Evaluating the Implementation of Child Nutritional Policies: A Case Study of the Community-Based Management of Acute Malnutrition (CMAM) In Ghana

By

Susana Erica Somuah

A thesis submitted in partial fulfilment of the requirement for the degree of

Doctor of Philosophy

Faculty of Nursing

University of Alberta

Abstract

Malnutrition is a global issue with major public health implications. Close to half of all child deaths in developing countries are attributed to malnutrition. Under-five mortality rate is persistently high in Ghana where mortality rates stand at 47.9 per 1000 live births. Malnutrition in early childhood results in physical and cognitive consequences with serious implications for health and economic development of nations. The Community-based Management of Acute Malnutrition CMAM is a major strategy adopted by the Ministry of Health, Ghana, to address severe acute malnutrition in children. The program involves four key components: community mobilization which involved community engagement and active case finding using the Mid-Upper Arm Circumference tape, a supplementary feeding program, outpatient therapeutic care which manages children with severe acute malnutrition using the Ready-to-use therapeutic food and inpatient care for children with acute malnutrition with complications. Since its inception in Ghana, there has been improvement in the cure rate of severe acute malnutrition, however significant disparities exist with its implementation nationwide. The goal of this study was to evaluate the implementation of the CMAM, a key national strategy intended to improve the nutritional status of children. The study utilised qualitative case study methodology to examine the implementation of the program. Twelve professional key informants and 24 mothers were purposively selected and interviewed. Observations were made at two nutritional centers, the Princess Marie Louis Hospital in Accra and the Kwahu West Municipality in the Eastern region of Ghana, and relevant documents were reviewed. Data generated from interviews were subject to content analysis. Six interconnecting strands emerged from the data synthesis and analysis of the policy implementation process: collaboration and stakeholder connections, funding and logistic nuances, human resource and capacity building, implementation dynamics, appraising

the process and Beneficiary experiences. The study found that implementation of the CMAM program was fraught with several challenges including lack of funding and inadequate supply of logistics. There was incomplete program coverage which led to caregivers traveling long distances to access service, inadequate staffing and insufficient volunteers affected case search and follow up aspects of the program. Recommendations are made for the CMAM program to be incorporated into the National Health Insurance Scheme in order to maintain a sustainable source of funding for program implementation. Local production of the CMAM supplements may curb the problem of shortages in the supply of the supplements. Healthcare workers need to intensify education about child feeding practices. The study generates new insights that will inform future policies and programing for child nutrition in Ghana.

Preface

This dissertation is an original work by Susana Erica Somuah. The research study received ethics approval from the Research Ethics Board of University of Alberta, Canada (No Pro00082262, July 2018.) and the Ethic Review Committee of the Ghana Health Service (No GHS-ERC013/08/18, October 2018). Project Title "Evaluating the implementation of Child Nutritional policies: A Case Study of the Community-Based Management of Acute Malnutrition in Ghana".

Dedication

This work is dedicated to my husband Reverend Alexander F. Mensah and our children, Joel, Phoebe and Phiona for their support and encouragement throughout my program. You are the reason I kept pushing.

Acknowledgement

I am thankful to the Almighty God for giving me the enablement and tenacity to go through this PhD program.

I am sincerely grateful to my supervisors, Dr. Lynne Ray and Dr. Christine Ceci for their support and guidance and constructive suggestions throughout the program. I admit it was initially stressful and challenging, but you stood by me all the way through. Thank you.

My sincere appreciation to Dr. Solina Richter for your kind support throughout the program. Your smiles and encouragement at the corridors of the Faculty of Nursing kept me moving.

I thank my committee members; Dr. Helen Vallianatos and Dr. Margot Jackson for your immense contributions and the pivotal role you played in shaping this thesis to its current state.

I am also very grateful to Dr. Patience Aniteye for accepting to be my local supervisor in spite of your busy schedule at the School of Nursing, University of Ghana.

I am extremely grateful to my examining committee: Professor Kodjo A. Senah, Dr. Anna Santos Salas, Dr. Tanya Park, and defense chair, Dr. Pauline Paul.

I am forever thankful to Reverend and Mrs. Asante Marfo-Ahenkora for the financial support throughout the programme, and to my siblings: Vero, Tina, Lydia, Joyce and Pierro. You all helped in various ways to make my stay in Canada comfortable.

Finally, to the Staff at the Nutrition Department of the Ghana Health Service and the two nutritional centers where this work was carried out, I appreciate your time and support throughout the data collection period. Also, to the beneficiaries of the program, I say thank you for sharing your experiences without which this work will not have been completed.

Table of Contents

LIST OF FIGURES

LIST OF TABLES

LIST OF ABREVIATIONS

CMAM- Community-based Management of Acute Malnutrition

WHO - World Health Organization

WBG – World Bank Group

UNICEF – United nations Children's Fund

GHS – Ghana Health Service

MOH – Ministry of Health

USDA – United State Department of Agriculture

MDG – Millennium Develop Goal

SDG – Sustainable Development Goals

SAM – Severe Acute Malnutrition

WVI – World Vision International

MUAC – Mid-Upper Arm Circumference

RUTF- Ready-to-Use Therapeutic Food

IFPRI – International Food Policy Research Institute

FAO – Food and Agricultural Organization

F 100 – Formula 100

F 75 – Formula 75

ReSoMal – Rehydration Solution for Malnutrition

RUTF – Ready-to Use-Therapeutic Food

OPC – Outpatient Care

IPC – In-patient Care

GSS – Ghana Statistical Service

Chapter One: Setting the Context of the Inquiry

Food insecurity and malnutrition is a global issue with major public health implications. The challenge of food insecurity has been widely discussed as a complex and multidimensional phenomenon (Black et al., 2013; Godfray et al., 2010; McDonald, 2010; Shaw, 2007). Adequate nutrition is a basic human right according to the United Nations declaration on human rights of 1948, yet many people are still living in extreme hunger and poverty (The Hunger Project, 2016). The importance of balanced nutrition in the first five years of a child's development is well documented (Agbadi, Urke, & Mittelmark, 2017; United Nations Children's Fund (UNICEF), World Health Organization (WHO), & World Bank Group (WBG), 2017). Nutrition plays a major role in humans from childhood through to adulthood and is responsible for both cognitive and physiological growth and productivity (Black et al., 2013; Government of Ghana, 2016; UNICEF, 2016; UNICEF, WHO, & WBG, 2017).

Food security is defined as physical and economic access to safe and nutritious food by all people at all times for an active and healthy life (United Nations (UN), 1996). Food insecurity is defined as a persistent lack of access to adequate food due primarily to a lack of financial resources (United States Department of Agriculture (USDA), 2017). The WHO defines malnutrition as a state of unbalanced nutrition resulting from deficiencies in an individual's intake of energy and nutrients in the diet (WHO, 2017). Malnutrition is a broad term that usually incorporates both undernutrition and overnutrition. However, the term is used most often to denote undernutrition (UNICEF, 2006). Evidence of inadequate nutrition in children is usually measured by the child's age against the weight-for-height and typically manifests in the form of stunting (low height-for-age), wasting (low weight-for-height) or underweight (low weight for age) (WHO, 2017). Approximately 149 million children are stunted and another 49 million are wasted worldwide (UNICEF, 2019). Stunting results

in permanent cognitive and physical disabilities and may later affect productivity in adulthood. Wasting is usually caused by severe hunger and frequently results in death for children under five years (UNICEF, WHO & WBG, 2017).

I became interested in childhood malnutrition during my masters' education. In my thesis, which focused on factors influencing malnutrition in children under five years in Ghana, I used a cross sectional survey design to identify the influence of factors such as poverty and unemployment, lack of maternal education and improper feeding practices. I found that poverty was a major influential factor yet most policies on child malnutrition in Ghana did not highlight poverty. In my PhD program I decided to explore the policies and structures available to support parents of malnourished children who cannot afford basic nutrition, and specifically to examine how these policies have been implemented in Ghana.

In this section, I present a brief background of the issue of household food insecurity and its effect on the nutritional status of children under-five, at the global, national and household levels. The implementation of policies intended to address food security/insecurity concerns, with a specific focus on the Community-based Management of Acute Malnutrition (CMAM) initiative in Ghana, are then explored. These discussions inform the problem statement, research purpose, and significance of the proposed study. Chapter two of the thesis examines research literature on food security globally but with specific consideration of literature relevant to sub-Saharan Africa. In chapter three, case study research methodology is described with attention to the research design, data collection methods and procedures, and the method for data analysis. The appropriateness of this approach to address the study questions is discussed. Chapter four outlines the results of the data analysis. The chapter is organized according to the six strands that emerged from the data

synthesis. In chapters five and six the key findings are discussed in light of the literature; conclusions are drawn, and suggestions are made for future program planning and research.

The Global Burden of Malnutrition and Food Insecurity

Access to healthy nutritious food is a fundamental human right (UN, 1949). The right to adequate food and nutrition is enshrined in the constitutions of many countries (FAO, 2006). Article 25:1 of the Universal Declaration of Human Rights of 1948 underscores the right of every individual to adequate standards of living including access to good food (UN, 1949). Additionally, article 24: C of the convention on the rights of the child also recognises the right of the child to adequate nutrition and safe drinking water (UNHR, 1996). Good nutrition is essential to the survival of societies (FAO, 2006). At an individual level, inadequate nutrition affects one throughout their life course influencing education and productivity and predisposing the individual to severe and long-lasting diseases (Smith & Haddad, 2015). Food insecurity and hunger continue to be major challenges globally despite various international commitments to end the problem (De Muro & Mazziota, 2011). A review of the UN Millennial Development Goals (MDG) at the end of 2015 found that the percentage of the world's undernourished, both adult and children, had decreased by almost half in 15 years, from 23.3% to 12.9 % (UN, 2015). Sub-Saharan Africa however experienced a slower improvement in undernutrition rates than other parts of the world (Fan, Choe, & Rue, 2017).

Although significant progress has been made in combating food insecurity and malnutrition in previous years, there has been a worrying increase in the global malnutrition figures after a prolonged decline, from 784 million people in 2015 to 821 in 2017 (UN, 2019), and one out of nine people still do not have access to adequate nutrition (UN, 2019). The majority of the world's 66 million primary school children who attend school without adequate nutrition are in Africa (UN,

2015). Child malnutrition and food insecurity have become key development challenges for the African region (Yaro, 2013). Two major international targets for food security were the 1996 World Food Summit target to decrease by half the number of the world's hungry people by 2015, and the MDG target to decrease by half the number of people suffering from hunger by the same year (FAO, 2013). Though some progress towards meeting these targets was recorded, levels of achievement varied greatly among countries in the African sub-region. For example, Ghana, Niger, Malawi and Rwanda were among countries who showed some progress. Burundi, Eritrea and Comoros had alarming rates of hunger. The launch of the Sustainable Development Goals (SDGs) in 2015 revisited the issue of hunger and food insecurity. SDGs 1 and 2 highlight the eradication of all forms of poverty, emphasizing an end to hunger and malnutrition and achievement of food security by 2030 (UN, 2017). However, the multi-causal nature of food insecurity makes the attainment of these targets a complex issue to grapple with (Yaro, 2013). As indicated earlier, most of the world's hungry and undernourished people live in developing countries (UN, 2015). It is estimated that about one in every three people in Sub-Saharan Africa are food insecure. This has generally been attributed to an increase in food prices, rising unemployment levels, extreme changes in weather conditions associated with climate change, unstable political environment, poor economic growth, and lack of economic access to adequate food (FAO, 2008; McGuire, 2015; Yaro, 2013). Nearly half of all child deaths in developing countries are attributable to malnutrition (UN, 2019). Causes of food insecurity and malnutrition vary across countries in the West African sub-region, along with differences in climatic conditions, farming systems and political environment (Sassi, 2015). Global food systems have recently improved the availability of food despite the challenges with local production. However, conditions such as limited access to global markets among developing nations, further impoverish most African countries.

Food Security and Malnutrition in Ghana

In most parts of Ghana, food insecurity and malnutrition are related to factors similar to those in sub-Saharan Africa as mentioned earlier. This includes poor agricultural systems, low yield, post-harvest losses due to limited storage facilities, inadequate dietary intake, poor care and feeding practices, unhealthy environment, poverty and increasing food prices (UNICEF, 2013). Though there has been a general improvement in the nutritional status of children in Ghana in the last 10 years, disparities exist across sub-national levels, with the Greater Accra region recording lower rates of malnutrition (10.4%) and the Northern regions recording higher rates (33.1%) (Government of Ghana, 2016). Ghana is still among the 36 countries with the highest burden of malnutrition, and 13.4% of children have low weight for their age (Government of Ghana, 2016). The slow progress in the reduction of malnutrition cases has been attributed to a lack of political and financial will, coupled with a lack of prioritization of nutritional issues as a major development priority (Government of Ghana, 2016).

Several nutritional policies have been adopted over the years to address maternal and child nutritional issues in Ghana. Notable among these were the iron and Folic acid supplementation program, the Baby friendly initiative, Growth Monitoring and Promotion, High Dose Vitamin A Supplementation, Flour and vegetable oil fortification, Universal Salt Iodization, Supplementary Feeding and Nutritional Education Program, the School Feeding Program and most recently the Community-based Management of Acute Malnutrition (CMAM) (MOH, 2013). Most of these projects have been inadequately implemented due to insufficient funding and inadequate efforts towards sustainability. For instance, the school feeding program introduced in 2005 aimed at reducing hunger and malnutrition by providing one hot nutritious meal per day. The program suffered many setbacks including complaints of infrastructural deficiencies and lack of funding

(Nyarko, 2016). Again, political factors were major issues as a change in the government who initiated the program led to some administrative overhaul.

The Ghanaian Context

Biographical Data

Among British colonies, Ghana was the first to gain independence in sub-Saharan Africa in 1957. Previously known as the Gold Coast and located on the coast of West Africa, Ghana shares a border on the north with Burkina Faso, on the east with Togo, on the west with Ivory Coast and with the Gulf of Guinea and the Atlantic Ocean on its southern boarders. Ghana is a multicultural country with about 250 spoken languages but has English as the official language for both education and government businesses (Embassy of the Republic of Ghana, The Hague, 2017). For administrative purposes, Ghana has been sectioned into 16 regions, namely the Greater Accra region, the Ashanti, Volta, Eastern, Central, Brong-Ahafo, Western, Upper East, Upper West, Northern, Savannah, North East, Oti, Bono East, Ahafo and Western North regions. These are further divided into 216 districts for purposes of decentralisation. Ghana spans an area of about 238, 533 km^2 with an estimated total population of about 28.83 million and an annual population growth rate of 2.24% (Ghana Statistical Service, 2019).

Economy

In 2010 Ghana was reclassified from a lower income country to a lower-middle income country. Ghana is endowed with natural resources such as gold, diamond, bauxite, manganese and recently discovered oil in commercial quantities. It is the second largest producer of cocoa with a current GDP growth rate of 3.7% (Ghana Statistical Services, 2019). Nonetheless, Ghana still faces some major macro-economic challenges such as a high inflation rate and budget deficit, as well as challenges with provision of water and sanitation, infrastructure, energy and transport. Ghana

continues to encounter ongoing difficulties with the influence of global economic and food security crises such as global food price hikes (CIDA, 2009; FAO, 2015). Additionally, over 25% of the population still lives below the poverty line of 1.25 US dollars per day. The unemployment rate in 2016 was 5.77%, with a minimum living wage of 660 GHC per month, equivalent to approximately 147 USD (Trading Economist, 2017). Though Ghana has been projected to be the first African country in sub-Saharan Africa that could become technologically advanced by 2030 (FAO, 2015), several regional differences and inequities exist with regards to resource allocation and infrastructural development. Moreover, the economic gap between rural and urban residents continues to widen, with poverty rates at higher levels in the three Northern regions of the country (CIDA, n.d).

Agriculture

The agricultural sector is a major contributor to Ghana's economy, employing more than half of the total population (United States Development Agency [USDA], 2012) and contributing approximately 23% to the total GDP, mainly from exports (FAO, 2015). Key agricultural exports include cocoa and cotton. Notwithstanding the important role agriculture plays in Ghana's economy, it still lacks modern technology, and many farmers still rely on rainfall for irrigation and thus yearly rainfall is a major factor in determining agricultural yield (FAO, 2015; USDA, 2012; WFP, 2012). While there is lack of irrigation systems, there are several unused groundwater sources that could be used for agriculture, yet most smallholder farmers rely on their own production for both consumption and livelihood (WFP, 2012). Additionally, climate change with its associated extreme weather conditions and events like flood, drought and increased atmospheric CO2 poses as a major threat impacting agricultural production in developing countries (IMF, 2008). Climate

change is predicted to pose severe challenges particularly for farmers in rural areas of Ghana who basically depend on rainfall for agricultural production (Fosu-Mensah, Vlek, & MacCarthy, 2012).

The Ghanaian Health Sector

The Ministry of Health (MOH) is accountable for the health of the people of Ghana and oversees the overall provision of public health services in the country. The creation of the Ghana Health Service (GHS) by Act 525 of parliament led to the entrustment of some functions of the MOH to the GHS. The GHS is responsible for health promotion, curative, preventive and rehabilitation services, while the MOH is directly involved with policy formulation, monitoring, evaluation and regulation of health services delivery (MOH, 2017).

The average life expectancy for the general population at the beginning of 2017 was 63.88 (65.32 for females and 62.49 for males) (World Population Review, 2017). Child mortality rates stand at approximately 61.6 deaths/1000 births (World Data Atlas, 2015). Common causes of morbidity in children include malaria, worm infestations, pneumonia, anemia and diarrhoea (NNP, 2016; UNICEF, 2013; WHO, 2017). Malnutrition underlies and contributes significantly to under-five mortality in Ghana, principally in the three northern regions, where about 57% of the children are stunted and 80% are anemic (WFP, 2012). Lack of access to potable water and poor sanitation remains a crucial issue affecting child health in Ghana (UNICEF, 2013).

In 2011 the general government expenditure on health as a percentage of total expenditure on health was 68.3% (Ghana Health Service, 2017). Though the National Health Insurance Scheme (NHIS) was established in 2004 to improve economic access to health care by Ghanaians, challenges still exist with its implementation (Gobah & Zhang, 2011). Persistent disparities remain with regards to economic access to health care. Urban centers are well endowed with access to modern health care facilities, compared to rural areas of the country, part of which lack access to

basic health care facilities. Additionally, some Ghanaians (both rural and urban) are not able to pay the insurance premium for health care (Boaheng, Amporfu, Ansong, Osei-Fosu, 2019; Kotoh, Aryeetey & Van der Geest, 2018).

Health Care Financing in Ghana

Health financing is a major determinant of effective health care delivery (Akorstu & Abor, 2009). Ghana has undergone several changes in health care financing since independence. Military interventions and frequent changes in governments led to alterations in health care financing from free health care immediately post-independence to the 'cash and carry' system in the early 1980s. The cash and carry system meant the patient had to pay for the full cost of health service at the point of service. This system further deepened the plight of the poor creating inequalities and lack of economic access to healthcare (Adisah-Atta, 2017). Again, government continued to contribute substantially to finance healthcare (Akorstu & Abor, 2009). In 2003 the mandatory National Health Insurance scheme was established. The purpose was to improve economic access to basic health care services. This system is largely credited for improved health coverage providing satisfactory protection for all with regards to healthcare expenditure (Akorstu & Abor, 2009). Aside from these sources of financing the country also depends on funding from international agencies and development partners. However, this form of funding has decreased drastically from US$360.48 million in 2005 to US$178. 93 million in 2010 (MOH, 2015). The decline has been linked to Ghana's transition from a low to lower-middle income country. International funding between the same period reduced by 65%, declining from 52.97% to 18.55% of total funding (MOH, 2015). Although still in operation, the national health insurance scheme has come under criticisms due to complaints of poor quality of care and exemption of some conditions and treatments in some NHIS approved facilities (Alhassan et al., 2016).

The Ghanaian Culture, Religion and Food

Ghana is a multi-ethnic nation with several different traditions and cultures that differ from group to group. Our culture is demonstrated in our values and belief systems, our dressing and also in the food we eat. Ghanaians believe in sharing, including the sharing of the food we eat. Therefore, if someone visits a friend or relation and finds them eating, one can easily join the meal, especially if the relationship is close (Compassion, 2012). The dominant religious groups are Christians and Muslims. About 71% of the population profess Christianity while 17.6% are Muslims, with 5.2% percent affiliated to traditional religion and 5.3% not belonging to any religious affiliation (GSS, 2012). Studies have shown that the Ghanaian peoples' perception on disease causation is deeply rooted in their religious beliefs. Senah (2013) indicates in his writing on the search for health and wellbeing that people the world over "have varied ways of perceiving, defining, treating and preventing illness" (p. 282). Religion then becomes a lens through which people see or understand their illnesses. Anecdotal evidence suggests that Ghanaian people perceive illness as a punishment from God or an attack by evil spirit. Therefore, anyone with an unexplainable illness or disease is sent to a church, shrine or other religious gathering. According to Senah, morality is linked to illness in the African context to the extent that the "Togolese Ewe believe that a thief does not recover when sick" (p. 292) These notions of illness have led to people resorting to herbalists, traditional healers and priests. Though these beliefs differ among each religious group, there is a consensus among many Ghanaians that there are supernatural forces who play a role in the daily activities of individuals (Countries and Cultures, 2019). Additionally, leaders or priests of the various religious groups are able to 'diagnose and prescribe treatment' for their followers. Treatment is usually made up of prayers, divination, herbs, and magical charms (Countries and Cultures, 2019). Cultural and social activities usually include festivals, marriage

ceremonies, naming and funeral ceremonies. These activities are usually performed on Saturdays when people are believed to be less busy or less occupied with work or business activities. Urbanisation has enfeebled some of the cultural heritage such as the extended family system. The nuclear family is more pronounced in the urban areas while the rural population still hold to the extended family system. This notwithstanding, anecdotal evidence shows that many urban Ghanaians usually return to their villages for family activities.

Most Ghanaian staple food is usually starch based, eaten with a vegetable stew or soup. Slight differences exist with rural and urban cooking, with the urban food more 'westernized and sophisticated'. Again, the kind of staple depends on the part of Ghana where one comes from, typically the regions rely on: Southern (Cassava, Plantain, Cocoyam), Central (Maize) and Northern (Millet and Sorghum). Food purchased from street vendors is popular in Ghana especially in the urban areas. Some people depend on street foods even for their children, because it is cheaper than home prepared foods and saves time. Food vending therefore becomes an important aspect of food and nutrition security in many parts of Ghana (FAO, 2017). Unfortunately, some street foods are prepared and sold in unhygienic conditions, exposed to open air, prepared close to sewage or drainage systems and kept closer to the ground. Another concern is that most of these foods are energy dense foods lacking micronutrients found in fruits and vegetables (FAO, 2016).

