

**EFFECTIVENESS OF COMMUNITY HEALTH PROMOTERS IN MITIGATING
MALNUTRITION AMONG CHILDREN UNDER 5 YEARS DURING DROUGHT
PERIODS IN ISIOLO COUNTY, KENYA**

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UNIVERSITY**

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Declaration

Declaration by the student

This research report is my original work and has not been presented for a degree or any other award at any other university

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Dedication

To my beloved mother, Hobby Njambi, and Brother James Gitau, your words of motivation have consistently propelled me forward

Acknowledgement

Primarily, I offer my gratitude to the Almighty for guiding me to this point. Secondly, I express my appreciation to my mentors, Dr. Job Mapesa and Ms. Janet Juma, for their invaluable advice and guidance during the formulation of this report. I also want to recognize the generosity of Kenya Methodist University for affording me the chance to broaden my knowledge.

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Abstract

Malnutrition remains a leading cause of child morbidity and mortality, particularly in drought-prone, low-resource settings such as Isiolo County, Kenya. Despite national efforts through the Integrated Management of Acute Malnutrition (IMAM) and the IMAM Surge strategy, malnutrition rates in the county continue to surpass national averages. Community Health Promoters (CHPs) are critical frontline actors in detecting, referring, and educating communities on child nutrition; however, evidence on their effectiveness during emergencies remains limited. This study assessed the capacity and challenges of CHPs in mitigating child malnutrition during drought periods. A cross-sectional mixed-methods study was conducted among 380 CHPs selected through multistage sampling. Data were collected using semi-structured questionnaires and analyzed through descriptive statistics and thematic analysis. Findings revealed that although most CHPs had received basic nutrition training, only half had undergone refresher or Surge-specific training, and 43.4% expressed confidence in identifying malnutrition cases. Referral mechanisms were widely practiced, with caregiver acceptance rates reaching 97.4%, yet logistical, financial, and supervisory challenges hindered consistency. High workloads some CHPs covering over 100 households further reduced service quality and morale. Socio-cultural barriers, including traditional beliefs, gender dynamics, and language differences, also limited program uptake. The study concludes that CHPs are indispensable in combating malnutrition during droughts but are constrained by systemic, operational, and cultural barriers. Strengthening their effectiveness requires continuous capacity building, equitable workload distribution, logistical and financial support, culturally responsive community engagement, and integration of CHPs into formal health systems through mentorship and supportive policy frameworks.

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Abbreviations and Acronyms

CHPs	Community Health Promoters
GAM	Global Acute Malnutrition
IMAM	Integrated Management of Acute Malnutrition (IMAM)
IPC	Integrated Phase Classification
MAM	Moderate Acute Malnutrition
SAM	Severe Acute Malnutrition
SDGs	Sustainable Development Goals
SMART survey	Standardized Monitoring and Assessment of Relief and Transitions
USAID	United States Agency for International Development
ASAL Regions	Arid And Semi-Arid Lands
MUAC	Middle Upper Arm Circumference
UHC	Universal Health Coverage
ANC	Antenatal Clinic
iCCM	Integrated Community Case Management
CMNH	Community-based Maternal and Newborn Health
IFAS	Iron and Folic Acid Supplementation
MIYCN	The Maternal Infant and Young Child Nutrition
KAP	Knowledge, Attitudes, and Practices
HiNi	High-Impact Nutrition Interventions
MOH	Ministry of Health
SDGs	Sustainable Development Goals

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Malnutrition remains one of the most pressing global public health challenges, contributing to nearly half of all deaths among children under five years (World Health Organization [WHO], 2024). Acute malnutrition manifesting as wasting and severe wasting continues to affect over 45 million children globally, predominantly in low- and middle-income countries (United Nations International Children's Emergency Fund [(United Nations International Children's Emergency Fund [UNICEF], 2023) While global progress has been made in reducing undernutrition, these gains have been slow and uneven, particularly in sub-Saharan Africa, where recurrent droughts, food insecurity, and fragile health systems continue to exacerbate the problem (Food and Agriculture Organization [FAO], 2023). The Global Nutrition Report UNICEF, (2022) highlights that Africa accounts for more than 30% of the world's malnourished children, with environmental shocks such as prolonged droughts and conflicts impeding sustainable nutrition improvement.

In Kenya, malnutrition remains a persistent barrier to child survival and development, despite ongoing government and partner-led interventions. The Kenya Demographic and Health Survey Kenya Demographic and Health Survey (KDHS, 2022) estimates that 18% of children under five are stunted, 5% are wasted, and 10% are underweight. However, these national averages mask wide county disparities, with the arid and semi-arid lands (ASALs) consistently recording higher levels of acute malnutrition. Isiolo County, for example, frequently exceeds the emergency threshold of 15% global acute malnutrition (GAM) prevalence (County Government of Isiolo & Ministry of Health [MOH], 2023). Recurrent droughts have disrupted food production, depleted livestock the main livelihood source and weakened household coping mechanisms. Consequently, Isiolo faces cyclical nutrition crises that strain health systems and limit access to life-saving services.

To mitigate these challenges, Kenya adopted the Community Health Strategy in 2006, which formalized the role of Community Health Promoters (CHPs) previously known as Community Health Volunteers as the frontline link between the health system and the community the (Kenya community health policy [KCHP], 2020).

CHPs are responsible for conducting household visits, screening children for malnutrition, promoting infant and young child feeding practices, referring severe cases to health facilities, and following up on defaulters. Their proximity to communities enables them to deliver culturally appropriate health messages and identify early warning signs of nutrition deterioration. Research across sub-Saharan Africa affirms that empowered and well-supported CHPs significantly enhance early detection and management of malnutrition, contributing to improved health outcomes and reduced child mortality (Kok et al., 2018a).

Despite their central role, several studies reveal persistent gaps in CHP capacity, motivation, and integration into formal health systems. Weak supervision, irregular remuneration, inadequate refresher training, and limited logistical support undermine their performance (Aboye et al., 2023; Muthuri et al., 2020). In Kenya's ASAL counties, such constraints are aggravated by vast geographic coverage, insecurity, and migration of pastoral communities, which limit CHPs' ability to conduct consistent follow-ups (Bakibinga et al., 2020). The Integrated Management of Acute Malnutrition (IMAM) Surge model, introduced to strengthen facility and community readiness during nutrition emergencies, has demonstrated promise; however, its implementation has been uneven, with limited participation of CHPs in surge preparedness and response activities (Emergency Nutrition Network [ENN] 2021)

The theoretical foundation of this study is anchored in the Health Systems Strengthening (HSS) framework and the Community Health Strategy Model. These frameworks emphasize that a resilient health system requires community-level actors equipped with adequate resources,

supervision, and coordination mechanisms to ensure equitable service delivery (Cerf, 2023). Within this perspective, CHPs represent the first line of defense in early detection and management of malnutrition, particularly in drought-prone and marginalized regions. However, when CHPs lack training, job aids, or logistical facilitation, the entire surveillance and referral chain weakens, leading to delayed case detection and preventable child deaths.

Existing literature has primarily focused on health facility-level responses to malnutrition, leaving a gap in understanding the effectiveness of CHPs during emergencies such as droughts. Few empirical studies have systematically assessed their knowledge, adherence to IMAM protocols, or operational challenges in ASAL contexts. This evidence gap limits the ability of policymakers to design targeted capacity-building interventions and allocate resources efficiently. Additionally, the extent to which socio-cultural, economic, and logistical factors influence CHP performance in Isiolo remains underexplored.

Therefore, this study seeks to assess the effectiveness of Community Health Promoters in mitigating malnutrition among children under five during drought periods in Isiolo County, Kenya. By examining their knowledge, skills, adherence to nutritional protocols, and the barriers they encounter, the study aims to fill critical evidence gaps and provide actionable insights for strengthening community-based nutrition systems. The findings will inform county and national strategies for scaling up High Impact Nutrition Interventions (HINI) and integrating CHPs more effectively into Kenya's health system resilience agenda

1.2 Statement of the Problem

Isiolo County continues to carry a disproportionate burden of acute malnutrition despite multiple interventions, raising questions about the effectiveness of frontline Community Health Promoters (CHPs). In the 2020 SMART survey, the Global Acute Malnutrition (GAM) rate in Isiolo was 16.7% and Severe Acute Malnutrition (SAM) 1.5% well above emergency

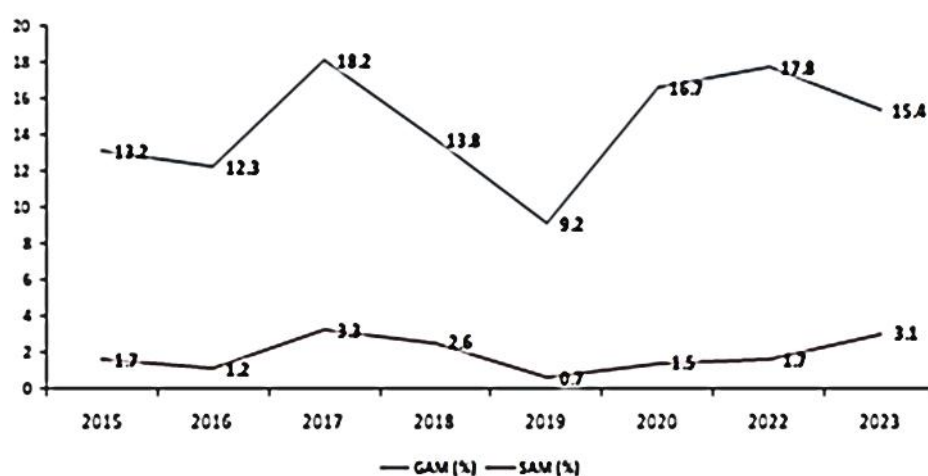
thresholds. (MOH, 2020). By 2023, the SMART survey reported a GAM of 15.4% (95% CI: 12.4–18.9), with persistent elevation in moderate (12.4%) and severe (3.1%) (MOH, 2020), (MOH, 2023).These sustained levels contrast sharply with national reductions, where Kenya’s average GAM hovers below 7%.

The limited decline in malnutrition despite substantial investment suggests gaps in community-level delivery, particularly the role of CHPs in drought-affected counties. Existing literature points to constraints in CHP performance arising from weak supervision, irregular refresher training, logistical shortfalls, and community-level barriers.(Colvin et al., 2021) .However, there is scant empirical evidence assessing how CHPs in ASAL regions like Isiolo translate capacity into actual nutrition outcomes under crisis conditions. Consequently, this study interrogates the effectiveness of CHPs in reducing acute malnutrition during drought periods, focusing on their knowledge, protocol adherence, and operational constraints. The findings aim to inform tailored strategies to strengthen CHP-mediated nutrition interventions in marginal environments.

Figure 1.1 below summarizes the trends in GAM and SAM in Isiolo County. IPC (2023) suggests the levels could continue growing due to climate change.

Figure 1.1

Trends in the Prevalence of SAM and GAM In Isiolo County, 2015-2023



Note. While GAM rates declined, SAM rates have increased since 2019

Source: (MOH, 2023).

1.3 Purpose of the study

This research aims to explore the effectiveness of community health promoters in combating malnutrition among children under < 5years in Isiolo County, Kenya, with a specific focus on their performance during drought periods.

1.4 Research Objectives

1.4.1 General Objective

To assess the Effectiveness of Community Health Promoters in mitigating malnutrition among children under 5 during periods of drought in Isiolo County, Kenya.

1.4.2 Specific Objectives

- I. To assess the adequacy of CHPs' knowledge, skills, and training on acute malnutrition and determine how these influence their capacity to implement nutrition interventions during drought periods in Isiolo County.
- II. To evaluate the effectiveness of CHPs in identifying, screening, and referring malnourished children under five, based on referral accuracy, coverage, and follow-up outcomes during drought periods
- III. To analyze the socio-economic, logistical, and systemic barriers influencing CHPs' ability to deliver effective malnutrition interventions during drought periods in Isiolo County.
- IV. To assess the extent to which CHPs adhere to national nutrition protocols, guidelines, and best practices when implementing community-based nutritional interventions during droughts.

1.5 Research Questions

- i. To what extent are CHPs' knowledge, skills, and training on acute malnutrition adequate to support effective nutrition interventions during droughts in Isiolo County?
- ii. How effective are CHPs in identifying, screening, and referring malnourished children under five during drought periods, and what factors influence this effectiveness?
- iii. What socio-economic, logistical, and systemic barriers affect CHPs' performance in delivering malnutrition interventions during droughts in Isiolo County?
- iv. To what degree do CHPs adhere to established nutrition protocols, guidelines, and best practices (such as IMAM) when implementing nutritional interventions during drought periods in Isiolo County?

1.6 Justification of the Study

Despite national efforts to strengthen community health systems in Kenya, limited empirical evidence exists on how effectively Community Health Promoters (CHPs) mitigate acute malnutrition in arid and semi-arid lands (ASALs). Most studies on community-based nutrition interventions have focused on stable regions, leaving gaps in understanding how CHPs operate under recurrent drought and resource scarcity conditions (Wambui et al., 2024). Isiolo County presents a unique context for this investigation, as it experiences persistent droughts, high poverty levels, and malnutrition rates that consistently exceed national averages 15.4% Global Acute Malnutrition (GAM) compared to 9.8% nationally (KDHS, 2022). The county also serves as a key implementation area for the Integrated Management of Acute Malnutrition (IMAM) Surge model, yet disparities in CHP performance and coverage remain unexamined (ENN, 2021).

This study therefore fills a critical knowledge gap by evaluating the capacity, effectiveness, and challenges of CHPs in implementing nutrition interventions during droughts in Isiolo County. Findings will inform context-specific strategies to strengthen CHP performance, enhance program accountability, and guide policy adjustments at both county and national levels toward achieving Sustainable Development Goal 2 ending hunger and improving nutrition.

1.7 Limitations of the Study

The research anticipated limitations might include language barriers due to Isiolo County's several ethnic groups. Besides, some participants may be less willing to participate due to multiple factors, including language and cultural barriers. The study will counter language barriers and lack of willingness to participate by recruiting local research assistants who are conversant with the local dialect and culture. Also, some community health Promoters might not be available on the day of the study due to personal engagements. The study will engage the CHPs' supervisors in different regions to understand more about the target person's schedules and select the most appropriate time when most of the participants will be available. Lastly, other factors or variables might influence acute malnutrition in Isiolo County, such as economic conditions, access to healthcare services, or other ongoing interventions. These external factors and confounding variables could affect the study results and make it challenging to attribute the changes solely to the community health promoter-based intervention.

1.8 Delimitation of the Study

The research will concentrate on the role of community health promoters in addressing acute malnutrition in Isiolo County, Kenya, during periods of drought. It will limit itself to challenges the community health promoters face within three sub-counties in Isiolo County: Isiolo, Merti, and Garbatulla.

1.9 Assumptions of the Study

These presuppositions will be made while carrying out this research:

- I. Community Health Promoters have received sufficient training in nutritional interventions and drought resilience strategies.
- II. A sufficient number of CHPs is available to cover the target population in Isiolo County.
- III. Community Health Promoters have access to adequate resources, such as nutritional supplements and educational materials, to effectively carry out their interventions.
- IV. External factors, such as conflict or political instability, do not significantly hinder the effectiveness of Community Health Promoters' efforts in mitigating malnutrition during droughts.
- V. Data collected from Community Health Promoters regarding their activities and interventions are accurate and reliable.

1.10 Operational Definition of Terms

Community health promoters (CHPs): Community health promoters are individuals from within the community who receive specialized training to deliver specific health interventions, education, or services tailored to the needs of their communities (Kenya National community health strategy [KCHS], 2020) They collaborate with their linked health facilities to deliver the services.

The Integrated Management of Acute Malnutrition (IMAM) program:

This is a nutrition intervention implemented in Isiolo County aiming to diminish both the death and disease rates among <5yrs children caused by acute malnutrition

Severe Acute Malnutrition (SAM): A more severe manifestation of acute malnutrition in children is typified by extremely low weight-for-height measurements, which fall below three standard deviations. Children are considered to have SAM if their Mid-upper Arm

circumference (MUAC) of below 115 mm (Lenters et al., 2016).It can also be characterized by the patient having bilateral pitting edema (Lenters et al., 2016)

Moderate Acute Malnutrition (MAM): MAM is characterized by moderate wasting. Children suffering from MAM have a low weight-for-height that falls between two and three standard deviations. Children with MAM have a Mid-upper Arm Circumference (MUAC) between 115 mm and (Lenters et al., 2016).

Global Acute Malnutrition (GAM): It signifies the occurrence of Moderate Acute Malnutrition (MAM) and Severe Acute Malnutrition (SAM) within a population. GAM values above 10 percent indicate an emergency (Lenters et al., 2016).

SQUEC Survey: Semi-Quantitative Evaluation of Access and Coverage Survey.

1.11 Operational Definition of Variables

Community health promoters' competencies: The specific skills, knowledge, and abilities CHPs possess about acute malnutrition (Agarwal et al., 2019).Key indicators include self-report on different areas, including knowledge of nutrition guidelines, the ability to assess and identify signs of malnutrition, and proficiency in providing nutrition education.

Well-being: Well-being is the overall physical, mental, and emotional state of CHPs. The study will measure participant well-being based on self-report.

Supportive Systems: Supportive systems are the infrastructures, policies, and resources in place to help CHPs attain their interventions (Agarwal et al., 2019).The study will measure the systems based on self-report.

Attitude refers to the CHPs' perceptions of nutrition interventions. It will be measured based on the participant's self-report.

Community-People with a stake in health services provided by the CHPs.

Gender - Whether men or women respondents

Health systems – A Comprehensive and interconnected network of organizations, individuals, and resources involved in addressing acute malnutrition in Isiolo County (Agarwal et al., 2019)

Marital status- family social status, such as married, divorced, or single

Sex – the sexual orientation of the respondents, i.e., either male or female

Technical Support - the facilitative Support given to CHPs by the community, county government, or other organizations.

CHAPTER TWO - LITERATURE REVIEW

2.0 Introduction

This chapter presents a synopsis of current literature regarding Community Health Promoters (CHPs), the performance of their roles. The information is necessary to familiarize oneself with the existing body of literature and identify gaps that the study will attempt to address. It will also include the conceptual framework influencing the study.

2.1 Community health promoters and Factors Influencing their Performance

This part will provide an overview of community Health Promoters including their roles, evidence on their effectiveness. Also, it will detail some of the factors influencing their performance.

2.1.1 Community Health Promoters (CHPs) Overview

Community Health Promoters (CHPs), occupy a pivotal role in striving toward equitable health access in underserved settings. They are recruited from within their own communities and provided targeted training not to replace formal medical professionals, but to carry out essential health promotion and disease prevention tasks (Ndu et al., 2022). Their proximity to households enables trusted engagement through home visits, health education, counseling, and early identification of at-risk individuals (WHO, 2018). Because they share language, culture, and social networks with community members, CHPs can address socio-cultural barriers in health messaging more effectively than external actors (O'Donovan et al., 2024).

In settings where formal healthcare services are scarce, CHPs become instrumental in bridging gaps and advancing progress toward Universal Health Coverage (UHC). Systematic reviews show that well-supported CHPs expand reach into remote areas and improve uptake of key interventions such as immunization, screening, and maternal health services ((Kaseje et al., 2024) .In Kenya, CHPs are formalized under the Community Health Policy (2020–2030), with defined roles including health promotion, referral linkage, data reporting, and basic care (

KCHP, 2020). Their mandate extends to nutrition: screening children, providing nutrition education, promoting breastfeeding, and facilitating referrals to treatment programs (Ballard et al., 2020). Evidence from Kenya and other African countries indicates that CHP-led nutrition interventions, such as breastfeeding support and community growth monitoring, correlate with improved child outcomes when matched with supervision and logistical backing (Ballard et al., 2020; Smithwick et al., 2023). Yet persistent challenges undermine CHP effectiveness. Limited refresher training, infrequent supervision, logistical constraints (e.g., transport, supply shortages), and workload burden are commonly reported obstacles (Gachathi et al., 2024; Ndu et al., 2022). For example, during public health emergencies, CHPs' performance often declines due to inadequate support systems (Gachathi et al., 2024). Attrition and decreased motivation are further aggravated when CHPs lack career pathways or recognition (Smithwick et al., 2023). Moreover, the adoption of digital tools and performance feedback mechanisms is uneven, constraining accountability and real-time decision-making (O'Donovan et al., 2024).

The theoretical lens guiding this review integrates the Health Systems Strengthening (HSS) framework and Community Health Strategy models. These frameworks posit that sustainable impact depends not only on CHPs' individual capacities, but also on systemic support: supervision, supply infrastructure, information systems, incentives, and governance structures (O'Donovan et al., 2024). Thus, gaps in training, logistics, supervision, or recognition erode the capability of CHPs to fulfill their potential. In arid and semiarid settings like Isiolo County where drought, nomadic populations, and infrastructural deficits compound vulnerability evaluating CHP effectiveness in nutrition becomes especially critical.

