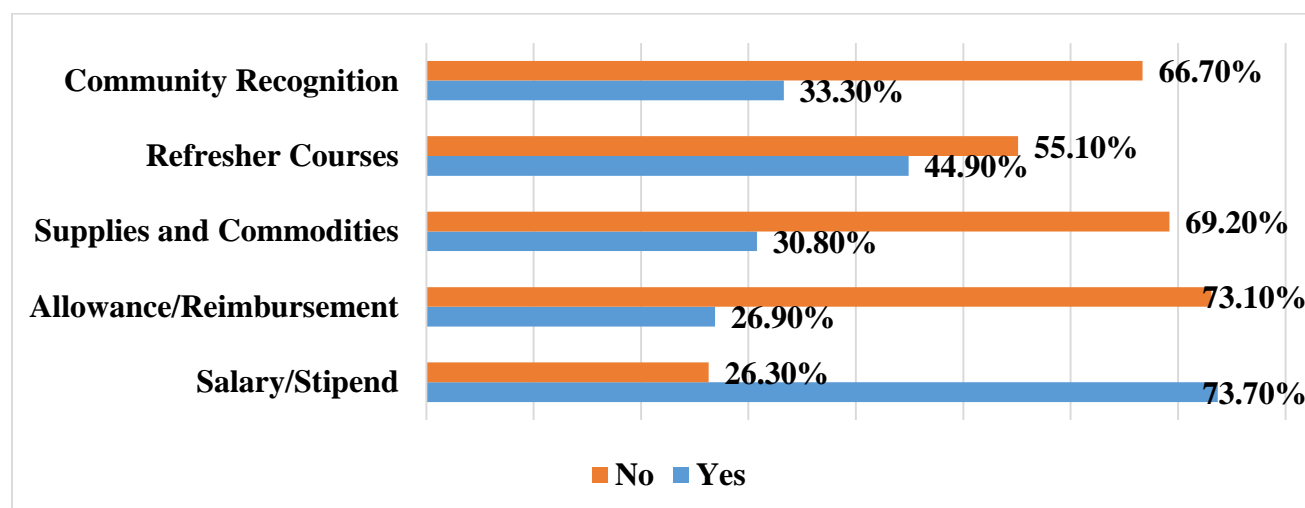
4.5.6 Attendance of Refresher Courses

As noted in Table 4.11, 112 (71.8%) of the participants had attended refresher courses and workshops. The table further shows that the frequency of the courses or workshops for most of the participants; 52 (33.3%) was annual.

4.5.7 Community Health Volunteer Checklist

A high number of the participants, 139 (89.1%) reported that they had an official data collection tool (Figure 4.2). It was further observed that MOH 513 was the frequently used data collection tool whereby 53 (34.0%) of the participants reported to be using it (Figure 4.3). On availability of reporting tools, 10% of the CHVs acknowledged having used at least one of them.

Figure 4. 16 CHV's Checklist
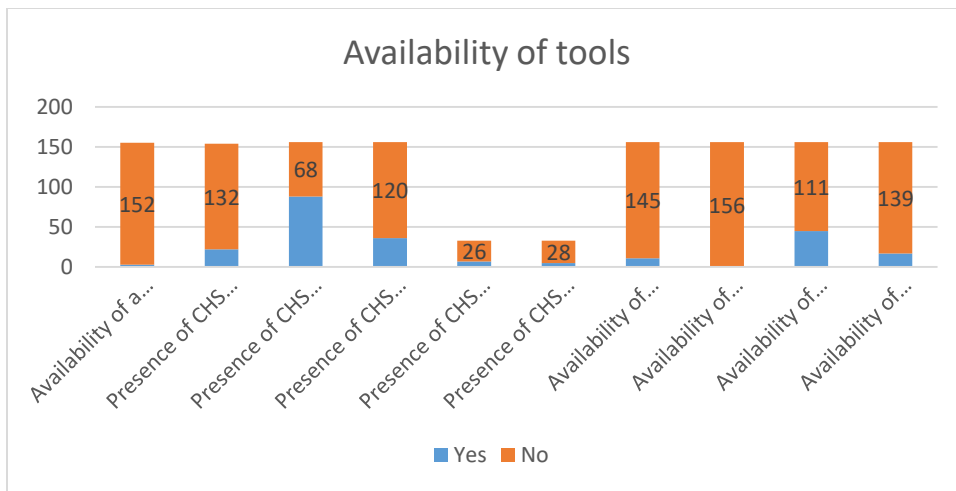
Note: Figure 4.14 depicts the status of the CHV's checklist during the study period.