There are several different cultural practices that affect child feeding in Ghana, although these are not often documented. For instance, in some parts of the country it is believed that if you give the child eggs, they will grow up to become thieves. Although the need to breastfeed is widely publicized in Ghana, studies indicate that some mothers still resort to early cessation of breastfeeding and introduction of complementary feeds (foods given when breastmilk is no longer

sufficient for the child) (Egyir, Ramay, Bilderback and Safaii, 2016; Issaka, Agho, Burns, Page & Dibley, 2014). A study by Nti and Lartey (2007) in the Eastern region of Ghana revealed that most mothers introduced complementary foods before the age of three months. Moreover, the complementary foods were of poor quality and non-nutritious. Issaka et al. (2014) also identified inadequate consumption of meat, fish, poultry products, fruits and vitamins among children aged 6-11 months in Ghana. They indicate that the cost of these foods was prohibitive for low income families. My personal experience with mothers at some paediatric units in Ghana was that they served the children maize porridge (starch-based) without adequate protein or micronutrients sources. Due to the fermented nature of these preparations, the children eat and sleep, and mothers consider them satisfied. Most often the parents focus on satisfaction but not the quality of the food. This is seen by a popular Ghanaian adage that says '*pintin biaa da omen',* literally meaning every fullness is satisfaction. This means what one eats does not really matter, all that matter is to have a sense of fullness.

The Community-based Management of Acute Malnutrition Initiative

The Community-based Management of Acute Malnutrition (CMAM) initiative was started in 2000 by two non-governmental organizations - Valid International, a non-profit organization set up to address the complex challenges associated with the management of undernutrition, and Concern Worldwide, a humanitarian agency established to respond to emergencies relating to health and hunger, as part of other policies and programs to deal with the problem of acute malnutrition in children. The aim of the initiative was to advance a new approach to the management of acute malnutrition that would replace the prevailing ineffective model that concentrated on inpatient treatment (UNICEF, 2013). The CMAM model which was developed by Dr. Steve Collins a medical doctor and a nutrition expert, was a move away from the traditional method of managing

acute malnutrition in the hospital to managing people in their homes with Ready-to-Use Therapeutic Food (RUTF) (Valid Nutrition, 2018). The program was started in humanitarian contexts of war and famine in Sudan, Ethiopia and Malawi where clinic attendance for malnourished children was becoming difficult due to unstable environment. The therapeutic food was delivered to them in their homes (Valid Nutrition, 2018).

In 2007, international organisations, NGOs and national governments accepted and promoted the CMAM model as a preferred method of managing acute malnutrition. Since then, there has been noteworthy progress in the management of severe acute malnutrition globally, with a substantial number of people accessing treatment yearly (Maleta & Amadi, 2014; UNICEF, 2013). CMAM is a system of treating acute malnutrition in children that is focused on a home-based approach and is supplemented by existing in-patient care systems.

The system uses a "case-finding and triage approach" to categorise and treat children in the community before they become acutely ill needing hospitalisation (World Vision International [WVI], 2012). Case finding involves active searching for cases by community volunteers. This method has been effective when fully implemented because children with malnutrition are identified before complications occur. Triage involves categorizing or differentiating malnutrition cases according to their severity. This allows health care workers to identify those who need inpatient care and those who can be managed on out-patient bases. Implementation of CMAM is based on four main strategies: community mobilisation, supplementary feeding programme, outpatient therapeutic programme, and stabilisation or in-patient care. Community mobilisation aims at encouraging active involvement of community members through volunteering. Volunteers are tasked with identifying children less than five years of age with acute malnutrition through measurement of Mid-Upper Arm Circumference (MUAC). The supplementary feeding program

provides food supplies and medications to families of children with uncomplicated malnutrition. The outpatient therapeutic program typically focuses on children with severe acute malnutrition without complications. It emphasises home based management and rehabilitation making use of Ready to Use Therapeutic Food. Children on RUTF are monitored through consistent out-patient visits and those who suffer acute malnutrition with severe complications are admitted for thorough in-patient care and later connected with the outpatient therapeutic program in the community for monitoring and continuity of treatment (WVI, 2012).

The WVI has adopted and implemented the CMAM in about 15 countries including Ghana, since its inception. In Ghana, the CMAM initiative was accepted and integrated into the draft national nutrition policy in 2010. Before then, limited resources in hospitals and other facilities were overstretched due to admission of malnutrition cases, with the center-based management of acute malnutrition mandating the utilisation of 24-hour care requiring trained staff. To complicate the issue, the congested facilities became a danger to the children whose immune system were already compromised as a result of malnutrition resulting in facility acquired infections (CMAM training guide, 2011). With the support of UNICEF and USAID, the program was initially piloted in four districts in the Upper East region of Ghana, which were known to record a high incidence of acute malnutrition (Akparibo, Harris, Blank, Campbell, & Holdsworth, 2017). Children with severe acute malnutrition were identified in the community by trained volunteers using the measurement of the MUAC and other indicators. They were then referred to the health center for further measurements, diagnosis and management.

Problem Statement

Globally, nearly 3 million deaths occur in children under-five every year. Approximately 50% of these deaths are attributed to poor nutrition (UN, 2015). Malnutrition exacerbates the effects

of infections and other diseases and result in deferred recovery (UNICEF, 2017). Severe malnutrition results in significant impairment in physical and mental capabilities, and consequently low productivity in adulthood (Government of Ghana, 2013). Despite a decline in undernutrition rates in some parts of the world, Africa continues to experience a sluggish improvement (International Food Policy Research Institute (IFPRI), 2017). The United Nations reported that majority of the world's hungry and undernourished people (12.9%) live in developing countries (UN, 2015). In Africa, about one in every three people are food insecure. This has generally been linked to an increase in food prices and lack of economic access to adequate food (FAO, 2008). Despite the collaborative efforts of international agencies like WHO, WFP, FAO, USAID, WORLD VISION and UNICEF to reduce food insecurity in Ghana, undernutrition rates remain high. Out of 132 countries assessed for stunting, Ghana ranked 52 with a stunting rate of 18.8 percent (MOH, 2013; UNICEF, 2016). This has been attributed to a lack of prioritization of nutrition as an important development concern, and inadequate political and financial commitment to resolve the problem (MOH, 2013).

Despite the improvement in the recovery rate from acute malnutrition with the CMAM initiative, disparities exist with its implementation nationwide. Again, there are fundamental challenges with coordination, monitoring, evaluation, follow up and funding of the program (Akparibo et al., 2017). The 2016 annual report of the Ghana Health Service indicated a cure rate of 69.7% and defaulter rate of 14.1%, all below the global standards of 75% and 15% respectively. Though a few studies have investigated the effectiveness of the CMAM program in Ghana (Akparibo et al., 2017; Agbadi, Urke, & Mittelmark, 2017; Se-Eun, et al., 2012), little has been done on evaluating the implementation process and the barriers and facilitators to implementation. Again, the few studies identified were conducted in the northern parts of Ghana. This dissertation

investigated how child nutritional policies are currently being implemented and the response by health care providers to the implementation processes with specific focus on the CMAM program. The implementation of the CMAM is used as a case study because of its focus on managing severe acute malnutrition, which is one of the fatal forms of malnutrition in children under-five in Ghana.

Purpose of the Study

The primary aim of this study was to conduct a process evaluation of the implementation of child nutritional policies in Ghana using the Community-based Management of Acute Malnutrition as a case study. The intent was to identify the actors and major stakeholders involved in the implementation processes, their actions and responses to the processes, and to determine the barriers and facilitators to the process.

Significance of the Study

Improving nutrition is perceived as a facilitator in achieving most of the sustainable development goals (Global nutrition report, 2017). According to this report, the world is not meeting global nutrition targets. Meeting targets requires strengthening of health systems and implementation of clear policies to deal with the problem. In commitment to this, I anticipate that findings from the study will inform policy makers, international organisations and non-governmental agencies about existing gaps in the policy implementation process and offer policy direction on how frontline healthcare workers could be guided in responding to the process. Second, with child mortality still at 47.9 deaths/1000 live births in Ghana (UNICEF, 2019), there is the need to implement sustainable nutritional policies that will build capacity to improve child nutrition and health. Also, findings from this study are likely to be beneficial to other countries implementing the CMAM programme. The study provides new insights and reveal opportunities for future research.

Research Questions

My previous experience at two pediatric units in the Eastern and greater Accra regions of Ghana started my journey to explore the factors influencing malnutrition in children under five years and the possible solutions to the menace. My journey began with my Masters thesis, which explored the socio-economic factors influencing malnutrition in children under five years. The results of my thesis led me into the PhD program thinking about how malnourished children could be helped through the implementation of sustainable nutritional policies. Today, I continue this journey directed by the following questions: Who are the actors and key stakeholders involved with the formulation and implementation of child nutritional policies in Ghana? What are the barriers and facilitators to the implementation of the Community-based Management of Acute Malnutrition in Ghana? What are the processes involved and the influence of contextual factors in the policy implementation process? What are the variations with implementation among the different sites and why are these disparities occurring? What are the experiences of the beneficiaries of the CMAM initiative?

Chapter Two: Review of Related Literature

This chapter reviews literature on the implementation of child nutritional policies designed to improve the nutritional status of children. The aim of the review is to explore and critically analyze existing work on the topic, identify gaps in the literature and build on previous knowledge. The review has two major sections. The first section explores literature on the social determinants of malnutrition. The second section presents trends in factors influencing policy implementation in low and lower-middle income countries and explores related implementation barriers of child nutritional policies in Ghana. Databases searched for this review included CINHAL, MEDLINE, PROQUEST, PubMed and JSTOR. A google search was conducted to access grey literature on the topic. In order not to miss vital information, the search was not limited by date. However, only articles written in English were included in the review.

Exploring the Social Determinants of Child Nutrition

The importance of adequate nutrition across the life span is evident in the literature. Nutrition plays a key role in 12 of the 17 sustainable development goals (WHO, 2017). For instance, nutrition supports maternal and child health, improves school performance and education, reduces the risk of diseases and supports overall health and economic growth (WHO, 2017). The increasing rate of diet related non-communicable diseases places malnutrition as a key determinant of health both in children and in adults (WHO, 2017). UNICEF identified five key social determinants that influence the nutritional status of an individual. These include parental formal education, poverty reduction, women's empowerment, social protection and agricultural production (UNICEF, n.d).

Parental Education as a Determinant of Child Nutritional Status

Evidence in the literature points to parental education playing a pivotal role in the nutritional status of the child, and a growing body of knowledge establishing a link between the two exists (Alderman & Headey, 2017; Emina et al., 2009; Lioret et al., 2015; Smith & Haddad, 2000; Wang et al., 2013). In recent years, international development organisations have focused attention on investing in formal education in developing countries to improve economic growth of these countries, most importantly, education of women (Glewwe and Muralidharan, 2015; Abuya, Ciera, & Kimani-Murage, 2012; Vollmer, Bommer, Krishna, Harttgen, Subramanian, 2017). The 2014 Ghana Demographic Health Survey found that mortality levels are considerably high among children of uneducated women than those with formal education; the survey found that mortality rate for children of uneducated women was 92 per 1000 live births while children of women with secondary education or higher had a child mortality rate of 55 per 1000 live births (Ghana Statistical Service (GSS), Ghana Health Service (GHS), and ICF International, 2015). While there is strong associative evidence between maternal education and child nutrition, causal evidential pathways have yet to be established. The argument usually put forth is that parents with good education are likely to have better jobs, good income, and better opportunities to achieve healthy lifestyles (Block, 2007; Johnson, 2014). A study conducted by Alderman and Headey (2017) using 134 demographic health surveys from 56 developing countries for 376,992 pre-school children, found that a strong relationship existed between parental education and child nutrition; the relationship was especially strong for maternal education. They also found that increasing secondary education reduced undernutrition by 10%. In a related study, Lioret et al. (2013) found that children of mothers with low educational background generally exhibited poor health and nutritional outcomes. The study, which involved 421 mothers and their children in an infant feeding program in

Melbourne, did not identify clear mechanisms by which mother's education affected child diet, the authors however hypothesized that parental education could impact their level of knowledge about nutritional needs of their children and what constituted a healthy diet. Similarly, Joshi, Bolorhon, Narula, Shihua, and Manaseki-Hollan (2017) suggested that interventions aimed at reducing inequities in child health should target improving the educational levels of mothers. Examining the social and environmental determinants of health in Mongolia, the authors investigated data from a multiple indicator survey focusing on the nutritional status of children and socioeconomic characteristics such as maternal education and household economic status of their parents. Their results showed that children whose mothers had no education were twice as likely to be stunted (short for age) compared to children of mothers with university education. Smith and Haddad (2015) identified secondary education among several factors that could improve the nutritional status of children under-five years in the post MDG era. Analysing data from 1970-2012 for 116 countries, they found that maternal secondary education was associated with a 31.5% reduction in child malnutrition in sub-Saharan Africa. The authors suggested improvement in maternal education as one of the important factors that needs to be targeted to reduce malnutrition in the post MDG era. Hasan, Soares Magalhaes, Williams and Mamun (2016) investigated the association between maternal education and child nutrition using data from 1996 to 2011 in Bangladesh. Findings showed that children of mothers with secondary education or higher had a reduced risk of malnutrition as compared with children from mothers with low education or no formal education. The authors specifically noted that higher maternal education led to 'protective child care behaviours' such as good sanitation, receiving of immunization and food supplementation, which indirectly influence the nutritional status of children (Hasan et al., 2016 p. 937). They agree with

Smith and Haddad (2015) that women's education should be considered a priority in meeting the challenge of child nutrition in future policy and programming.

Makoka and Masibo (2015) argue that though the general influence of maternal education on child nutritional outcomes is well documented, the specific level of maternal education plays a significant role. They argue that higher levels of education (secondary and above) had a greater influence on child nutritional status than primary or basic education. Their position is supported by Hassan et al. (2015) and Smith and Haddad (2015). Maternal education is considered a priority over paternal education since mothers are believed to be more involved in the care, feeding practices and actions taken towards the health of the child (Iftikhar, Bari, Bano, & Masood, 2017; Makoka & Masibo, 2015). In a case control study to examine the impact of maternal education, employment and family size on the nutritional status of 340 children with their mothers in Pakistan, Iftikhar et al. (2017) failed to establish a strong association between father's education and the nutritional status of the children. Iftikhar et al. agreed with other investigators that maternal education could play a significant role in the nutritional states of the child.

Though most of the articles reviewed agreed that a relationship existed between child health and maternal education, they did not specify the mechanisms by which maternal education influences child nutrition. Authors have differed in their explanation regarding the actual mechanisms involved in the linkage between the two. However, two main themes emerged from the review. First, some authors established a relationship through the influence of maternal education on maternal nutritional knowledge (Lioret et al. 2013; Semba, de Pee, Sun, Sari, Akhter, & Bloem, 2008). These authors argued that mothers gained some nutritional knowledge through formal education. Iftikhar et al. (2017) argued that maternal education increased the ability of the mother to adhere to good feeding and health practices. Semba and colleagues suggested that improvement in

health knowledge, utilisation of health services and increase in health enhancement behaviours were potential pathways that could link maternal education to improved nutritional outcomes. Other authors hypothesized the influence of maternal education on nutrition through socio-economic processes, good employment, productivity and income (Anwar, Nasreen, Batool & Husain, 2013; Desai & Alva, 1998; Makoka & Masibo, 2015; Frost, Forste & Hass, 2005). These authors argued that maternal education paves the way for mothers to be gainfully employed and better able to make good decisions regarding food choices. Iftikhar et al. (2017) suggested that mothers who are highly educated are likely to reside in urban areas where they have access to good health care facilities.

Poverty Reduction

Poverty eradication is considered a top priority in the achievement of the SDGs. Poverty is identified as an important factor that influences both the nutritional status and the overall health of individuals (Pena & Bacallao, 2002). Nearly one billion people live in extreme poverty globally, and a similar number live below the minimum income of 1.90 dollars per day (The Hunger Project, 2017). The world unemployment rate remains high at 8.0% and approximately, 156 million youth live in extreme poverty in developing countries (International Labour Organisation, 2016). Poverty has been identified as both a cause and consequence of food insecurity in children worldwide (FAO, 2002), combining with other factors to form a self-perpetuating cycle. Children who are raised in poor households are likely to have learning difficulties because of poor nutrition and either drop out of school or grow into adults without well-paid employment (Bain et al., 2013; Vorster & Kruger, 2007). Similarly, Vorster and Kruger (2007) argue that malnourished children grow into disadvantaged individuals who continue the ‘undernutrition-poverty’ cycle. Eighty-five percent of the world’s poor reside in rural areas of low-income countries (UNDP, n.d). Maxwell (2000) argues that poverty is not only a problem of rural areas but also of urban centers. He contends that there

has been widespread poverty in the urban areas of developing countries because of rapid increase in urban populations.

In their study on the double burden of malnutrition in Indonesia, Hanandita and Tamgubolon (2015) submit that undernutrition remains a 'disease of the poor.' They suggest that employment, economic growth and sufficient income improve the nutritional status of individuals and propose that to deal with the problem of undernutrition, measures should be aimed at improving the socioeconomic status of the populace to affect income and purchasing power. Again, improved income is expected to improve overall health of individuals and lead to improvement in care practices. Poverty is linked with inability of households to make good food choices. Poor households are believed to purchase food of low quality due to lack of financial resources, increasing their vulnerability to the purchase of poor quality foods (WFP, 2009). Providing employment and designing programs and policies that reduce poverty has helped in reducing insecurity and increase the ability of people to purchase nutritious food, enhancing the nutritional status of individuals and households (McGuire, 2015).

Poverty has been variously defined in terms of overall quality of life (WHO, 2018), level of income (Vosrster & Kruger, 2007) or parental employment. However, Burroway (2017) argues that not all employment significantly affects the nutritional status of the child. The author argues that though being employed may bring some improvement in nutritional status of the child, not all careers confers a nutritional advantage on the child. The study used multilevel models to examine women's employment and stunting among children under-five in 49 developing countries and revealed that though women's employment influenced child health, there existed other confounding social and contextual factors like the type of employment and income level This presupposes that the type of employment and the level of income played a crucial role in determining the kind of

food that is procured and consumed by a household. People with well-paid employment were likely to procure high quality foods for the family. Although, poverty reduction is identified as a major pathway to reducing hunger, poverty eradication alone has not been enough to reduce hunger. UNICEF (1998) suggests that poverty eradication must be addressed in concurrence with good child care practices and improvement in overall health of individuals. In agreement, Heltberg (2009) posits that although economic growth and eradication of poverty mediates child undernutrition, more direct and specific approaches to child malnutrition are key.

In Ghana, several attempts have been made by different successive national governments to improve the health status of individuals through wealth creation. In 2006 the theme for the Ministry of Health was "creating wealth through health." The crux of the theme was that improving the health and nutrition of the citizens could improve productivity and wealth (MOH, 2007). Though there has been an absolute reduction in poverty rates since the 1990s, relative rates remain high, with disparities existing among the various regions in the country. Poverty is considered a key determinant of the nutritional status of children in Ghana. The poor continue to suffer undernutrition due to inadequate food consumption and lack of access to health care (MOH, 2007).

Empowering Women

The concept of women's empowerment is vaguely defined (Burroway, 2017; Pratley, 2016). Gender inequality and empowerment are multidimensional constructs with context specific moderators that include age, race, ethnicity, education, and income (Taukobong et al., 2016). Cornwall (2016) intimates that "there is no one-size-fits-all formulae for empowerment" (p. 344). He stresses that what empowers one woman might not empower another in a different context. UNICEF (n.d) recognizes women's empowerment as another significant factor influencing nutrition. The sustainable development goal 5 addresses concerns of gender inequality and

empowerment of women. Goals 5:1 and 5:5 highlight the need to reduce all forms of discrimination against women and to ensure equal opportunities and participation in leadership and decision making (UNDP, 2018). Empowerment is a broad term that usually denotes autonomy, status, or agency. Autonomy signifies the woman's ability to make important decisions concerning her financial and personal wellbeing including that of her children without any influence from the spouse or other family members (Pratley, 2016). Carlson, Kordas and Murray-Kolb (2015) explain autonomy as a woman's ability to control or have influence over choices that affect her and family. This takes account of her power to make independent decisions regarding family expenditures and finances. A little over half of married women globally have autonomy to make decisions concerning sexual relations, contraceptive use and health of their families (UN, 2017). A survey by the UN designed to track progress of the sustainable development goals revealed that women occupy less than one third of managerial positions in about 67 of the 83 countries surveyed. The report found that on average, women spent a larger proportion of their time on domestic chores and unpaid work, compared to men (UN, 2017). This scenario results in lack of economic empowerment, which sometimes limits the woman's decision-making power.

Burroway (2017) posits that women's empowerment is a core influence for the future of their children. Burroway argues that though women's empowerment has been discussed from various viewpoints, education and the woman's employment outside the home are the two key pillars of female empowerment that increase their "status and decision-making capacity" (p. 2). A systematic review by Pratley (2016) on the relationship between women's empowerment, their health and that of their children in developing countries, revealed that women's empowerment was associated with significant differences in maternal and child health outcomes including their nutritional status. The study concluded that the association was mainly mediated by women's socio-

economic empowerment and general health. There is no doubt that mothers play a pivotal role in the feeding and care of their children. Empowerment of women therefore has been acknowledged by several authors as a key ingredient in combating malnutrition in children under-five (Carlson et al., 2015; Cornwall, 2016). Carlson et al. (2015) explain that when mothers control household resources they tend to focus much of their expenditure on health-related budgets when compared to men. In a literature review which sought to establish a relationship between mothers' autonomy and the nutritional status of their children, the authors concluded that mothers' autonomy was associated with improved nutritional status of the child. Taukobong et al. (2016) studied the influence of gender equality and women's empowerment and found that gaps existed with regards to women's access to resources and opportunities. They concluded that bridging these gaps would have significant positive implications for agriculture, food security and development.