2.1.2 Factors Influencing the Effectiveness of CHPs

Multiple factors influence the effectiveness of CHPs. They include limited supplies and resources. Their roles require multiple resources, including uniforms and badges to facilitate

their identification, logistics to reach communities, and medicines and screening tools. However, many CHPs face resource limitations that limit their effectiveness (Ndu et al., 2022; Ogutu et al., 2021). Limited resources and supplies expose CHPs to health risks and negative attention as community members are less likely to believe them without uniforms and badges (Ogutu et al., 2021). Besides, insufficient resources hinder them from performing their healthcare provision roles, which can lead to a loss of credibility in the communities they serve. All these factors demotivate CHPs, leading to poor performance.

Financial and non-financial incentives also influence the effectiveness of CHPs. Financial incentives are crucial as their roles consume financial resources. Besides, CHPs require finances to care for personal issues, such as feeding their families and paying their children's school fees (Ndu et al., 2022). Unfortunately, many regions fail to offer sufficient financial incentives, which is a leading cause of why many CHPs drop out of programs (Ndu et al., 2022; Ogutu et al., 2021). Besides, without financial incentives, CHPs take up income-generating activities that consume time they could spend caring for their communities (Chatio et al., 2019; Ndu et al., 2022). Insufficient financial incentives limit CHPs' role performance by reducing their motivation and commitment and limiting the time they can spend carrying out CHP duties, as they have to look for other income-generating activities.

Additionally, non-financial incentives can enhance or limit CHP performance. These incentives include acknowledgment, respect, and trust (Ogutu et al., 2021). Also, many CHPs desire chances to advance in their career by getting paid employment opportunities from NGOs or clinics (Agarwal et al., 2019; Ndu et al., 2022; Ogutu et al., 2021). Yet, numerous regions neglect to provide the aforementioned incentives. Failing to offer these incentives makes CHPs feel that they are not valued and makes them feel hopeless in achieving their career objectives. As a result, CHPs are demoralized, leading them to put minimal effort into their roles.

Access to opportunities to develop one's skills is another leading influencer of CHP performance. CHPs' desire to develop their skills as it leads to career progression and enhances their abilities to provide better healthcare services to their communities (Ndu et al., 2022). Besides, in many instances, CHPs have to perform roles they are not trained for. The demand for services that CHPs are not trained for is especially high in remote areas where they serve as key service providers (Ndu et al., 2022). In such regions, community members might require additional services. When CHPs are unable to deliver these services, they feel demotivated. Besides, failing to offer such services erodes community members' trust in CHPs (Ogutu et al., 2021). Erosion of trust limits the effectiveness of CHPs by making community members less likely to implement the guidelines of CHPs.

Digital literacy skills can hinder or empower CHPs in their roles. Digital literacy is especially important in the modern era, where technology has become integral to healthcare. For community health workers, digital technologies are crucial in enhancing patient management, disease surveillance, and data collection (Bakibinga et al., 2020). CHPs not conversant with using digital health technologies are more likely to perform poorly due to limited capabilities to collect data, interact with patients, and access digitally available resources (Agarwal et al., 2019). Structural challenges, such as weak internet connectivity, weak internet coverage, and poor power supply, can also make it challenging to use digital interventions in health promotions (Ndu et al., 2022). These challenges limit the effectiveness of CHPs by limiting access to digital resources.

Stigma and harassment significantly impact CHP performance. According to Ndu et al. (2022). CHPs experience stigma, harassment, and disrespect from community members, facility health workers, and their supervisors (Ndu et al., 2022). Such instances include using abusive words, yelling, favoritism, and discrimination. In Kenya, some CHPs have complained that their supervisors secretly compensate some team members, demoralizing the affected

individuals (Ndu et al., 2022). Experiencing stigma and harassment from facility health workers hinders interprofessional collaboration (Ndu et al., 2022). With little interprofessional collaboration, CHPs cannot help community members access professional services that CHPs cannot offer, limiting CHPs' effectiveness in their roles. Besides, stigma, harassment, and discrimination demotivate them and reduce their commitment to ensuring quality healthcare outcomes.

Lastly, CHPs experience health system challenges that influence their performance. These challenges include a lack of standardized remuneration as the health system often promises to offer remuneration without fulfilling it or offering less than what was promised (Agarwal et al., 2019 ; Ndu et al., 2022). Many CHPs make their financial decisions based on the promise, and once the money fails, they are left with financial challenges. These challenges create distrust in the government and demotivate them, hampering their performance. Also, the lack of a clear scope of work poses a challenge. In many instances, Community Health Promoters are assigned responsibilities that typically belong to Health Facility Workers (HCWs), including tasks such as maintaining registers (Agarwal et al., 2019). Unclear roles bring confusion and can lead to conflicts between healthcare team members, making it challenging to provide holistic interventions to community members.

2.1.3 Impact of CHPS Empowerment on Health Outcomes

The empowerment of Community Health Promoters entails providing them with the essential knowledge, skills, resources, and authority needed to fulfill their roles proficiently (Kok et al., 2018a) empowerment of Community Health Promoters (CHPs) has been shown to significantly influence their performance and thus the health outcomes of the populations they serve. Key elements of empowerment include ongoing refresher training, supportive supervision, access to essential tools and supplies, recognition, and incentives. In western Kenya, a quasi-experimental study (2022) demonstrated that CHps receiving refresher training, regular

supervision, and financial incentives had higher health knowledge scores and job satisfaction than peers without these supports. ((Kawakatsu et al., 2022a).

Similarly, in Mali, research showed that children with severe acute malnutrition treated by CHPs with more intensive supervision had better recovery outcomes. (Charle-Cuéllar et al., 2021). In crisis-affected settings such as South Sudan, qualitative evidence indicates that supportive supervision mechanisms are critical for maintaining quality when infrastructure is challenging. The Jamkhed rural health project in India further illustrates that mentorship and leadership engagement, coupled with non-financial recognition, reinforce motivation and community acceptance of health worker roles. (Kaysin et al., 2024).

These findings highlight a consistent pattern CHPs perform better when program structures include ongoing training, frequent and supportive supervision, access to materials, and recognition. For arid, resource-constrained settings like Isiolo County, where drought periods exacerbate logistic and systemic challenges, ensuring these empowering components are in place is likely to enhance CHP capacity and effectiveness in nutrition interventions

Likewise, research done by Yao et al.(2022) ,showcased the beneficial effect of nutrition education and counseling administered by Community Health Promoters on enhancing breastfeeding practices, nutritional diversity, and the dietary status of children in resource-constrained environments. This underscores the significance of equipping CHPs with the requisite knowledge and competencies to execute effective nutrition interventions. Multiple studies have underscored the impact of empowering CHPs on various health metrics.

Additionally, research conducted by Ali et al. (2021) assessed the effectiveness of interventions delivered by Community Health Promoters in mitigating maternal and child mortality rates in low-resource settings. The conclusions were that the empowerment of CHPs

played a significant part in achieving favorable health outcomes and reducing health disparities among marginalized populations.

2.2 Acute Malnutrition

Acute malnutrition is a leading health concern. Acute malnutrition or wasting is a nutrition deficiency that results from insufficient intake of energy, protein, or other nutrients (Dipasquale et al., 2020). The condition can also result from a disease that causes sudden weight loss or edema (WHO, 2023). Failing to consume sufficient proteins, energy, or nutrients creates an imbalance between the body's requirements and intake, leading to deficits that negatively impact the health of the affected individuals. The condition primarily affects children.

2.2.1 Causes of Malnutrition

The factors contributing to malnutrition are broad, as they can originate from different aspects of an individual's life. UNICEF's causal framework effectively captures the diverse causes of malnutrition by dividing them into basic, intermediate, and underlying causes (See Figure 2.1). The basic causes of malnutrition are also called the root causes of malnutrition. They arise from economic, structural, political, environmental, and social factors operating at regional, national, and worldwide levels (Adongo et al., 2024; Okutse & Athiany, 2025). These factors include environmental degradation that can reduce food production, leading to food insecurity. Individuals experiencing food insecurity are less likely to consume healthy meals in sufficient quantities, leading to malnutrition (Adongo et al., 2024). Economic factors include poor economic performance that might lead to an economic decline, increase the price of food items, and negatively impact an individual's ability to afford food (Adongo et al., 2024; Okutse & Athiany, 2025). Other basic causes of malnutrition include wars, poor use of resources, population growth, and religious and cultural factors (Adongo et al., 2024; Okutse & Athiany, 2025). These factors influence the intermediate or underlying causes of malnutrition.

The underlying causes of malnutrition influence communities and households. They include household food security, which influences access to healthy and balanced meals (Okutse & Athiany, 2025). Factors influencing household food insecurity include gender equity, income, poor agricultural production, and household size and composition (Adongo et al., 2024). Inadequate maternal and child care can also lead to acute malnutrition in children. Factors related to maternal and child care include mothers having poor nutritional status and maternal care practices, such as breastfeeding and introducing solids (Adongo et al., 2024; Dipasquale et al., 2020). In addition, poverty and unemployment can lead to food insecurity and limited access to health facilities (Adongo et al., 2024). Limited access to health facilities and food insecurity significantly increases the risk of acute malnutrition in children under five years.

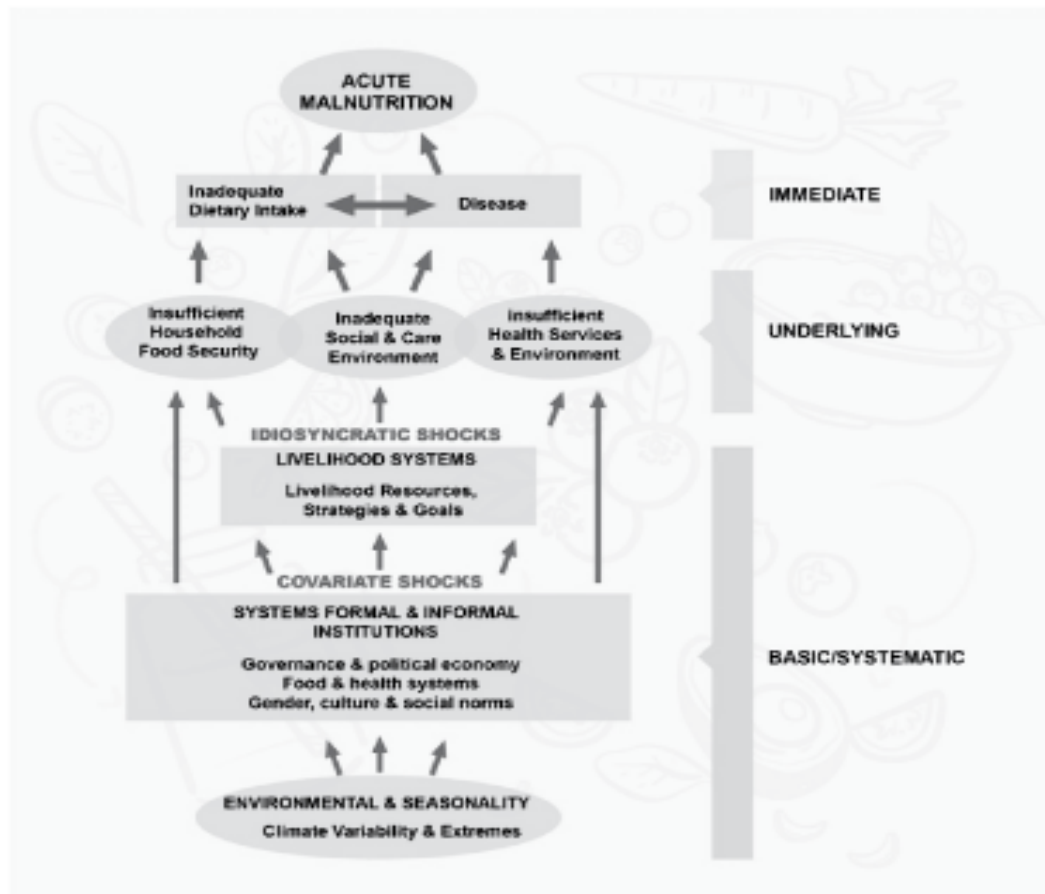
Moreover, unhealthy household food environments and limited access to health services contribute to acute malnutrition. Unhealthy household food environments cause acute malnutrition by increasing the risk of repeated infections, which hinder the body's ability to utilize the consumed nutrients or increase body nutrition requirements beyond what the child can consume (Adongo et al., 2024). These factors include poor sanitation, overcrowding, lack of water, and overcrowding (Okutse & Athiany, 2025). On the other hand, limited access to healthcare and underutilization of healthcare services can exacerbate existing health conditions, indirectly causing malnutrition. For instance, incomplete immunization increases the risk of malnutrition (Adongo et al., 2024). Likewise, limited access to health services limits parents' access to malnutrition interventions, increasing the risk of undertaking poor practices that lead to malnutrition (Soofi et al., 2023). These factors affect households and communities.

The immediate causes of malnutrition operate at the individual level. The primary cause of acute malnutrition is insufficient intake of critical nutrients and diseases (Okutse & Athiany, 2025). Failing to consume sufficient nutrients hinders average growth and development. For

instance, insufficient iron intake increases the risk of anemia and can lead to irreversible changes in cognitive development (Soofi et al., 2023) . On the other hand, diseases increase the body's requirements for nutrients, leading to imbalances between the body's requirements and what individuals consume. Besides, illnesses reduce one's appetite and cause loss of nutrients, for instance, through diarrhea and negatively impacting absorption of critical nutrients, which can contribute to acute malnutrition (Adongo et al., 2024; Soofi et al., 2023) . There exists a close relationship between health conditions and malnutrition, which forms a malnutrition-infection cycle where diseases cause malnutrition, and malnutrition increases individual vulnerability to diseases (Adongo et al., 2024 ; Soofi et al., 2023). The malnutrition-infection cycle proves the need to increase healthcare access to address acute malnutrition.

Figure 2.1

An Adapted UNICEF Causal Framework for Causes of Acute Malnutrition in African Dryland



Source: (Young. H, 2020)

2.3 Types of Acute Malnutrition

There are two types of acute malnutrition. They are best identified using a weight-for-height indicator. They include Moderate Acute Malnutrition (MAM), also known as wasting. MAM is less severe and has a low risk of complications. Children with moderate acute malnutrition exhibit measurements between -3 and -2 standard deviations (-3 to -2 SD) from the international standard. They can also have a Mid-Upper Arm Circumference (MUAC) of

between 11cm and 12.5 cm (Lenters et al., 2016). MAM affects more children than SAM (Action Against Hunger, 2020).

Severe Acute Malnutrition (SAM) is the second type of acute malnutrition. If left untreated, it is more severe and has a higher risk of causing health complications, including death. SAM can manifest in two ways. It can manifest in the form of severe wasting. Children with SAM have very low weight-for-height that falls below three standard deviations of the international standards. Also, they have a Mid-upper Arm circumference (MUAC) of below 115 mm (Lenters et al., 2016). It can also manifest in oedema, which initially manifests in the lower extremities but can extend to involve the face and arms (Action Against Hunger, 2020; Lenters et al., 2016). Symptoms of oedema include the patient having a pit or indentation on the affected body part lasting for three seconds after applying thumb pressure (Action Against Hunger, 2020). Other symptoms include thinning hair, skin lesions, and an enlarged liver (Action Against Hunger, 2020).

2. 4 Acute Malnutrition in Kenya and Isiolo County

Acute malnutrition is a leading health concern in Africa. It is primarily found in the Arid and Semi-Arid Lands (ASAL) regions, including Isiolo, Baringo, Turkana, Garissa, and Mandera (Integrated Food Security Phase Classification [IPC], 2023). In these regions, the rates of acute malnutrition have grown significantly. The leading causes of the increase include extended dry spells as most regions received the fourth successive period of below-average rainy season, leading to below-average food production (IPC, 2022). Other causes include high food prices and localized resource-based conflicts (IPC, 2022). These factors contribute to growing rates of food insecurity, which is a leading contributor to acute malnutrition.

The statistics on acute malnutrition in Kenya are worrying. Between March and May 2023, IPC projected that 970 214 children between 6-59 would experience acute malnutrition (IPC, 2023). Of these, 242,567 would experience SAM, while 727,648 would experience MAM (IPC,

2023). Additionally, 142,179 pregnant women faced acute malnutrition (IPC, 2023). This is a significant growth from 2019, when 624,500 children faced acute malnutrition, with 133,500 having SAM and 490,500 having (IPC, 2019). Also, only 69,330 pregnant or lactating mothers faced acute (IPC, 2019). IPC projects that the situation could worsen due to changing climate (IPC, 2019). The statistics indicate that the nation must do more to minimize the growth of acute malnutrition.

Isiolo County is among the most affected regions. More than half of the populace experiences challenges with food access and availability (IPC, 2022). The nutrition situation is also critical, with the region having Integrated Phase Classification for Acute Malnutrition IPC AMN phase 4 of nutrition levels (IPC, 2022). The 2023 SMART survey indicates that malnutrition levels have been growing instead of declining in Isiolo County. The global malnutrition rate is 15.4%, moderate malnutrition is 12.4%, and severe malnutrition is 3.1% (MOH, 2023). The 1.3% decline in GAM rates from 16.7% in 2020 to 15.4% in 2023 reflects a national decrease owing to scaled-up multi-sectoral response, and therefore they do not indicate the effectiveness of CHPs in Isiolo County (IPC, 2023). Despite the decrease, the levels remain critical compared to the nation's average of 0.8% in 2022. The high levels of acute malnutrition in Isiolo County warrant investigations on ways to address the situation urgently.

2.5 The IMAM Surge Program

Kenya has multiple programs to address acute malnutrition in ASAL regions. They include Integrated Management of Acute Malnutrition (IMAM) Surge. The program complements Integrated Management of Acute Malnutrition (IMAM). It enables health systems to foresee, plan for, and handle heightened need for acute malnutrition services (United States Agency for International Development [USAID], 2023). Anticipating these disasters is crucial as ASAL regions are at high risk and often have disastrous impacts on community health outcomes. Besides, it empowers communities and healthcare providers in communities to use

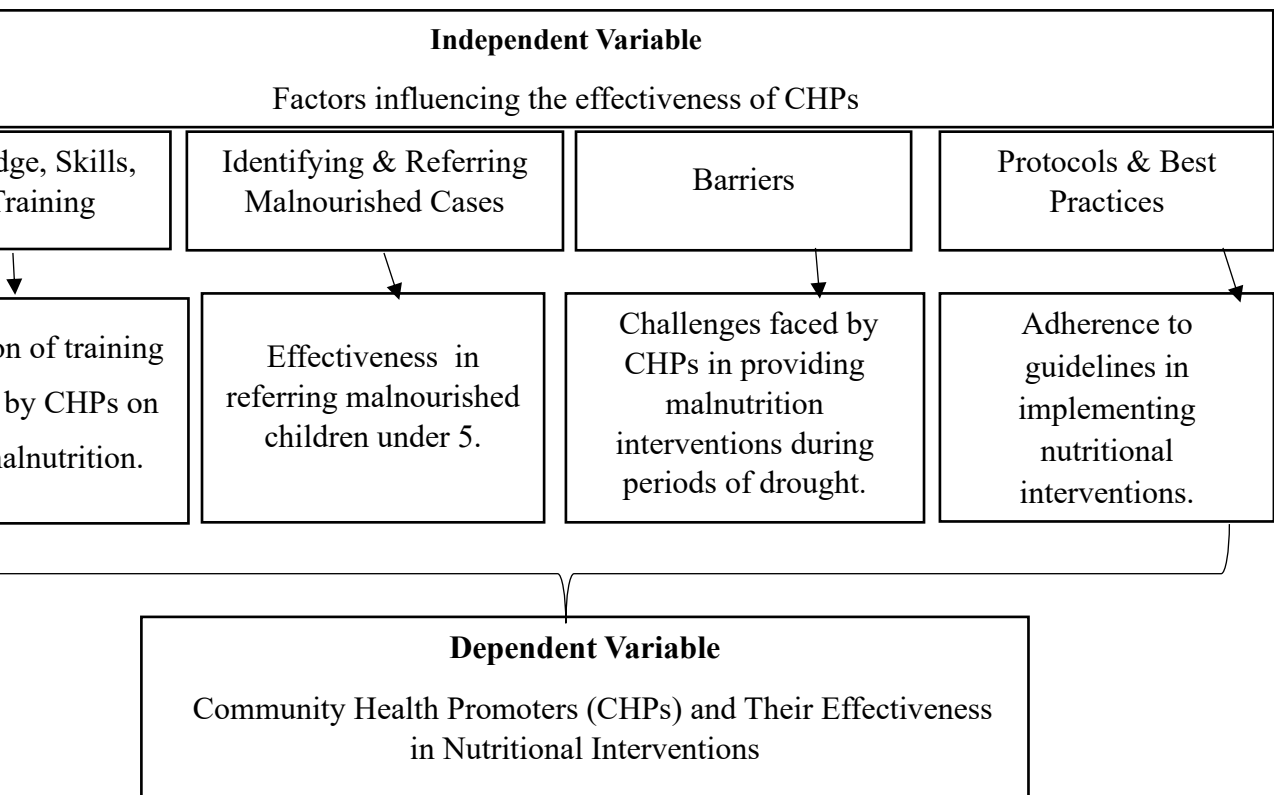
data to help community members address acute malnutrition (USAID, 2023).Community health promoters play an essential role in the program due to their reach to individual households and community members. IMAM surge was piloted in 2012, and it has proved effective in building the capacity of counties to address the growth in demand for acute malnutrition services.