4.3.Multiple Regression Analysis

The study used multiple regression analysis to determine the strength of relationship between the independent variables (socio demographic and health system factors) and performance if community health volunteers in detecting and reporting priority disease. This is a parametric inferential statistical method that attempts to determine whether a group of variables together

predict a given dependent variable (Jekel et al., 1996). The relationship is presented by the equation below.

$$y = \alpha + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + \varepsilon$$

Where: y = Logistics Performance

α = Constant β_1…

β_5= the slope representing degree of change in independent variable by one-unit variable.

x_1= Age

x_2= Education level

x_3= Marital status

x_4= Years of service

Table 4.10 summarizes the influence of the independent variables (age, education level, marital status and years of service) on performance of community health volunteers in detection and reporting priority diseases.

Table 4.10: Multiple Regression Analysis

Model 1	Standard coefficient(Beta)	T	Significance (P)
Age	.335	3.118	0.01
Educational level	-2.39	-2.772	0.03
Years of service	.407	3.057	0.01
Marital status	.404	2.925	0.02

a) Dependent variable: Detection and reporting of priority diseases

b) Critical t-value at 0.005 significance level (df=194) =1.972

Results from table 4.10 indicate that age (p = 0.01) and years of service(p = 0.01) were the major influencers for the detection and reporting of priority diseases in Kwanza Sub County. The results also indicate that marital status (p = 0.02) and level of education (p = 0.03) were significant predictors of the performance of community health volunteers in disease surveillance in Kwanza Sub County. Therefore, based on the findings from the regression analysis, the performance of community health volunteers in Kwanza Sub county could be predicted using the above equation.

4.4 Relationship Between Study Variables

4.3.1 Socio- demographic characteristics and reporting of priority diseases.

Pearson Chi-Square was done to assess the association between age and reporting of priority diseases by CHV's at 95% confidence level. There was no significant association. As shown in Table 4.13, x^2 (3, n=156) p = 0.933. For this reason, an increase in age does not necessarily result in reporting of priority diseases by the CHV's. Reporting was done by CHVs of all ages.

Table 4. 14
Associations between Age-Reporting of priority diseases.

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	.432[a]	3	**.933**
Likelihood Ratio	.657	3	.883
N of Valid Cases	156		

4.3.2 Associations between gender   and Undertaking of Case-Reporting Task

Pearson Chi-Square was done to assess the association between gender and undertaking of case reporting task by the CHV's at 95% confidence level. There was no significant association since CHVs of all gender undertook the task of case reporting. As shown in Table 4.14, x^2 (1, n=156) p

= 0.134. For this reason, gender does not necessarily result in enhanced undertaking of case-reporting task.

Table 4. 15
Training on gender and Undertaking of Case-Reporting Task

	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.868[a]	1	.172		
Continuity Correction[b]	1.234	1	.267		
Likelihood Ratio	1.772	1	.183		
Fisher's Exact Test				.203	**.134******

Note: No. of valid cases =156.

4.3.3 Differences in Age and Length of Service

ANOVA showed that there is a significant difference in Age across the categories of length of service at the $p < 0.05$ level [$F_{(4,155)} = 0.878$, $p=0.004$]. Therefore, the research derived a conclusion that there is a relationship between age and length of service. The older the respondents, the more years they have served as CHVs and therefore we need to check on CHVs attrition. This imparts on detection and reporting of priority diseases since they gain experience with time.

Table 4. 16

Age and Length of Service

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	14.239	4	3.560	4.057	.004
Within Groups	132.505	151	.878		
Total	146.744	155			

CHAPTER FIVE: DISCUSSIONS

5.1 Introduction

The chapter discusses findings on factors influencing performance of community health volunteers in detection and reporting of priority diseases in Kwanza Sub-County of Trans-Nzoia County, Kenya. The discussions are undertaken under each thematic area.