There have been historic concerns in Ghana about women's empowerment. The Ghanaian woman has always been considered inferior or secondary to the man, as the man makes every decision at home, including decisions concerning finances, employment and the health of their children. The post-independence era saw several feminist groups and non-governmental organisations bring forward issues of women on the government's agenda (Anyidoho & Manuh, 2010). The Beijing conference on women in 1995 which focused on gender equality and empowerment of women, generated a significant debate about empowering women in Ghana. The consensus in Ghana was to increase access to education for girl children in order for them to be at par with their male counterparts. Since then, women have begun to play more active roles especially in family decision making. However, issues of gender inequality and female empowerment persist. My experience as a staff nurse at a pediatric unit at a hospital in Ghana revealed the lack of autonomy among women who attended the hospital. Children were sometimes brought to the

hospital in very critical conditions and mothers recounted that they had to wait for the fathers to come either to provide money or make the decision whether the child should be brought to the hospital. The creation of the Ministry of Women and Children's Affairs was an important move towards mainstreaming issues of gender inequality and women's empowerment in Ghana. However, conventional conceptualisations of what constitutes women's roles and their right to empowerment have limited the activities of this ministry to achieve the purpose of its establishment (Anyidoho & Manuh, 2010).

Discourses on women's empowerment and its effects on the general health and nutritional status of children in Ghana have focused on improving maternal productive resources through education, poverty reduction and women's agricultural rights. A project that involved providing mothers with micro-credits augmented by nutritional education yielded strong positive results. The findings showed that not only did the women have improved income, they also experienced a sense of empowerment and improvement in the diets of their families (Marquis & Colecraft, 2012). Survey data from 2642 households in Northern Ghana were collected to examine the relationship between women's empowerment in agriculture and the nutritional status of children. Maternal income, production and leadership were pathways through which women's empowerment influenced the nutritional status of their household (Tsiboe, Popp, Zereyesus, & Osei, 2017). Tsiboe et al. (2017) found that while women produce about 70% of food consumed in the country, they had restricted access to land ownership, compared to men. They noted that the empowerment of women has been the focus of development in many countries because of their housekeeping roles. Again, women are likely to allocate household resources differently than men. Empowering women by giving them equal access to land for agriculture would therefore accrue benefits to their households. A similar study to explore the association between women's empowerment through land rights and

the health benefits for their children in Nepal suggested that women's land ownership aids their ability to have a say in household resource allocation and the nutritional status of their children (Allendorf, 2007).

In a project that analysed discourses and practices of women's empowerment by the Ministry of Women and Children's Affairs in Ghana, Manuh and Anyidoho (2008) confirmed that female education was considered the main pathway through which women could be empowered. They indicated that formal education leads to job acquisition and economic independence. They noted however, that although this did not solve underlying issues of gender inequality, it provided some form of security for women. Sen and Begum (2015) conceptualise women's empowerment and decision making as an important component of poverty reduction efforts. The authors describe the linkage as the "Education-occupation-productivity linkage" (p. 63) and argue that current decisions made regarding education will affect future employment and productivity and subsequently the woman's decision-making power. Anyidoho and Manuh (2015) explain that before the Beijing World Conference on Women, the concept of empowerment in Ghana mainly had economic connotations, and the government's strategy was to ensure that women were empowered through the provision of microcredit plans. However, over the years, the term has been expanded to include social and political connections to power. From the ensuing discussions, it is evident that despite the different conceptions of women's empowerment, it has some positive effects on the nutritional status and the overall health of the child. Good education and well-paid jobs are reflected in the woman's ability to make good choices concerning the dietary needs of the household. The woman's empowerment helps to build resilience and reduce vulnerability of children to malnutrition.

Social Protection

Social protection systems are structures that are intended to improve human capital and productivity, lessen inequality and build resilience to poverty. These structures are meant to transform the lives of the vulnerable and offer them the opportunity to come out of poverty and become productive (UNICEF, n.d). Social protection stimulates formulation of effective policies and programs that fosters improvement in skills and access to employment to help reduce poverty and inequality and also empower women (UNICEF, n.d). The WFP recognizes social protection as an established resource for improving livelihoods, reducing poverty and promoting access to food security and nutrition (WFP, 2016). In his paper titled *social protection for enhanced food security in sub-Saharan Africa,* Devereux (2016) explains that although social protection programs have not clearly focused on enhancing food security, the assumption has been that poverty reduction and protection against vulnerability, which are the core principles of social protection, might lead to improvement in human capital and reduction in food insecurity. Devereux, however, suggests that a more comprehensive approach to social protection would include specific measures to ensure a stable income and food production system.

As indicated earlier, two core principles of social protection are social assistance and social insurance. The latter involves measures to reduce vulnerability to risks like disability, unemployment, ill health, old age, and work-related injuries (UNICEF, n.d). Social assistance, on the other hand, incorporates processes aimed at reducing poverty. It includes cash transfers or assistance in kind, usually provided by national or local sources to the vulnerable (Howell, 2001). Cash transfers are fast replacing food aid in Africa. Cash transfers involve transferring money to the poor to help them cope with challenges with health, education and other socioeconomic needs (WHO, 2008). Cash transfers have been found to be effective at boosting local economies,

generating employment and income and strengthening rural markets (Devereux, 2016). A meta-analysis by Hidrobo, Hoddinott, Kumar, and Olivier (2018) on social protection, food security and asset formation established a significant association between social protection programs and food consumption patterns. The analysis found that cash transfers enhanced the quality of diets consumed by households. Pathways could be improvement in assets, which were measured by possession of livestock, farm assets and cash savings. Social protection can also be linked with women's empowerment through equal access to agricultural facilities such as land, extension services and credit. Jones, Holmes, Presler-Marshall, and Stavropolou (2016) posit that efforts to reduce inequality and empower women through social protection measures, not only with basic care but also with productive resources, could improve both productive and reproductive roles. Cash transfers focused on women have proven useful in improving nutritional status. Women as primary caregivers invest transfers in household nutrition.

Since Ghana's independence, several social protection measures were put in place to help the sick, poor and vulnerable. The Social Security and National Insurance Trust, National Health Insurance Scheme and the Highly Indebted Poor Country initiative are among the early social protection measures. Several other measures have been instituted since then but could not be sustained due to alleged corruption and lack of funding to sustain these projects (Nyarko, 2016). Current social protection measures include the Ghana School Feeding Program (GSFP), the National Social Protection Strategy (NSPS), the Ghana Poverty Reduction Strategy and Livelihood Empowerment Against Poverty (LEAP) and the Ghana Poverty Reduction Strategy (GPRS) (Abebrese, 2008). The government of Ghana established the school feeding program in 2005 with the aim of reducing hunger and malnutrition in children, promoting school attendance and preventing food insecurity (Government of Ghana, 2010). The program was instituted as part of the

social protection measures to help feed school children, a number of whom went to school without food. The school feeding program not only provided one hot nutritious meal a day for the children, but also increased school enrollment by to up to 80%. The program had an added advantage of improving utilisation of locally produced food (WFP, 2007). The programme has suffered many setbacks including complaints of infrastructural deficiencies, non-nourishing diets and lack of formal training on food hygiene for cooks (Nyarko, 2016).

Agriculture

Agriculture is a significant segment of the economy in most developing countries and a major source of livelihood for their populations, providing employment, income and food especially for rural dwellers (Yaro, 2013). Food and nutrition security in Africa have primarily been dependent on domestic agricultural production (Sharma & Sharma, 2017). Food production in Africa is mainly by small-holder farmers who produce about 80% of food primarily for domestic consumption (Sassi, 2015). Effective implementation of agricultural policies in sub-Saharan Africa has proven to be effective in reducing poverty and improving economic growth (McGuire, 2015). For instance, expansion in agricultural yield by small scale farmers merged with other social protection measures led to a reduction in food insecurity (FAO, IFAD, & WFP, 2013). Agricultural yield served as both food and a source of livelihood and economic empowerment for farmers. Yet, climate change and unfavourable weather conditions, continue to impact food production in many parts of the world (IMF, 2008). Farmers are also confronted with lack of farming inputs, irrigation systems, extension services and financial constraints (WFP, 2009). Small scale farmers are only able to produce about 20% of their productive potential due to lack of soil nutrients, good quality seeds, and improved equipment (Fraser, 2013).

Devereux and Maxwell (2001) argue that agriculture lays at the center of food security because of the various roles it plays. Agriculture does not only provide food for consumption but also provides employment and serves as a source of livelihood. The authors note that the agricultural sector employs a greater share of the workforce and contributes disproportionately to the GDP in sub-Saharan Africa, compared to the other regions of the world. Despite the central role played by agriculture in food security matters, Fraser (2013) argues that it has performed below expectations and the importation of food to Africa is on the rise. He explains that though local farmers cannot be relied on to feed the estimated population increase in future, they serve as a safeguard amid consumers and the global markets. Ghana still has problems with production and continues to utilize outmoded and unproductive methods of farming with lack of modern inputs (WFP, 2009). The situation is further aggravated with the young workforce migrating to the urban areas leaving agricultural activities to women.

To conclude, the review on the social determinants of nutrition and how they influence the nutritional status of the child revealed that, child malnutrition is associated with a host of interrelated factors which are initiated by malnutrition itself. Children who are malnourished grow into adults with low intellectual capabilities who are not able to excel in school. Formal education as has been discussed in earlier submissions, paves the way for well paid employment and results in poverty reduction and improvement in the nutritional status of households. Again, higher education and good employment are identified as pathways for women's empowerment which is an important contributor to the overall health and nutrition of a child.

Evaluating Health Policy Implementation

Health policy is defined as "decisions, plans and actions undertaken to accomplish specific health care goals within a society" (WHO, 2018, p. 1). Policies usually serve as a framework that

spells out the priority areas and the expected roles of the various actors (WHO, 2018). A complex interaction exists to influence the implementation of public policy. This interaction involves actors, processes and the context in which these processes occur (Agyepong & Adjei, 2008). Agyepong and Adjei (2008) argue that formulation of evidence-based policies does not guarantee effective implementation. They explain that a focus on the content of the evidence instead of 'actors, context and process' may not lead to the desired outcomes (p. 2). This presupposes that notwithstanding how well-designed a policy may be, effective implementation will depend on the three factors indicated above. Watt, Sword, and Krueger (2005) posit that successful implementation of policies requires provider commitment. They argue that to ensure effective implementation, the organizational, professional and social context should be thoughtfully considered.

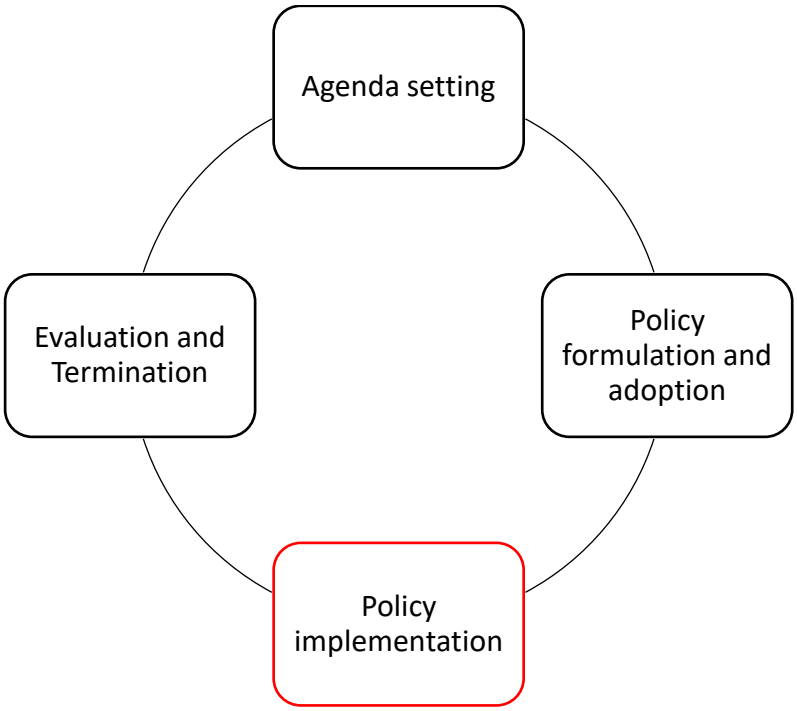
The actors of a policy may be individuals, organisations, networks or associations. Actors could also be governmental or non-governmental organisations with influence on public policy (Watt et al., 2005). According to Watt et al., the context of the policy is the environment in which the policy occurs. Factors that may influence the context includes socio-economic circumstances, culture, infrastructure and environmental conditions. These form the background where policy actors interact to impact policy. Context may change with anticipated or unanticipated circumstances, which may be natural or created. Watt et al. (2018) define the policy process in terms of "actors' decisions, actions, events and outcomes" (p. 3). The policy cycle is a framework that is generally adopted to streamline the policy process.

The Public Policy Cycle

The public policy cycle is a framework adopted by policy analysts to describe the various phases or stages of the policy process. The cycle which has been well discussed and utilized in policy studies, was first described by Laswell in 1951 (Weible & Sabatier, 2018). Though labelled

as simplistic and overused by some policy analysts, the policy cycle remains an important lens through which the policy process is described.

Figure 1. **The Public Policy Cycle**



(Source: Weible & Sabatier, 2018).

The process begins with agenda setting and ends with evaluation of the policy, which may lead to termination or reinforcement. Agenda setting is the process by which issues are brought to the attention of policy makers. The processes involved are not necessarily rational and it is often difficult to comprehend how some issues get on the formal agenda while others do not (Association of Faculties of Medicine (AFMC), 2017). Since national governments are confronted with a number of issues that needs to be dealt with at any point in time, setting the agenda determines which of these issues receive or do not receive attention. Issues get onto the agenda usually through public opinion or advocacy by interest groups (WHO, 2005). Agyepong and Adjei (2008) posit that what gets onto the agenda depends on whether the issue is perceived as a crisis situation.

Policy formulation involves consideration of several options and adoption of the most suitable through policy decision making. The process is made possible by the expertise of professionals and political decision makers (Hayes, 2001), and the most suitable option is usually agreed upon by majority backing. Policies are then presented in the form of rules and regulations, laws, executive orders, administrative or court decisions (Palao, 2013).

After policy options are formulated and a policy prescription is adopted, the process of implementation follows. Implementation involves the administration or enforcement of the policy by a governmental agency (Hayes, 2001). Implementation is the stage between the establishment of the policy and the significant impact of the policy on the people whom it affects (Edwards, 1984). Edwards posits that no matter how brilliant a policy may be, if poorly implemented it may fail to achieve its goals. The implementation phase requires numerous financial and human resources. Hogwood and Gunn (1984) identify some factors that are essential for policy delivery as adequate time and sufficient resources, existence of a set of agreed objectives, accurate sequence of tasks, communication and compliance. Oppong (2013) maintains that the outcome of public policy implementation is dependent on competition for scarce resources.

Evaluation is the final stage of the policy cycle. This stage has been described as the aspect of the policy cycle that is often neglected in the policy arena (AFMC, n.d). Evaluation involves the assessment of the effects of policy including how effective the policy has been and whether it needs modification, overhauling or no change (Hayes, 2014). Hayes notes that feedback from the evaluation is “injected back into the agenda setting stage leading to a closure of the cycle” (p. 1). The outcome of public policy is twofold to solve a problem or reduce the burden to the barest minimum. Policy evaluation concentrates on the measurement of outcomes against policy objectives. According to Fischer, Miller, and Sidney (2007), the evaluation process is not only

crucial at the end of the policy process but permeates through all the stages and may either end in termination or redesigning of the policy. Thus, evaluation centers on planned results and unintended outcomes of policies. Several actors are involved in the evaluation process. These include politicians, officials within the government, private consultants, the media and members of the public. Fischer et al. (2007) argue that policies are evaluated by different actors based on their interest and values. They identify lack of policy goals and objectives as a key hindrance to evaluation.

Barriers to Policy Implementation in Low and Middle-Income Countries

Implementation of policies in low- and middle-income countries have often been met with political bottlenecks. Imurana, Haruna, and Nana Kofi (2014) posit that public policies have been politicized in Africa. They argue that political parties formulate ambitious policies to win or perpetuate power. Most of these policies are never sustained especially when power is lost. Agyepong and Adjei (2008) describe this as an imbalance of policy decision making power related to strong and dominant political actors combined with weak civil society engagement (p. 150). This presupposes that the act of policy formulation is purely a decision of the political forces with little or no involvement of the citizenry. Oppong (2013) also emphasizes the politicization of policies as a barrier to their implementation. In her study on the politics of public policy implementation in Ghana, Oppong identifies political interference as a major factor undermining the achievement of policy objectives, strengthening similar assertions by Grindle (1980) and Turner and Hulme (1997). Thus, changes in national government's usually lead to termination of a program or major changes that affects its implementation. Oppong concludes that conflict and lack of coordination among actors, hegemony and absence of a clear distinction between politics and administration are among the barriers that influence the effective implementation of policies. For instance, in Ghana the

school feeding program experienced major setbacks as a result of change in government. The new government changed the team on the program leading to political tension and a delay of implementation of the program.

Ecker and Nene (2012) identified some major challenges to the implementation of nutritional policies as complexities of cross coordination, lack of awareness of the magnitude of the problem of malnutrition, lack of social pressure and advocacy, lack of political commitment and inadequate financial resource allocation to implement the programs. They explain that policies designed to deal with malnutrition cut across several sectors, making it difficult to monitor or evaluate their implementation. They argue that each government sector has its own mandates and differing objectives, therefore what may seem a priority in one sector may not be for another sector. The authors further posit that nutrition has not been identified as a unit on its own and is frequently seen as a subdivision of the health sector, contending with other departments for resource allocation.

Furthermore, Ecker and Nene (2012) suggest that difficulties with policy implementation stem from lack of advocacy and political commitment to address malnutrition in all its forms. Their questions include; who speaks for children and the nutritional issues affecting them? How has the media involved itself in the problem of child malnutrition? This seems a particularly relevant question for the Ghanaian context where the media plays a large role in placing issues on the government's agenda. Again, chronic malnutrition is frequently not recognized as a persistent issue despite its long-term effects on the economies of countries. Ecker and Nene suggest that the lack of advocacy may also be because issues of malnutrition usually affect those who are impoverished and

underprivileged in society, and thus may not have representation on the political platform or a voice to influence decision making.

One key issue with policy implementation in low and middle-income countries is lack of adequate funding (Eaton et al, 2011; Ecker and Nene, 2012; Zhou, Yu, Yang, Chen and Xiao, 2018; Oppong, 2012). The funding difficulty is reinforced by changes in the classification of countries that impacts funding for development (UNDP, 2013). Interestingly many, nutritional programs are often funded by donors or development partners who generally determine which programs they want to fund and when funding ends.

Reflections on the Literature Reviewed

Nutrition is central to the achievement of most of the sustainable development goals (IFPRI, 2016). Improving the nutritional status of children under five years requires complex and multidimensional approaches that demand a collaboration of several sectors. Addressing the challenge of malnutrition has therefore become a daunting task globally. Poverty reduction, improving access to formal education especially for women, empowering women, and supporting families through social protection measures are some of the identified ways to reduce malnutrition in children under-five. These measures also require sustainable policies towards the achievement of SDG # 2 which emphasizes attainment of food security and improved nutrition. Policy implementation is an essential component of the policy process. Research has indicated that no matter how coherent a policy is, if not well implemented, it may not yield the intended result (Wright, 2017). Investigating the policy process therefore leads to identification of gaps between policy goals and outcomes of the policy. The CMAM was initiated to strengthen the existing policies of managing acute malnutrition which were mostly based on in-patient care. The program which is based on four core principles or strategies - community mobilisation, supplementary

feeding programme, outpatient therapeutic programme, and stabilisation or in-patient care - has improved the management of acute malnutrition since its introduction. For instance, a study conducted in 56 health facilities in the Upper East region of Ghana revealed a 71.8% recovery rate of children with acute malnutrition on the program (Akparibo et al., 2017). Maleta and Amadi (2014) also conducted a case study on the implementation of CMAM in Ghana, Malawi and Zambia and confirmed improved recovery rates in all these countries. They suggest CMAM as a worthwhile initiative in the treatment of acute malnutrition. Despite the effectiveness of the initiative, there have been some challenges with its implementation in Ghana and inequalities exist with implementation even among districts in the same region. Akparibo et al. reported a default rate of 28.5% in the Upper East region of Ghana. Similarly, disparities exist in recovery and default rates in some parts of the Eastern region. For instance, only 22 out of the 32 health facilities in the Eastern region of Ghana are implementing the CMAM (Eastern Regional CMAM report, 2016, unpublished). This raises questions about why disparities exist in implementation, recovery and default rates among different regions and among different districts in the same region. Evidence from the literature reviewed indicated that though some research has been conducted on the implementation of the CMAM (Agbadi, Urke, & Mittelmark, 2017; Akparibo et al., 2017; Se-Eun, et al., 2012), most of these studies concentrated on investigating the outcomes of implementation. Again, most studies conducted in Ghana concentrated in the Northern parts of Ghana. Given the dearth of research on the evaluation of the implementation process, the current study is designed to examine the implementation process of the CMAM in parts of Southern Ghana and investigate what the current barriers and facilitators to the process are. The proposed study will therefore contribute to the existing literature on the implementation of the CMAM program.

Chapter Three: Research Methodology

This case study evaluated the implementation of the Community-based Management of Acute Malnutrition program in Ghana. This study required a methodology that could investigate the issue of implementation in its complexity from the top hierarchy of policy formulation, through the chain of implementation, to the beneficiaries of the policy. Qualitative case study methodology was an ideal approach to examine the case of the implementation of CMAM, as it is a specific instance of policy implementation with many complex nuances. In this chapter, I discuss the qualitative case study research approach, identify and explain the characteristics of the approach that make it suitable for examining policy implementation processes. This discussion includes a detailed description of the research design and potential challenges, the research setting, sampling dynamics and participants. An in-depth profile of the data collection strategies and highlights of specific recruitment procedures are described as well as the data management and analysis procedures.

Research Design

The quest to understand human beings in their natural settings while taking their values, culture and experiences into account has led to an interest in, and a rising use of, qualitative inquiry (Streubert & Carpenter, 2011). In general, qualitative research involves a reflexive inquiry into human and social phenomena (Creswell, 2007). Streubert and Carpenter note that qualitative researchers are "committed to discovery, using multiple ways of understanding" (p. 21). This study employed qualitative case study as advocated by Stake (1995) and Feagin, Orum, and Sjoberg (1991). It should be noted that case study research may also be conducted from a purely quantitative perspective (Yin, 2009), however, to appropriately and fully answer the research questions for this study, qualitative data were deemed optimal to provide the nuanced detail required to fully explore the questions. Steps in the case study process include identifying the case and setting its boundaries,

purposively selecting key informants who can adequately answer the research questions from different perspectives, analysing data holistically and thematically, and finally, interpreting and making meaning from the data analyzed (Merriam, 2009).