The program impacted health and nutrition service delivery in many ways. It increased community screening, which helped identify children suffering from acute malnutrition and ensured they obtained the necessary interventions (USAID, 2023).Also, the program has reduced the time healthcare facilities in ASAL regions take to initiate preventive actions and scale up action at the systems (USAID, 2023).These benefits of the IMAM surge have enhanced the ability of ASAL regions to address acute malnutrition.

This conceptual framework illustrates the intricate interplay among several factors impacting the effectiveness of Community Health Promoters' (CHPs) nutritional interventions and subsequent malnutrition outcomes. The independent variable encompasses factors influencing the effectiveness of CHPs, while the dependent variable is the Community Health Promoters (CHPs) and their effectiveness in Nutritional Interventions. The independent variable is interconnected and exerts an influence on the effectiveness of nutritional interventions implemented by CHPs. The framework posits that the well-being of CHPs, the adequacy of support systems, the level of community development, and the competencies of CHPs collectively shape the effectiveness of their interventions in addressing malnutrition. It underscores the multifaceted nature of the determinants contributing to the success of nutritional interventions and emphasizes the importance of considering various factors in designing and implementing effective strategies to combat malnutrition within communities.

Figure 2.2

Conceptual Framework



CHAPTER THREE - RESEARCH METHODOLOGY

3.1 Research Design

The study adopted a cross-sectional approach. This methodology analyzed data from multiple study variables collected at a single moment in time across a representative sample (Wang & Cheng, 2020). The design is important for this study as it made it possible to investigate numerous variables that influence the effectiveness of the CHPs, including motivation, the level of knowledge, and supportive systems.

The study employed a mixed-methods approach to collect qualitative and quantitative data. The quantitative method collected the background characteristics of the study participants, experience and work knowledge, and community support system. The qualitative approach helped obtain narrative information that shed more light on what influences the performance of CHPs. Such information entailed the perceived barriers and facilitators to effective outcomes and the CHPs' perceptions of the region's interventions to address acute malnutrition.

3.2 Target Population

The research cohort was community health promoters in the three sub-counties in Isiolo County. There are approximately 749 CHPs distributed in the three sub-counties. CHPs were the primary target population as they provided insights that will help determine their level of effectiveness. Moreover, Community Health Promoters (CHPs) offered valuable perspectives on the factors that impede or support the effective execution of the region's nutritional intervention. Such information will be essential in helping the local government identify areas it can improve on to improve its performance in reducing acute malnutrition.

Table 3.1

Number of CHPs in Isiolo County per community unit

Sub County	Ward	Community unit	NO of CHPs
Garbatulla	Sericho	Iresaboru	17
		Badana	9
		Biliqi Sericho	9
		Sericho	18
		Modogashe	15
	Garbatulla	Garbatulla North	19
		Garbatulla South	17
		Boji	9
		Malkadaka	16
		Muchuro	10
	Kinna	Gafarsa	12
		Kombola	8
		Kinna North	20
		Kinna South	18
		Kulamawe	20
		Rapsu	10
		Duse	10
		Barambate	5
Isiolo	Ngaremara	Complex	8
		Daaba	18
		Ngaremara	21
		Eremet	27
		Gotu	6

Merti	Oldonyiro	Lobarisherik	8
		Narapu	16
		Nolooroi	3
		Oldonyiro	19
		Tuale	13
		Kipsing	21
		Leparua	17
	Bulapesa	Tuloruba	25
		Kiwanjani	17
		Kambi Garba	17
		Tupendane	19
		Waso	21
		Bulapesa	27
	Burat	ACK	19
		APU	16
	Chari	Merti North	28
		Merti south	20
		Bulesa	11
		Godha	11
		Bisan biliqo	14
		Biliqo Marara	8
	Cherab	Korbesa	11
		Biliqi	10
		Saleti	9

Malkagalla	19
Basa	19
Mataarba	9
TOTAL	749

Source: Isiolo County Department of Health and Sanitation. (2024).

3.3 Sampling Procedure and Inclusion Criteria

The study used a multistage sampling approach to recruit participants (Sharma G, 2017) . The target population of 749 Community Health Promoters (CHPs) in Isiolo County was first divided into 10 clusters, each representing a group of community units (Heeringa, 2016) . From these clusters, 10 were randomly selected as the primary sampling units.

Within each selected cluster, simple random sampling was applied to identify the participants. This ensured that every CHP had an equal chance of being included in the study and minimized potential selection bias.

To determine the number of CHPs required per cluster, the Neyman allocation formula was applied to ensure proportional representation:

$$n_i = \frac{N_i}{N} \times n$$

Where:

n_i is the sample size for cluster i

N_i is the size of cluster i

- N is the total population size
- n is the desired total sample size

Given:

- Total population size (N) = 749 CHPS
- Total number of community units = 50
- Number of clusters = 10
- First, we need to determine the size of each cluster by dividing the total population by the number of clusters:

$$N_{cluster} = N / \text{number of clusters}$$

$$N_{cluster} = 749 / 10 \quad N_{cluster} = 74.9$$

Since we can't have a fraction of a community unit, we rounded this number to the nearest whole number. So, each cluster had approximately 75 CHPS.

The Neyman allocation formula was used to calculate the sample size for each cluster:

$$n_i = \frac{N_{cluster}}{N} \times n$$

$$n_i = 75 / 749 \times 749$$

$$n_i \approx 75$$

So, each cluster had a sample size of approximately 75 CHPS. This ensured that each cluster contributes proportionally to the total sample size while accounting for the varying sizes of clusters. To determine the minimum sample size per cluster, the study utilized the formula adjusted for cluster sampling design, incorporating the design effect (DEFF) to account for the clustering effect. (Heeringa, 2016; Kalton, 2021). The formula states

$$n_{cluster} = n / DEFF$$

Where:

$n_{cluster}$ is the sample size needed per cluster.

n is the desired total sample size.

$DEFF$ is the design effect.

$$n_{cluster} = 749 / 2$$

$$ncluster = 374.5$$

Therefore, the minimum sample size per cluster was approximately 375 CHPS. The minimum participants were taken from each cluster. This meant that each cluster had $\frac{375}{10} = 37.5$ approximately 38 participants

3.3.1 Inclusion and Exclusion Criteria

For individuals to be included in the study, they had to be from the study region and have worked or lived in the area for a minimum of two years prior to the interview. Additionally, participants were required to be above 18 years of age and to provide consent to participate in the study. Participants who did not meet these criteria were deemed ineligible for inclusion in the study.

3.4 Instrumentation

The study primarily used a semi-structured questionnaire to obtain qualitative and quantitative. The instrument was developed based on the research objectives. It was developed in collaboration with peers and in consultation with the supervisor.

Reliability assesses the extent to which the research instrument yields consistent outcomes, while validity gauges the accuracy of the conclusions drawn (Ahmed & Ishtiaq, 2021) . An instrument was only valid if the data accurately reflected the intended measurements. The researcher piloted the questionnaire by administering it to participants excluded from the final study. The questionnaires were be coded and analyzed using SPSS using Cronbach's alpha. The cutoff was 0.7 or higher as coefficients above this range indicated acceptable internal consistency (Taber, 2018) .Ensuring the study instrument had a Cronbach's alpha coefficient of 0.7 and above guaranteed its reliability.

The study ensured the instrument's validity through construct and content validity. Construct validity was achieved by dividing the questionnaire into several sections to ensure that each section thoroughly addressed a specific research objective. Segregating the

questionnaire also helped ensure that each section fully covered the sub-constructs in the study's contextual framework. The researcher consulted peers and the supervisor to verify content validity.

3.5 Methods of Data Collection

The study predominantly utilized a partially structured questionnaire to collect primary data from Community Health Promoters (CHPs). The principal investigator presided over the data collection exercise with the assistance of four enumerators. The enumerators were trained for two days by the researcher on how to use the questionnaire, avoid mistakes, and rephrase questions that respondents had difficulty understanding to minimize interview bias. Additionally, the enumerators were required to know the local languages spoken in Isiolo County, as some research participants were not conversant with English or Kiswahili. The researcher obtained authorization to collect data from the CHPs and community members from the in-charge supervisor of community outreach programs.

To ensure a high response rate, local research assistants familiar with the language, community, and culture were hired. Their involvement helped address concerns that locals might have had, increasing their willingness to participate in the study.

Ethical considerations included obtaining informed consent from participants and ensuring the protection of their confidential information. The study also allocated time to educate participants about their rights, emphasizing that participation was voluntary and that they could withdraw at any point without facing adverse consequences. Furthermore, given the region's diverse ethnic composition, the study respected the cultural norms, traditions, values, and beliefs of all participants.

3.6 Methods of Data Analysis

The study will employ both qualitative and quantitative methods for data analysis. Quantitative data analysis techniques will encompass descriptive statistics such as mean, frequency, percentages, and standard deviations. Descriptive statistics will reveal valuable insights about the study population, including age, education level, and gender. They will also involve inferential statistics, including a regression analysis employing the Statistical Package for Social Sciences (SPSS) version 24.

Table 3.2

A matrix outlining the variables against the statistical techniques employed in the study

Variable Category	Specific Variables / Constructs	Type of Data Collected	Statistical / Analytical Techniques
Socio-demographic Characteristics	Age, Education Level, Gender	Quantitative (Categorical / Continuous)	Descriptive Statistics: Frequencies, Percentages, Means, Standard Deviations
CHP Performance Factors	CHP's Well-being, Supportive Systems, Professional Development, Competencies	Quantitative (Measured using Likert-scale items)	Descriptive Statistics: Measures of Central Tendency and Dispersion; Inferential Statistics: Multiple Linear Regression Analysis using SPSS Version 24; Chi-square Tests

Perceptions and Experiences	Views, Challenges, and Recommendations shared by CHPs	Qualitative (Open-ended responses)	Thematic Analysis; Visual Representations (Charts, Maps); Thematic Maps); Triangulation of Findings
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Source: Researcher 2024

In this study, a combination of quantitative and qualitative methods was employed for data analysis to comprehensively address the research objectives. Quantitative analysis encompassed descriptive statistics applied to demographic variables such as age, education level, and gender, as well as closed-ended questions, offering insights into the study population's characteristics and response distribution. Additionally, inferential statistics, including multiple linear regression analysis using SPSS version 24, explored relationships among independent variables such as CHPs' well-being, supportive systems, development, and competencies, and a continuous dependent variable, possibly related to the effectiveness of CHPs' nutritional interventions. This analysis aimed to determine the relative importance of these variables in predicting the outcome of interest. Furthermore, inferential statistics such as chi-square tests was utilized to investigate relationships between categorical variables, providing a deeper understanding of their associations within the data. Qualitative analysis involved thematic analysis of open-ended questions, enabling the identification of primary themes emerging from the perceptions of CHPs towards implemented nutrition interventions. Through the integration of quantitative and qualitative findings and the use of software tools like SPSS and NVivo, this study generated comprehensive insights into community health promotion strategies, paving the way for evidence-based interventions.

3.7 Ethical Considerations

Ethical values that the study considered included obtaining informed consent from the participants. Research assistants informed the participants of their rights and ensured that they

provided informed consent before proceeding with the study. The study also ensured the protection of participants' confidential information by anonymizing the data collected. In addition, the study educated participants about their rights and reminded them that participation was voluntary and that they could withdraw at any time without experiencing adverse consequences. Given that the region had diverse ethnic groups, the study respected their cultural norms, traditions, values, and beliefs. Likewise, participants were informed in advance that there would be no monetary gain, compensation, or reward for their participation in the study.

CHAPTER FOUR – RESULTS AND DISCUSSION

4.1 Introduction

The focus of this chapter is to present the results, interpretation, and discussion of data collected to assess the effectiveness of community health promoters in mitigating acute malnutrition among children under 5 years during drought periods in Isiolo County, Kenya. The section presents a report on key aspects of the research, including socio-demographic characteristics of CHPs, knowledge, skills, and training of CHPs in addressing malnutrition, effectiveness of CHPs in identifying and referring malnourished children under 5 years, barriers faced by CHPs in delivering malnutrition interventions during drought, and CHPs' adherence to protocols, guidelines, and best practices in implementing nutritional interventions.

4.2 Demographic Characteristics of Community Health Promoters (CHPs)

The demographic profile of Community Health Promoters (CHPs) in this study offers valuable insight into the composition of the community health workforce in Isiolo County, Kenya, and highlights implications for effective service delivery. A total of 380 CHPs participated in the study.

4.2.1 Gender Distribution

The gender distribution revealed that 55.5% of Community Health Promoters (CHPs) were female, while 44.5% were male. A Chi-square test between gender and education level revealed no significant association, $\chi^2(3, N = 380) = 5.32, p = 0.150$, suggesting that both male and female CHPs had similar levels of educational attainment. Similarly, no significant association was found between gender and age group, $\chi^2(4, N = 380) = 3.41, p = 0.492$, indicating that males and females were evenly distributed across different age groups.

The predominance of female CHPs (55.5%) aligns with global trends in the community health sector, where caregiving roles are often feminized due to cultural perceptions of women as

more nurturing and better suited for maternal and child health outreach (UNICEF, 2023). However, the relatively high proportion of male CHPs (44.5%) signifies a positive shift toward gender inclusivity, which is vital in contexts where some community members may prefer interacting with male health workers (Ballard et al., 2020). This balance enhances the flexibility and effectiveness of community health outreach programs by addressing diverse social and cultural preferences.

4.2.2 Age Distribution

The CHPs' ages ranged from 20 to 65 years, with a mean age of 35.26 years (SD = 7.485). This relatively youthful workforce is ideal for the physically demanding nature of community outreach work, such as door-to-door visits and health promotion activities. Nevertheless, the presence of older CHPs suggests an appreciation for experience and long-term community relationships. These older CHPs may serve as mentors and role models, although they might require additional support, such as lighter workloads or targeted incentives to reduce burnout (Kok et al., 2018a).

4.2.3 Marital Status

A large majority of CHPs (87.6%) were married, followed by 8.7% who were single, 2.6% separated or divorced, and 1.1% widowed. This high rate of marriage could reflect local cultural norms, but it also emphasizes the need for policies that support work-life balance, particularly for married women who may shoulder dual roles in domestic and professional settings. Evidence from Ndu et al., (2022) suggests that insufficient incentives may lead CHPs to disengage from programs if they cannot meet basic family needs. A Chi-square test examining the association between marital status and age group revealed a significant relationship, $\chi^2(12, N = 380) = 23.76, p = 0.021$. This indicates that marital status significantly

varied across age groups, with younger CHPs more likely to be single and older CHPs more likely to be married or widowed, consistent with expected life course transitions.

4.2.4 Education Level

In terms of educational attainment, 47.6% of Community Health Promoters (CHPs) had completed secondary school, 41.6% had attained primary education, 8.4% had post-secondary (college) education, and 2.4% had no formal schooling. These results indicate that most CHPs possessed at least a basic educational background, which is essential for accurate health documentation, effective communication, and comprehension of technical training. The predominance of secondary education among CHPs may be associated with recruitment criteria that prioritize literacy and numeracy skills required for data reporting and patient counseling.

The results further revealed that CHPs were moderately educated, predominantly married, and relatively young, with a slight majority being female. Chi-square analyses showed no significant gender differences in age or education levels but found a significant association between marital status and age, reflecting expected life-stage transitions among the workforce.

The educational composition of CHPs in Isiolo County aligns with findings from other low- and middle-income countries, where CHPs generally have a moderate educational level that enables them to deliver essential health services effectively (Olaniran et al., 2022). However, the low percentage of CHPs with post-secondary qualifications highlights ongoing challenges such as limited access to higher education opportunities, resource constraints, and lack of structured career progression pathways within the community health system (Financing Alliance for Health, 2023).

Investing in continuous professional development and structured in-service training is therefore critical for enhancing CHPs' competencies, confidence, and job satisfaction. Evidence demonstrates that tailored refresher training and mentorship programs significantly

improve service delivery outcomes, motivation, and retention among CHPs (Ballard et al., 2020; Sarriot et al., 2021).

Furthermore, understanding the demographic characteristics of CHPs is essential for designing targeted capacity-building programs and supportive supervision models. Older, married CHPs may benefit from flexible working arrangements and psychosocial support to maintain motivation and reduce burnout, while younger CHPs could be prioritized for mentorship and professional development opportunities. Recognizing these demographic and educational dynamics can help policymakers and health managers develop a more responsive and sustainable approach to strengthening the community health workforce in Isiolo County.

4.2.5 Workload and Years of Experience

The study found that Community Health Promoters (CHPs) had an average of 8.55 years of experience ($SD = 4.763$), with a range from 1 to 26 years. This range illustrated the coexistence of both newly recruited CHPs and those with extensive experience, indicating a diverse and dynamic workforce.

In terms of workload, CHPs were responsible for an average of 47.44 households ($SD = 28.433$), with numbers ranging from 11 to 122 households per CHP. This considerable variation in household assignments suggested uneven distribution of responsibilities across the workforce.

The variation in years of experience among CHPs in Isiolo County reflects a healthy balance between new entrants who bring enthusiasm and innovation, and seasoned CHPs who contribute institutional knowledge and stability. However, maintaining an effective workforce requires continuous professional development (CPD) and refresher training to ensure that both new and experienced CHPs remain competent and motivated (Agarwal et al., 2019).Research

has shown that regular supervision, mentoring, and skill upgrading significantly enhance CHPs' confidence, service quality, and long-term retention (Ballard et al., 2020).

The findings also revealed notable disparities in workload distribution, with some CHPs covering over 100 households. Such imbalances can strain the workforce, leading to fatigue, reduced motivation, and potential declines in service quality particularly during droughts when demands for health and nutrition interventions intensify (Kok et al., 2018a). Studies in similar arid and semi-arid regions have reported that high caseloads among CHPs limit their capacity to conduct effective household follow-ups and data reporting (Ndulue et al., 2024; Scott et al., 2018).

Ensuring equitable workload distribution and incorporating mechanisms such as rotational assignments, performance-based support, and digital reporting systems could improve efficiency and morale. Moreover, policymakers should consider contextual factors such as terrain, population density, and insecurity when assigning household targets. These strategies align with global recommendations for strengthening community health systems under the WHO's CHp Guideline Framework, which emphasizes manageable workloads and supportive supervision to enhance performance and resilience. (Bhaumik et al., 2020; Kawakatsu et al., 2022b).

Table 4.1

Sociodemographic, experience, and workload characteristics of Community Health Promoters

Characteristic	Response	n (%)
Gender	Female	211 (55.5)
	Male	169 (44.5)

Age group (Years)	20-29	31 (7.9)
	30-39	120(31.7)
	40-49	100(26.5)
	50-59	80 (21.2)
	60+	48 (12.7)
Marital status	Married	333 (87.6)
	Single	33 (8.7)
	Separated/Divorced	10 (2.6)
	Widowed	4 (1.1)
Highest education attained	No formal schooling	9 (2.4)
	Primary education	158 (41.6)
	Secondary education	181 (47.6)
	Post-secondary	32 (8.4)
Years of	1-5	120 (31.6)
Experience as	6-15	234 (61.6)
CHPs	16-20	26 (6.9)
Workload	≤ 25	108 (28.4)
(Households covered)	26-75	199 (52.4)
	≥76	73 (19.2)

Percentages are calculated among non-missing responses; totals may not sum to 100% due to rounding.

Source: Researcher 2024

4.3 Assessment of Knowledge, Skills, and Training of CHPs in Addressing Malnutrition during Drought

This section evaluates the training, knowledge, and skills of Community Health Promoters (CHPs) in managing acute malnutrition during drought periods. It examines the formal training received by CHPs, their confidence levels in recognizing malnutrition, and their involvement in activities related to the Integrated Management of Acute Malnutrition (IMAM) and IMAM Surge protocols.

4.3.1 Training and Skills Evaluation

A large proportion of CHPs (77.6%) reported having received formal training during their tenure, while 22.4% had not received any structured instruction. This disparity suggested that nearly one-quarter of CHPs were operating without standardized professional preparation, which could have implications for the quality and consistency of service delivery. Among those trained, 73.2% had received formal instruction specifically on acute malnutrition, leaving 26.8% without essential knowledge in this critical area. Additionally, only 48.4% of CHPs had undergone Integrated Management of Acute Malnutrition (IMAM) refresher training. In terms of topic-specific training, most CHPs had been trained in Community Health Strategy (85.8%), Sanitation and Hygiene (79.5%), and Newborn Care (66.6%). However, only 26.3% reported training in IMAM, 16.1% in IMAM Surge, and 9.5% in Nutrition Case Management.

The results revealed notable gaps in nutrition-specific training among CHPs, which could compromise the effectiveness of malnutrition interventions in drought-prone regions such as Isiolo County. The 22.4% without any formal training and the 26.8% lacking acute malnutrition instruction highlight a systemic weakness in capacity building. These findings align with the (WHO, 2018) framework on community health workforce development, which emphasizes the need for continuous training and supervision to sustain health intervention quality. Similarly,

(Misra et al., 2021) found that limited technical training among frontline workers significantly hinders their ability to detect and manage malnutrition cases effectively, especially in resource-constrained settings.