5.2 Socio Demographic Characteristics of Participants

A review of participants' demographics was undertaken based on age, gender, marital status and religion. Data on Community Health Volunteers' (CHVs) age showed that majority of the participants were aged between 30-39 years, less than half of the participants were aged between 20-29 years, and only nine percent were above 50 years of age, while for gender distribution, a majority of the participants were females. The limited number of CHVs with advanced age as noted in the study is commendable. This is because higher percentage of workforce approaching retirement age impacts negatively on coverage because such workforce has limited availability and limited geographical mobility. (Szabo et al., 2020).The number of years also translated to experience and therefore good performance. On gender, majority of the respondents were females. Since there is a cry for gender equality, women would like to outshine their male counter parts by performing well in assigned tasks. Education is a king pin of every society, in this study, majority of the respondents had attained secondary level of education and therefore could comprehend well when assigned tasks and perform to the best of their knowledge. The results also indicated that majority of the participants were of Christian faith, which was a driving force to their pleasure to serve mankind. This is enshrined in the Christian values of service to mankind is service to God.

It is important to note that the performance and motivation of CHVs are influenced by various inherent characteristics of CHWs, such as their age, gender, ethnicity, and even religion, which affect how they are perceived by community members and their ability to work effectively (Health, Kenya Community health Policy, 2020-2030, 2020) (Phillip Wanduru, 2016).

5.3 Timeliness and Completeness of Disease Surveillance Reports

An inquiry was made on the timeliness and completeness of diseases surveillance reports. The study observes that report writing is an indicator of performance in which 97.4% community health volunteers submitted reports. A challenge noted was the use of various tools for reporting like MOH 100, 513,514,515 and 516.The reports were submitted to the CHEWs, CHCs, link facility among others. This couple with the variations in tools used led to delay in uploading the reports in the KHIS, delaying analysis in case of any upsurge or outbreak. However, the study noted that there were variations in the reporting tools as participants used different tools in matters reporting. These findings concur with those of a study done in Tanzania by Rumisha et al. (2020), which concluded that there are great variations in the tools utilized for data reporting which could impart negatively to timeliness and completeness of reports. The study further suggests that such variations affect accuracy of data reporting. This notwithstanding, the current study findings show the need to ensure use of the correct tools for monthly reporting and agree on deadlines for submission of reports. Also in case of an outbreak of disease, daily reports could suffice because it will trigger prompt response.

5.4 Priority diseases reported by community health volunteers.

The CHVs were interrogated on the diseases they report to the health authorities and how often they did it, majority of them indicated that Malaria topped the list, followed by diarrhea, Typhoid and Tuberculosis respectively. The main tool used in reporting was MOH 513 which is a household

register yet they were required to consolidate their activities in MOH 515. This showed their they were not aware of the right tool to use which imparted negatively to reporting of priority diseases.

On frequency of reporting, they replied that they were required to report on monthly basis which also meant that there were delays in reporting in the cases of those diseases that require prompt reporting (within 24 hours).

There was a shortage of the required reporting tools like the line listing tools (MOH 503) and weekly surveillance tools (MOH 502). Referral forms (MOH 100) were unavailable. This meant that they could report using unrecognized tools.

It was also noted that MOH 513, 514, 515 and 516 were not in stock and therefore the CHVs could not report for all indicators. This is against the community strategy policy which advocates for provision of the necessary tools for performance of their functions (MOH, 2012).The study agrees with that of Martin Nyaaba Adokiya,(2016) who advocates use of internet based or phone based reporting instead of paper based reporting.

5.6 Health system factors influencing performance of community health volunteers in reporting priority diseases

The study inquired on whether the participants received any form of support to facilitate their work. Majority of the community health volunteers did not receive any support, remuneration, or regular payment. Only 2.6% agreed to be receiving regular payments from Non-Governmental Organizations within their units. 80.1% indicated that they were appreciated by the community members they served by being thanked for the services they offered which really motivated them. Occasional supervision by the Public Health Officers (PHOs) while performing their tasks and feedback was the main support from the health care system. According to (Mutegi Kevin, 2020),

inadequate training and lack of effective supervision reduces the interest and enthusiasm of volunteers and this could affect the retention and sustainability of their activities. In urban environment, CHVs face challenges that limit their capacity to be involved in behaviour change interventions. Frequent refresher trainings and other engagement platforms play an important role in the work output of CHVs.