What is Qualitative Case Study?

Feagin et al. (1991) define case study as "an in-depth, multifaceted investigation, using qualitative research methods, of a single social phenomenon" (p. 2). Stake (1995) describes case study research as the study of the "particularity and complexity of a single case trying to understand the activities within that significant context" (p. xi). Case study approaches rely on multiple data sources to achieve this in-depth interpretation of the people, programs or events under investigation. It employs data collection methods such as observation, detailed interviews of key informants, audiovisuals and document analysis (Baxter & Jack, 2008; Harrison & Mills, 2016; Yin, 2003).

Present-day case study research has its origins in sociology and anthropology (Merriam, 2009). Anthropologist Malinowski and sociologist LePlay originally developed the design in the 1920s through the 1950s (Creswell, 2007). Case study approaches have frequently been used in the disciplines of psychology, sociology, education, and political science (Naumes & Naumes, 1999; Stake 1998; Yin, 2009).

One important feature of case study research is the theoretical assumption that problems are intimately linked with their socio-political, economic and historical context and disassociating these issues from their context will render them superficial and potentially misleading (Stake, 1995). Case studies are mostly context-specific and therefore allow the researcher to understand the issues in relation to the background in which they occur and the ways that influential elements interact within that specific context. In the current study, case study research methodology was used in order to gain insight into the implementation process in the Ghanaian context and to identify specific local,

organisational, political and ecological limitations unique to the Ghanaian context that had apparent implications on the process.

Another strength of this methodology stems from the ability of the researcher to gather in-depth information. Two main factors that give depth to data collected in case study methodology are the use of different data collection strategies and collecting data from a limited number of cases. Gomm, Hammersley, and Foster (2000) note that investigating fewer cases produces more depth as opposed to experiments and surveys, which collect information from a large data source yet without considerable depth. Normand (2016) indicates that it is simpler to study few cases compared to a larger number of people. He explains that it is easier for the researcher to return to participants for follow-ups, enriching the data, which is difficult to do when large numbers are investigated.

Why Qualitative Case Study?

A central reason for choosing a qualitative case study methodology for this research relates to the complexity of the topic itself. Questions of food and food security are inherently complex with long standing debates concerning definitions of what good food is, what food security is, and how to measure food security or insecurity (Kaplan, 2012). As stated previously, case studies enable detailed descriptions of events, programs, situations and people and relies on several data sources to answer questions about why and how a phenomenon occurs (Baxter & Jack, 2008; Harrison & Mills, 2016; Yin, 2003). Notably, case study research permits flexibility in designing research no matter how complex the research questions are (Harrison & Mills, 2016; Pearson, Albon, & Hubball, 2015). Feagin et al. (1991) posit five main characteristics of case study research that make it amenable to exploring complex issues. These are holistic analysis of bounded systems of action, multi-perspectival analysis, triangulated research, capturing social processes, and open-ended research and unanticipated findings. Each characteristic is described separately below.

Case Research as a Holistic Analysis of Bounded Systems of Action. Feagin et al. (1991) note that a case study approach is used to investigate a web of actors that are circumscribed within a situational framework of 'time and space.' This kind of system, according to the authors, is different from the notion of a cross section of respondents as would be evident in a quantitative survey. The idea of a bounded system then gives an opportunity for the case study researcher to develop a holistic depiction of the actors involved in the phenomenon under investigation and their activities within the system. The case study researcher delimits the investigation not only by geographical space but also to a specific phenomenon of interest. This allows the study of the phenomenon in its entirety, taking note of the complexities and particularities of the case (Stake, 1995). Creswell (2007) describes the whole of the bounded system as the 'case.' This case study specifically looked at the 'case' of implementation of the CMAM in the Ghanaian context. The case was bounded by location; thus, the case of two nutritional sites in Ghana.

Multi-perspectival Analysis. Another important feature of case study methodology is the collection of data from different sources within the same context. This implies that the researcher is able to establish a connection between the various social actors, supporting the opportunity to examine multiple perspectives on the case under study. As discussed earlier, nutrition is a multi-layered issue and the researcher must explore perspectives from diverse viewpoints to fully understand what the role of each actor or group of actors are, where they converge and where they diverge in their opinions. Case study research permitted interaction with various actors and stakeholders that were directly or indirectly involved with child nutrition in Ghana. Thus, a comprehensive perspective of all these actors within the context of the study contributed to a better description and understanding of the situation.

Triangulated Research. Feagin et al. (1991) posit that "social reality is too complex and multifaceted to be adequately grasped by any single method" (p. 158). Case studies therefore achieve triangulation by combining varied perspectives and sources of evidence from different people to achieve depth in the data collected. This includes the use of observation, interviews, audiovisuals, reports and document reviews (Baxter & Jack, 2008; Harrison & Mills, 2016; Yin, 2003). In combining several methods, one method compensates for the limitations of the other. Data gathered in interviews could be confirmed through data collected through observation or documents reviews (Feagin et al., 1991; Merriam, 2009). Merriam (2009) extends this argument to include not only triangulation of different data collection methods, but triangulation of multiple data sources. Investigating a multifaceted and complex-real life situation such as food security demands an approach that is flexible enough to incorporate several data sources. This informed my decision to adopt the case study methodology. This study made use of varied data sources and utilised diverse data collection methods including key informant interviews, focus group discussions, observation and review of documents to validate findings.

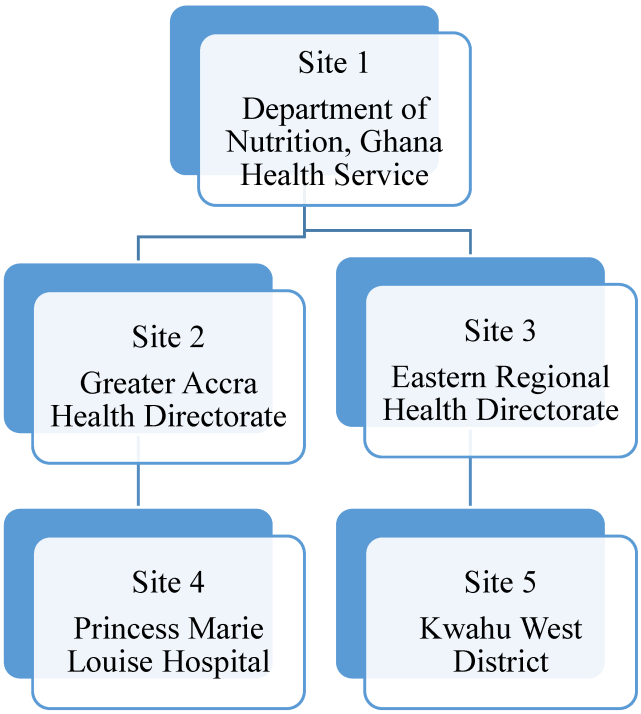
Capturing Social Processes. Case studies can capture events, interactions and situations as they unfold over time. The goal is to understand conventional activities that take place within a specific context by examining the dynamics of ongoing interactions (Feagin et al., 1991). In this way the researcher can identify the mechanisms through which these processes occur. Evaluating the implementation process required that some of the actions and interactions that occur in everyday activities in the policy arena be captured as they occurred. Therefore, observation was done at the study sites to capture the daily activities and interactions that went on at the nutritional centers.

Open-ended Research and Unanticipated Findings. Feagin et al. (1991) notes that case studies may lead to the discovery of unanticipated findings and data sources. Through a rigorous process of data collection, and the use of several data sources, the researcher can uncover findings that have been overlooked. Though this could be realised in other research designs, Feagin et al. (1991) indicate that it is more a common feature in case studies than other methodologies because unexpected observations lead to a renewed focus or re-thinking and re-direction of the research questions. According to Gomm et al. (2000) this is acceptable and sometimes desirable in case studies since the boundaries of the case shift as the research process advances. This case study required a shift in the boundaries to interview people who were not part of the initial plan. For instance, I had to interview participants from UNICEF and NMC to clarify issues with funding and curriculum revision respectively. This information brought some insights into these issues.

Study Setting

To follow through the levels of policy implementation, a multisite case study was conducted. Mills, Durepos, and Wiebe (2010) note that multisite case study allows the researcher to obtain different representations of the same phenomenon supporting a broader understanding of the case. In view of this, data were collected from five different sites in Ghana. This included the Department of Nutrition at the Ghana Health Service headquarters, the Greater Accra and Eastern Regional Health Directorates, the Nutritional Rehabilitation Units of the Princess Marie Louise Hospital in Accra and the Kwahu West district in the Eastern region of Ghana. These sites were chosen purposely to fulfil the aim of this study and with the intention of fostering alternative explanations of the phenomenon among the different categories of interviewees.

Figure 2. **Data Collection Sites**



Site 1: The Ghana Health Service is an executive agency established by an act of Parliament (Act 525) in 1996, as part of the health sector restructurings to oversee the implementation of policies in the health sector. The nutrition department is one of the four subdivisions under the recently created Family Health Division. For this site, I was interested in learning about what informs the policy processes such as agenda setting, decision-making, policy formulation, implementation and evaluation, and who the major actors were in the policy process. At this site I interviewed four top level managers directly involved with the CMAM program.

Site 2 and Site 3 are the Eastern and Greater Accra Regional Health Directorates respectively. These sites were selected to identify how information transfer occurs between the national and the regional health administrations and how this information is communicated to the districts, sub-districts and facilities for implementation. The regional health administration usually liaises between the national offices, the districts and health facilities. The Eastern region is located

in southern Ghana and is one of the 10 administrative regions in Ghana (now 16 regions) spanning an area of 19,323 km² and has a population of about 2,633,154 (2010 Census). It shares boundaries with parts of the Ashanti, Brong Ahafo, Volta, Central and Greater Accra region. The region is subdivided into 26 districts and has 19 hospitals and several health centers scattered across the region.

The Greater Accra region is the most populated region in Ghana and yet it spans a small area of 3,245 square kilometres with a population of 4,943,075. (Ghana Statistical Service, 2019). For administrative purposes it is further divided into 16 districts and has about 86 hospitals including private and teaching hospitals. Two second level officers in both directorates were interviewed because they are the focal persons who liaise between the national offices, the district and health facilities.

Site 4: The Princess Marie Louis Hospital is an 88-bed capacity government hospital located in the Greater Accra region of Ghana. It is found in Derby Avenue in the central business district of Accra. It is one of the largest providers of specialist pediatric services in Accra. It serves the city population along the coast of the southern border of the country and the rest of Accra, providing both primary care and specialized services in pediatrics. The hospital is also regarded as the hospital for malnourished children because it has the largest rehabilitation facility for malnourished children in the country. This setting was chosen because though it is in the Greater Accra region, which is the capital of Ghana, it is surrounded by suburban communities made up of middle and low socioeconomic status. Due to the business activities in and around the catchment area of the hospital there are a number of migrant populations throughout the year inflating the population of the area. Also, the nutritional rehabilitation centre served as a good place to access mothers with malnourished children to interview. At the centre, I interviewed two frontline

healthcare workers at the hospital and mothers attending the nutritional center who agreed to participate in the study.

Site 5 Located in the Eastern region of Ghana, the Kwahu West district was carved from the Kwahu South municipality through a legislative process and upgraded to a municipality in 2007. It has Nkawkaw as its administrative capital. The municipality is multicultural because of its commercial nature with the Akan tribe (Kwahu's) being the dominant group. Most adults in the community are either involved in trading activities or farming. Nkawkaw also serves as the converging market center for the districts that share a border with the town. The private or informal sector is the largest employer in the municipality. This site was chosen because it has several rural communities and records high numbers of malnutrition cases as per discussions with the regional nutrition officers. The intent in selecting these two sites was to determine whether there were within-site characteristic differences between the urban and rural context that could influence policy implementation. At this site, two frontline healthcare workers in the district were interviewed. Also, mothers with malnourished children on the CMAM program were recruited and interviewed.

Sampling

Most qualitative researchers recommend sampling to the point where no new information is being found or when the researcher has reached redundancy or 'saturation' (Jacelon & O'Dell, 2005). Case studies differ slightly from other qualitative methodologies in sampling and recruitment methods. The initial phase of selection involves selecting the case, selecting the context and then selecting the participants. In case study research, the intent is to purposely select participants who are as closely linked to the case as possible. Again, as the study progresses participants may recommend others who could provide information concerning some other aspects of the study. The aim of utilising purposive sampling was to elicit rich data from participants who are well informed

about the case under investigation (Creswell, 2007). Merriam (2009) posits that in case studies sampling decisions can be made before or during the process of data collection. The actual sample size of this study could not be predetermined, however as the study progressed people with pertinent knowledge and experience on certain aspects of the research topic (which is typical of qualitative case studies) were contacted to be interviewed.

Participants

Twelve key informants from professional sectors were recruited for the study. This included four top-level managers from the department of nutrition at the Ghana Health Service. These included Deputy Chief Nutrition Officers and program coordinators who have served in various capacities in the nutrition department and have more than 10 years' service experience each. Two (2) second level managers from the Greater Accra and Eastern Regions of Ghana respectively and four (4) middle level managers from the two nutritional centers were selected for the study. Additionally, a senior operations manager from the Nursing and Midwifery Council of Ghana and a representative from the nutrition subdivision of UNICEF, Ghana were contacted to clarify certain issues that emerged during the data collection. To have a fuller representation of experience, the views of mothers (beneficiaries of the program) were sought. Twenty-four (24) mothers were interviewed: 10 individual interviews and one focus group discussion from each site.

Data Collection Strategies

Three main data collection strategies were used to collect information rich data to address the study questions. These were in-depth interviews of key informants/focus group discussions, observation, and document reviews.

Observations. Observations were done at the two nutritional units to learn how health workers identify, diagnose and manage severe acute malnutrition at the nutritional centers, and

whether the CMAM guidelines are being adhered to and how caregivers are taught the basics of management of the children at home. Additionally, a field diary was kept, noting data that supplemented what was specified in the observation protocol. Access to the nutritional units was made possible by the permission of the regional nutrition officers and the hospital authorities. As the researcher I worked as an observer participant, which gave the healthcare workers the ease of working without necessarily feeling being observed. Merriam (2009) notes that in this role, the researcher needs to interact closely enough to establish a responsive relationship with participants without necessarily participating in central activities of the participants (p. 125). I arrived early at the centers each day and stayed with the staff until they closed for the day. The initial plan was to spend one month at each of the centers however after two weeks of observation no new themes emerged. This could be due to the fact that some components of the CMAM program were not being implemented as per the program plan and secondly, interactions at the nutritional center followed a very consistent format. However, the two weeks spent at each of the sites was very fruitful and produced some good evidence that informed the analysis. Observations focused on the activities and interactions between mothers and the health staff at the units.

Interviews. Interviews are interactions with the participants to generate information specifically designed and structured to answer the research questions. Stake (1995) theorises that the interview is the "main road to multiple realities" (p. 64). Interviews are particularly good for case studies when the researcher aims to achieve a depth of information from a limited number of cases (Merriam, 2009). One advantage of using interviews in case study research is that interviewees can point out other potential respondents or sources of information (Yin, 2009).

This study utilised a semi-structured interview guide to solicit for information from key informants. The interview guide consisted of open-ended questions that focused on the research

topic. The researcher also embraced new ideas on the topic that emerged during the interview sessions. The interview was primarily exploratory with follow up questions and probes initiated during the interviews to maintain flexibility and yet avoid gathering data that would not address the research questions. Key informants from the Ghana Health service and the two nutritional units as well as mothers, were interviewed. Interviews with the key informants led to two follow up interview sessions with a participant from the nutrition division of UNICEF Ghana (the main sponsor of the CMAM program) and the Nurses and Midwifery Council of Ghana respectively. Key interview questions focused on the policy implementation process and the success of the implementation.

Two focus group discussions were conducted; one in each data collection site. Each group was made up of seven participants to ensure that everyone has the opportunity to share their experience. Both discussions were conducted on the premises of the facilities, in rooms that were assigned by the staff in charge of the Unit. Participants were informed the week before the discussion about the purpose and modalities of the discussions. Each participant was asked to give a code name (not real names) by which they could be identified. Biographical information was collected from the participants after which the discussion commenced. The discussions were guided by the semi-structured questionnaire used for the individual interviews and were audio recorded. Probing questions were used to clarify participants' thoughts and reactions. Non-verbal cues like facial expressions and posture of participants was also observed. Participant who were not forthcoming with contributions were encouraged to share their experiences. Each discussion session lasted approximately one hour. Appendix E to G has details of interview guides for all categories of interviewees.

Reviewing Documents. The purpose of gathering data from documents is no different from observations and interviews (Merriam, 2009). Merriam notes that embedded in documents are peoples' voices, conversations and arguments. Documents serve as a good source of information and could possibly be the best when interviews and observation are impossible. Another strength of document review is that data gathered is not influenced by the researcher's presence such as occurs in interviews and observations. For this study, I gathered documents from the sites of data collection with the permission of the various heads of departments. Documents were mainly photo evidence of children cured on the CMAM program, specifically those who came with very severe forms of malnutrition, as well as program guidelines and annual reports. The documents served as a good background for the study and also informed some aspects of the discussions.

Recruitment and Data Collection Procedure

A thoughtful consideration of how to identify participants who can provide the best information in a qualitative case study was key (Hancock & Algozzine, 2017). Prior to data collection I had already had some interactions with selected key informants at the various sites to obtain letters of support for the study and determine the feasibility of recruiting prospective interviewees. During the interactions, I made the key informants aware of the purpose of the study and informed them that the study would not incur any financial obligations for the facilities. After ethical and institutional approval was received from the Research Ethics Board of the University of Alberta and The Ethics Committee of the Ghana Health Service, formal contact was made with key informants. The four top level managers from the Ghana Health Service were contacted through an arrangement with the administrative secretary. During my first contact, I explained the purpose of the study, clarifying issues of anonymity and confidentiality, and sought consent through a verbal and written informed process. After consent was obtained an interview date was scheduled. All four

top level managers agreed to meet with me in their offices at scheduled times. They were informed that interviews may take approximately 60-90 minutes and that I may follow up to clarify issues that were not clear from the first interview. Open ended questions were asked to solicit information rich perspectives on the research questions. Probes and follow up questions were used to clarify concepts and viewpoints that needed to be expanded. Interview sessions took between 20-45 minutes and were digitally recorded with the permission of interviewees for ongoing and future analysis.

I contacted the two second level officers directly in their offices. The purpose and procedures of the study were explained to them and interview dates were scheduled. For the two nutritional centers, I gained access through the Regional Health Directorate in both settings. To better understand the dynamics of the work environment and identify the appropriate persons to be interviewed, I first proceeded to the facilities to get acquainted with the health care providers at the clinics. After identifying the key informants in these areas, their consent was sought, and the purpose of the interview explained to them. A date, time and place were fixed for the interviews. They were assured that their names would not be used in any report or publication and that their transcript would be given codes that would not have any direct connection to them and only I and the supervisory team would have access to it. Again, the information they provided would be kept in strict confidence. They were also made aware that the researcher might come back to clarify parts of the interview that needed further clarification. All interviews were tape recorded with their permission.

Caregivers of malnourished children attending both clinics were recruited through the head of the nutritional units. Nutrition officers of the units introduced me to the mothers and the process was explained to them, assuring them of confidentiality, anonymity and voluntary participation.

Those who agreed to be part of the study met with me individually and a place and time of convenience was agreed on. Interviews were semi-structured to solicit for specific information regarding the research questions and to allow for some flexibility for participants to share their experiences. Interviews and focus group discussions were done in the Akan language. With the help of an assistant, back translation was done to ensure accuracy of the transcribed data. Data collection was done concurrently from all sites from November 2018 to January 2019. I began with top level managers from the Ghana Health Service, the Regional Health Directorates and the nutrition centres. Due to the busy schedules of top level managers some interviews were rescheduled and conducted in between scheduled interviews at the centres.

Ensuring Rigor

An important way of ensuring rigor in case study research is the triangulation of several data sources **(**Pearson, Albon, & Hubball, 2015), as the researcher is thought to be able to confirm findings by comparing data collected from diverse sources. This research utilised different data collection methods and varied sources of information to confirm findings. Information from key informants' interviews complemented that from observations and document reviews. Using the three different approaches to data collection maximized the process and ensured that a comprehensive depiction of the investigated phenomenon was described. Academic supervisors were consulted throughout the data analysis process to review the coding process and comment on preliminary findings of the research to enhance credibility.

Houghton, Casey, Shaw, and Murphy (2013) posit that prolonged engagement with the case study site enables the researcher to have a better understanding of the phenomenon being investigated. This means that the case study researcher will require an extended period to be able to extrapolate meaningful information from study sites. Adequate engagement is coupled with a

purposeful search for variation in the conceptualization of the phenomenon (Merriam, 2009). I had an extended time (one month at each centre for both observations and interviews) with participants during the periods of interviewing and observation, studying the routines of the centre and getting involved with some basic activities. I was able to build trust with both the health staff and the mothers attending the clinic through an initial interaction as an observer participant. This kind of interaction yielded meaningful evidence for the study.

To ensure that the research findings are consistent and could be replicated (Lincoln & Guba, 1985), a thorough account of the research processes has been described in this chapter including the process of data collection, formation of categories and themes, and important decisions that were made throughout the analytic process. I kept a research journal noting my reflections, queries, hunches and other concerns during the process of data collection and analysis to allow an independent audit assessor to follow the research processes employed. The notes included my personal reactions as a health care worker and as a nurse interested and passionate about the nutritional needs of children both during data collection and interpretation. Being aware of my understanding and possible misunderstanding through introspection also enabled me to strategize and ask specific questions that would help me clarify and understand participants' own viewpoints.

Shenton (2004) indicates that the researcher needs to ensure that findings of the research are the "experiences and ideas of the informants rather than the characteristics and preferences of the researcher" (p. 72). Triangulation is recommended as one of the ways to confirm findings. As discussed previously, this research made use of three different data collection strategies: interviews, observation and document reviews. Again, multiple perspectives were sought from different participants from the top hierarchy of policy formulation to the clinical sites where the policy was to be implemented. This ensured validation from the different data sources. Interviews with the top-

level managers were compared with those from key informants from the other levels of data collection.

Transferability refers to how research findings could be relevant to other contexts similar to the original context of the research (Pitney, 2004). Yin (2009) indicates that statistical generalisation is not what qualitative case study researchers seek to do. He points out that instead of statistical generalisation, case study researchers are interested in theoretical generalisations. Here, the researcher leaves interpretation to the reader who determines how the study suits their own conditions or context. To ensure transferability, an in-depth description of the context and study participants, study setting, sample selection process and characteristics, and data collection and analysis procedures has been detailed in this report.