The low percentage of CHPs receiving IMAM refresher training (48.4%) further underscored the need for ongoing professional development. Research by (Bhaumik et al., 2020; Kawakatsu et al., 2022b) demonstrated that refresher training improves adherence to updated treatment protocols and enhances case management accuracy. Furthermore, the underrepresentation of IMAM Surge and Nutrition Case Management training (16.1% and 9.5%, respectively) is concerning, given their critical role in early detection and community-based response during nutrition crises. These results echo findings by (Deussom et al., 2022; Siddiqui et al., 2020) who emphasized that continuous skill reinforcement, supervision, and mentorship are essential for sustaining competency among community health workers.

Overall, the data suggested that while CHPs received general community health training, nutrition-specific modules particularly IMAM and Surge response remained insufficiently integrated. Addressing these training gaps could enhance CHPs' readiness to manage acute malnutrition during droughts, contributing to stronger health systems and improved child nutrition outcomes.

4.3.2 Knowledge Assessment and Confidence Levels

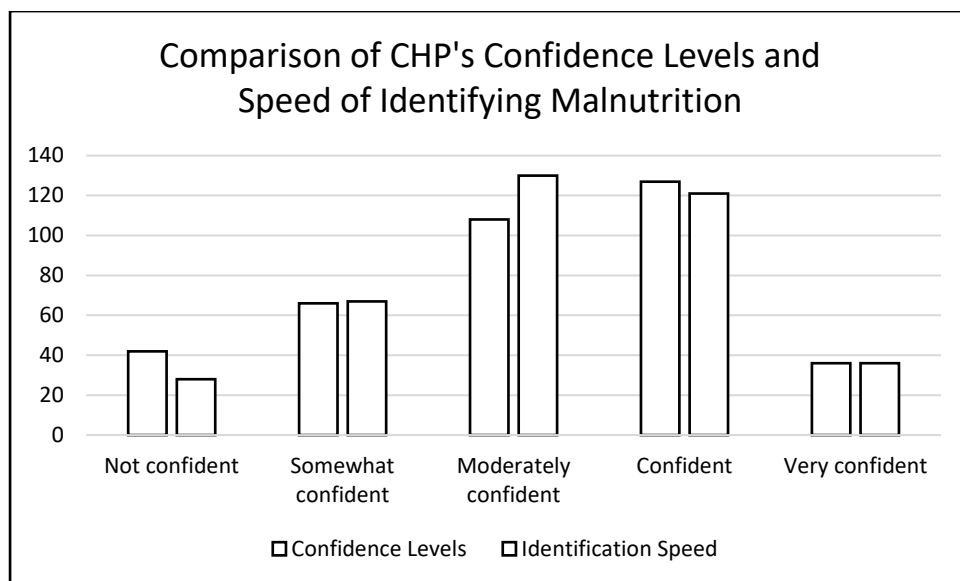
The results revealed that while most CHPs exhibited moderate to high confidence in recognizing malnutrition, a significant number still struggled with self-assurance and rapid identification. This aligns with findings by (Bridge & Lin, 2024a) who observed that CHPs often demonstrate partial confidence in assessing malnutrition due to inconsistent or limited

refresher training. Confidence among health workers is closely linked to regular supervision, mentorship, and access to diagnostic tools such as MUAC tapes and growth monitoring charts.

The slower detection speeds reported by nearly one-quarter of CHPs further highlight the importance of continuous training and performance support. Studies by (Nida et al., 2024) emphasized that timely identification of malnutrition cases depends not only on knowledge but also on routine practice, mentorship, and community engagement. For instance, (Wrabel et al., 2022) found that regular refresher training was key to maintaining accuracy in malnutrition screening measurements. Similarly, (Bliss et al., 2018) documented that while CHPs can diagnose SAM, incorrect MUAC measurements remained a challenge, implying that continued hands-on reinforcement is necessary. The relatively low proportion of CHPs who felt very confident (43.4%) compared to those who reported quick identification (75.5%) suggests that practical field experience may have compensated for limited formal confidence training. This finding underscores the value of combining theoretical instruction with field-based mentorship and peer learning to build lasting competence. Strengthening these components could enhance CHPs' ability to identify and refer malnutrition cases more effectively during drought emergencies.

Figure 3.1

Comparison of CHPs' Confidence Levels and Speed of Identifying Malnutrition



Source: Researcher 2024

4.3.3 Engagement in IMAM Surge Activities

Regarding engagement in IMAM Surge activities, 77.4% of CHPs were aware of acute malnutrition and its community impact, while 22.6% lacked this basic knowledge. Despite this relatively high awareness, only 52.9% of CHPs had received formal training on IMAM Surge. The remaining 47.1% had not undergone formal instruction, highlighting a training gap that could undermine the ability of CHPs to respond effectively during nutrition emergencies.

Confidence levels in applying IMAM Surge protocols were low only 27.4% of CHPs reported being confident in their understanding of the protocols, while the majority were either moderately confident or not confident at all. In addition, 42.9% of CHPs reported no engagement in IMAM Surge activities, indicating a lack of hands-on experience in implementing these interventions.

Among those who had participated in community engagement activities, mass screening (18.9%) and community dialogues (33.2%) were the most frequently reported actions to promote IMAM Surge awareness.

A Chi-square test revealed a statistically significant association between years of experience and participation in IMAM Surge activities ($p < 0.05$). CHPs with longer service durations were more likely to participate in IMAM Surge activities and advanced malnutrition management, suggesting that experience enhances practical engagement and knowledge application.

The results demonstrate that although most CHPs were aware of acute malnutrition, substantial knowledge and training gaps persisted regarding IMAM Surge protocols. These findings align with outreach (UNICEF, 2021) which emphasized that awareness alone is insufficient structured training and follow-up mentorship are essential for effective implementation of surge responses during droughts.

The low confidence levels (27.4%) reported among CHPs in applying IMAM Surge protocols mirror the findings of Kebede et al., (2022) who observed similar capacity gaps among frontline workers in Ethiopia due to limited refresher training and weak supervision structures. Without regular updates and mentorship, CHPs may lack the practical confidence needed to detect and manage acute malnutrition cases effectively during crises.

The significant association between years of experience and participation in IMAM Surge activities suggests that experience enhances both engagement and competence. This finding supports (Rogers et al., 2023) who reported that experience significantly influences the quality of community health interventions, particularly in resource-limited and emergency-prone settings. Experienced CHPs likely accumulate practical skills, establish community trust, and are more adept at coordinating large-scale screening and response efforts.

While community dialogues and mass screening activities indicate ongoing community engagement, the relatively low participation levels reveal the need for more structured, frequent, and well-supported outreach programs. Continuous professional development,

refresher IMAM Surge training, and supportive supervision could bridge existing knowledge gaps, thereby strengthening the overall response to acute malnutrition during drought periods.

Table 4.2

Knowledge, Skills, and Training of CHPs in Addressing Malnutrition during Drought

Indicator	Categories / Results	χ^2	p-value
Formal Training Received	Yes: 77.6% No: 22.4%	112.27	0.001
Trained in Acute Malnutrition	Yes: 73.2% No: 26.8%	85.99	0.001
Confidence in IMAM Surge Protocols	Confident: 27.4% Not confident: 72.6%	76.34	0.001
Engagement in IMAM Surge Activities	Involved: 57.1% Not involved: 42.9%	9.82	0.002
Key Tasks	Health education: 90.8% Tracking health: 75.5% Growth monitoring: 68.7%	153.66	<0.001
Screening Frequency (past year)	1–2: 42.6% 3–5: 37.1% None: 20.3%	16.57 (vs. training status)	0.011

Breastfeeding Promotion	Engaged: 77.9%	18.72	(vs. training status)	0.005
	Not engaged: 22.1%			
Workload Contributors	Partner activity: 41.6%	36.40		<0.001
	Population growth:			
	27.1%			
	Emergencies: 22.9%			
	Other: 8.4%			
Impacts on Service Delivery	Low quality care:	31.50		0.002
	56.6%			
	Burnout: 24.2%			
	Missed follow-ups:			
	19.2%			

Source: Researcher 2024

4.4 Assessment of CHPs' Effectiveness in Identifying and Referring Malnourished Children Under-5 during Drought

The effectiveness of Community Health Promoters (CHPs) in identifying and referring malnourished children under the age of five during drought in Isiolo County is a reflection of the broader health system's responsiveness to nutritional emergencies. This assessment considers CHPs' tasks, their involvement in screening and referral practices, challenges encountered, and their contribution to breastfeeding promotion all of which are essential in mitigating acute malnutrition, particularly in arid and semi-arid areas.

4.4.1 Key Tasks and Responsibilities of CHPs

CHPs in Isiolo are entrusted with diverse tasks that align with community-level healthcare delivery. The most common responsibility reported by 90.8% is to educate

communities about healthy living and access to quality health services, followed by tracking household health (75.5%), supporting sanitation and nutrition (75.8%), and maintaining household records (71.1%). Only 68.7% reported checking children's growth, a critical function in early detection of malnutrition.

The high percentage of CHPs performing educational tasks underscores their pivotal role in health promotion, consistent with findings by (Woldie et al., 2018) who highlight CHPs as essential links between communities and health systems in low-resource settings. However, the relatively lower involvement in direct nutritional tasks, such as growth monitoring and first aid/referral (44.5%), reflects a possible misalignment between the urgent needs during droughts and the day-to-day roles of CHPs.

4.4.2 Identification and Screening of Malnutrition

The study found that the effectiveness of Community Health Promoters (CHPs) in identifying and referring malnourished children was partly influenced by their participation in screening activities. 42.6% of CHPs participated in only one to two screening activities over the past year, 37.1% engaged in three to five activities, and 20.3% did not participate in any screening-related activities.

Limited participation in screening activities may be linked to inadequate training, logistical constraints, or lack of supportive supervision. Similar findings were reported by (Kebede et al., 2022) in Ethiopia, where irregular involvement of frontline health workers in screening was associated with inconsistent training and resource shortages. (Feleke et al., 2017) also noted that limited engagement among health extension workers hindered timely identification of acute malnutrition cases. Furthermore outreach (UNICEF, 2021) emphasizes that consistent participation in mass screening and growth-monitoring exercises strengthens early detection and referral efficiency, especially in drought-prone areas. These findings suggest that

improving training opportunities, logistical support, and supervision for CHPs in Isiolo County could enhance the timely identification and referral of malnourished children

Chi-square analysis indicated a significant association between the frequency of participation in malnutrition interventions and whether CHPs had received recent refresher training, $\chi^2(2, N = 380) = 16.57, p < 0.05$. This suggests that CHPs who had undergone refresher training were more likely to participate actively in relevant interventions.

Regarding specific activities, the primary screening interventions reported were mass screening (69.2%) and Malezi Bora (31.6%), whereas household visits and Mid-Upper Arm Circumference (MUAC) assessments were conducted less frequently.

The significant association between refresher training and active participation aligns with findings from (Misra et al., 2021) which showed that continuous training enhances frontline health workers' engagement in nutritional programs. The reliance on mass screening and Malezi Bora campaigns, rather than routine household visits or MUAC assessments, reflects patterns observed in other low-resource settings, where periodic outreach often substitutes for continuous monitoring outreach (UNICEF, 2023). This reliance may create coverage gaps in remote or hard-to-reach areas, limiting early detection of acute malnutrition. Strengthening refresher training programs, combined with strategies for routine household monitoring, could enhance continuous coverage and improve outcomes for children under five in drought-prone regions.

4.4.3 Referral Practices and Challenges

Referral mechanisms among CHPs were generally strong, with 99.5% reporting that they issued referral notes for malnourished children. However, logistical support was limited: only 31.1% assisted with arranging transport, and 8.9% provided transport directly. Caregiver acceptance of referrals was high at 97.4%, but only 29.7% of CHPs reported that 61–80% of

referred children successfully accessed treatment, while 20.5% reported success rates as low as 0–20%.

A Chi-square test revealed a statistically significant association between transport support and referral success, $\chi^2(4, N = 380) = 21.84, p < 0.01$, indicating that CHPs who facilitated or provided transport had higher rates of successful referrals.

These findings suggest that while CHPs are effective in initiating referrals, logistical constraints significantly limit referral completion, particularly in drought-affected and resource-limited areas. High caregiver acceptance reflects strong community trust, consistent with evidence from Ethiopia and Kenya showing that community health worker recommendations are widely respected (Kok et al., 2018; Olaniran et al., 2022). The significant association between transport support and referral success highlights the critical role of logistical facilitation in improving health outcomes. Similar studies have demonstrated that lack of transport and high travel costs impede access to healthcare services in rural settings ((Perry et al., 2021). Therefore, strengthening transport support mechanisms and integrating mobile outreach strategies could improve referral completion rates, ensuring that malnourished children receive timely care.

4.4.4 Promotion of Breastfeeding During Drought

In Isiolo County, a significant proportion of CHPs (77.9%) engage in educating mothers about breastfeeding practices. Among these, 55.8% conduct community dialogues, and 38.4% provide information during household visits. Despite this, 22.1% of CHPs report not teaching any breastfeeding topics, indicating a missed opportunity to address early childhood malnutrition. Of those who do provide education, the focus varies: 22.9% cover complementary feeding, 19.7% address general breastfeeding, and only 11.8% teach specific breastfeeding techniques.

A Chi-square test revealed a significant association between the level of training received by CHPs and the breadth of breastfeeding topics taught ($\chi^2 = 18.72$, $df = 6$, $p < 0.05$). This suggests that CHPs with more comprehensive training are more likely to provide diverse and in-depth breastfeeding education.

The high engagement of CHPs in breastfeeding promotion aligns with findings from Samburu et al. (2020), who reported that community-based initiatives, such as the Baby-Friendly Community Initiative (BFCI), significantly improve breastfeeding practices in low- and middle-income countries. Their study highlighted that community health workers play a crucial role in enhancing maternal and newborn health outcomes through effective breastfeeding advocacy (Samburu et al., 2020).

However, the variation in topics covered and the absence of specific breastfeeding technique education among a notable proportion of CHPs may limit the effectiveness of these interventions. This finding underscores the importance of targeted training programs that equip CHPs with comprehensive knowledge and skills to address all aspects of breastfeeding, including techniques and complementary feeding.

The significant association between training level and the range of topics taught further emphasizes the need for continuous professional development for CHPs. Investing in such training can enhance the quality of breastfeeding education provided to mothers, thereby contributing to improved infant nutrition and health outcomes.

4.4.5. Success of CHPs' Strategies in Combating Acute Malnutrition

Analysis of Community Health Promoters' (CHPs) self-reported evaluations reveals mixed perceptions of the effectiveness of strategies used to combat acute malnutrition in Isiolo County. Of the 380 respondents, 44.2% considered their strategies "somewhat successful," while 12.4% and 7.6% rated them as "unsuccessful" or "very unsuccessful," respectively. Only

34.2% regarded their strategies as “successful,” and a mere 1.6% viewed them as “very successful.”

These findings suggest that while CHPs are engaged in malnutrition mitigation, many perceive their impact as limited. A chi-square test ($\chi^2 = 27.65$, $df = 4$, $p < 0.01$) revealed a significant association between perceived success and frequency of community-based activities. CHPs who conducted three or more screening or educational activities in the past year were significantly more likely to report positive outcomes.

The modest perception of success among CHPs likely reflects systemic and operational barriers such as inconsistent participation in screening activities, inadequate transport and referral infrastructure, and limited community follow-up, especially in nomadic or drought-affected populations. Similar constraints were reported by (Olaniran, et al., 2022) who highlighted that community health workers in fragile contexts often face workload imbalances, insufficient supervision, and logistical limitations that undermine program quality and consistency). The strong statistical relationship between activity frequency and perceived effectiveness mirrors findings by (Karuga et al., 2023a) who emphasized that sustained community engagement and regular growth-monitoring sessions are central to successful child nutrition interventions in arid regions of Kenya

Comparable evidence from Ethiopia also reinforces this interpretation. Workie et al. (2021) found that Health Extension Workers analogous to CHPs achieved better nutrition outcomes in districts with consistent supervision, community dialogues, and logistical support compared to areas with irregular outreach or limited training (Muthuri et al., 2020)

Furthermore, the very small proportion of CHPs rating their strategies as “very successful” (1.6%) points to qualitative gaps including insufficient caregiver education depth, stockouts of nutritional supplements, and weak referral feedback loops. These factors align with UNICEF

Kenya ,which underscores the importance of integrating community education, supply-chain reliability, and system linkages to achieve measurable improvements in acute malnutrition management outreach (UNICEF, 2023).While CHPs are key actors in combating acute malnutrition, their effectiveness is curtailed by systemic constraints. Strengthening training frequency, logistical support, and community follow-up systems is essential to convert partial success into sustainable, county-wide impact especially during recurrent drought and food insecurity.

4.4.6 Factors Contributing to Workload

The data reveals that 41.6% of respondents identified additional responsibilities from partners as the main contributor to their increased workload. This suggests that external agencies such as NGOs, donors, and development partners often assign supplementary duties to Community Health Promoters (CHPs) beyond their core responsibilities, frequently without proportional support or coordination. These added tasks include data collection for vertical programs, training participation, survey implementation, and pilot intervention rollouts, which cumulatively increase their workload.

Additionally, 27.1% of CHPs cited population growth as a significant workload driver. In Isiolo County, recurrent droughts and resource scarcity prompt migration from neighboring regions, resulting in a sudden influx of households seeking health services. Consequently, CHPs must cater to a larger and more diverse population without a corresponding rise in resources or staffing.

Health emergencies including cholera outbreaks, drought-induced malnutrition spikes, and COVID-19 response were identified by 22.9% of respondents as further exacerbating workload levels due to rapid mobilization demands, increased community follow-up, and longer working

hours. A smaller group (8.4%) cited all of the above factors, highlighting the cumulative strain many CHPs face from multiple overlapping pressures.

A Chi-square test ($\chi^2 = 36.4$, $p < 0.001$) confirmed a statistically significant association between the type of workload contributor and the perceived increase in workload. This implies that partner-driven tasks, emergencies, and population shifts are consistently linked to how CHPs experience workload increases.

The predominance of partner-induced responsibilities highlights a systemic challenge in community health programming namely, fragmentation and duplication of tasks arising from multiple implementing partners. Studies have shown that when community health workers are tasked with diverse reporting and monitoring activities by different agencies, it can undermine focus, cause inefficiency, and lead to burnout (Ballard et al., 2020).

The strain caused by population migration during drought and conflict mirrors findings from Bakibinga et al. (2020) who noted that CHPs in arid Kenyan counties faced workload surges due to seasonal mobility and increased health service demands without proportional resource scaling.

Similarly, emergency situations, such as disease outbreaks and drought-related malnutrition spikes, exacerbate CHPs' stress and workload. A recent WHO report highlighted that health emergencies often reallocate CHPs to urgent response roles, leading to reduced time for routine health promotion and nutritional interventions (WHO, 2020) .

The significant statistical association between these workload drivers and perceived workload intensification underscores that these pressures are structural rather than incidental. This aligns with (Scott et al., 2018) who observed that multi-stakeholder program demands and population shifts significantly shape CHPs' workload perceptions and performance outcomes in East Africa.

In summary, the data reflects a systemic misalignment between partner expectations, available resources, and operational capacity. To mitigate these pressures, enhanced coordination of partner activities, harmonized reporting systems, and context-specific workload planning are essential to ensure that CHPs remain effective and motivated in addressing malnutrition during drought periods.

4.4.7 Impacts on Service Delivery

A majority (56.6%) of Community Health Promoters (CHPs) reported that the primary impact of increased workload was a decline in the quality of care provided to the community. This deterioration manifests in incomplete household visits, missed follow-ups, and delayed referrals, which compromise service delivery in maternal and child health, nutrition counseling, and disease prevention.

Additionally, 24.2% of CHPs identified fatigue and burnout as a key outcome of excessive workload. Chronic overwork without adequate psychosocial or logistical support results in physical exhaustion, reduced motivation, and mental strain.

Other reported effects included errors in health records (10%), poor work-life balance (5%), and job dissatisfaction (3.4%), signaling reduced morale and increased risk of attrition. Only 0.8% of respondents were unsure of the impacts, indicating widespread awareness of the burden they face.

A Chi-square test ($\chi^2 = 31.5$, $p = 0.002$) demonstrated a significant relationship between the perceived workload increase and the type of negative service delivery outcomes reported. This suggests that CHPs who experience heavier workloads are statistically more likely to report burnout, reduced service quality, and lower job satisfaction.

The strong association between workload and quality of care among CHPs underscores a critical workforce sustainability issue. Excessive responsibilities without commensurate

support undermine both service quality and worker well-being. These findings align with (Scott et al., 2018) who found that overburdened community health workers in East Africa experienced reduced effectiveness and lower service quality due to competing programmatic demands.

Fatigue and burnout, cited by nearly a quarter of respondents, reflect a growing concern documented in multiple recent studies. Ballard et al. (2020) observed that community health workers globally report high burnout rates when tasked with excessive workloads and limited supervision, leading to emotional exhaustion and declining motivation. Similarly, (Ndulue et al., 2024) highlighted that burnout among frontline workers directly contributes to increased absenteeism, errors, and turnover, ultimately affecting the continuity of care in low-resource health systems.