Support supervision, provision of feed back , incentives and refresher courses were highlighted as some of the motivating factors for the performance of community health volunteers in detection and reporting of priority diseases. Therefore, it is important for the health managers in the sub county to have them in mind as they utilize the services of community health volunteers in disease surveillance. In a nutshell, the manner in which a country supports its health care system determines the health of its citizenry (Hyun et al., 2015). Deductively, enhancing allocation of funds results in a corresponding improvement in performance of primary health care facilities and personnel including CHVs.

Furthermore, remuneration, training, supervision are key motivators to CHVs performance. Majority (60%) of the CHVs consented to having received feedback in a timely manner on submitted reports. Despite the fact that this figure may be considered adequate, there is a need to understand the detriments caused by passive reporting manifesting through passive provision of feedback. A study by Dixon et al. (2017) argues that passive reporting causes limited feedback provision, which hinder disease assessment and delays recognition of disease outbreaks. Overall, matters timeliness and completeness of reporting have a room for improvement in the study context, an observation that was replicable in a study by Brian et al. (2017), which further notes the existence of an opportunity to integrate other health data such as quality of life data in CHV reporting tools.

CHAPTER SIX: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 Summary of the Findings

The first objective of the study was to determine the socio demographic factors that influence reporting of priority diseases by community health volunteers in Kwanza sub county. The study findings revealed that age, gender level of education and religion had an impact on the detection and reporting of priority diseases. This is because age had an impact on experience, females were more committed to work, Christian served their communities well and education enabled them comprehend assigned tasks. Additionally, results from the multiple regression analysis indicated that indicate that age (p = 0.01) and years of service (p = 0.01) were the major influencers for the detection and reporting of priority diseases in Kwanza Sub County.

. The second objective of the study was to establish the timeliness and completeness of disease surveillance reports submitted by community health volunteers. The study findings revealed that majority of the community health volunteers wrote reports using various reporting tools (MOH 100, 513,514, 515 and 516), submitted to various places (CHEWs, Community health Committees, link facilities) , with variations in date lines for submission. This hampered prompt reporting since not all indicators were captured by the tools used and consolidation led to delays in uploading to the KHIS.

The third objective of the study was to identify the priority diseases reported by community health volunteers. The findings of the study revealed that Malaria was the main disease occurring at community level, followed by Diarrhea and high blood pressure The diseases had different timelines for reporting ranging from immediate, weekly and monthly. It was realized from the

findings that most community health volunteers were not aware off all the priority diseases to be reported. Delay in reporting led to delay institution of intervention measures.

The respondents rated the effectiveness of prioritization as very bad and bad implying that prioritization of funds was ineffective. The results also indicated poor prioritization on expenditure areas by primary health care facilities within Mombasa County. Further, results from the multiple regression analysis indicated that prioritization of funds ($p = .01$) was a significant predictor and one of the main influence of the performance of primary healthcare facilities in Mombasa County.

The fourth objective of the study was to establish the health system factors that influenced detection and reporting of priority disease by community health volunteers. The study findings found out that majority of the community health volunteers did not receive ant financial support from the health department. Some of them indicated that they receive supervision from CHEWs and PHOs which was irregular. They also noted that at times they could receive feedback for their work either for referral of patients and reporting during dialogue days. During the focussed group discussion, they highlighted their challenges as increased workload, lack of motivation(stipends) and training. They suggested motivational factors as remuneration, refresher courses and tools for reporting.

ANOVA showed that there is a significant difference in Age across the categories of length of service at the $p< 0.05$ level [$F (4,155) = 0.878$, $p=0.004$]. Therefore, the research derived a conclusion that there is a relationship between age and length of service.

6.2   Conclusions

The study demonstrates the critical role played by CHVs in detection and reporting of priority diseases. The socio demographic factors plays a vital role in detection and reporting of priority disease as exhibited on factors such as age, gender, level of education and religion. On timeliness and completeness of reports, the study emphasizes the need to harmonize the various tools used to avoid duplication in reporting. It also exposes the effect of manual reporting tools and where the reports are submitted before uploading into the KHIS.