Reflexivity. A general principle in qualitative research is for the researcher "to establish an agenda to assess for subjectivity" (Multerud, 2001, p. 483). Multerud posits that complete neutrality is impossible in qualitative research as the researcher always has a reason for selecting the topic to investigate, the angle of the investigation and even the method employed for the investigation and this is likely influenced by their background or position. Therefore, Merriam explains the need for investigators to clarify their prejudices, dispositions and assumptions regarding the research since these may influence the conduct of the research (Merriam, 2009, p. 219). To maintain reflexivity, a diary was kept taking notes of my personal reactions as a health care worker and as a nurse interested and passionate about the nutritional needs of children. Being aware of my understanding, and possible misunderstanding, through introspection enabled me to strategize, probe and ask specific questions that clarified and helped me understand participants from their own perspectives.

Ethical Considerations

Research ethics approval was received from the Research Ethics Board (REB) of the University of Alberta (July 26, 2018) and the Ethical Review Committee of the Ghana Health Service (October 19, 2018) (Appendix I and J). Letters of introduction together with letters of approval from the ethics boards were sent to all the institutions involved to seek permission before the commencement of data collection. The following ethical considerations were addressed throughout the research process.

Informed Consent. Informed consent involves making the participants aware of the implications of the research to enable them to make an informed choice to participate or not to participate (Halkoaho, Pietila, Ebbesen, Karki, & Kangasniemi, 2016). Verbal or written informed consent was obtained from all participants before the commencement of the study. Verbal consent was given where participants could not sign the form. This was done after the purpose and nature of the study was thoroughly explained to them and they had agreed to participate. They also gave their consent for the interviews to be audiotaped. The information sheet and consent forms were read and interpreted to participants who could not read or understand English. Those who opted for the written consent signed or thumb-printed. The signed forms were stored separately in locked cabinets in a separate location than where the data was stored.

Ensuring Participant's Wellbeing. All participants were informed of freedom to withdraw from the study without any consequence or disadvantages with specific note that withdrawal would not affect their employment or in the case of the family caregivers, the care that they received at the nutritional units**.** Participants were reassured that in situations where they felt they could not continue due to emotional stress, interviews would be discontinued, and emotional support would be sought from a clinical psychologist at the cost of the principal investigator. Additionally, they

were told that participation in the study was voluntary and there was no form of coercion, no financial benefits or any other material given to participants before or after the interviews. Refreshments and transportation were given to mothers who had to travel to the nutritional centers to be interviewed.

Anonymity and Confidentiality. McCurdy and Fitchett (2011) emphasize the need to safeguard information about participants in any kind of research. This is achieved by protecting the identity of study participants to avoid risk or embarrassment (Houghton et al., 2010). Pseudonyms were used to avoid possible identification of individuals involved in this study. Audiotapes and transcripts were freed of possible identifiers and were kept under lock in a cabinet by the researcher. Each participant was interviewed at a place of their preference to ensure privacy and confidentiality. Participants were informed that though quotes may be used to justify analysis or during presentations and publications, identity of the quotes will not be declared. Key informants were labelled as top-level or second level informants and titles and roles were omitted to prevent identification of specific individuals.

Data Management and Analysis

Data management began at the initial stages of data collection. Audio recorded interviews were transcribed after each interview session and organized using electronic files and folders. Electronic copies of transcribed data were assigned with numbers and saved on a password protected memory device. Printed copies were placed in individual files and coded with pseudonyms for easy retrieval. These were kept in a locked cabinet to serve as a back-up for the electronic data. The initial stages involved bringing together all the information gathered through interview transcripts, reports, field notes from observations, reflective memos and review of documents. The large data set was pulled together and organized in a comprehensive manner that

allowed it to be easily accessible for analysis. This information will be kept in confidence by the researcher for five years as per the requirement of the university before being destroyed.

According to Merriam (2009), data collection and analysis are done simultaneously in qualitative research. Analysis begins with the first interview, observation or document review. The evolving ideas and perceptions may help direct the subsequent questioning and modification or reconstruction of questions. Analysis and interpretation involve putting the pieces together and making sense of how each part relate to the other (Stake, 1995). Stake describes the process of analysis as "giving meaning to first impressions as well as to final compilations" (p. 71). The process involves bringing together each part of the data and determining how each part relates to the other to make meaning. Stake describes three main ways of analysing and interpreting qualitative case study data. These are categorical aggregation or direct interpretation, identifying correspondence and patterns, and naturalistic generalisation. According to Stake, case study analysis involves interpreting the individual occurrences and then aggregating these instances.

Analysis of the data began immediately after the first few interviews and continued concurrently. Initial analysis informed subsequent questioning of key informants. A simple inductive content analysis was used to analyse transcribed data. Content analysis is a method for coding text into categories and noting their occurrence in each category. It involves interpreting the meaning of the text and quantifying the interpretations (Ahuvia, 2001, p. 150). This form of analysis was utilized because it allows the researcher to analyse data holistically, ensuring that the researcher did not only pay attention to categories that support the research question but also those that emanate from the data (Haggarty, 1996). The entire transcripts were read several times to make sense of them, with particular attention to text that specifically addressed the research questions in addition to 'larger thoughts' from the data to form preliminary categories (categorical aggregation).

Field notes were recorded during observation periods, transcribed and extended in a narrative form as soon as possible after these periods. Documentary evidence was also used to support analysis and interpretation of the transcribed data.

The next analytic step was to develop an analytical coding framework through a classification system (Gale, Heath, Cameron, Rashid & Redwood, 2013). The coding framework was discussed with research supervisors to ensure coherence. Coding was done using key words and phrases from participants' responses. To avoid placing a limitation on the analysis and ensure flexibility, emergent categories as opposed to pre-figured categories were considered. Significant sections of the data were captured to support each category. After a thorough review of the categories (Stake, 1995, p. 78), patterns were identified, and themes were formed to inform the narrative. In addition to looking for repetitive evidence relevant to the case, particular attention was given to outliers or single instances that appeared in the data. This informed the interpretation and discussions of the broader categories. These processes coupled with observation, document review and personal reflections helped to situate the case within the context. Analysis began in November 2018, concurrently with data collection as indicated earlier and ended in August 2019. The discussions and writing of the final report were completed between the periods of September and December 2019.

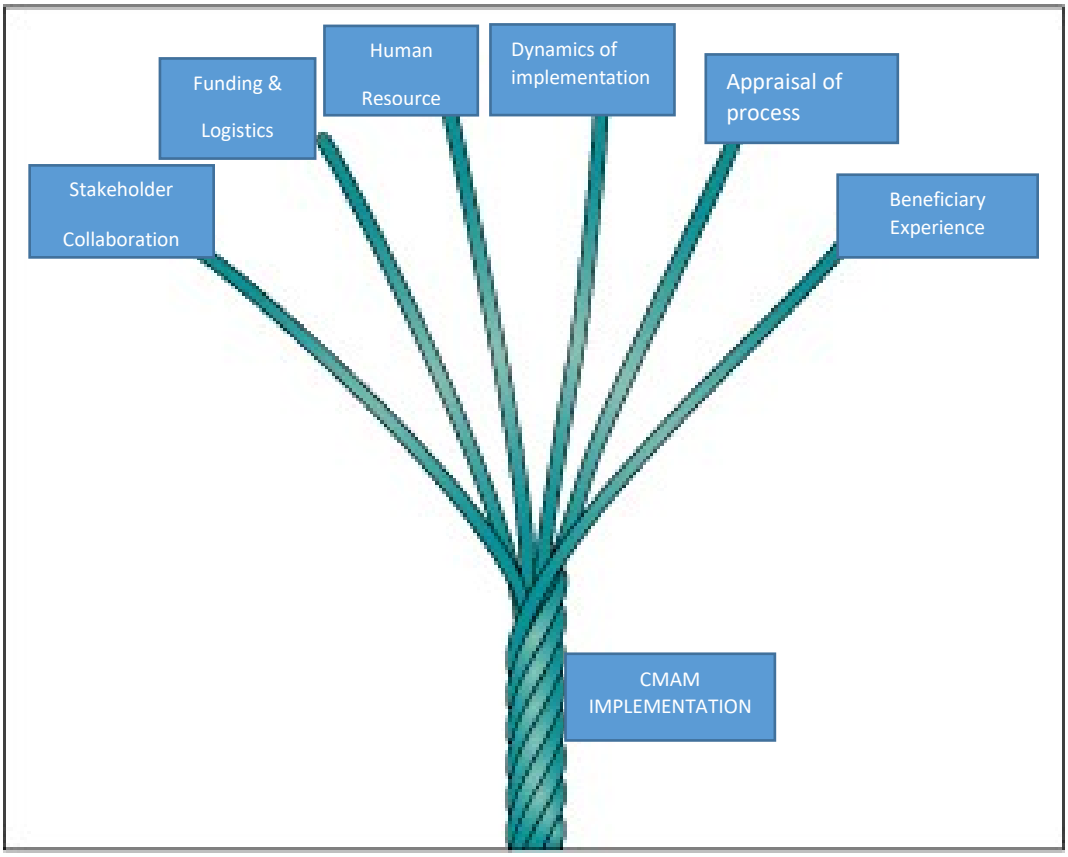
Chapter Four: Report of Study Findings

The purpose of this research was to evaluate the implementation of the Community-based Management of Acute Malnutrition in Ghana. The CMAM program is one of the major strategies aimed at managing severe acute malnutrition in children under five years world-wide. This study explored how child nutritional policies have been implemented to affect the nutritional status of children under five years in Ghana. This chapter presents findings of the qualitative case study involving professionals and mothers of malnourished children under-five years attending two health care facilities in the Greater Accra and Eastern regions of Ghana. Key informants included professionals from the top level of policy formulation to the nutritional centers (n=12) and caregivers of malnourished children attending two health facilities in Ghana (n=24), one participant from UNICEF Ghana and a participant from the Nursing and Midwifery council of Ghana.

The responses were analyzed using a standard content analysis. For the purpose of ensuring anonymity, direct quotes from professionals are labelled P1-12 (P in this context meaning professional). Quotes from mothers are labelled M (meaning mother) PML or KWM were added to distinguish mothers from Princess Marie Louise Hospital and Kwahu West Municipal respectively. After reading and re-reading the transcripts, a coding framework was established as discussed earlier. Patterns were formed, similar categories were combined and arranged in a logical manner in a table. Based on recurrent topics from the narratives, six key strands were developed from the analysis. These were labelled strands because they were identified to be closely interconnected and interwoven like thread strands. These strands were derived from participants' responses during interview sessions. They are: 1) Collaboration and Stakeholder Connection, 2) Human Resource and Capacity Building, 3) Funding and Logistic Nuances, 4) Implementation Dynamics, 5) Appraising the Process and, 6) Beneficiary Experiences. To achieve coherence and have a gestalt

picture of the case under study, responses from both professionals and mothers receiving care at the two nutritional sites were analysed together. The figure below summarises the findings.

Figure 3. **Results of Analysis**



Source field work; Image Courtesy dmc.com

Collaboration and Stakeholder Connection

This strand emerged out of categories that described the relationships existing between the Nutrition Department of the Ghana Health Service and other related agencies. Almost all professionals interviewed at the different levels of data collection alluded to the collaborative nature of their work. The professionals indicated that issues influencing nutrition cuts across other departments and agencies including agriculture, water and sanitation, gender, health and so on. Even in the health ministry, participants made me aware that there was nutrition sensitive and

nutrition specific sectors and therefore implementing nutritional policies effectively requires active collaboration and stakeholder involvement. One top level professional at the Ghana Health Service stated:

> It entails collaborating and advocating with other agencies because some of the nutrition determinants….. those who work on them or those who are mandated to work on them, do not necessarily sit in the health sector. So it means we need to also collaborate with Ministry of Food and Agriculture and their agencies. We need to work with Ministry of Local Government and Social Protection because sometimes issues on vulnerability and gender concerns also affects nutrition. Local government and other agencies because, water and sanitation also affect nutrition, we need to also advocate with donor agencies for funding support. We need to work with research organisations because a lot of times we need to find answers to some of the nutrition questions so occasionally we work with the University and other research agencies. (P 5)

Other key informants also confirmed the need for collaboration and noted that sometimes the types of stakeholders and collaborating partners depended on the setting of the health institution or facility. Two second level managers recounted,

> I work with a multi-disciplinary team, it involves the doctors, it involves the nurses, lab (laboratory) or biological scientist, nutritionist, medical scientist, social welfare and physiotherapy. (P 8)
>
> I work with other stakeholders in both nutrition-sensitive programs and other related programs, in the directorate we work in collaboration with other unit heads to ensure that health in general in terms of Greater Accra activities are being coordinated well and supervised. (P 2)

Funding and Logistic Nuances

For national policies such as the CMAM to be effectively implemented, sustainable funding sources must be explored, accessed and utilised. Professionals repeatedly emphasized the issue of funding and logistic unavailability during the interviews. Logistics in this context implied access to and availability of the food supplements that are used in the management of severe acute malnutrition (Formula 100, Formula 75, RESOMAL and Plumpy nut). Participants regarded

funding and logistics as key to the successful implementation of the CMAM policy. Two key coordinators of CMAM remarked:

> When it gets to a certain stage funding also determines how far it can go down [program dissemination and implementation]. The districts are supposed to get it down, but that is where certain times funding becomes an issue and it doesn't really get down or they don't formally bring everybody on board….. getting the needed logistics in place and then funding because once you are starting a new program you need funds to move and do training (P1)
>
> Funding has been erratic, so for that reason, even as we are speaking now, we have run out of RUTF [Ready-to-use-therapeutic food] (P 5)

Impact of economic reclassification: Ghana beyond Aid. An issue that was mostly articulated by key informants was the effect of the reclassification of Ghana from a lower income country to a lower middle-income country on donor funding. Coupled with the reclassification, the current President of Ghana publicly declared that the country was able to manage its own affairs without foreign aid (Ghana Beyond Aid). About a third of participants believe that this change in the country's economic status has led to the withdrawal of international donors.

> In every country that we have that reclassification and the rebasing [change in systems] and all that, donors will limit their aid because it's a measure of what you can provide [as a country]. And moreover, the President has been consistent with "Ghana Beyond Aid". (P 7).
>
> The problem is, over the years its (Food Supplements) been provided by UNICEF. But now they also have funding issues, but also, now a lot of our partners are saying that because Ghana as a country is supposed to be doing well economically, we are no longer in the category where they can spend a lot of their money buying RUTF for us. (P 5).

Logistics Supply. Implementing policies also requires adequate and timely provision of logistics. UNICEF, with support from the Canadian government, has been the sole financier of the CMAM program, providing logistics such as the Ready-to Use-Therapeutic Food, Formula 100, Formula 75 and RESOMAL [Rehydration Solution for Malnourished Children]. However, change

in Ghana's socioeconomic status and the pulling out of some funding agencies has resulted in inability to provide these supplements. Participants lamented over the impact of the lack of logistics. A key informant in one of the nutritional centers reported:

> We are not getting the supplies frequently, especially the milk, the therapeutic milk, we are not getting the F75 and F100 regularly. In my facility we get a lot of severely malnourished children, so the amount [of food supplements] we get is usually not enough, so the facility has to keep on buying the ingredients that we need to prepare some feed for them [malnourished children] and we are also not getting the combined mineral and vitamin mix (P 8)

Both top-level and second level managers confirmed the unavailability of these supplements at the facilities.

> Like I said earlier funding is one, then logistics; getting the supplementary therapeutic foods is also another one, in fact with UNICEF support, it was regular and on time but just recently we are having challenges with getting it (P 1)

Using personal funds. Health care professionals at the facilities said that they sometimes, out of frustration, resorted to using their own money to fund the program. This was observed during one of the observational data collection visits. Some of the facilities also found ways to raise funds within the local community to support the program. A second level manager at the Regional Health administration and two other informants recounted:

> Sometimes we fund it from our own pockets....Yes we have been doing it. So if you go to the hospital right now we have been able to get one box of the adult milk, we add sugar, oil and other ingredients and prepare the F100, F100 diluted, F75 for the children…(P 10)

> I and my officers sometimes, based on humanitarian grounds, we have to take money from our own salary or our own funds and buy commercial formula for them. So, we as a country without donor support, we have to think about how to sustain it. (P 2)

Looking in-country: Government Takeover. The expectation from professionals was that while donor funding was not forthcoming, there was the need for the Ministry of Health to find

strategic ways of sustaining program implementation. Moreover, they expected the government to put in contingency plans to take over fiscal responsibility from UNICEF at the end of the funding period. Below are excerpts of views from professionals.

> The Ghana government is supposed to pick that up and be able to buy [supplementary feed] for us. The government is not buying, I had a call from Ada East, one of our rural health centers. We have two children at the moment at Ada East hospital, one is three months and one is four months and they are severely malnourished and that is IPC (In-patient Care). We do not have F100 diluted. The worse is that we go for commercial formula and the pharmacy support us with supplementation, the mothers cannot afford commercial formula. (P 2)
>
> We expect the government to support even though we have the staff available. Logistics is a challenge, and again we also need to train others on board. So, we are hoping that the government will take it up and support…I think we need to get a sustainable support (P 6)
>
> We need to put a sustainable strategy in place so that at least the program can continue working…And as I said, it is the government who can do that, and then also, maybe the community members can support. Other than that, there is no way we can continue with it. (P 5)

Key informants suggested a government takeover of funding. The suggestion was either for the government to put the CMAM supplements on the essential supplies list and procure them for the facilities, or initiate production of the food supplements in-country.

> So, we have been in talks with the government on the gradual scale up of CMAM and the corresponding need for especially the plumpy nuts to be procured by the central government. (P 7)
>
> We managed to get a local manufacturing firm for the RUTF, Project Peanut Butter, so currently they have established a plant in Ashanti region, Kumasi where they produce the RUTF, so if the therapeutic foods are on the essential supplies list the facilities are reimbursed, then they can go and buy and then the process will just revolve and sustain itself. (P 1)
>
> There is a shortage and we are now in discussion with the Ministry of Health to put money aside to buy as an essential medicine because that is what they need to save their lives (malnourished children) so that discussion is ongoing. (P 5)

Evidence from the interviews points to the fact that the Ministry of Health was aware of the abrogation of the funding, however there were inadequate transitional plans to take over. A representative from UNICEF noted:

> Well there has been a lot of discussions and moreover, anytime we receive funding we do share timelines that those funds are meant for but largely when it comes to severe acute malnutrition we have had meetings with them, even at the annual review meetings we have clearly called on government to take over the responsibilities that are supposed to come from the state so we have made that conscious effort to sensitize them as to what they need to do. (P 7).
>
> We have made a lot of efforts… but as you and I know as Ghanaians it takes time for our people to wake up to reality when you tell them that in 10 years' time this is what is going to happen they don't take the steps… when it gets to the 10 years that they sit down and realised that you started conscientizing them (making them aware) that this will happen. (P 7)

Human Resource and Capacity Building

Staffing. Alongside the financial and logistical challenges expressed by the key informants they also communicated their concerns about building staff capacity to enhance effective program implementation. These concerns were largely shaped by the inability of new staff to effectively render CMAM services to clients. The difficulty was that CMAM implementation needed staff who had been adequately trained in both the diagnosis and management of acute malnutrition. Top and middle-level managers said that most of the staff who were trained during the initial stages of implementation had left the healthcare facilities, either on transfer or to pursue higher education. Additionally, the Ghana Health Service has not been able to train new staff for a while due to funding challenges.

> For capacity building, we did recognise that most of the staff that get trained either get transferred or they leave the system. So, attrition was a key issue. For those that come new, the orientation that was given them is normally minimal, so they come and do things the way they understand. (P 7)

> There is also the high staff attrition rate, quite a number of the trained staff leave for school so there is the need to have some more training. We try to reduce the effect of that by pushing for most of the staff to learn on the job, but quite a number who learn on the job they manage the cases, but when you go to do your mentoring you realise that there are specific or pertinent areas that they fall short because they didn't go through the training.…And that also affects the management. (P 1)

Curriculum Revision. As part of measures to deal with staffing issues, participants suggested that CMAM training should be incorporated in the curriculum of nurses and nutrition officers so that new staff that come to the facility have prior knowledge about CMAM services and management of acute malnutrition. Some top-level managers at the Ghana Health Service lamented:

> We have actually worked with JHEPIEGO (John Hopkins Program for International Education in Gynecology and Obstetrics) and we have a new document that is supposed to be included in the curriculum of nursing schools. We do not understand why NMC (Nursing and Midwifery Council) is not including it. (P 2)

> The other thing now is, a lot of capacity that we trained way back [is] no longer there and so there is the need to train more people. We tried to integrate CMAM into the pre-service which we did, we went through training tutors, upgrading the curriculum to incorporate CMAM. Unfortunately, the council never…. (P 4)

When contacted about the issue, a representative of the Nurses and Midwifery council responded that the curriculum is reviewed every five years and therefore it takes time for them to introduce a new concept into the curriculum. She added that if an organisation wants it introduced immediately, they have to pay for the cost of mobilizing stakeholders to have it reviewed.

Discourses on Volunteering: Volunteer Fatigue or expecting to be Paid? One of the main components of the CMAM program is community mobilisation, which involves the use of volunteers to search for malnutrition cases in the community. Health professional key informants indicated that volunteers were recruited and trained at the initial stages of implementation to help identify and refer cases to the health facilities, they also indicated that they have had challenges maintaining these volunteers, which has affected the case search aspect of the program so cases

were only identified when they reported sick at the outpatient departments of the hospitals with other conditions. At the initial stages, the volunteers were excited about the program, however mid-way into the program they started requesting remuneration and other incentives which were not possible for the Ministry of Health to provide.

> We have volunteer fatigue. CMAM thrives very well with volunteers because they do the case search, the follow up, screening and referring them to the facility for further treatment and then we also give them the RUTF, it is community based, they have to support the care givers (P 3)
>
> The challenge was that we could not sustain this volunteerism, in the sense that they were also demanding for something because if they go and search for the cases, the whole day, they will comb through the community looking for the cases and you don't give them anything, so you cannot sustain it - so some of them abandoned the project and it became the work of the health workers. (P 6)
>
> It came with a lot of excitement and all that but this is a city, people need to survive so they do not have the time, so it came to a time it became volunteer fatigue and there was fatigue, they started requesting t-shirts, ID cards, for T&T [transportation fare], monies to go to the communities and we could not afford that so it is actually not working for us in the city, the main city. (P 2)

Lack of volunteers in the community compounds the issue of building the capacity of health staff to handle that aspect of the CMAM. Some participants suggested that community health nurses could be trained to take over the work of the volunteers by conducting the case searches during their routine community visits.