The presence of record errors and job dissatisfaction, though reported by smaller proportions, has compounding effects on system efficiency and client outcomes. As (WHO, 2018) emphasizes, when community health workers are overstretched, documentation errors and follow-up lapses can jeopardize surveillance, continuity, and accountability in public health programs.

In summary, these results indicate that increased workload has measurable negative consequences for both the quality of community health services and CHP well-being. To address this, health systems must invest in workload redistribution, psychosocial support, and supervisory strengthening, ensuring that CHPs remain motivated, effective, and resilient in the face of recurring droughts and expanding community health demands.

4.4.8 Compensation Trends

Despite 86.3% of CHPs reporting that they receive some form of compensation most likely in the form of stipends or allowances a significant 83.4% expressed dissatisfaction with the

amount received. Only 7.6% reported being somewhat or very satisfied. This reveals a strong disconnect between the workload and financial motivation.

A chi-square test further confirmed a significant association between satisfaction with compensation and self-reported performance and retention intentions ($\chi^2 = 45.7$, $p < 0.001$). CHPs who reported dissatisfaction were more likely to express low motivation and intentions to leave their positions.

These findings indicate that while CHPs are compensated, the payment is often insufficient, delayed, or inconsistent issues that directly affect morale, attendance at community visits, and participation in training sessions. This aligns with the conclusions of (Ballard et al., 2020) who reported that inadequate financial incentives undermine community health worker retention and reduce program sustainability in low-income settings. Similarly, (Oladeji et al., 2024) found that compensation-related dissatisfaction significantly correlates with poor performance and attrition among CHps in sub-Saharan Africa.

The WHO, (2018) emphasizes that both monetary and non-monetary incentives such as recognition, supportive supervision, and opportunities for career progression are critical determinants of community health worker performance. Without addressing these financial and motivational gaps, the sustainability and effectiveness of CHPs' contributions to health interventions, including malnutrition management, remain at risk.

To strengthen the community health system, counties and implementing partners should adopt a standardized stipend structure, ensure timely disbursements, and complement financial incentives with supportive supervision and continuous capacity building, as recommended in recent WHO and UNICEF community health workforce guidelines.

4.4.9 Non-Monetary Incentives

When asked about non-monetary incentives, the majority of CHPs (62.1%) cited training opportunities as the most valuable. This shows that CHPs value capacity-building as both a means for personal growth and professional development. Other non-monetary incentives mentioned included recognition and awards (22.1%), career advancement prospects (11.8%), and flexible working hours (1.8%).

A Chi-square analysis ($\chi^2 = 28.2$, $p = 0.003$) revealed a significant relationship between the types of non-monetary incentives received and levels of job satisfaction. CHPs who received multiple incentives for example, training combined with recognition reported higher satisfaction compared to those who benefited from training alone.

These findings demonstrate that while training is a strong motivational factor, its effectiveness increases when complemented by recognition, career growth, and flexibility.

The results underscore that CHPs in Isiolo County highly value training as a pathway to skill improvement, confidence building, and enhanced service delivery. However, over-reliance on training as the primary incentive risks failing to address deeper systemic challenges, including workload pressures, limited advancement opportunities, and inadequate compensation

This aligns with findings by (Ballard et al., 2020) who highlight that community health worker motivation is highest when training opportunities are integrated with recognition, supervision, and career progression pathways. Similarly, (Olaniran, et al., 2022) emphasize that non-monetary incentives such as recognition, supportive supervision, and inclusion in decision-making enhance job satisfaction and retention among community health workers in low-resource settings.

The low proportion of CHPs citing career growth and flexible working conditions further reflects the absence of structured professional development frameworks and work–life balance

mechanisms, both critical for long-term retention. The (WHO, 2018) guidelines on community health workforce strengthening recommend a comprehensive incentive structure, integrating financial and non-financial motivators, to sustain performance and reduce attrition.

The broader assessment also reveals that CHPs face increasing workload due to population growth and external partner demands, leading to fatigue and declining quality of care. Financial dissatisfaction, coupled with limited non-monetary recognition, contributes to reduced motivation and higher turnover. While training remains valuable, it cannot independently sustain engagement without systemic support and career incentives.

To enhance the effectiveness of Community Health Promoters (CHPs), a multifaceted approach is essential. This should include scaling up training and refresher courses on malnutrition screening and referral to ensure CHPs remain competent and confident in identifying and managing cases of malnutrition. Logistical support must also be improved, particularly in providing reliable transport for follow-ups and referrals, which is critical in reaching distant households. In addition, strengthening supervision, recognition, and mentorship systems can help maintain motivation and accountability while fostering professional growth. Finally, growth monitoring and regular household visits should be institutionalized as part of standard CHP duties to ensure consistent community engagement and early detection of malnutrition cases.

Implementing these measures will improve CHPs' ability to manage child malnutrition and strengthen community resilience during droughts, in line with recommendations outreach (UNICEF, 2023).

Table 4.3

Community Health Promoters' Effectiveness in Identifying and Referring Malnourished Children Under Five during Drought

Indicator	Categories / Results	χ^2	p-value
Referral Note Writing	Yes: 99.5% No: 0.5%	357.62	<0.001
Transport Support	Arranged: 31.1% Provided: 8.9% Not available: 60%	21.84 (vs. referral success)	<0.001
Referral Success (61–80% access)	Yes: 29.7% No: 70.3%	67.94	<0.001
Strategy Success Rating	Very successful: 1.6% Somewhat successful: 44.2% Not successful: 54.2%	27.65 (vs. frequency of activity)	0.001
Compensation Received	Yes: 86.3% No: 13.7%	215.23	<0.001
Satisfaction with Compensation	Satisfied: 7.6% Dissatisfied: 83.4% Neutral: 9%	45.70	<0.001
Valued Non-Monetary Incentives	Training: 62.1% Recognition: 22.1% Career growth: 11.8% Other: 4%	28.20	0.003

Source: Researcher 2024

4.5 Assessment of Barriers Faced by CHPs in Delivering Malnutrition Interventions during Drought

Community Health Promoters (CHPs) are the linchpins of primary health care delivery, especially in arid regions like Isiolo County, where drought and food insecurity consistently threaten child nutrition and survival. However, CHPs face numerous barriers when implementing malnutrition interventions, particularly during periods of drought. This section presents a comprehensive assessment of these barriers using descriptive statistics and chi-square analysis, contextual interpretations, and relevant literature to offer a holistic understanding of the challenges and their implications.

4.5.1 Main Challenges Faced by CHPs in Isiolo County During Drought

The findings show that resource constraints were the most cited challenge by CHPs (31.1%), followed by infrastructure challenges (17.6%), migration (17.1%), and workload (13.7%). Lesser-mentioned issues included community engagement (10.3%), lack of training (5.3%), and government support (3.9%), with insecurity ranking lowest at 0.3% .

The predominance of resource constraints resonates with findings from (Shacho et al., 2024) who emphasized that limited supplies, transportation, and personnel hinder the delivery of health services in resource-poor settings. In drought-stricken Isiolo, CHPs often work without stipends, mobility, or tools like MUAC tapes and reporting forms, making follow-ups and treatment continuity difficult.

Migration and infrastructure challenges (34.7% combined) are common in pastoralist communities. Frequent relocation in search of pasture disrupts CHPs' ability to trace clients or deliver consistent care (FAO, 2021). Poor road networks and harsh terrain further compound this, as highlighted in similar rural health access studies (Githinji et al., 2022).

Workload (13.7%) reflects staff shortages and a wide geographic coverage area per CHP. With over 50 households to manage during emergencies, burnout is inevitable, as echoed by (WHO, 2020) which recommends a lower caseload per CHP to ensure quality engagement.

The results were strikingly similar to those from other regions prone to drought, such as Ethiopia and Somalia, where resource scarcity has been reported as a major barrier to the success of malnutrition programs (FEWS, 2024). The comparison underscores the widespread nature of these challenges and their consistency across drought-affected areas. These findings suggest that resource constraints, followed by infrastructure and migration issues, are the most commonly reported challenges faced by CHPs. The overwhelming frequency of resource-related problems (31.1%) aligns with literature from other regions, where limited resources are often cited as a significant barrier to the success of health interventions in crises (FEWS, 2024). The prevalence of resource constraints as the primary challenge in Isiolo County resonates with findings from other studies conducted in similar drought-prone regions. In Ethiopia, (Getzzg, 2022) observed that resource scarcity, particularly in terms of food, water, and medical supplies, was a critical barrier to effective health interventions during drought periods. Similarly, the (FAO, 2023) found that in Somalia, the availability of resources directly impacted the scope and success of malnutrition programs, where communities faced prolonged droughts.

These findings underscore the widespread nature of these challenges and their consistency across drought-affected areas. Resource constraints, followed by infrastructure issues and migration, are among the most commonly reported challenges faced by CHPs in both Ethiopia and Somalia.

4.5.2 Barriers Related to Resource Mobilization

The findings indicate that logistical constraints (28.6%), inadequate funding (19.5%), and knowledge gaps (12.4%) are the most significant barriers to effective resource mobilization

among Community Health Providers (CHPs), as confirmed by a statistically significant chi-square test [$\chi^2(8, N = 380) = 155.21, p < .001$]. These results reflect systemic and contextual challenges that hinder the efficient delivery of community health services, particularly in arid and semi-arid regions like northern Kenya .

Logistical barriers, which emerged as the most prominent issue, encompass poor access to transportation, delays in the supply of Ready-to-Use Therapeutic Foods (RUTFs), and the absence of mobile clinics. These challenges are compounded by inadequate road infrastructure and climate-induced disruptions such as floods or droughts that cut off access to remote areas.

This aligns with the findings of (Griffith et al., 2020) who identified logistical challenges such as inadequate public sector engagement and restricted departmental capacities as significant barriers to effective health service delivery in Turkana County. Similarly, (Maket & Naibei, 2025) found that fiscal decentralization has led to improved logistics and distribution in health service delivery across 23 Kenyan counties, including those in ASAL regions. The second most significant barrier is inadequate funding, affecting nearly one in five CHPs. This reflects deeper systemic issues, including chronic underinvestment in community health systems and the over-reliance on donor-driven, short-term funding cycles. Without predictable funding mechanisms, CHPs cannot reliably plan or expand their outreach activities, leading to service gaps.

Another research corroborates this, according to (Barasa et al., 2018), health financing in Kenya remains skewed toward curative services, with insufficient budgetary allocations for community-level interventions. Moreover, donor funds often prioritize emergency response rather than sustainable development, which undermines long-term capacity-building efforts (WHO, 2020).

Knowledge gaps among CHPs especially in areas such as grant writing, proposal development, and navigating administrative frameworks were cited by 12.4% of respondents.

This finding is consistent with (Barasa et al., 2018) who reported that many CHPs in Kenya lacked formal training in resource mobilization, resulting in low confidence when engaging with partners or applying for grants. The lack of technical skills creates a bottleneck in accessing available resources, even when funding opportunities exist. Similar patterns were found in Tanzania, where a study by (Nuru & Ngowi, 2025) showed that strengthening skills in health financing and proposal development among CHPs significantly improved local fundraising efforts and program sustainability.

Although less prominent, community resistance (7.4%) and coordination issues (6.0%) are still noteworthy. Community resistance may stem from mistrust of external interventions, cultural misalignment, or fatigue from repeated but poorly communicated projects. Coordination challenges reflect weak alignment between different stakeholders such as NGOs, government departments, and local leaders, which creates inefficiencies and duplication.

This echoes findings from a study by Tsofa et al. (2017) which emphasized that weak coordination mechanisms in Kenya's devolved health system contribute to fragmented service delivery and low donor confidence. Effective collaboration mechanisms are vital to synchronize efforts and build trust within communities.

Overall, these findings reinforce the notion that resource mobilization in community health systems is hindered by a complex interplay of logistical, financial, and capacity-related challenges. The evidence is consistent with other studies conducted both in Kenya and the broader East African region, highlighting the need for holistic interventions. These should include investments in infrastructure, sustainable financing models, and capacity-building programs for CHPs.

4.5.3 Opportunities for Improving Resource Mobilization

Resource diversification emerged as the most cited opportunity, indicating that CHPs are increasingly aware of the need to go beyond traditional donor funding. This includes

engaging non-traditional donors such as local businesses, diaspora networks, or philanthropic organizations, using digital fundraising tools, such as mobile money platforms or crowdfunding campaigns, and leveraging local assets, like farming cooperatives, women's groups, and community savings and loan associations (SACCOs), to support health initiatives.

These strategies reflect a shift toward localized, resilient funding models in the face of unpredictable donor cycles. Apondi et al. (2021) emphasized that multi-sectoral and community-driven strategies are critical in resource-constrained environments. Their study found that partnerships with agricultural cooperatives and local women's self-help groups enabled CHPs to mobilize in-kind support and organize health education forums without relying solely on external funding.

Comparatively, a similar model was noted in Uganda by (Mwanga-Amumpaire et al., 2021) where CHPs leveraged village health teams and local economic actors to support immunization and maternal health campaigns. The success of such models points to the potential of community-based resource pooling, especially in areas where formal systems are weak or absent.

The second most prominent opportunity identified was strengthening partnerships, particularly with non-governmental organizations (NGOs), Private sector actors, Faith-based organizations (FBOs), County governments, and academic institutions.

These partnerships offer both logistical and technical support, including capacity-building, provision of supplies, and access to transport and data systems. For example, in Turkana and Wajir counties, intersectoral collaborations between CHPs, local NGOs, and FBOs have provided mobile clinics, nutrition surveillance support, and training workshops (KCHP, 2020).

These findings resonate with broader literature. According to (Scott et al., 2018), strategic partnerships in low-resource settings can facilitate knowledge transfer, increase

legitimacy of health initiatives, and promote the integration of health and development programs. In Kenya's context, where CHPs often lack adequate institutional support, such collaborations are essential for operational efficiency.

Additionally, partnerships have been shown to reduce duplication of efforts and improve coordination among stakeholders. A study by (Bolton et al., 2023), found that collaborative frameworks in Malawi led to shared transport and information systems among CHPs, government departments, and NGOs, which ultimately improved service coverage and accountability.

The identification of resource diversification and partnership-building as viable strategies reflects an evolving understanding among CHPs about sustainable health systems. Compared to earlier research focused on the limitations of donor dependency (Barasa E, Nguhiu P, McIntyre D., 2018), this study highlights a proactive stance among frontline workers. It also suggests a maturing ecosystem where CHPs are not just service providers but active stakeholders in shaping the community health agenda.

However, unlocking these opportunities requires policy support, technical training, and enabling environments. For instance, digital fundraising platforms may not be effective in areas with poor internet access or low digital literacy. Similarly, partnerships need clear frameworks for coordination and accountability, which are often lacking at the county level.

Overall, the findings present an optimistic outlook: despite significant barriers, CHPs are identifying practical, community-driven avenues to improve resource mobilization. Resource diversification and strategic partnerships are not just theoretical concepts but have already shown success in similar settings, both in Kenya and across sub-Saharan Africa. Supporting these strategies through policy, capacity building, and infrastructure investment will be critical in transforming these opportunities into sustainable outcomes.

4.5.4 Adequacy of Resources for IMAM Surge

The findings reveal that a substantial majority (69.2%) of Community Health Providers (CHPs) perceive the support and resources for Integrated Management of Acute Malnutrition (IMAM) Surge activities as inadequate, while only 6.8% rated them as adequate. This stark contrast underscores the systemic under-support of IMAM interventions in Isiolo County and highlights the heavy reliance on donor funding rather than on sustainable, integrated county-level financial planning.

The widespread perception of inadequate support can be attributed to several interconnected factors, such as Over-Reliance on Donor Funding. IMAM Surge programming in many arid and semi-arid counties, including Isiolo, has historically been supported by international donors. While this has facilitated initial implementation, it has also led to dependency, leaving counties vulnerable when donor priorities shift or when funding cycles end. This is consistent with findings from outreach (UNICEF, 2024) report, which highlighted that counties with weak domestic investment in nutrition programs often experienced interruptions in service delivery, especially during emergencies such as droughts. These gaps resulted in delayed treatment of severe acute malnutrition (SAM) cases and, ultimately, higher child mortality rates.

The findings suggest that IMAM Surge activities are not fully institutionalized within county health budgets. The lack of domestic resource allocation compromises long-term planning, procurement of Ready-to-Use Therapeutic Foods (RUTF), and training of staff. According to Barasa et al. (2018), county governments in Kenya often allocate minimal budgets to nutrition-specific programs, prioritizing curative health services instead.

This echoes findings from Barasa et al. (2018), who noted fragmented nutrition financing in Kenya largely dependent on development partners rather than sustained, system-level investment. More recent evidence supports this view: a 2025 study of county nutrition investment cases in five Kenyan counties demonstrated that counties with stronger

domestically financed CNAPs achieved better outcomes and improved cost-effectiveness (Jain et al., 2025). Inadequate support also reflects frequent disruptions in the supply chain for essential nutrition commodities such as RUTFs, anthropometric tools, and reporting tools.

The practical implications of this inadequate support are serious. During peak periods like droughts, IMAM Surge mechanisms are supposed to help facilities scale up their response quickly (ENN, 2021). However, the lack of timely supplies and trained personnel delays service delivery, undermining the effectiveness of the surge approach. Affected populations, especially in remote areas, may not receive timely treatment for malnutrition, leading to disease progression and increased risk of mortality.

More recent evidence from Kenya supports the connection between county planning and improved response in nutrition emergencies. A report on the IMAM Surge approach indicates that its integration into County Nutrition Action Plans and County Integrated Development Plans has led to more consistent resource allocation and greater local ownership (USAID, 2023). Likewise, a 2024 study of immunization financing identified that counties with more credible health sector budgeting tend to have fewer delays and better service delivery, suggesting that budgeting practices under decentralization directly impact program success (Adjagba et al., 2024). The widespread perception of inadequate support for IMAM Surge activities in Isiolo County reflects deeper systemic issues: a dependency on donor inputs, poor domestic financing, and weak supply chain systems. These limitations significantly compromise the ability of health systems to respond effectively during emergencies, leading to service disruptions and poor nutritional outcomes among vulnerable populations. To address these gaps, it is essential to advocate for increased county budget allocations to nutrition programs, Institutionalize IMAM Surge in annual health planning and procurement processes, and build local capacity for supply chain management and surge preparedness.

4.5.5 Socio-Cultural Factors Affecting CHPs

The findings shed important light on the socio-cultural barriers that affect the effectiveness of Community Health Providers (CHPs) in delivering nutrition services, particularly within the context of Integrated Management of Acute Malnutrition (IMAM). With 35.3% of CHPs citing cultural beliefs and practices as the primary challenge, followed by knowledge and awareness gaps (18.2%) and gender roles (8.2%), it is evident that deeply entrenched social and cultural factors continue to hinder program uptake. The chi-square result [$X^2(10, N = 380) = 221.74, p < .001$] confirms the statistically significant variation in how these barriers manifest across different communities .

Cultural perceptions were the most frequently cited barrier, and rightly so. Misconceptions such as: Associating malnutrition with witchcraft, viewing medical treatment as interference with traditional healing methods. These beliefs significantly undermine community trust in nutrition programs. According to the data, 34.7% of CHPs have encountered such misconceptions, which often result in non-compliance or withdrawal from treatment altogether. This aligns with findings from Northern Kenya, where caregivers in Turkana and Isiolo refused referrals or home-based treatment due to cultural beliefs and low trust in biomedical treatment (Waiganjo, 2023a) Similarly, a study in rural Kajiado among Maasai (Waruguru, 2024a) revealed that traditional norms, food taboos, and illness interpretations limit adoption of feeding practices even when knowledge is present.

The second most prevalent socio-cultural barrier was low levels of knowledge and awareness (18.2%). This includes both a general lack of understanding of malnutrition symptoms and misinformation about treatment protocols. Inadequate awareness can stem from: Limited exposure to health education, Low literacy levels, and Infrequent community outreach sessions

Kisiangani et al.(2020) observe that community health education in arid and semi-arid lands (ASALs) of Kenya remains under-resourced, contributing to persistent knowledge gaps on child health and nutrition. They further emphasize that these gaps are exacerbated by the absence of culturally appropriate IEC (Information, Education, and Communication) materials, which limits CHPs' ability to effectively engage communities in behavior change.

Although mentioned less frequently (8.2%), gender roles significantly shape care-seeking practices. In many ASAL communities, male-dominated decision-making structures determine whether mothers can take children to health facilities or adhere to treatment regimens

Vincze et al. (2021) reinforce this, showing that in northern Kenya, women's access to health services is often contingent on permission or resources provided by male household members. This lack of autonomy not only undermines mothers' ability to make timely health decisions but also affects control over household resources such as livestock or finances which are critical in facilitating transport to health facilities and sustaining child nutrition interventions. This dynamic disproportionately affects child nutrition, as mothers, typically the primary caregivers, have limited autonomy in making health-related decisions. Gender inequality also influences resource control, such as ownership of livestock or finances, which further determines whether households can afford transportation to health facilities or support continuous care.