There is some knowledge gaps on the priority diseases expected to be detected and reported by community health volunteers. Therefore, there is need of capacity building on the 36 priority diseases and recommended timelines for reporting.

Health system factors are key to performance of community health workers in detection and reporting of priority diseases. Motivational factors like remuneration, transport , supervision, acceptance and recognition have been suggested as possible solutions to improved detection and reporting of priority diseases.

However, there are limited structures to enhance the working conditions of the CHVs. Despite training on particular aspects of disease surveillance such as matters COVID-19, skill-based training is still lacking. Furthermore, there is a need for well-structured form of support for CHVs.

6.3   Recommendations of the Study

The study has the following recommendations

6.3.1 Recommendations for Policy

The study demonstrates the critical role of Community Health Strategy, especially the component on disease surveillance at community level by CHVs. It is on this basis that the study

recommends the development of policies that would enhance inclusion of community health volunteers into the County health care system and provide for a legal framework for implementation of community health services including recognition and remuneration. It will give a framework for future engagement of CHVs with the County government and Partners.

6.3.2 Recommendations for Practice

The critical role played by CHVs in disease surveillance is well-known. For this reason, the study has the following recommendations for practice;

Adoption of electronics case reporting protocols to ensure accuracy and effectiveness of disease surveillance and reporting by the CHVs

The County Government of Trans-Nzoia should consider setting aside budget to cater for remuneration of CHVs working in the county as a means of enhancing their job satisfaction; hence, retention.

The Department of Health in the County Government of Trans-Nzoia should enhance skill-based training for CHVs as a means of equipping CHVs with practice skillsets to enable them accomplish assigned tasks with precision.

6.3.3 Recommendations for Further Research

The study observes variability 's in reporting tools adopted by the CHVs. As such, the study recommends further studies utilizing longitudinal approach on the most effective tool as a means of harmonizing these tools into one tool that is more effective and accurate in matters disease surveillance and reporting.

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CONSENT FORM PROJECT TITLE: FACTORS INFLUENCING PERFORMANCE

OF COMMUNITY HEALTH VOLUNTEERS IN DISEASE SURVEILLANCE

ACTIVITIES IN KWANZA SUB-COUNTY, TRANS-NZOIA COUNTY, KENYA

PURPOSE OF RESEARCH

I am Nobert Musundi, a student at Maseno University pursuing a Master degree in Public Health. The study will aim to understand the factors influencing performance of community health volunteers in detection and reporting of priority diseases in kwanza Sub-County, Trans-Nzoia county, Kenya. The research was reviewed and approved by the Jaramogi Oginga Odinga Ethics review committee (IERC/JOOTRH/288/20). The research findings will be used to improve detection and reporting of priority diseases in the Sub-County.

PROCEDURES:

After signing the consent form, the research assistant will ask you questions about factors that influence your performance in disease surveillance. You may be requested to participate in either the survey or Key Informant Interview. The survey and Key informant interview will take 40 minutes.

CONFIDENTIALITY

We will do our best to protect the information we collect from you. This questionnaire will collect data strictly for the purpose of learning and shall not be used for any other purpose whatsoever. The information obtained from participants shall be treated with ultimate confidentiality and shall not be diverged to anybody or any other use than the intended.

RISKS

There are no risks involved in this study. It has been approved by the Jaramogi Oginga Odinga Teaching and Referral Hospital Institutional and Research Committee and Maseno University School of Graduate studies.

BENEFITS

There are no direct benefits to you but the results of this study will be used to inform stakeholders on the need to improve demand and access of family planning services. It will also inform on the study population on the need to adopt and promote services that support and meet the needs of reproductive health women.

PARTICIPATION

Participation in this study is voluntary and you may withdraw from it at any time and without any adverse consequences.

CONTACTS.

For any questions or concerns about this study please contact the study Investigator Nobert Musundi Telephone No. 0721242426. For any questions pertaining to your rights as a research participant, contact person is: The secretary, Maseno University Ethics Review Committee, Private Bag, Maseno; Telephone numbers: 057-51622, 0722203411, 0721543976, 0733230878; Email address: muerc-secretariate@maseno.ac.ke; muerc-secretariate@gmail.com.