> There is nothing voluntary, [nothing is done for free] and this program does not come with any money, so we do the voluntary work ourselves, unless government wants to make provision for that, then we can get them [volunteers]. (P 9)
>
> Our volunteers were not willing to volunteer, they wanted something to continue the job. So, we had to change the strategy at some point, from working with volunteers to working with community health nurses who ideally will still go into the community for outreach services, so they were the ones we were using. (P 4)

Implementation Dynamics

Program scale up: Stagnated? One of the challenges with CMAM implementation in Ghana was the inability of the Ghana Health Service to scale up the program to all the districts and health facilities in the 10 regions. Notably, UNICEF's funding focused on five main regions; the Upper East, Upper West, Northern, Central and Eastern regions. Therefore, UNICEF's attention was directed towards these regions although they supported the other regions. Initially, USAID supported the non-UNICEF regions by providing technical assistance [training staff, coordinating program implementation, etc.] but folded up subsequently. This resulted in incomplete scale up or coverage throughout the country.

> Currently we have been able to scale up across the country though not in every district, for the three Northern regions, Central and Greater Accra we scaled up fully. But then Eastern is not scaled up completely because of funding issues. And Volta region has about four or five districts. And Brong Ahafo, we also did I think three districts. (P 4)

While informants from some regions confirmed total scale up of the CMAM program, others lamented about stagnation and lack of total coverage. About a third of informants were of the view that the lack of coverage led to migration of people from long distances to seek service. Consequently, the program that was supposed to be community based was as a matter of fact not based in the community.

> Once most operational levels are not giving the service then you are not reaching all the cases that needs the service, but also if the service provision points are far from where the person lives then the chances of your defaulter rate increasing or worse still a lot of the children dying. (P 5)

> I think the scale up has stagnated and the integration also. I think for this to be sustained it should be well integrated (into existing programs to manage child nutrition), we should not run CMAM as a vertical program it should be part of service provision and integrated into the infant and young child feeding program (P 5)

Defaulters. A major concern expressed by health professionals was how caregivers defaulted in their visits to the clinic. Per guidelines for the CMAM program, a child is supposed to meet the discharge criteria before he/she is taken off the program. This usually takes approximately six weeks from the time of beginning treatment. Staff at the clinic suggested that most mothers absented themselves once they saw signs of recovery.

> Our challenge is our defaulters, our defaulters, they come one, two, three and they realise the therapeutic food is working for them, so the child is fine, she thinks the child is fine. Meanwhile, the child has not met the discharge criteria, but they will stop coming. You will have to follow up, you will pull and pull and pull them they will not come. (P 9)
>
> The moment the child starts eating well, one or two and is playing they are like, my child is doing well. By the time you realise you are recording relapse. So defaulting is also one key area which is a challenge to the people. (P 4)

A reason why mothers might default was their inability to travel long distances every week to the clinic for the supplementary food, coupled with the financial constraints. One clinic staff observed:

> So every week, they need to come to the facility for us to assess the child and after we have assessed and the child is ok, then we give the food but some mothers sometimes refuse to come. [It's] deliberate.… They think. "I don't need to go to the facility." And then two, if the mother sees an improvement in the child's condition, they think: "My child is ok. I don't need to."… Until they [are] absent for week one, week two, week three, then it becomes default. And so when they realise that the problem is coming back, then they run to the health facility. (P 6)
>
> So we had people migrating and then coming to areas that they will access services but they do not finish, so our defaulter rates were high because people will come and start and will not finish so the defaulter rate was high. (P 4)

Alongside the descriptions by clinic staff on the probable cause of recording a high default rate, one top level manager noted that the reason why the data showed a lot of defaulters could be the result of incorrect data entry as explained by one interviewee. He indicated that the clients needed to absent themselves for three consecutive times before they are classified as defaulters, however some staff noted defaulters with only one missed visit:

> The challenges that we faced then was the defaulter rates, some of them we realised were coming from data issues…In CMAM for you to be classified a defaulter you need to absent yourself for three consecutive times but when they realised that a child doesn't come today, the child is an absentee, the next week absent, third week the child now becomes a defaulter because of that they used to add absentees to defaulters and it shot the figure up. (P 7)

One participant also noted that defaulting could be due to the lack of follow up on the part of the healthcare workers:

> Some districts are doing well, others too have high defaulter rates you see.…For example, you organise the clinic weekly, so if for example, this week the client did not come you don't wait for the child to default for the next week - you need to quickly go and find out what is happening, why didn't you come for the last section, if you do that you will be able to track them. But some of them they sit down and say if they don't come it doesn't concern me, but others too because their officers are on them, they make sure they push them to go and look for the cases, others too they don't follow up. (P 6)

Challenges with follow up. Both top level management and staff at the districts and facilities expressed concerns about lack of funds to follow up on clients. Staff said that sometimes out of frustration, and for humanitarian reasons, they used their own money to do follow ups. A second level manager and one clinic staff had this to say:

> Sometimes the staff will have to use their own money to do communication, no one gives them money for communication, and you have to do follow ups. Some mothers do not come, there are instances when you go and there is no transportation, so transportation is key, so staff use their salary to do transportation [to follow up on children], so sometimes when they become fed-up, they relax and even at the moment we are having challenges. (P 2)

> Sometimes we have to use our own money to go and pick (take) the patient to the hospitals. But sometimes it is satisfying when we see the children cured, but it would have been best if we had a lot of resources. (P 10)

One second level manager however, believed that the staff had no excuse not to follow up. He specified that there was budgetary allocation for these activities, so funding for home visits and follow up should not be a problem. The officer indicated that the staff were either reluctant or were sometimes engaged with several activities, making it difficult to follow clients up.

> MCHIP (Maternal and Child Integrated Program) is giving money for community health nurses and community health officers to do home visits, to visit their clients. So there is no excuse saying they don't have money….It is given to the facility, the money is not only for CMAM, it is given for all other activities, maternal and child, nutrition, ANC…. I mean it's a whole package and the money is given to them every quarter. And you have T & T for home visits or travelling to see your client. So there is no problem with funding, they just don't want to move. (P 6)

Facilitators of Implementation. Key informants indicated that the structure of the health system itself supported program implementation. They were of the view that the nature of the health structure facilitated a smooth transfer of information and other important resources across regions, districts and facilities. This structure also facilitated distribution of the nutrition supplies to the regions, districts, and facilities.

> The health structure itself was one of the enabling environments. The system, the way the health structure is, so from the national level, through the region, to the district, and then to the facilities. So, when you are doing the training, you train trainers from the region, and the region also train[s] trainers from the district. Then the district with the support of the region does the training for the facilities. And so, they are able to monitor or mentor them so that structure is one that really helped. (P 1)

> The facilities or the regions had a way of going for supplies from the central medical stores, so we also use the same process. Once the supplies come, we do a distribution from the national level it gets to the region. And they at a point, when they are coming to the central medical stores, they add the request for CMAM supplies, and they go and collect it. So those ones get absorbed, some of the cost of transportation gets absorbed directly into the system. (P 1)

> We had structures, managerial structures at all the levels. So at the national level there was SAM support union (SU) which comprises the partners. UNICEF had a representative on that committee, WHO had, USAID had, Ghana Health Service itself had, Ministry of Health had. And so they were the key coordinating group at the national level to see to the day-to-day implementation. (P 7)

Another interviewee mentioned that the nature of the supplement itself facilitated the implementation. He suggested that the fact that the supplement was ready-to-use at any time and mothers did not need to cook it or mix it with anything coupled with it being free was an innovation that moved the program forward. Again, the use of the MUAC (Mid-Upper Arm Circumference)

tape was an innovation in the diagnosis of acute malnutrition, as this facilitated diagnosis and early treatment.

> The key innovation that makes CMAM work is the therapeutic food that the children were given….Because we were not very sure what has to be done, we were giving them high protein diet, which was killing the children. So, with the introduction of CMAM, it was a very good innovation that Ghana adopted fully.
>
> So, you go to the health facility, you are taken care of, and then you are given a quantity of the sachet food to take home and eat. You did not have to cook; you did not have to heat; it was just ready to eat. So that was the key innovation that made CMAM work.
>
> Another thing was the use of the MUAC tape, you know, assessing for acute malnutrition, you need to take weight, you need to take height and check the standard deviation, but then CMAM came with the MUAC tape which was very easy to handle so that also motivated health workers to search for cases. You did not have to carry a scale and a height board to identify this, so those were the two key innovation that made CMAM work in Ghana. (P 4)

Telling the Success Stories. Despite the challenges they faced with implementation, key informants were eager to share their success stories when probed on the impact of the CMAM program in Ghana. Almost all of them attested to the effectiveness of the program in managing acute malnutrition, citing instances of how children who came in with serious forms of malnutrition were cured within a few weeks of treatment. Some top-level health professionals had this to say:

> We have data that shows the number of rehabilitated cases and with the level of the cure rate and the very low case fatality, I think yes, it's been very useful and the evidence points to the fact that a high number of these children, if they were not rehabilitated, would have died or be maimed for life. So yes, it's been very useful, and I personally believe that it has contributed to the overall reduction of under-five mortality that the country has recorded—so definitely very useful. (P 5)
>
> We have saved a lot, but CMAM I will say is very, very good. It was a project, but it became a service program because of the way it was just reducing our mortality. So left to me alone wherever you go, CMAM is good—we should continue. (P 3)
>
> When you put the national figures together the cure rate is about 82 percent. Some regions have a cure rate of about 89, while others are a little below 70. But on the average when you put the national picture it is about 82 per cent. So at least by way of having

> impact, once cases are identified and brought for management the cases are managed well. (P 1)

Again, most of them shared their experiences managing children on the program and were ready to share what they termed 'before and after pictures' of the cases they managed. Some informants also described it as a very good innovation in the management of acute malnutrition. They indicated that the previous method of giving the children high protein diets when they reported to the health facility were not having the desired effect.

> We have saved a lot of children, personally I have a lot of videos, pictures to show, especially when I worked in the rural-urban, a lot of children that we have saved through this CMAM, even in the city. It will surprise you to know even the conditions we saved them through that, it was very good….You see how the children come, and they suffer. And then if you put them through the treatment, you see how they transform, and it gives you that satisfaction. (P 2)

> We have had a lot of success stories. If you go out to the field, you can see remarkable improvement. Some of them can show you the then and now pictures. So, it has largely been successful, it is something that works. (P 7)

> It's great, I will show you before and after pictures, and when you rehabilitate the child. Initially when the mothers come, they are like: "This is spiritual." We encourage them to be patient and that we will do it. And when the child gets cured you see the smiles on the mother's faces. It's just refreshing. (P 10)

> I think it has been a very successful program because we have been able to manage over thousands of cases and when you look at the cure rate they are over 80%, just that in some few cases we may have some defaulter rate but overall the defaulter rate is less than 50% and the death rate is also less than 10% so for me it has been a success. (P 6)

Appraising the Process

Policy and program effectiveness are mostly dependent on efficient monitoring systems. The initial stages of CMAM implementation saw a very strong mentoring and support plan. Again, the Ghanaian health system structure facilitated this. According to the key informants, a technical support team was in place to monitor activities of the implementation process and to support the

health staff with management of new cases. The coordinators of the program visited the districts and facilities on a regular basis to mentor and support the health staff.

> When we start we do a mentoring and support visit, then after the mentoring and support, when we are sure that now the facilities can manage the cases better, then we do a periodic monitoring so when we start we do an intensive monitoring ….The regions also do their monitoring to the district and facilities they also do it periodically. (P 1)
>
> Sometimes we just go straight to the field sit with them to see how they are treating the children, because there is a protocol which they need to use to be able to take care of the clients so we look at it whether they are following the protocols, and we go through the source data to know whether they are registering the children and what they have given to me in DHMIS is a true reflection of what they have in their register. (P 2)
>
> Sometimes we move down to look through their books - the treatment cards, how they are managing them, provide monitoring and supportive supervision we also mentor and coach them, these are some of the things that we put in place to monitor them and from time to time we call them and discuss some of the things, review their activities and know some of their success, their challenges and develop the way forward as to how to address those challenges. (P 6)

While these visits are supposed to be scheduled, health staff confirmed that visits to the facilities were not regular as compared to the initial stages of implementation. Ideally the national office must visit the regions once in a year, the regions have to visit the districts and the districts will visit the facilities. The inability of the staff to follow through with the scheduled visits was attributed to various factors, including lack of funds to embark on this exercise.

> From the national level it is scheduled once in a year and from the regional level it is supposed to be twice at least twice then at the district level they are supposed to go every month they are supposed to be able to go on monitoring but it doesn't happen that way. (P 1)
>
> It is supposed to be quarterly (visits), there are some quarters we try to get fuel from the RHA (Regional Health Administration) there are some quarters we don't go at all because there is no fuel. (P 6)

Another way of monitoring the activities of the implementation process in the districts and facilities was a networked system called the District Health Management Information System (DHMIS). Data from the facilities and districts were entered into this system, and that served as a source of

information to monitor what was going on with regards to all the indicators of the CMAM program. The district officers are supposed to collate information from facilities within the districts, and the regional and national offices had access to this system.

> We monitor through the DHMIS. At the end of the year we estimate how many cases that are supposed to be seen within the districts or community. So we monitor through that, and then from time to time we call them. (P 6)
>
> So they key it into the DHMIS which is a soft copy and I have a password to the DHMIS so I sit here and I go through and see what is really going on so we give them an ultimatum, by fifteenth (15^{th}) of every month they should enter all the data. So I start checking on the tenth (10^{th}) to see who is entering data and who is not entering data. I can zoom to know which specific facility is not reporting then I send feedback to the district nutrition officer. (P 2)

Notwithstanding the ease of sitting at the office and monitoring activities through the DHMIS, regional and district officers reported some challenges with entering data into the DHMIS. For instance, one officer indicated that a clinic staff entered 10 deaths instead of 10 defaulters. Again, because use of the DHMIS required an internet connection, it was difficult for staff in the more remote areas to communicate their reports to the districts. The district officer had to find ways of getting reports from the facilities.

> Someone goes to the DHMIS and keys in ten deaths and I know is a small community, so am wondering: "How you can lose ten children from CMAM." So we go to the point and check and we realized that the person actually had ten defaulters, but in keying it into the DHMIS, the person mistakenly writes ten deaths. (P 2)
>
> We have created notebooks for them so everything you do, every child you screen, you have this screening book that they write in. If the child is malnourished, then you send it into the outpatient book. So they have records on this so that when you visit them you can monitor how they are working. (P 10)

Beneficiary Experiences

Caregiver Characteristics. Table 1 illustrates the demographic characteristic of beneficiary mothers. Before each interview session mothers were asked a series of questions with regards to their educational level, employment, marital status, the number of children, number of

people in the household, and ages of their previous children if they had more than one child. Majority of the participants had no formal education. A little over 20% indicated they had primary education, meanwhile interaction with them revealed that some dropped out of school. Only one person had tertiary education. About 58.3% of mothers were traders while a few were unemployed. Again, during the interaction some indicated that they stopped their trading activities to concentrate on the care of the child. Mothers found it difficult to state what their average incomes were. However, those who tried an estimation of this stated they earned about 100 Cedis (CAD 26) monthly. Most mothers were first time mothers with children between the ages of 7 and 12 months. Majority (62.5%) of beneficiary mothers had 3 people in a household (mother, father and child).

Table 1. Demographic Characteristics of Mothers (N=24)

Educational Level	**Frequency**	**Percentage**
No formal education	12	50.0
Primary	5	20.8
Junior High	2	8.3
Secondary	4	16.7
Tertiary	1	4.2
Occupation		
Unemployed	5	20.8
Trader	14	58.3
Civil Servant	1	4.2
Farmer	2	8.3
Head Potter	2	8.3
Marital Status		
Single	6	25.0
Married	16	66.7
Separated	2	8.3
Divorced	0	0.0
Widowed	0	0.0
Average monthly income		
None	5	20.8
20-50 GHC	3	12.5
60-100 GHC	10	41.7
Above100 GHC	6	25.0
No of Children		
1-3	21	87.5
4-7	2	8.3

8 and above	1	4.2
Age of previous child		
No previous	18	75.0
9-12months	0	0.0
13-24months	2	8.3
25 months and above	4	16.7
Age of current child		
0-6months	0	0.0
7-12months	17	70.8
13-24months	6	25.0
25 months and above	1	4.2
No of people in household		
1-3	15	62.5
4-7	5	20.8
8 and above	4	16.7

Contextual and other Factors influencing Malnutrition. One major factor that hindered program implementation were mothers' beliefs about the cause of malnutrition in their children. Health professionals indicated that there was lack of knowledge on the part of the caregivers on what actually caused their children's condition. Almost all mothers were not aware, and could not fathom, that their children's condition was out of lack of good or adequate nutrition. Some clinic staff indicated:

> I think it is ignorance, because the food we suggest for them to give the babies is not expensive but it's ignorance, most of them feel porridge is enough for the baby, especially those below six months, it seems they don't know the appropriate food for the age of the baby so they start giving porridge early I don't know why, when there is breastmilk. Most of them are lactating but they will stop and give porridge, I don't know why so I think its ignorance. (P 11)

> Some are not even aware of the condition, all they know is their child is reducing and they do not know its malnutrition, some too will tell you their child has been running diarrhea for sometime now, the child is not feeling well and that has resulted. (P 9)

> Mainly its lack of knowledge, the kind of client we are getting, lack of knowledge, being able to put foods together to get the balance diet, getting the right consistency that is for children. The child will mainly or usually be eating what the family eats with all the spices and the other condiments, they are eating the food with the same consistency with the adult and they might not be ready for it, and also the feeding technique also in feeding the child. (P 8)

Mothers had different experiences and varied stories to tell with regards to care of their children and how the condition started. Though some were worried about their children's health, they were not sure what might have led to that. Most mothers stated that the children were refusing meals, started losing weight, vomiting or having diarrhoea. Below are excerpts from the interviews with mothers.

> She was refusing meals, you have to force her to eat, and sometimes she vomits after meals, so I reported to a nearby clinic and they referred us to the Holy Family Hospital. (M1 KM)
>
> She wasn't feeling well, she was vomiting and having diarrhoea and high temperature. (M3 KM)
>
> My daughter was running temperature all the time. From 3 months she started losing weight, my child was very big at birth, she weighed 3.8 kilos at birth and people used to call her big girl. (M 2 PML)
>
> Initially I thought she was suffering from some kind of illness, at times too I was thinking it could be as a result of giving her food early, I have regretted giving her formula too early. (M1 PML)
>
> I was worried initially that my 7 months old child looked like 4 months old. (FG 1 KM)

Perception and attribution. Due to lack of knowledge on the condition, mothers attributed their children's condition to several different reasons. Notable amongst these reasons was the belief that it was a spiritual problem and that their children had been bewitched. This perception was present in both research centres but was more evident in the Eastern region. As a result of this belief, caregivers resorted to either hiding their children (avoiding evil looks) or taking them to the herbalist or spiritualist. They also hid the children because of how they looked physically.

> Acute malnutrition is perceived to be a spiritual problem more than a health-related problem. So mothers who have children who are malnourished will not openly show them off, they hide them and some of them move to prayer camps and other places for healing. (P 4)
>
> People are not bringing the children out, even if you identify a child as malnourished the parents don't see it as a medical condition, they see it as a kind of spiritual problem so they prefer to go to the traditional healers than coming to you for rehabilitation—so you have to be following up and talking till they accept it so that is one challenge. (P 10)

> Some associate it with a curse or something, "Asram" (Asram is the Twi name normally given to children with malnutrition, they believe 'asram' is transferred to their children by witches or bad people during pregnancy). They have their way of telling you, and some will also say: "Oh it runs through the family. All my kids and the family that is how they are." (P 9)

This was confirmed during interactions with some caregivers at the nutritional centers. One mother at the Kwahu Municipal District recounted:

> People told me she had 'Asram' (she had been bewitched) …. I went for a traditional medicine that I was using to bath her but there was still no improvement, so I took her to the hospital, and they told me she has not been bewitched but it is hunger and malnutrition. (M 2 KM)

Another mother attending PML hospital indicated

> We went to a herbal center and we were given some herbs which I was mixing with palm nut soup for him but he did not like it, and when I squeeze it in a cup for him to drink, his body temperature goes high. So we later found ourselves at "Nipa hia" (herbal clinic)." (P2 FGD PML)

> I was now taking her to prayer camps one after the other, based on people's recommendation. So I sent her back to my mother in-law and when we went back she said she notice that it was 'asram', so we started receiving some herbs to treat it. I do not really believe in such things so I did not allow my baby to drink it so they were only using it to bath her. (M3 KM)

According to the health staff, they started collaborating with the spiritualist in order for them to release the malnutrition cases for treatment. Prior to that the herbalist/spiritualist will keep the children in the churches/shrines till they die. One top-level manager who used to work in one of the nutritional centers indicated:

> Somewhere like central region where I am coming from, we have the "Awoyo" (going to the garden) that is a lot, so if you do not involve them (Spiritual doctors) they will be keeping the cases there, so we involve them a lot. (P 3)

> So Central region when we started, we actually had to collaborate with traditional healers, trained them on how to identify cases, we were not letting them administer the food, because you have to go through a clinical assessment before the food is given, and so we were not giving them the food, we were working with them so that when they identify children, they will do the spiritual bit and then refer them to the health facility to also receive the food and go through the assessment. (P 3)

Feeding practices. Indications from both professionals and caregivers pointed to improper feeding practices as a cause of malnutrition in the children. Caregivers simply did not know what to give to their children especially during the period of introducing them to food or weaning them from breastmilk. Some caregivers either introduced feeds too early or gave over diluted foods. A nutrition officer at one of the clinics stated

> They will usually give a substitute that is not appropriate or if they are giving infant formula it is over diluted, corn porridge that is too diluted, less breast milk, mix feeding and starting complementary feeding too early, a few of them will start too late but most of them start too early. (P 9)

> If she feeds in the morning, she thinks that that is okay, so she has to feed in the afternoon and the evening, meanwhile the child is not supposed to eat three times a day, it should be more than three times plus snacks. And some are pregnant which is too early for that child. (P 9)

Some parents did not have time to feed the children due to their trading activities; they carry the children at their back the whole day and only brought them out to feed them when they (mothers) are tired and want to rest.