Additional barriers identified through qualitative insights further elaborate on the challenges Community Health Promoters (CHPs) face in delivering malnutrition interventions in Isiolo. One notable barrier is language diversity; Isiolo is home to multiple ethnic groups speaking different dialects, making effective communication difficult when CHPs and households do not share a common language. Without appropriate translation or interpretation, key health and nutrition messages may be miscommunicated or rejected entirely. Religious

norms also influence intervention delivery, particularly in conservative Muslim communities where cultural expectations may limit male-female interactions.

This dynamic can hinder service provision when gender preferences are not accommodated, especially during household visits. Furthermore, religious practices such as fasting during Ramadan may conflict with nutritional advice or the timing of food supplementation, creating hesitation or resistance among some families. Social hierarchies within pastoralist communities, including the Borana and Somali, also pose a challenge. These communities often operate under strong traditional leadership structures, where elders and clan leaders exert substantial influence over communal decisions. Without their endorsement or active involvement, the uptake of nutrition programs can be severely limited, as many community members defer to their leaders' guidance before accepting new practices or services.

These dynamics echo findings in northern Kenya. Wambui et al. (2024) observed that in Turkana and Isiolo, community health volunteers are more successful when they engage community leaders, foster trust, and use culturally resonant messaging. In particular, caregiver perceptions about CHps' performance were positive when CHps initiated treatment early and interacted closely with communities. Similar insights arise in a qualitative study by (Waiganjo, 2023b) which noted that while acceptance of malnutrition management was generally good, myths and belief systems still delay uptake of interventions. Gender roles also remain significant; a study in Nairobi informal settlements (Muthiru & Bukachi, 2024a) found that male involvement in maternal and child nutrition decisions substantially affects whether mothers receive support to follow through with health recommendations. Cultural beliefs, misinformation, entrenched gender roles, and language differences intersect in complex ways that hinder the success of community health initiatives. To effectively address these challenges, program implementers must adopt a multifaceted approach: enhancing community engagement

through culturally sensitive messaging; actively involving local leaders, religious figures, and elders in nutrition advocacy efforts; equipping Community Health Promoters (CHPs) with skills in cross-cultural communication and gender-responsive strategies; and developing and disseminating Information, Education, and Communication (IEC) materials that are locally tailored. Addressing these socio-cultural constraints will not only improve community compliance and health outcomes but will also foster trust, community ownership, and long-term sustainability of health systems.

4.5.6 Role of Community Leadership and CHP Strategies

Community leaders in Isiolo County including elders, clan heads, religious figures, and local government representatives play a dual role as facilitators and gatekeepers in the success of health and nutrition interventions. Their influence can significantly shape community perceptions, either supporting or hindering the uptake of programs. When acting as facilitators, these leaders mobilize communities for outreach, advocate for services in public forums, help dispel myths, and serve as trusted intermediaries between Community Health Promoters (CHPs) and households. For example, in Turkana Central Sub-County, elders and chiefs were essential focal points ensuring community buy-in and accountability during the roll-out of Seasonal Malaria Chemoprevention (Kostandova et al., 2024). Similarly, Community Health Committees in Kenyan counties have formally included local leaders to lead community health dialogues and mobilize resources, though there remain implementation challenges (Karuga et al., 2023a). Conversely, 17.4% of CHPs reported that some leaders obstruct health efforts, often viewing external interventions as threats to traditional authority or cultural norms. These leaders may resist modern health practices, deny the existence of malnutrition, or perpetuate cultural taboos an issue documented in various parts of East Africa. In response, CHPs have adopted strategic approaches such as community dialogues (26.8%) and household education (42.6%). Dialogues offer platforms to collectively address misconceptions, promote

understanding, and build consensus. Household visits allow CHPs to tailor messages to individual contexts, provide privacy for sensitive concerns, and reinforce positive behaviors over time.

These methods align with behavior change frameworks like the COM-B model, which emphasizes capability (knowledge), opportunity (supportive environment), and motivation (incentives, norms). CHPs enhance capability through education, create opportunity by involving community structures and leaders, and build motivation with messaging that resonates culturally. Global evidence supports these strategies: for example, the cluster-randomized trial in Ethiopia that paired CHPs with religious leaders reported significantly increased antenatal care utilization and facility deliveries after engaging leaders to deliver health messages.(Guthrie et al., 2021) .Similarly, trained religious leaders in maternal health education in Ethiopia improved multiple service-uptake indicators such as institutional delivery and postnatal care. (Sadore et al., 2024). Moreover, in informal settlements of Nairobi, male involvement and community engagement were shown to improve acceptance and practice of key nutrition behaviors. (Muthiru & Bukachi, 2024b).

These insights underscore the critical importance of early and structured engagement with community leaders. Programs should incorporate leader orientation sessions, build CHP capacity in culturally responsive communication, and map supportive and resistant influencers. Centering community leadership in design and implementation is essential to overcome socio-cultural barriers and foster long-term ownership.

4.5.7 Navigating Socio-Cultural Challenges

The findings reveal that Community Health Promoters (CHPs) in Isiolo County utilize various strategies to navigate socio-cultural barriers impeding malnutrition interventions, with continuous household education (42.6%) emerging as the most frequently employed approach, followed by community dialogues (26.8%), engagement with community leaders (22.9%), and

a small fraction (7.6%) expressing uncertainty or lacking a clear strategy. A chi-square goodness-of-fit test confirmed a statistically significant variation in the use of these strategies ($\chi^2 = 94.29$, $p < 0.001$), underscoring household education as the dominant .

This preference for personalized interactions is likely because household visits build trust and allow CHPs to tailor messages according to local beliefs an approach especially effective in pastoralist settings. In Kenya, recent research among pastoralist communities in Marsabit showed that low literacy and weak awareness undermine uptake of maternal and nutrition services, partly due to under-resourced community education systems (Galgalo et al., 2024). Similarly, in Kajiado, the implementation of Kenya's Community Health Strategy revealed that pastoralist mobility, cultural norms, and limited technical capacity reduce the reach and effectiveness of CHPs' outreach initiatives(Collins et al., 2025) Community dialogues held at barazas or communal meetings provide platforms for collective reflection and peer learning. Adaptive pastoralists in Kenya report sharing information and adapting feeding/preparation practices through local networks and dialogues during community gatherings (Bostedt et al., 2023). Engaging community leaders remains essential local elders, religious figures, and opinion shapers drive acceptance of health messages when involved early in program design (Collins et al., 2025)These methods align with behavior change frameworks emphasizing capability (knowledge), opportunity (supportive environments via leaders and dialogues), and motivation (culturally resonant communication). The minority of CHPs with no clear strategy may reflect gaps in training and exposure to behavior change communication methods. Given Isiolo County's pastoralist context low literacy, strong traditional beliefs, and nomadic lifestyles household education, community dialogues, and leader engagement emerge as the most appropriate and impactful strategies.

4.5.8 Economic Challenges

The study reveals that Community Health Promoters (CHPs) in Isiolo County face several significant economic challenges, with inadequate compensation (29.7%) emerging as the most frequently reported issue, followed by economic inequality within communities (19.7%) and limited program funding (13.7%). A Chi-square goodness-of-fit test confirmed a statistically significant variation in the frequency of these challenges ($\chi^2 = 225.98$, $p < 0.001$), indicating that inadequate compensation is overwhelmingly perceived as the most pressing economic barrier. CHPs often work under challenging conditions with minimal or no financial remuneration, leading to low morale, reduced commitment, and high attrition.

Evidence from Kenya supports the finding that lack of compensation and economic inequality undermine the sustainability of community health programs. For example, the DESC model in Busia County demonstrated that CHPs who were fairly compensated, equipped, and supervised showed significantly better performance and service coverage (Njoroge et al., 2025). Similarly, in Kilifi County, income-generating activities among CHps have been shown to reduce attrition, indicating that alternative incentive models can help stabilize CHP workforce in under-resourced settings (Riang'a et al., 2024a). In Makueni County, non-monetary supports such as regular training, supervision, manageable workload, and transport availability correlated with higher performance among CHPs (Mbugua & Mwitari, 2017). In Kwale County, heavy workload, lack of ongoing training, and weak supervisory feedback were found to be predictors of CHP attrition, pointing to the important interplay of compensation, institutional support, and economic burden (Ngugi et al., 2018).

4.5.9 Logistical Barriers During Resource Scarcity

This study reveals critical logistical barriers that significantly hinder the ability of Community Health Promoters (CHPs) to deliver timely and effective services during resource-scarce periods in Isiolo County. The most prevalent challenge identified was transport

difficulties, reported by 61.8% of respondents, followed by supply chain disruptions at 13.4%, and other issues such as poor coordination and weak infrastructure .

A Chi-square goodness-of-fit test confirmed a statistically significant difference in the frequency of these barriers ($\chi^2 = 583.0$, $p < 0.001$), with transport constraints standing out as the dominant concern. In Isiolo's vast, sparsely populated terrain, poor road networks, lack of reliable transport, and insecurity in remote areas limit CHPs' ability to conduct outreach, deliver nutrition commodities, and respond swiftly to emergencies. Supporting literature by Ogutu et al. (2021) and Olaniran, et al. (2022) affirm that supply chain challenges are widespread across Kenya's arid regions. Recent evidence further supports this: a systematic review showed that CHPs often experience stock-outs due to delayed procurement, weak distribution networks, and poor supply governance in LMICs. Meanwhile, a 2023 study in Kenya found that lack of coordination among health actors horizontal and vertical leads to inefficiencies that undermine service delivery and program implementation.(Nyawira et al., 2023).In Kajiado County, weak logistics management information systems were linked to inconsistent availability of essential medical commodities.(Bunyali, 2023) .These structural barriers supply chain delays, fragmented coordination, and inadequate information systems limit CHPs' ability to reach vulnerable populations, especially during emergencies

4.5.10 Access to Nutritional Supplements and Therapeutic Foods

Interrupted supply chains and limited stocks of Ready-to-Use Therapeutic Foods (RUTF) emerged as significant barriers to the effective implementation of Community-based Management of Acute Malnutrition (CMAM) during drought periods, greatly hampering treatment coverage and continuity for children with severe acute malnutrition (SAM). These stockouts are often triggered by multiple interlinked factors. First, drought conditions exacerbate food insecurity, resulting in a surge in malnutrition cases and increased demand for RUTF that quickly depletes available supplies.

Second, supply chain disruptions caused by impassable roads, inadequate transport, and fuel shortages delay deliveries, particularly in remote regions like Isiolo County. Third, the reliance on centralized procurement systems, such as those coordinated by the Kenya Medical Supplies Authority (KEMSA), introduces bureaucratic delays that hinder timely stock replenishment. Moreover, the heavy dependence on donor-funded RUTF supplies makes the pipeline inflexible; funding delays or shifts in donor priorities often result in local shortages. These supply gaps have serious consequences: high default rates as caregivers abandon treatment when RUTF is unavailable, worsening health outcomes for children who fail to complete treatment, and erosion of community trust in health services. Studies reaffirm that disrupted RUTF supply through stockouts, procurement delays, and weak forecasting undermines CMAM performance. Evidence from sub-Saharan Africa and crisis-affected regions shows reduced cure rates, higher defaulting, and program interruptions when supply chains falter (Gebremichael et al., 2019; Heymsfield et al., 2024 ;Human Resources for Health, 2022 ; Kambale et al., 2022; N'Diaye et al., 2021;).Underlying these challenges are structural issues such as weak forecasting and data systems, fragmented stakeholder coordination, and limited investment in local RUTF production. Recent reviews emphasize that pre-positioning of supplies, digitalized stock monitoring, and local production are essential for continuity during shocks (Ireen et al., 2018; Kambale & Francisca, 2022; N'Diaye et al., 2021; Olaniran et al., 2022). To address these challenges, it is recommended to strengthen decentralized supply chains, pre-position RUTF in vulnerable areas, improve forecasting and real-time stock monitoring, promote local production of RUTF, and enhance coordination between donors and government actors. Without tackling these logistical and systemic gaps, CMAM programs will continue to fall short during drought periods, to the detriment of the most vulnerable children.

A significant majority (71.6%) of respondents identified insufficient funding as a critical barrier to the success of nutrition interventions in Isiolo County, with a high mean score

of 4.22, emphasizing the central role that adequate funding plays in service delivery, especially in drought-prone and marginalized regions. Nutrition interventions are highly dependent on resources, requiring funding for key operational areas such as the procurement of supplies like Ready-to-Use Therapeutic Foods (RUTF) and micronutrients, routine and emergency outreaches to hard-to-reach communities, training and supervision of Community Health Promoters (CHPs), and program monitoring.

Inconsistent or inadequate funding compromises these essential functions, weakening the entire program cycle. Isiolo County, like many others in Kenya, relies heavily on donor-funded programs, which often result in short-term, project-based funding that lacks continuity and creates uncertainty in service provision when donor funding ends or shifts. Additionally, weak domestic resource mobilization, compounded by competing priorities and delayed disbursements from the national treasury, further hinders local nutrition interventions.

Research from outreach UNICEF, (2024) and other studies highlights the importance of multi-year, flexible, and predictable financing, which is often absent in low-resource settings, leading to repeated disruptions. Other studies emphasize that nutrition systems which are fragmented and underfunded face serious sustainability challenges. For example, a recent analysis of multisectoral nutrition governance in Kenya found that inadequate financing, over-reliance on donor funds, and fragmented policy frameworks undermine sustained impact (Korir et al., 2025). Another study modelling complementary feeding in Kenya showed that the high cost of nutritious foods and economic constraints reduce effective program coverage and make supply chains unreliable (Traoré et al., 2024). Research comparing infant diet quality in two Kenyan counties also reported that economic hardship, limited access to nutrient-dense foods, and frequent illness contribute meaningfully to poor nutrition outcomes (Kimiywe et al., 2024). Lastly, a 2023 review of Kenya's nutrition governance landscape underscored how weak monitoring systems and donor dependency erode the motivation of health workers and limit

opportunities for scaling successful interventions (Korir et al., 2024). Together, these studies support the argument that without stable funding, robust logistics, and coherent policies, nutrition systems will struggle to maintain performance especially in drought-prone, resource-limited areas. To address these challenges, it is recommended that county governments increase domestic budget allocations for nutrition, establish contingency emergency nutrition funds, promote pooled funding mechanisms, and enhance financial accountability and planning. Without sufficient and sustained funding, nutrition interventions in Isiolo and similar counties cannot achieve the scale, continuity, or impact necessary to address malnutrition effectively. Sustainable solutions will require stronger county-level commitment, predictable donor support, and integrated financing approaches that prioritize long-term resilience over short-term fixes.

4.5.12 Inadequate Training and Support

A significant portion of respondents (70.8%) rated inadequate training and support as a major barrier to effective community-based nutrition service delivery, with a high mean score of 4.21. The challenges identified include shortages in training resources (53.2%), systemic constraints (30.5%), and a lack of training materials (12.6%), pointing to a systemic gap in building and maintaining the capacity of Community Health Promoters (CHPs) to deliver quality nutrition care, especially in resource-poor and drought-prone areas like Isiolo County .

CHPs, as frontline workers, play a critical role in detecting, referring, and managing cases of acute malnutrition; this capacity hinges on regular, high-quality training. Nutrition interventions under IMAM and CMAM demand that CHPs stay up to date on skills such as anthropometric measurement, identifying danger signs, using RUTF, following referral protocols, and accurate record keeping. Without ongoing refresher training, these skills deteriorate, leading to misdiagnosis, under-referral, or incorrect treatment.

Recent evidence from Kenya confirms this: a quasi-experimental study in western Kenya found that refresher training combined with frequent supportive supervision and incentive mechanisms substantially improved CHP performance in malnutrition-related tasks. (Kawakatsu et al., 2022a). In LMICs more broadly, systematic reviews report that inconsistent supervision and lack of follow-through with training are common gaps that reduce diagnostic accuracy and community trust. (Stansert Katzen et al., 2022). Furthermore, in Tanzania, a mixed-methods evaluation of CHPs showed substantial improvement in counseling skills when mentorship and supervision were strengthened alongside training. (Ferla et al., 2023). In arid regions of Kenya (Turkana and Isiolo), community health volunteers themselves have reported that insufficient training and weak supervisory support undermine their ability to manage acute malnutrition cases, particularly in seasons of crisis. (Wambui et al., 2024).

The lack of supportive supervision compounds the problem, as CHPs struggle to apply knowledge practically. For example, a quasi-experimental study in western Kenya found that refresher training combined with frequent, structured supportive supervision and defaulter tracing significantly improved CHPs' health knowledge and satisfaction, compared to less supported peers. (Kawakatsu et al., 2022c) In a mixed-methods study spanning Kenya, Ethiopia, Malawi and Mozambique, CHPs reported that group supervision and mentorship bolstered their confidence, performance, and motivation, though resource constraints (e.g. materials, funding) limited full implementation. (Kok et al., 2018a). An action-research assessment in Kenyan counties likewise found that community health providers perceive supervision through household visits, regular meetings, and feedback as motivating, but irregular supervision (due to heavy workload and weak coordination) undermines the gains. (Karuga et al., 2019).

Inconsistent funding, donor-driven priorities, limited training materials, and weak stakeholder coordination further widen the training gap. These deficits contribute to reduced diagnostic

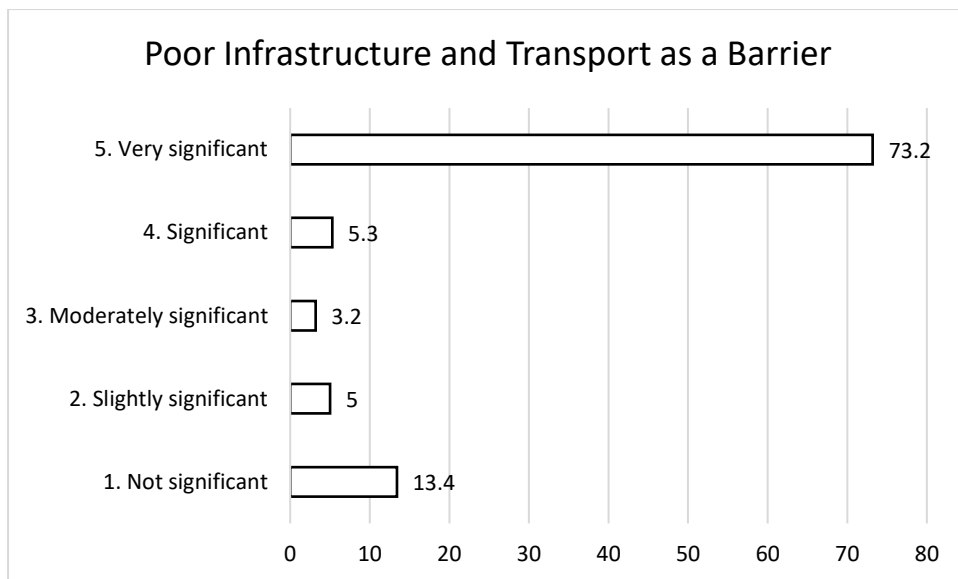
accuracy, poor program coverage, diminished trust from communities, low retention of CHPs, and underreporting of critical nutrition data. To address these challenges, it is recommended that Isiolo and similar settings institutionalize scheduled refresher training, develop standardized context-relevant training packages, embed supportive supervision within county health plans, ensure adequate dedicated budget lines for training, and build systems to monitor performance regularly. Investing in continuous, culturally and contextually adapted training and supervision is essential to improve child nutrition outcomes in drought-prone pastoralist areas.

4.5.13 Poor Infrastructure and Transport

A large proportion of respondents (73.2%) identified poor infrastructure and transport as a very significant barrier to effective community-based nutrition service delivery, reflected by a high mean score of 4.20. This underscores the substantial impact that logistical and infrastructural limitations have on the success of nutrition interventions in regions like Isiolo County, Kenya. Inadequate road networks and lack of reliable transportation delay the movement of Community Health Promoters (CHPs) and essential supplies, compromising timely service delivery to malnourished children and increasing the risk of severe outcomes.

Figure 4.2

Poor infrastructure and transport as a Barrier



Source: Researcher 2024

Poor transport systems also lead to frequent stock-outs of critical supplies such as RUTF, MUAC tapes, and referral forms, directly hindering accurate diagnosis and treatment. For nomadic communities in Isiolo, these challenges are amplified: poor infrastructure makes it difficult to serve remote households consistently and track patients over time. These findings mirror evidence from nomadic pastoralist contexts, where deficient infrastructure, equipment, and supply chains reduce service quality and access Health service quality among nomadic pastoralists (Gammino et al., 2020) and Kenya-specific studies in pastoralist counties have documented how roads and transport constraints limit reach of community health programs (Collins et al, 2025) . Infrastructural challenges in rural Kenya maternity facilities further illustrate that poor roads, lack of electricity, and unreliable transport individually and collectively degrade access to critical services (Essendi et al., 2015; Ogutu et al., 2021) ,who identified transport limitations as major bottlenecks in emergency nutrition response in drought-prone Kenyan regions. In South Sudan, (Gammino et al., 2020) ,similarly noted that poor infrastructure and seasonal flooding led to program discontinuity and high dropout rates

from nutrition services. In Isiolo, sparse health infrastructure, lack of ambulances, seasonal road inaccessibility, and chronic underinvestment in rural development exacerbate these issues.