WRITE YOUR SIGNATURE OR THUMB PRINT MEANS

PARTICIPATION IN THIS RESEARCH IS VOLUNTARY. You have the right to say _NO' to participation in this study. Your signature or thumbprint below means you agree to participate in the study and that everything pertaining to this study has been explained to you and you have had he opportunity to ask questions and get answers. A copy of this consent form will be given to you.

Participants:

Signature…………………………………Date…………………………………...

 Researchers:

Signature…………………………………Date…………………………………...

SECTION A: Socio-demographic data

1. Gender (a) Male [] (b) Female [] (c) Transgender []

2. Age: Below 20 years () 20-29 Years () 30-39 Years () 40-49 Years () 50-59 Years
() 60 years ()

3. Marital status: Single () Married () Widowed () Divorced/Separated ()

4. Level of education: Primary () Secondary () Tertiary () none ()

5. Occupation: None () Self-Employment () Formal employment ()

6. Religion: Christian () Muslim () others, Specify ……………………….

8. For how long have been working as CHV (a) Less than six months () six months -1Year () 1 -

2 Years () (d) 3 -4 Years () Above 5 Years []

SECTION B: Reporting Timeliness and completeness.

9. Do you write reports on what you do for the community? Yes () No ()

   If yes, where do you take your reports? a) CHC () b) CHEW/CHA () (c) Health Facility ()
Pubic heath officer ()

10.Where do you record your reports? a) Paper () b) Notebook () c) Register () d) Chalkboard ()

11. By when are you required your activity reports? 1st of each month () By 5th of each month ()
By 10th of each month () By 15th of each month () Others specify………………………

12. Do you have official reporting tool for your reports? Yes () No () If ―Yes‖
Specify…………………….

13. Do you share your reports with the other CHVs and CHCs before submitting? Yes ()
No ()

14. In a scale of 1 to 5 can you rate the workload that you handle at a given period?

a) A Too much () b) Normal () c) Average () d) Less Work () e) Far much less ().

Section C: Knowledge of CHVs on detection and reporting of priority diseases.

15. Have you attended any training as a community Health worker (Tick more than one)? Yes ()
No ()

If ―Yes‖, which one? Specify……………………………….

16.How long was the training: Less than 1 week () One week () Two weeks () Three weeks ()
More than three weeks ()

17. How do you measure your knowledge on disease surveillance' No knowledge ()

Very poor () Poor ()   Average ()   Good ()   Very good ()

18. Which priority diseases do you look for at community level? Specify…………….

SECTION E: Health system factors

19. Are you supervised when performing your tasks? Yes () No ()

If yes, how many times have you been supervised in the last 1 month? Ones () Twice
()   Three   ()
None ()

20. Who is mainly involved in supervising you? CHC members () CHEW ()
PHO () MOH official ()

21. Do you get feedback from your supervisor?   Yes () No ()

26. In your opinion does your supervisor give you adequate support and
attention? Yes () No ()

22. Do you receive results on your performance on quarterly basis? Yes () No ()

23.   Which of the following incentives do you think would motivate you the most as a CHV?

Salary/stipend () Allowance/Reimbursement () Provision of supplies and commodities

() Intensive training and refresher courses () Recognition by the community ()

24.   Do   you   attend   refresher   courses/workshops?   Yes   ()   No   ()
If ‗Yes' how often? Monthly () Quarterly () Yearly () None ()

25. What challenges do you experiencing as CHV in discharging your duty?
Financial () Logistical () Inadequate supply () Inadequate community support ()
Inadequate county government support () Others, specify……….

3. Suggest ways of dealing with above (30) challenges……………………………….

ANNEX II: OBSERVATION   CHECKLIST

No.	Question	Yes	No
1	Presence of note book/referral form		
	Are they filled and up to date		
2	Availability of a bicycle in		
	Bicycle in good condition and used?		
3	Presence of reporting forms (MOH 513,514& 515) .		
	Have they been filled/ Used?		
4	Presence of chalk board (MoH 516).		
5	Chalk board up dated		
6	Presence of disease trend monitoring graph		
7	Availability of Lay case definition chart.		