> I have a lot of my clients who are petty traders, so they do not earn so much and they do not have time to sit and feed the child, they are not patient when they are feeding, so if the child refuses the food then it means the child does not like food, it goes on until the child loses weight and become severely malnourished. (P 8)

This was a common practice among mothers in Accra. A mother attending the PML nutritional unit remarked

> I carry him at my back when trading, sometimes I buy food for her, and sometimes I give her “cerelac” (cereals). (M 1 PML)

Another stated

> The truth is that I didn’t have time for the child because I go to work from 5pm to 5am the next day, so by the time I come home I am tired. So I leave her with a caretaker. The person taking care of her is not taking good care of her, when she gives her food and the child doesn’t take, she just leaves her. I was neglecting the child because I come back

> tired. The first child I didn't have any problem with his feeding but the last two because I am busy. (FG 4 PML)

Long Distance to Facility. One major concern raised by both caregivers and professionals was the distance mothers had to travel to the health facility before they could access service. This could also be linked to the fact that the program was not fully scaled up in all the regions and districts. The observation was that the CMAM program which is supposed to be community based was not totally so due to some of the issues previously discussed. Some caregivers had to travel for two hours or more to the health facilities. Nevertheless, the researcher realised from the interactions with the caregivers that they were willing to travel the distance because to them, that is where the 'magic' started. This is what one participant said when asked about the distance to the center:

> It's very far though. Someone showed me a facility that is close to my place, Winneba hospital, but I think I still want to come here because this is a children's hospital and they have time and take good care of the children. (M4 PML)

Sometimes when caregivers are referred to other referral centres, they refuse to go despite the fact that the referral centres are closer, they wanted to remain where they started the therapy. This is what some women had to say when questioned about possible options (clinics that were closer):

> I have not asked but I think I want to be coming here because this is where I started. (M 2PML)
>
> This is where we started so I want to continue here. (M3 PML)
>
> I think I will just finish here. (M5 PML)

Healthcare staff at the facilities also seemed to be 'holding on' to their clients, they indicated that when they refer them to facilities close to them, they are lost to follow up, because some of them never report to the facilities.

> We link them up to the nutrition officer in the other district but sometimes you know our community members they wouldn't go so we would have to report as defaulter, and some people also come in and we tell them that they have to go to their district, but they prefer

> to come to our district so when it comes to sometime they are lost to follow up, because we don't know where you stay in the other district to be able to follow up. (P 10)
>
> So now, one of the strategies we have adopted here is, we are considering the proximity, when you are around, we ask you of where you stay and we see if you are within our catchment then we admit you but if you are not within our catchment, we liaise with the officer at where ever you are coming from—then we write a referral letter then you go there so they will continue the treatment there to reduce our burden. (P 9)

Mothers' perception on effectiveness of program. With respect to how mothers of the malnourished children pictured the program, most of them confirmed the change they saw in their children after they were enrolled on the CMAM program. With the exception of few, mothers testified of the improvement. Mothers had this to say:

> I am a happy person now, because I was worried initially that my 7 months old child looked like 4 months old. (M2 KM)
>
> What I can say about the program is that if you follow the regimen, the child will be fine. When I brought him, he wasn't like this, so I see a change… I have realised that there is a vast improvement in his condition and weight. (M1 PML)
>
> It is a good program so they should continue. They give us food for the children, so it is good. Her weight has improved since we started, I see a lot of changes in her weight since she started taking the plumpy nut. Now they say she is better, so they have discharged us. (M3 PML)
>
> I see a lot of improvement, when she was weighed yesterday, the weight had really improved. As for the program it is really a good program, I can testify to that, I have seen a lot of progress in my child so they should continue. (M4 PML)

Following the Treatment Regimen: Challenges. Notwithstanding the testimonies of the mothers on the effectiveness of the CMAM program, some mothers had challenges with the treatment regimen. Mothers indicated the difficulty in feeding the children with the plumpy nuts (RUTF). Some of the mothers administered it incorrectly, and others used it to prepare food for the household. A regional director of nutrition indicated:

> The children are supposed to be fed solely on the food but sometimes mothers want to add it to porridge and other things, and it takes a longer time for the child to recover. So we tell them that if young children are given the plumpy nut, it is the sole food for the child until the child recovers before they are given the adult food. But mothers go and they want to add it to the adult food like porridge. And so, one other challenge is that the mother goes and use it to prepare groundnut soup. [laughter] And they give to other siblings to eat. (P 6)

Mothers complained about the inability of the children to take the formula in the state in which it was given to them. Per the guidelines, the plumpy nuts should be served to the children without mixing it with anything. Some mothers lamented that it was difficult for the children to take it in that state.

> It's over a month now since I started using it. She doesn't like it alone, so I have to prepare it with other foods, so I fight with her before she eats, she is hungry but she doesn't want to eat. (M2 PML)

A mother who has been on the program for a long time without any significant improvement in the child's condition said

> Actually, I have been here before, but I stopped. The nut is very good, when I started giving her, she became fine, she gained a lot of weight. But at a point I stopped coming, because I was tired of the nut. (M5 PML)

This was confirmed by one of the nutritional officers in one of the clinics. She indicated that though some of the children refused the feeds they had no option but to continue giving it:

> We have children who are not tolerating the feed, some are not taking it at all, when you give it to her, the mother come complaining she vomit everything out and because of that the weight is not increasing. At a point in time they introduce the BP100 so those who were not able to take the therapeutic food, the plumpy nut were switched to that one, it was very good for them but now is not in the system (P 9).

Table 2: **Aligning CMAM Objectives to Implementation**

Component 1: Community mobilization	**Intended outcomes** Sensitization/volunteering Identification and diagnosis using measurement of mid upper arm circumference Referral to health facilities	**Observed Outcomes** As at the time of reporting, these activities had become erratic to due to lack of community volunteers who are the main implementers of this aspect of the program. Cases were identified only when they reported to the clinic or hospital with other health conditions.
Components 2 **Supplementary feeding**	**Intended outcome** Families of children with acute malnutrition are provided with take-home food rations bi-weekly or monthly. Support for pregnant women and lactating mothers and children discharged from in-patient care	**Observed outcome** Supplementary feeding program was not evident in both sites for data collection. Informants indicated that this was mainly done in the northern regions where poverty rates are considered to be high. This was implemented at the initial stages of the program but was stopped due to challenges with procurement and disbursement and the change in country status. A new program has been started (Enhanced Nutrition and Value Chain) with new modalities of procurement and disbursement, but still in impoverished regions. Program is sponsored by WFP
Component 3 **Outpatient therapeutic program**	**Intended outcome** Management of uncomplicated cases with Ready to Use Therapeutic Food (RUTF) Home management with regular visit (weekly or bi-weekly) to the health facility	**Observed outcome** Uncomplicated cases are managed with RUTF; Mothers are given RUTF based on the MUAC of the child and are supposed to visit the clinic weekly for assessment. The Components is the most functional part of the CMAM program currently. Challenges of defaulting, lack of follow up, and currently shortage of RUTF

Component 4 **Stabilization center or inpatient care**	**Intended outcome** Children with complicated cases admitted and stabilized at in-patient facility Children are sent to out-patient facilities as they are stabilized**.**	**Observed outcome** The inpatient cases are admitted and stabilized and later referred to the outpatient care, however a lot of facilities are not operating inpatient care leading to overburdening of facilities like PML. Another challenge with this component is that F100 F75 and other supplements needed for inpatient care is critically out of stock. Staff will have to improvise preparations for children. UNICEF staff indicates that supplements for inpatient care is expensive and therefore difficult to procure.

Chapter 5: Interpretation and Discussion of Major Findings

The CMAM program is one of several strategies adopted worldwide to manage severe acute malnutrition in children under five years. Previous programs to manage child malnutrition in Ghana included nutrition education and counselling, and the creation of nutritional rehabilitation centers to manage malnourished children. The former involved educating mothers on good nutritional practices and teaching them what to feed their children. This approach had challenges because some mothers were from a low socioeconomic background and could not afford basic nutrition for the children although they knew what to give to their children. This led to the establishment of nutrition rehabilitation centres where mothers with their malnourished children were referred for specialist care. The children were admitted and given nutritious homemade foods. The problem with this program was that the mothers had to stay at the nutritional centres until the child recovered. Due to the long stay period some mothers stopped attending the nutritional centers. The current program, which began in 2008, was borne out of a workshop organised in Malawi to determine more effective ways to manage severe acute malnutrition following previous ineffective programs outlined above. This program was quite unique from previous programs because it was community based and it also came with an innovation in diagnosis of acute malnutrition using the MUAC tape and management using the RUTF. After the Malawi workshop, a technical committee was set up, program guidelines were drawn, staff were trained, and the program was piloted in two regions: Central and Greater Accra regions. Based on positive survey reports after the initial start-up, the program was adopted and scaled up to the other regions.

This qualitative case study investigated the implementation of the CMAM program in Ghana. The main objective of the study was to conduct a process evaluation of the implementation of the program and describe its current state. While some studies have been done on the CMAM

program since its inception, few were conducted in Ghana. The few that were conducted in Ghana focused on evaluating the outcomes of implementation. This study was uniquely positioned because it investigated the CMAM implementation process. The aim was to develop an understanding of the implementation process and inform policy makers concerning the processual factors that contributed to the outcomes reported by the other researchers. Five key questions informed the conduct of the study. In this chapter I discuss the findings of the study in connection with the research questions posed at the beginning of the study. The initial questions raised in this study were: Who are the actors and key stakeholders involved with the formulation and implementation of child nutritional policies in Ghana? What are the barriers and facilitators to the implementation of the Community-based Management of Acute Malnutrition in Ghana? What are the processes involved and the influence of contextual factors in the policy implementation process? What are the variations with implementation among the different sites and why are these disparities occurring? What are the experiences of the beneficiaries of the CMAM initiative?

Ramifications of Stakeholder Collaboration.

Nutritional policy implementation is achieved through several different stakeholders from different organisations, although coordination of activities usually sits within the Ministry of Health (Goshtaei et al., 2016). Interactions with key informants in this study clearly illustrated the multi-sectorial landscape of nutrition policy implementation. One top level manager at the Ghana Health Service, for example, indicated that her work involved collaborating with stakeholders from other agencies or ministries including the Ministries of Food and Agriculture, Local government, Gender and Social protection. Though collaborations may be advantageous, they often come with some challenges. Obviously, complex collaborations are expected to have both negative and positive effects. Some authors have suggested that such collaborations have magnified the complexities in

the already complex nutrition situation. Goshtaei et al. (2016) found that top level management saw cross-sectoral collaboration as the biggest challenge to nutrition policy implementation. This is because sectors vary in their objectives and programing and what is important in one sector may be secondary to another, for instance different sectors may have different budgetary allocations for similar nutritional issues (Ecker & Nene, 2012). Ecker and Nene note that nutrition is typically seen as a subdivision of the health ministry or sector and not a sector on its own, making it compete with other issues in health in terms of resources.

Notwithstanding the challenges that came with multi-sectorial collaboration, it also served to facilitate the implementation process. For example, one key informant indicated that they needed to collaborate with community stakeholders to ensure buy-in into the program. In the rural communities, the district nutrition officers had to collaborate with the spiritual leaders who had previously kept malnourished children in the churches in the name of curing them. Another important collaboration that kept the program running was collaboration with funding agencies. UNICEF and USAID were the main stakeholders who funded the CMAM program. USAID provided technical assistance in the form of staff training and also provided support for supervision and mentoring. Proponents of the CMAM model recommend collaboration for funding not only between government and international agencies but also non-governmental agencies and community partners. An aspect of collaboration that has yet to be fully realized involves community partners and civil society groups in funding. Some health programs have benefitted from funding from community partners. For instance, through advocacy and publicity, the cardiothoracic unit and the plastic surgery units of the Korle-Bu Teaching Hospital have benefitted significantly from local funding both through collaboration with individuals and Ghanaian private companies. Exploring these avenues could provide a promising future for the CMAM program. This again raises questions

of advocacy: who is concerned or responsible for raising awareness about the CMAM program and malnutrition in children, and how empowered is the Department of Nutrition at the Ghana Health Service to be able to collaborate with private and local sectors for funding? Inter-professional collaboration also existed among the different categories of health staff to ensure effective program implementation. For instance, CMAM implementation needed the collaboration of doctors, nurses, nutrition officers, pharmacist and laboratory technicians among others. In spite of the importance of such collaborations, lack of coordination among the various collaborating partners could lead to ineffective program execution (Goshtaei et al., 2016). Koontz and Newig (2014) indicate that "when policy implementation involves more than one agency or governmental level the implementation task become more complex" (p. 420). Handling collaborations effectively may require the establishment of efficient communication systems among the various stakeholders (Varshney et al., 2016). Effective collaboration can be possible through integration of similar programs and improvement in coordination among the different stakeholders in order to ensure effective implementation of policies. To do this all the different stakeholders at all levels must first be identified and strategies planned out to categorize ways through which each of the different groups could assist with implementation.

Dynamics of CMAM Implementation in Ghana

A major aspect of the policy process is the actual implementation of the policy. Though an aspect of the policy cycle that is often insufficiently addressed (Barkenbus, 1998), policy implementation is regarded as the most important facet of the policy cycle. The implementation process has been described as "characterised by diversity and constraint" (Hill, 1993, p. 8). This is because implementation is often confronted with wide-ranging influential factors including contextual, financial and human resources. Again, challenges in implementation are attributed to the

fact that stakeholders in policy formulation are often different and distant from frontline health workers who are usually the implementers. This depicts a top-down approach to policy implementation where policy proposals emanate from policy elites and handed down to policy implementers without active involvement or inclusion of their inputs (deLeon & deLeon, 2002; Koontz & Newig, 2014). This approach is identified as contributing to policy failure. deLeon and deLeon claim that policy formulation should include those who are involved with the day to day implementation as well as policy beneficiaries. In the instance of CMAM formulation and implementation in Ghana, both professionals at the various implementation facilities and non-professional actors like the chiefs and community opinion leaders needed to be involved to ensure program success. Makinde (2005) describes the implementation phase as "a graveyard of policy" where the intentions of policy formulators are challenged by powerful political forces and administrative bottlenecks. This is particularly so in middle income countries where policy formulation is not equated to policy implementation. Policies are formulated by high powered political forces without due recourse to the inputs of street-level bureaucrats or experts (i.e. public servants) or consideration of the socioeconomic contexts within which the policy is to be implemented. deLeon and deLeon (2014) posit that policy elites or top-downers neglect street-level bureaucrats "at their own peril" (p. 4). Makinde (2005) explains several instances in Nigeria where policies were abrogated or renamed and modified with change in governments. The situation is no different in Ghana where seemingly good policies suffered implementation bottlenecks due to several factors ranging from political to financial. For instance, the school feeding program in Ghana which was instituted by the President Kufuor government experienced some implementation constraints when a new government took over. The new government changed the management leading to delays in implementation. Again, there were complaints of poorly prepared and non-

nutritious diets which were blamed on inadequate funding for the program. The National Health Insurance Scheme also experienced challenges with implementation, with several claims of misappropriation of funds (Abukari, Kuyini & Mohammed, 2015; Alhassan, Nketia-Amponsah, Arhinful, 2016). Aside from the challenges that occur as a result of change in governments, underestimation of delivery challenges, inadequate funding, limited benefit and risk analysis, misunderstanding of stakeholders and lack of accountability are some of the issues that are known to undermine policies before complete implementation (Hudson, Hunter & Peckham, 2019, p. 2). Though high-income countries (HICs) also experience challenges with policy implementation, the causes and pathways may differ (Zhou, Yu, Yang, Chen & Xiao, 2018). Zhou et al. indicate that where HICs and LMICs suffered similar challenges, LMICs faced higher degrees of implementation hold-ups. Implementation problems in LMICs were mainly financial, human resource and administrative.

Challenges with CMAM Implementation

Implementation of the CMAM program had a promising start-up as indicated by key informants, with all stakeholders actively involved. It was met with excitement and readiness on the part of all stakeholders to make it work. However, the actual process encountered several challenges as the years progressed. Chief among these was the issue of funding. Other issues with implementation included the lack of total program coverage across Ghana, challenges with client follow up, defaulting clients and the lack of sufficient human resources.

Funding implications. No policy can be effectively implemented without adequate funding and human resources (Ecker & Nene, 2012; Wright, 2017). The issue of funding was evident across all six strands that emerged from the data. Key informants from all levels of data collection saw insufficient funding as a major barrier to the full implementation of the CMAM program. Though some international funding agencies showed interest and sponsored the project at the initial stages, they withdrew support after their initial funding period ended. A top-level manager indicated that funding has been erratic, leading to the shortage of basic supplies for the program. This concern was reiterated by most key informants during interviews, with informants attributing withdrawal of funding to the change in Ghana's status from a low to lower-middle income country as a reason disqualifying Ghana from benefitting from international funding. This was confirmed by an informant from Ghana Health Service who indicated that the reclassification by the World Bank is intended to be a measure of what a country can provide for its citizenry. An appraisal of literature revealed that both low income and lower-middle income countries are most often grouped together during discussions in both academic and social writings. This gives an indication that the change in status from low to lower middle-income country is usually not given recognition or seen by many as a significant transition. Some authors have had their misgivings about this classification system, arguing that it may not be a good measure of a country's economic capabilities (Harris, Moore & Schmitz, 2009; Nketia-Amponsah, 2015; Sakyi, 2011). A possible explanation for the relationship between World Bank rankings of countries and donor funding is that aid agencies are mostly informed by country rankings. Thus, countries receive international or foreign assistance based on their economic rankings. Low income status is usually the criteria for eligibility for donor funding. According to Harris et al. (2009), most funding agencies depend on this economic classification to categorise which countries should benefit from aid programs. Although the improvement in World

Bank country rankings is considered advantageous as a result of improvement in the country's Foreign Direct Investment (FDI) (Sakyi, 2011), it also comes with challenges including the withdrawal of donor funding or foreign aid. Again, macroeconomic improvements may not always translate into the microeconomic gains that typically show in the 'wallets' of individuals (Sakyi, 2011). Sakyi describes the transition from a low income to a lower-middle income country as a "critical stage where the country has to wean itself from massive doses of donor largesse or aid" (p. 4). Thus, the transition puts a demand on a country to work harder to sustain itself due to dwindling of donor funding. Findings from this study showed that the government of Ghana has not funded the CMAM program after the withdrawal of funding by international funding agencies. Similar studies on policy implementation in Ghana also identified inadequate funding as a major barrier to implementation (Maeleta & Amadi, 2014; Nyarko, 2016; Oppong, 2013). For example, Oppong identified lack of funding as a key challenge to the implementation of the GETFUND program. Similarly, Nyarko's study on the implementation of the school feeding program also revealed financial bottlenecks among other factors as impacting program implementation.

Ghana beyond aid: Ripple effects. On the other side of the funding argument is President Akuffo Addo's proclamation on Ghana's 61st Independence Day celebration that Ghana must go beyond aid. He indicated that the country is capable of managing its own affairs without dependence on international aid. The President mentioned in his speech that Ghana beyond aid is a "prosperous and self-confident Ghana that is in charge of her economic destiny; prosperous enough to be beyond needing aid" (Ghana Beyond Aid Charter, 2019). Ghana has experienced several economic reforms since independence, most of which were influenced by the World Bank and the IMF. Reforms mostly involved measures to reduce inflation and restore or stabilise the economy (Ikye & Odhiambo, 2015). Some of these measures (Economic Recovery Program and Structural

Adjustment Program of 1983) adversely affected individuals despite improving the macroeconomic parameters of the country and inequalities persist between the rich and poor (UNDP, 2014). This current proclamation was publicized and debated strongly in the Ghanaian media with mixed sentiments from people of different political affiliations (Ghana Beyond Aid Charter, 2019).

Ghana has not been able to totally do without aid though several measures are being taken by government to achieve this objective. This includes public debt management, monetary and exchange rate policy, higher tax revenue mobilisation, payroll management, public sector investment and improvement in infrastructure among others. Maintaining sustainable healthcare financing has been a challenge for developing countries including Ghana (Addae-Korankye, 2013). Most health policies and programs have been implemented with the help of international aid. Programs such as the Malaria Control Program, Expanded Program on Immunizations, HIV/AIDs control program and other disease control programs have been dependent on foreign funding. In 2005 about 53 percent of total health financing was from international funding, by 2015 international funding had dropped to 9% of the total health funding (WHO, 2017b). This sounds a note of caution that Ghana must find sustainable ways of implementing health policies from the country's own resources. Perhaps Ghana could learn lessons from South Africa's HIV/AIDs program that used donor funding as a springboard to develop their own initiatives. Efforts by the South African government to inject their own resources into the program has reduced their dependency on donor funding with respect to HIV/AIDS control (Johnson, 2008). This was made possible by an increase in budgetary allocation for HIV/AIDS. Key informants in this study indicated that efforts to get the CMAM policy on the insurance scheme have been unsuccessful to date. Again, supply of logistics for the CMAM program ended with the ending of UNICEF's funding period. Most key informants indicated that they expected government to take over funding

of the program after UNICEF's funding period ended. Informants suggested that the program to be incorporated into the national health insurance scheme or that CMAM supplies be added to the essential supplies list. While this suggestion is laudable, it was not selected as a priority amidst limited funding. This raises questions about the government's ability or preparedness to sustainably implement policies without foreign aid. Sponsored policies are readily accepted but abandoned when the funding period ends. Wright (2017) posits that for policy to be effectively implemented, stakeholders need to plan in advance and put in place measures to maintain sustainable funding. Findings from this study showed that there were inadequate measures on the side of government to take over funding although they were aware that funding by UNICEF would be ending. This became evident in an interview with one of the key informants who indicated that there was a persistent call on the government to assume responsibility for funding. Ecker and Nene (2012) argue that nutritional programs in Africa are generally underfunded. They posit that nutritional issues have not been prioritized in the agenda setting by most countries. Again, the authors state that lack of commitment to nutritional issues by government might have led to inadequate allocation of funds to confront the issue of malnutrition. This is confirmed in a publication by Laar, Aryeetey, Akparibo and Zotor (2015). Laar et al. examined the Ghanaian 2014 national budget and found no direct budgetary allocation to nutritional activities. They noted that nutrition was embedded in other budget lines. They further argued that though the government has shown commitment to nutrition in terms of drafting policies, specific financial commitment to these policies is lacking. As indicated in earlier submissions, nutritional departments are mostly seen as a subdivision of the health sector or other related ministries making it compete with other programs in those sectors for resources. This is reflected in the government's budgetary allocation for the health sector for 2010. For instance, nutrition interventions for both women and children received 3.3 % of the total budget for the health

sector. While the malaria program, expanded program on immunization and family planning received 12.2, 6.3 and 6.1% respectively (Food and Nutrition Technical Assistant report, 2011).