As a result, there are delayed detections and treatments of acute malnutrition cases, increased default rates due to long distances, reduced CHP supervision, and frequent disruptions in supply chains. To mitigate these effects, it is recommended that investments be made in all-weather rural roads through county development plans, health budgets incorporate transport solutions like motorcycles and bicycles for CHPs, mobile health teams be deployed to serve nomadic populations, and digital tools such as GIS mapping and mobile apps be leveraged for coordination. Addressing infrastructure and transport challenges is vital for enhancing the reach, timeliness, and effectiveness of community nutrition interventions, and calls for coordinated, multisectoral efforts involving health, roads, and finance sectors.

4.5.14 Limited Community Awareness and Participation

A significant majority of respondents (65.5%) rated limited community awareness and participation as very significant, with a mean score of 4.04, emphasizing the critical role that knowledge and engagement at the community level play in the success of nutrition programs. When communities lack understanding of malnutrition and the importance of early action, children are often brought to health facilities at advanced stages of illness, reducing the chances of recovery.

Community Health Promoters (CHPs) depend on caregivers to detect early signs of malnutrition and adopt appropriate health behaviors like complementary feeding, hygiene practices, and seeking treatment early but low awareness often undermines these efforts. Community participation enhances program ownership and sustainability, since initiatives involving local planning, monitoring, and trusted community figures tend to be more accepted. However, in marginalized areas like Isiolo, high illiteracy rates, cultural beliefs that conflict

with modern nutrition advice, limited access to health information, and historical distrust of health systems contribute to poor awareness and engagement.

For example, in Rural Kajiado Central, Kenya, Waruguru, (2024b) found that caregiver knowledge in nutrition was strongly associated with better feeding practices; where knowledge was low, cultural norms heavily shaped behaviours. In South Ethiopia, a study showed that only about 48% of mothers practised key Essential Nutrition Action (ENA) messages; important predictors were receiving counselling during ANC or PNC, having good knowledge, and higher education. (Kasse et al., 2024). Similarly, a quasi-experimental study in Southwest Ethiopia found that community-based nutritional education significantly improved knowledge, attitude, and compliance with supplementation among pregnant women. (Abdisa et al., 2023). The Enhanced Community-Based Nutrition (eCBN) model in Ethiopia also reports that integrating Village Health Leaders and trusted community actors (through counselling, cooking demos, hygiene messages) strengthens caregiver awareness and might reduce delay in detection of malnutrition outreach (UNICEF, 2024). The implications of low community awareness are severe: malnutrition cases go undetected or are detected late; caregivers may resist or drop out of treatment due to misunderstandings; and program reach becomes inequitable especially among nomadic or highly marginalized populations. To address this, it is recommended to scale up community sensitization via radio, schools, religious platforms; engage respected local figures; use participatory tools like scorecards; develop culturally-tailored materials in local dialects; and ensure consistent involvement of caregivers in monitoring and feedback. Inclusive, culturally sensitive, community-driven approaches are essential to improve child nutrition outcomes in Isiolo and similar settings.

4.5.15 strategies to overcome barriers encountered by CHPs

The findings reveal that the most preferred solution to barriers faced by Community Health Promoters (CHPs) during drought-related malnutrition crises is increased resource allocation, with 39.5% of respondents identifying this as the most effective strategy. This indicates that CHPs recognize adequate funding as essential to effectively managing acute malnutrition, particularly by ensuring timely procurement of Ready-to-Use Therapeutic Foods (RUTF), transportation, and other essential tools. Additionally, 13.7% of respondents emphasized the importance of improved infrastructure and regular refresher training, reflecting the need to strengthen both physical and human resource capacities. Respondents highlighted that poor road networks, water scarcity, and weak communication systems significantly limit access to hard-to-reach communities in arid and semi-arid regions such as Isiolo County.

The strong preference for increased funding underscores the critical role of financial investment in sustaining effective nutrition programs. Predictable and multi-year financing enables continuity of services, reduces stock-outs, and supports CHPs in maintaining outreach even during drought emergencies. This finding aligns with global evidence emphasizing that sustained financing is vital for community-based nutrition interventions in fragile and drought-prone settings outreach (UNICEF, 2022). The emphasis on infrastructure and refresher training further illustrates that effective service delivery relies on both systemic and capacity-related enablers. Inadequate transport and communication infrastructure restrict CHPs' mobility and access to supplies, while limited training undermines their technical competency. These challenges are consistent with findings by (Gebregziabher et al., 2023), who reported that infrastructure quality and health worker capacity are key determinants of equitable service delivery in rural sub-Saharan Africa. Addressing these gaps through targeted investments and

regular training would enhance CHPs' efficiency and improve nutrition outcomes in Isiolo County.

The findings indicate that strengthened community engagement (12.4%) and partnerships between government and development partners (11.1%) were also cited by Community Health Promoters (CHPs) as vital strategies for addressing barriers in managing malnutrition during drought periods. Respondents noted that active community participation improves awareness, trust, and the uptake of nutrition services, while effective partnerships enhance coordination, resource mobilization, and technical support.

Data further revealed that resource mobilization (42.9%) and capacity building (17.6%) were identified as the most important contributions from external stakeholders, particularly non-governmental organizations (NGOs) and government agencies. These results suggest that CHPs view collaboration and shared responsibility as essential to achieving sustainable impact in nutrition programming.

The emphasis on community engagement and partnerships underscores the importance of collective action in overcoming systemic barriers to nutrition service delivery. Strong community involvement enhances local ownership, aligns interventions with community priorities, and improves adherence to treatment protocols a finding consistent with (Tetui et al., 2017 & Erku et al., 2023) who demonstrated that participatory community structures improved health service uptake and accountability in low-resource settings.

Similarly, intersectoral partnerships between government, NGOs, and development agencies enable resource pooling, knowledge exchange, and capacity development, leading to more coordinated and efficient program delivery. Recent studies, such as (R. Karuga et al., 2023b) , affirm that well-structured partnerships enhance health system resilience and the scalability of nutrition interventions.

These findings highlight the necessity of a multi-pronged and collaborative approach to combat malnutrition one that integrates infrastructure development, community systems strengthening, and continuous capacity building. As shown by Nwaozuru et al. (2025), aligning local health strategies with partner-led initiatives ensures sustainability and greater impact, particularly in drought-prone and marginalized regions like Isiolo County.

4.5.16 The role of government agencies, NGOs, and other stakeholders in addressing barriers faced by CHPs while delivering malnutrition interventions

Stakeholders such as government agencies, NGOs, and development partners play a crucial role in supporting malnutrition interventions, with resource mobilization emerging as the most significant area of support (42.9% of respondents). Capacity building, including refresher training and technical mentorship, followed at 17.6%. However, 12.4% of CHPs reported receiving no external support at all. Other support areas policy involvement, infrastructure/tools provision, and community engagement were cited much less frequently, and monitoring and evaluation (M&E) was noted by only 1.6% of respondents, indicating a critical gap in feedback and accountability systems. These results are mirrored by studies in Kenya: (Riang'a et al., 2024b) found that income-generating and partner-led training initiatives helped reduce CHP attrition in Kilifi; (Kilonzo et al., 2023), observed that supervision, training, and external support enhance uptake of maternal, newborn, and child health services in Lamu County; and (Matheka & Muna, 2023), reported that although capacity strengthening is well supported, less consistent backing is given to systems for M&E and policy engagement. Together, the data indicate that while external partnerships are vital for filling resource and training gaps, the relatively low levels of support for structural components like M&E, policy, and engagement point to a need for more inclusive, coordinated, and bottom-up approaches that fully integrate CHPs and ensure sustainability in nutrition programming.

Table 4.4

Structural, programmatic, and systemic barriers to effective management of malnutrition among CHPs (n = 380)

Indicator	Category / Response	n (%)
Challenges during drought	Resource constraints	118 (31.1)
	Infrastructure limitations	67 (17.6)
	Migration of households	65 (17.1)
	Increased workload	52 (13.7)
	Limited community engagement	39 (10.3)
	Lack of training	20 (5.3)
	Poor government support	15 (3.9)
	Insecurity	1 (0.3)
Barriers to resource mobilization	Logistics	109 (28.6)
	Inadequate funding	74 (19.5)
	Knowledge gaps	47 (12.4)
	Other barriers	122 (32.1)
	Community resistance	28 (7.4)
Preferred solutions by CHPs	Increased resource allocation	150 (39.5)
	Improved infrastructure	52 (13.7)

	Training opportunities	52 (13.7)
	Strengthened community engagement	47 (12.4)
	Stronger partnerships	42 (11.1)
	Other solutions	37 (9.7)
Role of NGOs/Government	Resource mobilization	163 (42.9)
	Capacity building	67 (17.6)
	Partnerships	28 (7.4)
	Policy & infrastructure support	52 (13.6)
	No support reported	47 (12.4)
	Others	23 (6.0)
IMAM Surge resource adequacy	Inadequate	263 (69.2)
	Adequate	117 (30.8)
Significance of barriers	Inadequate training and support	269 (70.8)
	Poor infrastructure/transport (significant)	269 (73.2)
	Limited community awareness	249 (65.5)
	Inadequate funding (critical barrier)	272 (71.6)

Source :Researcher 2024

4.6 Assessment of CHPs' Adherence to Protocols, Guidelines, and Best Practices in Implementing Nutritional Interventions During Drought

Effective management of acute malnutrition during drought hinges on strict adherence to established protocols such as the Integrated Management of Acute Malnutrition (IMAM) and IMAM Surge. These frameworks give Community Health Promoters (CHPs) structured guidance for tasks like home-visits, growth monitoring, referral, and use of Ready-to-Use Therapeutic Foods (RUTF).

4.6.1 Protocols for Household Visits by CHPs

In Isiolo, this study finds that CHPs engage strongly in health education (91.3%), growth monitoring/immunization promotion (79.5%), supporting breastfeeding/maternal health (77.4%), and family planning counseling (71.6%), aligning with Ministry of Health guidelines for household-level health promotion. Yet there are service gaps: mosquito net distribution (31.1%), screening for HIV, TB, malaria (28.4%), household environmental assessments (43.9%), and structured health dialogues (36.6%) are less consistently performed. A significant association ($\chi^2 = 49.6$, $df = 1$, $p < 0.001$) confirms that resource availability strongly affects CHPs' task performance.

Table 4.5

Activities Performed by CHPs During Household Visits

Activities performed by CHPs during household visits	N = 380	Percent of Cases
Conducting health education sessions on topics such as hygiene, sanitation, nutrition, and disease	347	91.30%

Providing counseling on family planning methods and reproductive health	272	71.60%
Performing growth monitoring and promoting child immunizations.	302	79.50%
Distributing and demonstrating the use of mosquito nets to prevent malaria	118	31.10%
Conducting screenings for common health conditions such as malaria, tuberculosis, and HIV/AIDS.	108	28.40%
Identifying and referring individuals with acute malnutrition or other health concerns to health facilities for further assessment and treatment.	264	69.50%
Promoting breastfeeding and supporting lactating mothers with breastfeeding techniques.	294	77.40%
Encouraging proper water storage and treatment methods to prevent waterborne diseases.	203	53.40%
Conducting household assessments to identify environmental health hazards and providing recommendations for improvement.	167	43.90%

Facilitating community discussions on health- 139 36.60%
related topics and encouraging community
participation in health initiatives.

Source: Researcher 2024

Studies elsewhere provide supporting and analogous evidence in Western Kenya, CHPs administering malaria rapid diagnostic tests reported that lack of resources and infrastructure hindered full performance of screening tasks and service spread. (Winn et al., 2018). In a community-based multi-disease screening initiative, researchers observed that screening and referral tasks at community level significantly improve early case detection when CHPs are supported, but emphasize that challenges like transport, supply, and supervision must be addressed. (Abana et al., 2023). Also, perceptions research in South Africa shows that households value CHP visits and health promotion activities, but service uptake is undermined when CHPs lack health commodities or reliable support. (Thomas et al., 2024).

To improve adherence to IMAM/IMAM Surge and close the service gaps in Isiolo, the study recommends stronger integration of community-level needs into procurement and planning, ensuring uninterrupted supply of essential tools, linking vertical disease programs to community platforms, expanding training to cover neglected areas, and enhancing supervision. Without addressing systemic issues resourcing, infrastructure, supply chain, monitoring CHPs' potential to reduce malnutrition during droughts will remain underrealized.

4.6.2 CHP Awareness of Nutritional Protocols and Guidelines

The study found that only 42.1% of CHPs could correctly identify assessment and diagnosis as the initial step in managing acute malnutrition, in line with Kenya's IMAM guidelines. A further 26.6% emphasized only treatment and prevention without recognizing the importance

of assessment; 12.9% focused on coordination and monitoring; and 18.4% admitted they did not know the protocol at all. A statistically significant relationship was observed between CHPs' years of experience and awareness levels ($\chi^2 = 28.3$, $df = 3$, $p < 0.01$), indicating that newer CHPs are more likely to have lower knowledge.

These gaps are concerning, as they suggest deficits not just in knowledge but in the system support that underpins protocol adherence. The findings align with evidence from western Kenya showing that refresher training combined with frequent supervision significantly improves CHP knowledge and program fidelity (Kawakatsu et al., 2022). Supportive supervision and mentorship have similarly been shown to enhance performance and motivation among CHPs in several African countries, including Kenya (Goudge et al., 2023 ; Kok et al., 2018). Low awareness may result from inadequate induction, irregular refresher trainings, lack of access to job aids, and workload pressures. To address this, the study recommends structured induction and refresher training focused on IMAM protocols, mentorship pairings between new and experienced CHPs, distribution of job aids, regular supportive supervision, and formalizing protocol training in continuous professional development frameworks. Enhancing CHPs' protocol knowledge is fundamental not just for technical competence, but for health system resilience and child survival in high-burden, low-resource settings like Isiolo County.

4.6.3 How CHPs Ensure Adherence to Protocols and Guidelines

The study found that 34.7% of CHPs reported training and capacity building as their primary strategy for ensuring adherence to malnutrition protocols and guidelines. Monitoring and accountability mechanisms (e.g., checklists, supervision visits, reporting systems) were identified by 34.2% of CHPs as second most common strategy. About 14.5% said community engagement or collaboration with local leaders was used, while 16.6% of CHPs admitted they lacked a clear strategy. A chi-square test ($\chi^2 = 31.2$, $df = 3$, $p < 0.001$) showed a strong

association between amount/frequency of training and likelihood of using systematic adherence strategies.

These findings align with evidence from Kenya: the western Kenya study reporting that refresher training combined with frequent supervision and incentives significantly enhanced CHP knowledge and satisfaction. (Kawakatsu et al., 2022e) The systematic literature review in fragile settings underscores that CHP effectiveness heavily depends on proper training, tools, supervision, and monitoring systems.(Bridge & Lin, 2024b) The scoping review on competency-based training shows that training designed to build specific competencies (not just generic instruction) improves adherence to protocols over time.(Sultan et al., 2025a)

The fact that a sizeable portion of CHPs lack a clear strategy likely reflects gaps in induction, refresher training, access to job aids, and resource constraints. To strengthen adherence, the study recommends scaling up continuous professional development (CPD) specifically around malnutrition and IMAM protocols; formalizing and enforcing supportive supervision; integrating clear job aids and checklists; promoting community engagement and partnerships; and ensuring monitoring and accountability mechanisms are built into program design. Improving these systemic supports is essential for consistent, high-quality protocol adherence in resource-limited settings like Isiolo County.

4.6.4 Challenges Faced During Adherence to Protocols

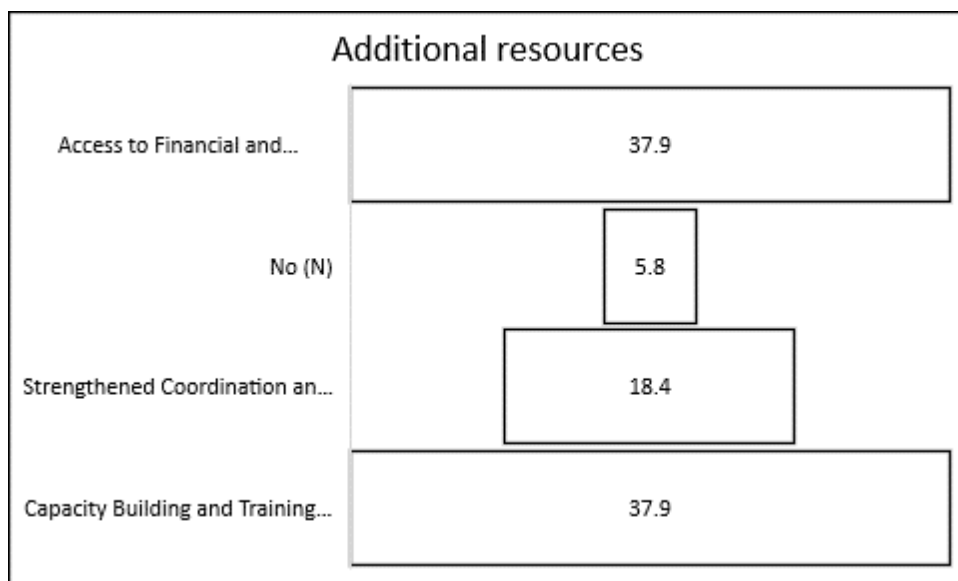
The analysis reveals a nuanced tension between perception and structural reality in how CHPs report challenges in adhering to health and nutrition protocols. Although 63.7% of CHPs claimed they faced no major difficulties suggesting confidence or familiarity this may mask overconfidence, social desirability bias, or a lack of objective performance feedback. Studies in Kenya and other African settings have found that CHPs often underreport systemic issues when supervision is weak or performance feedback is minimal (Kawakatsu et al., 2022; Kok

et al., 2018a).About 32.4% of CHPs admitted to encountering challenges, and a Chi-square analysis showed a significant association between reporting difficulties and requesting financial or material support, reinforcing the link between perceived obstacles and resource constraints. A small subset (3.9%) were unsure whether they had problems, perhaps reflecting limited self-awareness or supervision.

Yet even among those who reported no major challenges, many still identified resource needs (37.9%) and training/capacity building (37.9%) as critical support areas, underscoring structural deficits. Coordination/technology gaps were raised by 18.4%, while just 5.8% believed they already had adequate support suggesting a normalization of resource scarcities or reluctance to admit deficits. These dynamics resonate with findings that resource constraints,erode CHP performance even where training exists (Thomas et al., 2024). Moreover, the emerging field of competency-based CHP education suggests that digital tools, job aids, mentorship, and systematic refresher training are essential to sustain guideline adherence (Sultan et al., 2025b).

Figure 4.3

Additional Resources to Improve Protocol Adherence Among CHPs



Source: Researcher 2024

Overall, the data point to a dual priority for both tangible resource investment and capacity building, along with reinforcement of systemic supports such as supervision, coordination, and technological enablement, to bridge the gap between perceived and actual challenges in protocol implementation.

CHAPTER FIVE - SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary, conclusions, and recommendations derived from the study findings on the effectiveness of Community Health Promoters (CHPs) in mitigating malnutrition among children under five years during drought periods in Isiolo County, Kenya. The study examined four key areas: adequacy of CHPs' knowledge, skills, and training; their effectiveness in identifying and referring malnourished children; barriers affecting intervention delivery; and adherence to nutrition protocols and guidelines. The findings provide evidence-based insights to strengthen community health systems and improve child nutrition outcomes in drought-prone regions.

5.2 Summary

The study revealed that most Community Health Promoters (CHPs) possessed adequate knowledge and had received formal training in managing acute malnutrition; however, about 25% lacked such training, which limited their ability to effectively detect and manage cases. Participation in refresher courses on Integrated Management of Acute Malnutrition (IMAM) and IMAM Surge was also low, with only half of the CHPs having attended such training, highlighting a capacity gap that threatens timely detection and response during drought-related emergencies. Although caregiver acceptance of referrals was high (97.4%), approximately 20.3% of CHPs had not participated in screening activities, resulting in incomplete community coverage. CHPs who conducted frequent screenings and follow-ups reported higher effectiveness, but challenges such as heavy workloads, inadequate logistical support, and delayed compensation hindered the quality and consistency of service delivery.

In addition, CHPs faced significant barriers, including limited resources, poor infrastructure, long travel distances, and population mobility linked to the region's nomadic lifestyle. Sociocultural factors, such as restrictive food taboos and gender norms, also affected

the community's acceptance of nutritional advice, while widespread poverty and low awareness of malnutrition further constrained progress. Despite demonstrating a strong understanding of national nutrition protocols particularly regarding household visits, community dialogues, and health education CHPs' adherence was weakened by shortages of essential supplies like MUAC tapes, mosquito nets, and diagnostic kits. Around one-fifth of CHPs lacked full awareness of specific national guidelines, indicating the need for continuous mentorship, supportive supervision, and regular refresher training to strengthen protocol compliance and improve the overall effectiveness of malnutrition interventions.