APPENDIX III: BUDGET

Item	Cost for @ item (KS)	No. of items (KSH)	Total cost (KSH)
Type setting			20,000
Photocopying			10,000
Toners	8000		8,000
Printing Paper(reams)	500	20	10,000
Pens	20	25	500
Binding ribbon	50	10	500
Miscellaneous (Accommodation, subsistence for field assistants and Food)			20,000
Transport allowance to the field and fuel for the car			10,000
Airtime	10,000		10,000
Purchase of Covid 19 materials			40,000
Miscellaneous costs (Publications, Bounding and other associated costs			53,000
Total			**182,000/=**

APPENDIX IV: WORK PLAN

	JAN, 19 - JAN 2020	MARCH-OCT 2020	NOV-DEC 2020	JAN-APRIL 2021	SEPT 2022
Proposal Development	███	███			
Proposal Presentation		███			
Ethical Approval		███	███		
Field Data Collection			███		
Data Analysis				███	
Research Paper Development				███	
Thesis Examination					███
Oral defense/ Graduation					███

ANNEX V: ETHICAL APPROVAL

COUNTY GOVERNMENT OF KISUMU
DEPARTMENT OF HEALTH

Telephone: 057-2020801/2020803/2020321
Fax: 057-2024337
E-mail: medsuptnpgh@yahoo.com
ceo@jaramogireferral.go.ke

Website: www.jaramogireferral.go.ke

When replying please quote
IERC/JOOTRH /330/20

Ref: ....

JARAMOGI OGINGA ODINGA TEACHING &
REFERRAL HOSPITAL
P.O. BOX 849
KISUMU

19th November, 2020
Date...

To: NORBERT MUSUNDI

Dear Norbert,

RE: STUDY TITLE

FACTORS INFLUENCING PERFOMANCE OF COMMUNITY HEALTH VOLUNTEERS IN DETECTION AND REPORTING OF PRIORITY DISEASES IN KWANZA SUB COUNTY, TRANS-NZOIA COUNTY, KENYA.

This is to inform you that *JOOTRH IERC* has reviewed and approved your above research proposal. Your application approval number is *IERC/JOOTR/288/20*. The approval period is *19th November, 2020 – 19th November, 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 *JOOTRH - IERC*.
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 *JOOTRH - IERC* 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 *JOOTRH - IERC* 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 JOOTRH - *IERC*.

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.

In case the study site is JOOTRH, kindly report to Chief Executive Officer before commencement of data collection.

Yours sincerely,

SECRETARY, IERC

ANNEX VI: SGS APPROVAL

MASENO UNIVERSITY
SCHOOL OF GRADUATE STUDIES

Office of the Dean

Our Ref: EL/ESM/00811/014

Private Bag, MASENO, KENYA
Tel:(057)351 22/351008/351011
FAX: 254-057-351153/351221
Email: sgs@maseno.ac.ke

Date: 22nd June, 2020

TO WHOM IT MAY CONCERN

RE: PROPOSAL APPROVAL FOR NOBERT WESONGA MUSUNDI — EL/ESM/00811/014

The above named is registered in the Master of Public Health degree programme in the School of Public Health and Community Development, Maseno University. This is to confirm that his research proposal titled "Factors Influencing Performance of Community Health Volunteers in Disease Surveillance in Kwanza Sub County of Transnzoia County" has been approved for conduct of research subject to obtaining all other permissions/clearances that may be required beforehand.

Prof. J.O. Agure
DEAN, SCHOOL OF GRADUATE STUDIES

Maseno University   ISO 9001:2008 Certified

ANNEX VII: NACOSTI LICENSE

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Ref No: 927393

Date of Issue: **26/November/2020**

RESEARCH LICENSE

This is to Certify that Mr.. NOBERT WESONGA MUSUNDI of Maseno University, has been licensed to conduct research in Transnzoia on the topic: FACTORS INFLUENCING PERFORMANCE OF COMMUNITY HEALTH VOLUNTEERS IN DETECTION AND REPORTING OF PRIORITY DISEASES IN KWANZA SUB COUNTY, TRANS-NZOIA COUNTY, KENYA. for the period ending : 26/November/2021.

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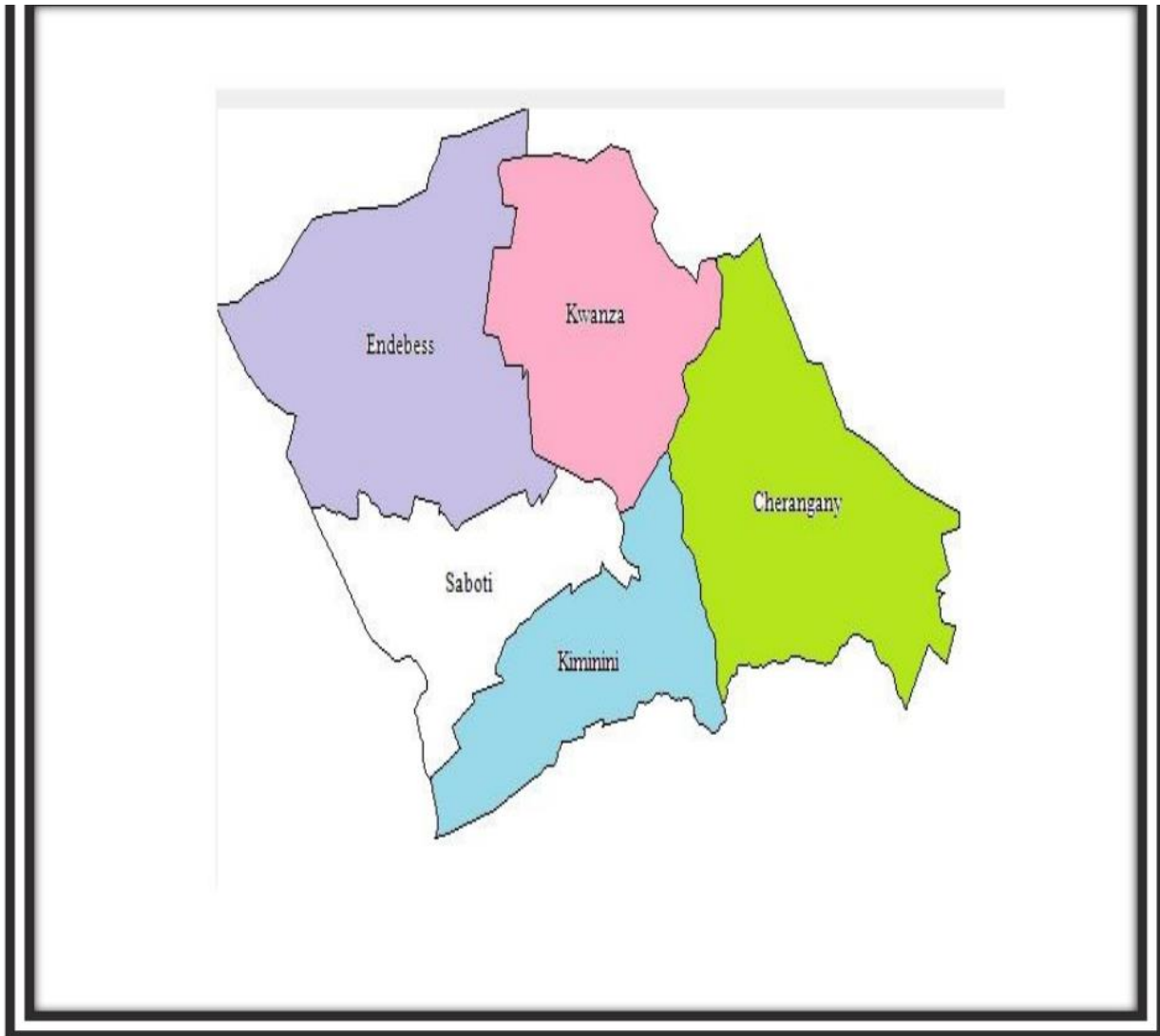
927393

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR
SCIENCE,TECHNOLOGY &
INNOVATION

Verification QR Code

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ANNEX VIII: MAP OF STUDY AREA

Source: County Planning Office