5.3 Conclusions

CHPs in Isiolo County possess strong foundational knowledge and skills in managing malnutrition; however, the coverage of training and frequency of refresher courses remain inadequate. Expanding IMAM and IMAM Surge training would enhance their preparedness and response capacity, particularly during drought periods when malnutrition cases surge. When adequately supported, CHPs are effective in identifying and referring malnutrition cases, but their performance is often constrained by heavy workloads, limited transport for follow-ups, and irregular compensation, all of which reduce the quality of care and the extent of household coverage.

Their effectiveness is further limited by socioeconomic, cultural, and logistical barriers, including inadequate facilitation, long travel distances, nomadic lifestyles, and restrictive food beliefs that affect community uptake of nutritional advice. Addressing these systemic challenges through improved logistical support, consistent facilitation, and stronger multi-sector collaboration would significantly enhance service delivery. Although most CHPs adhere to established nutrition protocols, challenges such as shortages of essential supplies, irregular supervision, and insufficient refresher training hinder consistent implementation.

Strengthening capacity-building initiatives, ensuring regular monitoring, and maintaining an uninterrupted supply of materials are critical to upholding standard practices and improving the overall quality of community-based nutrition interventions.

5.4 Recommendations

5.4.1 Enhance Nutrition-specific Training

To strengthen CHPs' capacity in malnutrition management, IMAM and IMAM Surge training should be scaled up to achieve full coverage within one year. Annual refresher courses and continuous mentorship should be institutionalized to ensure sustained knowledge retention, confidence, and quality service delivery.

5.4.2 Strengthen Capacity for Early Identification and Referral

CHPs should be equipped with simplified screening tools, referral forms, and visual job aids ahead of the next drought season to enhance efficiency in detecting malnutrition cases. A structured quarterly supervision and peer-review system should also be established to reinforce the quality of screening, referrals, and follow-ups.

5.4.3 Address Logistical and Resource Barriers

To improve accessibility and effectiveness, CHPs should be provided with reliable means of transport such as motorbikes or bicycles, along with regular stipends to support mobility. Nutrition education should be delivered through culturally sensitive approaches, engaging elders, women, and youth leaders to increase community acceptance. Additionally, consistent provision of nutrition commodities and reporting tools should be ensured through strengthened supply chain systems.

5.4.4 Improve Adherence to Protocols and Supervision

A standardized monitoring checklist should be developed, complemented by monthly mentorship visits from sub-county nutrition officers. Each CHP should have access to updated protocol manuals and job aids to ensure uniformity in service delivery. Recognition systems should be introduced to acknowledge CHPs who demonstrate exemplary adherence to national nutrition protocol.

5.4.5 Strengthen Incentive and Support Systems (Cross-Cutting Recommendation)

To sustain motivation and performance, CHP compensation should be reviewed and standardized in line with workload and prevailing economic conditions. Non-monetary incentives such as certification, opportunities for career progression, and public recognition should also be introduced to improve retention and morale across the workforce.

5.5 Further Research

1. **Impact of Workload on Service Quality:** Investigate how excessive workload affects CHPs' performance and child health outcomes in drought-prone areas.
2. **Gender and Cultural Dynamics:** Examine how gender roles and cultural practices influence CHPs' effectiveness in delivering nutrition interventions.
3. **Integration of Traditional Knowledge:** Explore how traditional practices can be harmonized with modern nutrition strategies for improved community acceptance.
4. **Psychosocial Support Mechanisms:** Assess the need for and impact of psychosocial support on CHP motivation and retention.

5. **Effectiveness of Incentive Models:** Evaluate how different financial and non-financial incentive structures influence CHP performance and sustainability.

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APPENDICES

Appendix A: Informed Consent Form

Purpose

This study involves research conducted by Elaine Njeri from Kenya Methodist University. The purpose of this research is to assess the effectiveness of community health promoters (CHPs) in combating malnutrition among children under 5 during periods of drought in Isiolo County, Kenya. Specifically, the research aims to evaluate the knowledge, skills, and training received by CHPs, their adherence to nutritional recommendations, their effectiveness in identifying and referring malnourished children, and the barriers they face in providing malnutrition interventions during drought periods.

Participants will be involved in interviews and observations conducted by the research team.

Duration

Your participation in this study will require approximately 2 hours per session. Each session will be conducted at a time and location convenient for you.

Confidentiality

We will maintain strict confidentiality regarding your identity and any information shared during the study. All data will be anonymized and stored securely. While every effort will be made to protect your privacy, it is important to note that confidentiality may be breached in certain circumstances, such as a subpoena of research records related to criminal activity or child abuse.

Risks

Participation in this study may involve minimal risks such as emotional discomfort or breach of confidentiality. However, we have taken measures to minimize these risks. There are no

anticipated physical risks associated with this study. In the event that you experience any discomfort during the study, you may withdraw your participation at any time without penalty.

Benefits

By participating in this study, you may benefit from increased knowledge about malnutrition and access to educational resources provided by community health promoters. Additionally, your participation may contribute to improving child health outcomes in Isiolo County by informing future healthcare initiatives.

Withdrawal

Your participation in this study is entirely voluntary. You may withdraw at any time without facing any penalty or loss of benefits. If you choose to withdraw, any data collected up to that point will be excluded from the study. Additionally, if you are uncomfortable with any aspect of the study, you may refuse to participate in specific activities without consequence.

Concerns

If you have any questions or concerns about the research, you can contact Elaine Njeri at 0728226336. Additionally, you can reach out to the Kenya Methodist University Review Board/ Ethics Committee at +254-735701311 for further assistance. If you experience any adverse events or have concerns about your rights as a participant, please do not hesitate to contact us.

Recruitment and Subjects

The subjects involved in this study will primarily be community health promoters (CHPs) working within Isiolo County, Kenya. Isiolo County is an Arid and Semi-Arid Land (ASAL) with three sub-counties: Garbatulla, Isiolo Central, and Merti. The recruitment process will involve multistage sampling to ensure a representative sample of CHPs across the county.

Narrative Description

This research investigates the effectiveness of community health promoters (CHPs) in addressing malnutrition among children under 5 during drought periods in Isiolo County, Kenya. By examining the role of CHPs in delivering healthcare interventions, the study aims to provide insights into the challenges and opportunities for improving child nutrition outcomes in the region. Through interviews and observations, we seek to understand the knowledge, skills, and barriers faced by CHPs in their efforts to combat malnutrition. The findings will inform policymakers and healthcare practitioners about the effectiveness of current interventions and identify areas for improvement. Ultimately, this research aims to contribute to the development of more targeted and effective strategies for addressing malnutrition and improving child health in Isiolo County

Consent

By signing below, you acknowledge that you have understood the information provided in this document and have received a copy for your records. Your signature indicates your voluntary participation in this study.

Participant's Signature: _____ **Date:** _____

Witness's Signature (if applicable): _____ **Date:** _____

[If applicable: I consent to the storage of my samples for future use]

Thank you for your participation

 REPUBLIC OF KENYA Ref No: 102601	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION Date of Issue: 03/July/2024
RESEARCH LICENSE	
	
This is to Certify that Miss.. ELAINE NJERI NJAMBI of Kenya Methodist University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Isiolo on the topic: EFFECTIVENESS OF COMMUNITY HEALTH PROMOTERS IN MITIGATING MALNUTRITION AMONG CHILDREN UNDER 5 YEARS DURING DROUGHT PERIODS IN ISIOLO COUNTY KENYA for the period ending : 03/July/2025.	
License No: NACOSTI/P/24/36999	
102601 Applicant Identification Number	<i>Walter Mwangi</i> Director General NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
Verification QR Code 	
NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.	
See overleaf for conditions	

Appendix B: Questionnaire for Community Health Promoters

Section A: Demographics

1. Sub-county:
2. Ward:
3. Village name:
4. Community unit:
5. Respondent no:
6. Name of interviewer:
7. Date of interview:/...../.....

Section B: Socio-Demographics

8. Gender:

- a) Male
- b) Female

9. Age: _____

10. Highest level of academic qualification:

- a) No formal School
- b) Primary education
- c) Secondary Education
- d) College Education
- e) Other, _____ Specify

11. Marital status:

- a) Married
- b) Separated/Divorced
- c) Single,
- d) Widowed/widower

Section C: Knowledge Assessment of Community Health Promoters (CHPs) on Acute Malnutrition and IMAM SURGE

12. How many years have you been a CHP?

13. How many Households were you assigned?

14. Please tell me about the initial training you received to prepare you for your role as a CHP. (List the topics covered (Select all that apply):

- a) Community strategy
- b) Vaccinations
- c) Newborn care
- d) Sanitation and home hygiene
- e) IMAM
- f) IMAM SURGE
- g) Nutrition case management
- h) CBFCI
- i) Others, _____ Specify
- j) Never received any training

15. State the key tasks that you are responsible for (Select all that apply):

- a) sensitize the community on the importance of healthy lifestyles and of quality health services
- b) provide community disease surveillance by reporting early signs of imminent health disasters or emergencies
- c) enroll and monitor the health status of members of the households assigned to the community health promoter
- d) keep and maintain a record of members in all households assigned to the community health promoter
- e) monitor the rehabilitation and integration of persons who require such services in the community; provide appropriate health advice to an assigned household in a language that the members of the household understand, including advice on—
- f)
 - (i) appropriate sanitation and hygiene techniques including household water treatment;
 - (ii) good nutrition;
- (iii) maternal and postnatal care including advice on breastfeeding, immunization, child health care and family planning;
- (iv) the prevention, transmission and management of communicable diseases; and
- (v) the prevention and management of non-communicable diseases
- i. Other,
 - g) render first aid services to an assigned household and where necessary, make referrals to the link facility
 - h) monitor the growth of children under the age of five years in an assigned household
 - i) provide support to the assigned household on quality family-based care and support for a patient
 - j) submit reports, at such intervals as shall be determined by the county director of health, on the health of each member of an assigned household and the barriers to health and health care in the household to the community health officer
 - k) collect information on the health status of the assigned households
 - l) Report incidence of side effects of drugs

16. In the past one month, how many households did you visit?

17. How many times do you visit households in a month

18 What do you usually do when you visit a HHs (Select all that apply):

1. Conducting health education sessions on topics such as hygiene, sanitation, nutrition, and disease prevention.
2. Providing counseling on family planning methods and reproductive health.
3. Performing growth monitoring and promoting child immunizations.
4. Distributing and demonstrating the use of mosquito nets to prevent malaria.
5. Conducting screenings for common health conditions such as malaria, tuberculosis, and HIV/AIDS.
6. Identifying and referring individuals with acute malnutrition or other health concerns to health facilities for further assessment and treatment.
7. Promoting breastfeeding and supporting lactating mothers with breastfeeding techniques.
8. Encouraging proper water storage and treatment methods to prevent waterborne diseases.
9. Conducting household assessments to identify environmental health hazards and providing recommendations for improvement.
10. Facilitating community discussions on health-related topics and encouraging community participation in health initiatives.

19 Have you received any formal training as a Community Health Promoter (CHP) during your tenure in this role?

- a) Yes
- b) No

19 b If yes, could you please describe the type of training you received and its duration?

20. Specifically focusing on nutrition, have you received any formal training on addressing acute malnutrition?

- a) yes
- b) No

20 b. If yes, could you provide details about the training content ?

20 c. How has the training influenced your practice?

20 d. If no, would you be interested in receiving training on addressing acute malnutrition?

- a) Yes
 - b) No
- 20 e. If yes, what topics or areas would you like the training to cover?
21. Have you ever received IMAM refresher training? (i.e., additional training since the initial training):
- a) Yes
 - b) No
22. Are you aware of what acute malnutrition is and its impact on individuals and communities?
- a) Yes
 - b) No
- 22 a If aware describe briefly the impact
23. How successful are strategies you have used to raise awareness about acute malnutrition within the community:
- a) Very unsuccessful
 - b) Unsuccessful
 - c) Somewhat successful
 - d) Successful
 - e) Very successful
- 23a If successful describe a few
24. Have you Encountered misconceptions or beliefs about acute malnutrition?
- a) Yes
 - b) No
- 24 b If yes What are some misconceptions or beliefs about acute malnutrition that you have encountered among community members?
- 25 How Confident are you in identifying the signs and symptoms of acute malnutrition during community health assessments?
- a) Not confident
 - b) Somewhat confident
 - c) Moderately confident
 - d) Confident
 - e) Very confident
- 26 How quickly do you identify signs of malnutrition among children under 5 in the community?
- a) Very slowly
 - b) Slowly
 - c) Moderately
 - d) Quickly
 - e) Very quickly
- 27 list the signs for severe acute malnutrition and moderate acute malnutrition?
- 28 What do you do when referring malnourished children (Select all that apply):
- a) Write a referral note
 - b) Help arrange transport
 - c) Provide transport
 - d) Other (specify) _____
- 29 Do caregivers usually accept referral their children malnutrition:
- a) Yes
 - b) No
30. Have you received any formal training specifically focused on IMAM Surge during your tenure as a CHP?
- a) Yes

b) No

31. How confident are you in your knowledge of acute malnutrition and IMAM Surge protocols:

- a) Not confident
- b) Somewhat confident
- c) Moderately confident
- d) Confident
- e) Very confident

32 Are you aware of key components of an effective IMAM Surge program ?

- a) Yes
- b) No

32a What are the key components or practices that constitute an effective IMAM Surge program in a rural setting like Isiolo County? select all that apply

- a) Rapid Scale-Up Capability
- b) Early Detection and Screening
- c) Treatment Protocols
- d) Community Outreach and Engagement
- e) Capacity Building
- f) Monitoring and Surveillance
- g) Integration with Health Systems
- h) Supply Chain Management
- i) Coordination and Partnership
- j) Quality Assurance and Accountability

33 How frequently do you engage in activities related to IMAM Surge in your role as a Community Health Promoter:

- a) Never
- b) Rarely
- c) Sometimes
- d) Often
- e) Always

34. What activities are dedicated to promoting awareness and understanding of IMAM Surge among community members?

35. What (other) training have you received since becoming a CHP? Ask: Anything else? (Select all that apply):

- 1: IMAM
- 2: BFCI
- 3: MIYCN
- 4: RMNCH
- 5: Family MUAC
- 6: IMAM Surge
- 7: Others

Section D; Effectiveness of community health promoters

36. How many activities focused on identifying, screening, and referring malnourished children under 5 have you participated in over the past year:

- a) None

- b) 1-2 activities
- c) 3-5 activities
- d) 6-10 activities
- e) More than 10 activities

36b. If so name them

37. What percentage of identified malnourished children under 5 are successfully referred to appropriate healthcare facilities for further assessment and treatment

- a) 0-20%
- b) 21-40%
- c) 41-60%
- d) 61-80%
- e) 81-100%

38. Do you help parents learn about proper child feeding practices: If yes what do you teach them?

- a) Yes
- b) No

39. How do you promote breastfeeding for infants during drought times:

- a) Through community dialogues
- b) By providing free breastfeeding support during household visits
- c) By sharing informational materials
- d) I don't promote breastfeeding
- e) Not sure

40. What factors might contribute to an increased workload for CHPs in your community?

- a) Population growth
- b) Health emergencies
- c) Additional responsibilities from partners
- d) All of the above

41. What is the impact of an increased workload on your ability to provide quality healthcare?

42. Are you compensated with stipends or financial incentives for their work?

- a) Yes
- b) No

43. How much are you paid per month in total for all the work you do as a CHP?

44. How satisfied are you with the current level of stipends you receive:

- a) Very satisfied
- b) Somewhat satisfied
- c) Neutral
- d) Unsatisfied

45. How would an increase in stipends impact your motivation to continue your work?

- a) Positively
- b) Negatively
- c) No impact
- d) Not sure

46. What additional non-monetary incentives do you believe would motivate you in addition to the stipends?

- a) Recognition and awards
- b) Training opportunities
- c) Career advancement prospects
- d) Flexible working hours
- e) Others

Section E: Barriers to Malnutrition Interventions by Community Health Promoters During Drought in Isiolo County

47. What are the main challenges faced by CHPs in Isiolo County when delivering malnutrition interventions during periods of drought?

48. In your opinion, what strategies or resources would be most effective in overcoming the primary barriers encountered by Community Health Promoters when delivering malnutrition interventions during periods of drought in Isiolo County?

49. How do Community Health Promoters navigate cultural or social factors that may impede the delivery of malnutrition interventions in Isiolo County during periods of drought?

50. How do you perceive the role of government agencies, NGOs, and other stakeholders in addressing the primary barriers faced by Community Health Promoters in Isiolo County during periods of drought when delivering malnutrition interventions?

51. What challenges do CHPs face in mobilizing resources, and what opportunities exist for improving resource allocation during resource-scarce conditions?

52. How do socio-cultural factors within the community impact the performance of CHPs in mitigating malnutrition?

53. What economic challenges do CHPs encounter that may hinder their effectiveness in addressing acute malnutrition?

54. What logistical barriers do CHPs face during periods of resource scarcity and drought in Isiolo County?

55. On a scale of 1 to 5, with 1 being "not significant" and 5 being "very significant," how would you rate the impact of each of the following barriers on the delivery of malnutrition interventions by Community Health Promoters during periods of drought in Isiolo County?

- a) Limited access to nutritional supplements and therapeutic foods
- b) Insufficient funding for malnutrition intervention programs
- c) Inadequate training and support for Community Health Promoters in drought-specific malnutrition interventions
- d) Poor infrastructure and transportation difficulties affecting the distribution of aid and resources
- e) Limited community awareness and participation in malnutrition intervention efforts

56. How do you perceive the role of community leaders in either facilitating or obstructing your efforts to combat malnutrition?

57. Can you describe any challenges or barriers that Community Health Promoters (CHPs) face in acquiring knowledge about acute malnutrition and IMAM Surge in Isiolo County?

58. How adequate do you consider the current level of support and resources provided for IMAM Surge activities in Isiolo County?

- a) Very inadequate
- b) Inadequate
- c) Somewhat adequate
- d) Adequate
- e) Very adequate

58b. If adequate, what are these resources?

Community Health Promoters' Adherence to Nutritional Intervention Protocols During Droughts

59. Can you describe the protocols or guidelines you follow when implementing nutritional interventions during drought periods?

60. How do you ensure that you adhere to these protocols or guidelines in your daily practice as a Community Health Promoter?

61. Have you encountered any challenges in following the established protocols or guidelines? If so, what are they?

- 62 Can you provide examples of specific nutritional interventions you've implemented during droughts, and how they align with established best practices?
- 63 How do you stay updated on the latest best practices in addressing malnutrition during drought periods?
- 64 What measures do you take to ensure that your nutritional interventions are effective in mitigating malnutrition among children during droughts?
- 65 How do you monitor and evaluate the outcomes of your nutritional interventions?
- 66 Have you received any training or support in implementing nutritional interventions during droughts? If yes, can you describe the training or support you received?
- 67 Are there any additional resources or support you believe would enhance your ability to adhere to protocols and guidelines in implementing nutritional interventions during droughts?
- 68 In your opinion, what are the key factors that contribute to successful implementation of nutritional interventions during drought periods, and how do you incorporate them into your practice as a Community Health Promoter?

Appendix D: Serc approval letter



KENYA METHODIST UNIVERSITY
P. O. BOX 267 MERU - 60200, KENYA FAX: 254-64-30162
TEL: 254-064-30301/31229/30367/31171 EMAIL: info@kemu.ac.ke

Our Ref: KeMU/ISERC/HND/03/2024

June 5, 2024

ELAINE NJERI NJAMBI
HND-3-2180-2/2022

Dear Elaine,

**SUBJECT: EFFECTIVENESS OF COMMUNITY HEALTH PROMOTERS IN MITIGATING
MALNUTRITION AMONG CHILDREN UNDER 5 YEARS DURING DROUGHT PERIODS
IN SIOLO COUNTY, KENYA**

This is to inform you that Kenya Methodist University Institutional Scientific Ethics and Review Committee has reviewed and approved your research proposal. Your application approval number is KeMU/ISERC/HND/03/2024. The approval period is 5th June, 2024 - 5th June, 2025.

This approval is subject to compliance with the following requirements:-

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

VI. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.

VII. Submission of an executive summary report within 90 days upon completion of the study to KeMU ISERC.

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.



Appendix E: County Approval Letter



COUNTY GOVERNMENT OF ISIOLO
OFFICE OF COUNTY DIRECTOR
HEALTH SERVICES



County Director for Health
P.O. BOX 673 – 60300
ISIOLO

When replying Please quote

ISO/CONT/CDH/ADM/70/2024

16th July, 2024.

Elaine Njeri Njambi
REG/NO: HND – 3 – 2180-2/2022
KEMU

Dear Madam,

RE: APPROVAL TO UNDERTAKE STUDY IN ISIOLO COUNTY

Your request to do a study on the topic “Effectiveness of community health promoters in mitigating malnutrition among children under 5 years during drought periods in Isiolo County Kenya,” refers.

Your license from NACOSTI (NACOSTI/P/24/36999) and approval by Kenya Methodist University are hereby noted.

The office has no objection for the study to proceed.

Kindly share the final research document upon completion.

Thank you.


Dr. Stephen Kiluya
Ag. Director Medical Services,
Isiolo County