There is anecdotal evidence to suggest that issues that get to the government agenda are issues that receive media attention. In policy issues advocacy is key in getting things on the government's agenda. In Ghana for instance, issues that have caught the attention of government were issues that were highly debated in the media. Unfortunately issues of nutrition have not received the needed attention, probably because policy decision makers have not identified the critical role played by nutrition in the health of children and the prospects of nutritional interventions. Benson (2012) notes that issues of nutrition and ill health are widely seen as a responsibility of the household and not governments (p. 148). Politicians are therefore not likely to be called to account for high child mortality rates related to malnutrition. Nevertheless, Benson argues that reframing the nutrition problem can "sharpen public perception of its urgency" (p. 148). This turns us back to the issue of advocacy, creating the awareness to capture the public attention about the importance of nutrition interventions. Laar et al. suggest that there should be a budget line for nutrition specific interventions.

Coverage. Coverage is usually defined by the total number of people needing care compared with the number currently receiving care (Sadler et al., 2007). Good coverage is an important determinant of program success. The aim of the CMAM program is to be able to reach as many malnourished children as possible (Emergency Nutrition Network, 2014). Assessing coverage therefore helps to determine and resolve factors influencing coverage (Guevarra, Norris, Guerrero, & Myatt, 2012). Two aspects of coverage that could be assessed in CMAM are geographical coverage and treatment coverage. Geographical coverage considers the ratio of health facilities rendering services against the number of health care facilities available. This is quite different from

treatment coverage which looks at the number of children with SAM receiving care against the total number of SAM children (Guevarra, et al., 2012). Measuring coverage of CMAM services is very complex since it is influenced by several different factors, including acceptability, accessibility of CMAM services, and service quality. Although services may be available in a particular geographical area, access to the service and uptake of the service by community members may be an issue. Most key informants described CMAM as successful where it was fully implemented. However, there was inadequate scale-up to facilities in some districts. This scenario contradicts WHO's Universal Health Coverage policy. This policy is intended to ensure that everyone who needs health services will be able to access them irrespective of their financial status and geographical location (WHO, 2019). This implies a higher proportion of the population in need of care receives it. Despite claims of program success, people in some parts of the country could not access service. Lack of complete coverage required mothers to travel long distances to access CMAM services. Again, lack of program scale-up is attributed to lack of funding. Effective service coverage is positively linked to adequate and consistent health care financing (WHO, 2019). Maleta and Amadi (2014) conducted a study on the implementation of CMAM in three countries and found that for all these countries (Zambia, Malawi and Ghana) coverage was incomplete. They noted that even for the regions that were covered not all provided complete services. Similarly, this study revealed that most facilities provided only outpatient care, necessitating referral of children to the hospitals for in-patient care. Sadler et al. (2007) posit that "coverage is an important indicator of impact" (p. 911). This suggests that though the CMAM program can be highly effective in managing individual cases of acute malnutrition, lack of total coverage affected its impact throughout the country. For the program to be deemed successful there was the need for the presence of both high cure rate and high coverage (Sadler et al., 2007). For instance, the study

revealed that most of the CHPS compounds were not rendering CMAM services, this defeated the purpose of managing acute malnutrition in the community which was the main objective of the CMAM program. Though some systems of assessing program coverage are developed, assessment of coverage in the country is patchy. Also, these assessments concentrated on geographical coverage but not treatment coverage. This could be misleading since the number of health facilities operating CMAM services does not reflect treatment coverage. Evidence from this study indicates that treatment coverage is highly dependent on the work of community volunteers since they are involved in community sensitization and active case finding. That is to say, they have to create the awareness about the condition, and inform the community members about the existence of treatment, screen them and refer them for treatment (FANTA, 2013). This suggests the need to strengthen the community mobilisation aspect of the program. Guevarra et al. (2012) indicate in their work on the assessment of coverage of CMAM programs that programs that achieved over 85% coverage are those that paid attention to the community involvement aspects of the program. Although there is evidence to suggest the involvement of herbalists and spiritualists in community mobilization and sensitization in some parts of the country, there is no evidence to show the involvement of Christian churches. Involving Christian churches in community mobilisation through awareness creation in the churches could improve community sensitization and active case finding, and subsequently treatment coverage.

Defaulting. According to the CMAM program protocols, default is absence from treatment for two consecutive appointments. It is very difficult to determine the actual reasons for mothers defaulting on their child's treatment. Different authors have attributed default in the CMAM program to different causes, including long distances to service centers, lengthy treatment regimes, travel costs, lack of support from spouses, and early signs of recovery in the child (Akparibo et al.,

2017; Akparibo, Lee & Booth, 2017; The OR Research Team, 2014; Yeboah, 2016). Findings from this study identified long distance to service sites, early signs of recovery and busy trading activities as factors linked to default. Most mothers interviewed indicated that they had to travel at least an hour to the service sites. Some stated the distance was not a challenge to them, yet they defaulted. Yeboah (2016) also identified long distance as a major influential factor affecting clinic attendance. Staff at the clinic confirmed that mothers sometimes defaulted leading to relapse of the children's condition. Staff were not totally sure what led to default but hypothesized that mothers were sometimes caught between competing demands of the family. Similar studies in Nigeria and Ghana have confirmed this finding (Appiah, 2015; The OR Research Team, 2014). The OR Research Team (2014) indicate that mothers are occupied with home chores and family functions, preventing them from attending the clinic. In Northern Ghana, Appiah identified attendance at social events with strong family obligations such as weddings, outdooring of children, funerals and house chores among other factors. Interviews with mothers confirmed their inability to follow treatment regimen due to their time spent trading to earn family income and other activities. These commitments might have contributed to their inability to frequently feed the children. This was especially prominent among mothers attending the PML hospital. A mother of three, a trader (food vendor), attending the PML clinic stated her inability to care for the child as a result of her busy schedule (trading activities through the night. A similar study in India also reported defaulting among mothers with children on the CMAM program and found that women defaulted during the peak of farming periods where they were occupied with farming activities (Burza et al., 2015).

Another factor that influenced default was lack of improvement in the children's health condition after being on the program for some time. Some mothers became discouraged and stopped attending the clinic when they did not observe a change in their children's condition. During the data collection period, I encountered a woman who has been attending the clinic for a year which was unusual. She indicated that she only comes to the clinic when she has money for transport. Due to her financial circumstances she could not follow the treatment regimen and the child kept relapsing. This finding corroborated that of Akparibo et al. (2017) where long stay on the program is believed to have led to default in attending clinic. One staff member hinted that other health facilities were not rendering CMAM service because of the tedious nature of the process for staff, contributing to clients having to travel long distances for service. One of the main reasons for adopting the CMAM program was to make management of acute malnutrition community-based, so that mothers could easily access service in their communities. However, this study found that the service was not based in the community as intended. Fundamentally, community-based programs require involvement of community members. Findings indicated that an aspect of the program that could have encouraged community participation (volunteering) was missing. Subsequently, clients had to travel long distances from their communities to access service as indicated earlier, which affected attendance. A similar study also identified distance as major barrier to accessing CMAM services and a reason for defaulting (Puett & Guerrero, 2015). Improving geographical and treatment coverage could reduce defaulting and improve treatment outcomes. Another strategy for dealing with the issue of defaulting is to communicate clearly the modalities of the treatment to mothers at the beginning of the program. Some studies have found a lack of understanding of treatment modalities to be a cause of defaulting. In a study by Lee, Banda, Sling, Mandalazi, and Bahwere (2013) on the nature of causes and impact of default on the CMAM program, participants

indicated that they were informed by the health staff to return to the clinic when the RUTF was finished. Subsequently, mothers who were not administering the supplement as prescribed by the health staff, always had RUTF in excess and therefore did not return to the clinic. A review of the program by the Ghana health service revealed that locating service sites close to the market places in the city improved coverage and reduced defaulting since most of these mothers went about their trading activities with their younger children.

Follow up. The main aim of follow-up visits by staff is to identify explanations for "absence and defaulting and to inspire return to program" (Valid International, 2006, p. 49). Staff at the nutritional centers indicated that they sometimes needed to follow up with clients to determine why they were absent, or to check whether they were following treatment regimen. While Collins et al. (2006) suggested that follow-up is not a pre-requisite for program success, a study by Adda (2016) found that mothers were encouraged when they were visited or contacted by the health care professionals concerning the health of their children. Appiah (2015) found that follow ups positively influenced defaulter and cure rates in CMAM clients. In spite of the importance of follow up, healthcare professionals in the current study lamented about lack of funds to go for follow up visits. They stated that they occasionally had to use their personal monies in doing follow up visits or to call clients. Another challenge was that staff were sometimes unable to visit their clients due to work pressure. A similar Ghanaian study found that post discharge follow-up by staff was low (Maleta & Amadi, 2014). The investigators suggested that follow up could be improved with active participation of volunteers and community health workers. In addition to a lack of funding to follow up on clients, the inability to trace clients due to incorrect addresses coupled with the distance from facilities was cited as causes of defaulting. Beneficiaries were therefore sometimes lost to follow up. Additionally, seasonal migration also contributed to defaulting. Some mothers, especially from the Northern part of Ghana, migrate to the city to trade in times of drought and return home when there is rainfall. This emphasizes the need to clearly explain procedures and rationale with beneficiary mothers and making them aware that they could continue treatment wherever the service is provided. A good alternative to cope with the follow-up situation could be to call mothers by phone to remind them of their next visits since most mothers interviewed had cell phones. Again, developing a well thought out plan to follow up is key. Since community health care workers are

already involved in some form of follow-up for other programs, these home visits could be well coordinated to involve CMAM clients. Though this will still require improvement in the staff capacity.

Human Resources. Capacity building is critical for the successful implementation and long-term sustainability of every program (Munung, Mayosi & de Vries, 2017). The importance of human resources in the implementation of policies is well documented (Kelly & Humphrey, 2013; Wright, 2017). One major concern that was highlighted in the interviews with the key informants was the lack of human resources for effective program implementation. This concern emerged from three different categories: issues with staffing, curriculum content review and volunteering.

Staffing. The introduction of any new program in the health sector requires the training of staff to be able to adequately implement the new change. Inadequate staff training is a major barrier to the implementation of policies (Wright, 2017). Wright posits that the introduction of a new program puts additional strain on staff. Although CMAM staff were trained on the program in the initial stages, most of the original staff had been transferred or had left for further studies. This staff turnover should be expected especially since the program was almost in its tenth year of implementation. No new training had been done due financial constraints. The facilities relied on 'on-the-job' training for new staff. However, key informants indicated that new staff were not able to competently manage cases. This is problematic since the CMAM program needed staff who were adequately trained to handle the program. Migration of experienced people resulted in what Kelly and Humphrey (2013) called "loss of collective organizational memory" (p. 8). Thus, some important information on CMAM implementation at the clinic sites was missing with passage of time and movement of people with the technical know-how from their original places of work. This raises concerns about whether the issue of attrition was considered before commencement of the

program. As Wright suggests, staffing issues should be planned well advanced in a program to avoid staff turnover. The current study identified inadequate staffing as one of the key issues that impacted the implementation process. Challenges with staffing issues were visible in all the stages of implementation, from identifying and referring cases, to follow up of defaulting clients and monitoring of program implementation by top level managers.

Curriculum Issues. The ensuing staffing challenges generated different ideas from top level managers about sustainable ways to deal with staffing issues. One of the recommendations was to review the curriculum in nursing programs to incorporate CMAM so that newly graduated nurses already knew how to diagnose and treat cases of severe acute malnutrition. However, this vision has yet to materialise. A key informant from the Ghana Health Service indicated that there have been several efforts to have the Nursing and Midwifery Council include CMAM management in the curriculum of nursing students, however these efforts have proved unsuccessful to date. An interaction with a senior operations officer at the Nursing and Midwifery Council indicated that the council has a curriculum review process that occurs every five years and involves several stages and numerous stakeholder engagements. She again indicated that the council may incorporate management of childhood malnutrition in the curriculum but not in the form that Ghana Health Service expects it to appear.

In reviewing the curriculum of the nursing training schools it was evident that CMAM was not fully incorporated although some aspects of nutrition relating to CMAM were found. Meanwhile, the Ghana Health Service expected to have CMAM incorporated and taught as a full course that was examinable in the pre-service. Each of these stakeholders had their own perception about the issue. Munung et al. (2017) indicate that in such situations there should be a clear communication of the expectation of each collaborating partner. It was not clear how

communication regarding the issue was handled, however a top-level manager indicated that they have had several meetings with the council on the issue. Again, it is unclear if this had to do with how each of these stakeholders prioritize the issue or who had to promote the agenda at the Nursing and Midwifery Council for CMAM to be included in the curriculum.

Another option for improving staff capacity to handle the CMAM program was for the Ghana Health Service to have scheduled and regular in-service training for new staff who come to the units, however reports from the key informants indicated that for a long time, they have not had any new training for the staff due to lack of funding to do so. While plans to integrate CMAM in the pre-service training are yet to be realized, the MOH/GHS could source for local funding from civil society organisations and local companies to build capacity through a consistent in-service training in an effort to mitigate the effects of the high staff turn-over. Also, clinic staff could be equipped to intensify on-the-job training for new graduates who join the staff.

Volunteering. A complementary aspect of staffing was the issue of volunteering. The use of volunteers formed an important aspect of the CMAM program. The volunteers were trained to search for and identify cases within the community and refer them to the health care staff. The objective was for the volunteers who are also part of the community to be able to mobilize the community to accept CMAM services and report to the clinic. Volunteers were also to follow-up with clients to find out how they were faring and whether they were able to follow the treatment regimen within the context of their family. This concept was readily received by the community members who were excited to be part of the program. However, halfway through the implementation process volunteers started asking for money and other incentives, which was not possible for the Ghana Health Service to provide. My personal reflection on the volunteering issue after going through the WVI program guidelines is that the work of the volunteers demanded

significant time commitment. They were to sensitize the community about the program, screen for cases, refer them to the clinics and also follow up with families. I believe this was too demanding for anyone wanting to volunteer. At the time of data collection, there were no volunteers on the CMAM program in at least the two sites where data collection was conducted. Future planning of the program could review the workload of volunteers. For instance, volunteers could be made to concentrate on community sensitization, which is equally important in the community mobilisation component.

Leon et al. (2015) describe the importance of community volunteers in strengthening community-based programs. They indicate that volunteers play a major role in health and nutrition promotion and social mobilisation. Interaction with key informants indicated that the community members' perceptions of volunteering were different from the generic understanding of the word. The concept of volunteering, though not new in Ghana, is one that has not been fully understood or is understood differently. Some top-level officials in the Greater Accra Region indicated that it was difficult for people in the city to volunteer because of the cost of living, which calls for a struggle for survival. Another key informant thought it was sheer misunderstanding of the concept of volunteering. He indicated that volunteers were expecting to be paid.

These comments from key informants raise questions about the perception of volunteering in Ghana and sub Saharan Africa as a whole. How is the concept perceived among different countries or cultures? In reality, the economic situation in developing countries sometimes makes it difficult for community members to volunteer. Both women and men have to work to make a living. Therefore, combing through the community all day to identify malnourished children meant leaving one's own work unattended. Most of the people in the communities were self-employed and depended on their daily income for survival. This meant that absenting themselves from work for

just a day was problematic. Elsewhere volunteers are driven by a commitment to values such as ensuring the wellbeing of all people and developing important skills to serve the public interest (UN, 2019). These ideals could be adopted and inculcated into the Ghanaian culture to facilitate community-based programs in future.

Possibly some system of motivation in the form of transport cost for the volunteers would have been appealing. In Leon et al. (2015)'s study, volunteers in Mali received incentives and stipends. This served as a form of motivation to the volunteers. Initially, volunteers in the CMAM program did receive some monetary incentive, but this could not be sustained. Leon et al. suggest that the role of community volunteers in the healthcare system is undervalued. They argue that the challenge lies in how to optimise their prospective benefits. I made efforts during the data collection period to interview volunteers, but health staff could not contact any. Interaction with one of the top-level managers at the Ghana Health Service confirmed that the absence of the volunteers has greatly affected the case search aspect of the program. My observation at the nutritional units showed that cases of malnutrition were identified only when the children were brought to the hospital with other conditions. This defeated the main objective of CMAM: reaching out to the communities to identify malnourished cases. In a bid to fill this gap, the program administrators resorted to the use of community health nurses to identify and do the case search. Laleman et al. (2007) agree with this alternative and suggest that funding and resources should be channelled toward training more staff to handle the situation rather than relying on volunteers. However, informants indicated that using the community health workers for this job put a strain on the community health nurses who are already stressed with other programs and this workload is leading to staff burnout. Professionalizing the work of community volunteers defeats the purpose of community volunteering. The aim of using community volunteers in community-based programs is

to have people who understand the language and culture of the local people so they may have optimal communication with them. In this way a community becomes more receptive to the program. Future programs could look at motivating volunteers in ways that may not be too demanding economically but motivating enough to attract community volunteers. For instance, giving them and their families' priority when they attend the hospital. Volunteering should be an opportunity for community members to develop skills and experiences that can help in their future personal engagements. Community volunteers should not be seen as cheap labour, but rather important partners or stakeholders in the implementation process. If community volunteering could be effective, then volunteers would not need only financial motivation but also supportive and technical assistance from program coordinators. Yeboah's study revealed that out of 10 volunteers interviewed only two fully understood the modalities of the CMAM program. Studies in Bangladesh showed that community volunteers performed better with constant training and consistent supervision (Ireen et. al., 2018).

Program Surveillance and Appraisal

Program surveillance involves activities tailored to monitoring how well a program is performing and to assess whether program activities complement program aims and objectives. Surveillance is usually an ongoing activity and also involves gathering information about program activities (WHO, 2019). Wright (2017) indicates that program evaluation and monitoring to note the successes and challenges is an essential part of program success. The CMAM program in Ghana commenced with a very strong monitoring and support system in place. Ghana Health Service with the support of USAID created the Severe Acute Malnutrition (SAM) support unit to monitor implementation and provide supportive supervision. Program coordinators visited the implementation sites to mentor and support staff in the diagnosis and management of cases. The

coordinators reported that over the years these activities slowed down due to funding and staffing challenges. Evidence from this study revealed that visits to the regions, districts and facilities are not as regular as they used to be. Lack of regular visits and supervision to the districts and facilities could be a possible explanation for the inconsistencies identified in the reports received from these sites. Strong technical support is necessary for improvement in reporting of program outcomes. Faulty reporting could also be linked to the volume of documentation involved in the CMAM program. Staff had to record and report on a number of indicators including the amount of supplements received and number issued to clients, they also had to write in client's record cards, tally sheets for weekly program monitoring and recording, and submit monthly reports on clients and all the other indicators. This coupled with their already tight work schedules possibly affected documentation. To ensure accurate and consistent reporting, Collins et al. (2006) argue that the data collection and reporting processes should be as simplified as possible for frontline health care workers. Systems should be designed in a way that minimizes documentation yet producing useful reports that can inform program decision making.

Another reason that could explain the lack of visit to districts and facilities is the addition of the CMAM program to the DHIMS. Through this networked system, management is able to track performance in the facilities, the districts and regions. One second level manager stated that she could sit in her office and navigate through to see the activities in the districts through the DHIMS. Despite the ease of monitoring from a distance, some key informants indicated inconsistencies and faulty reporting. In addition, the information system does not monitor flaws in the actual clinical management of the cases in the facility. This highlights the importance of in-person monitoring of implementation. During monitoring, nutrition officers were able to observe the actual management of cases in the facilities and offered guidance where needed. Moreover, reporting through the

DHMIS came with challenges such as lack of access to internet services; staff in the remote areas still had to use the manual system for reporting to the districts.

The use of social media, especially the WhatsApp platform was a major resource in the communication system. Staff created a WhatsApp group where they communicated their challenges and successes with management of the conditions. Again, management were able to connect with staff regarding meetings and changes or modifications to the program. A district nutrition officer indicated that the platform was also used to motivate staff who performed well to serve as encouragement for others to do same. De Benedict et al. (2019) have documented the importance of the WhatsApp platform in the daily practice of healthcare professionals. De Benedict et al. indicate that this platform should be used by healthcare administrators to facilitate communication among both health care staffs and their clients. This mechanism could also be employed in communicating with mothers on the CMAM program who have access to the application. This could facilitate communication between mothers and the healthcare staff and serve as a means for follow up.

The Beneficiary Experience

The CMAM program targets children 5 to 59 months. Since children at this age have limited ability to describe their experiences, primary caregivers were considered indirect beneficiaries of the program in this study. Mothers, being the primary caregivers in this study, shared varying experiences with me ranging from their experiences with service provision, to their individual experiences with the care of their children. Most mothers expressed their initial concern and worry about their children's delayed development and their inability to gain weight. Some mothers thought their children were losing weight; they were not sure what the cause might be. During our interaction some mothers indicated that the children started refusing meals and subsequently lost weight. These concerns by mothers did not always translate into seeking care; some believed the

child's condition was the result of witchcraft activities and therefore hid the children in their rooms or took them to the herbalist or spiritualist. This behaviour is typical throughout Africa including Ghana, where disease is sometimes attributed to witchcraft activity (Asare & Danquah, 2017; Kahissay, Fenta & Boon, 2017; White, 2015). In a qualitative ethnographic study on beliefs and perception of ill-health causation in Northern Ethiopia, Kahissay et al. found that beliefs in supernatural forces were linked to beliefs about disease causation. Participants in their study believed that these forces had the power to cause and cure diseases.

Mothers in the current study sought help from spiritualists and herbalists, yet most mothers confirmed that they did not see improvement in their children's condition. In Ghana most people believe that some diseases are caused by spiritual forces and therefore orthodox medicine cannot cure such diseases (White, 2015). Interestingly, this belief was held by both the educated and uneducated, rural and urban residents. Participants from both sites of data collection confirmed this and indicated that people in their neighbourhood informed them that the children had been bewitched, forcing them to look for 'spiritual' help. Health professionals were aware and worried about this trend, which raises questions about how well religious beliefs are integrated into policies when being constructed, especially in Ghana where health and religion are closely linked. Though some aspects of traditional medicine and spirituality have been incorporated in the health system as per WHO recommendations (Boateng, Danso-Appiah, Turkson & Tersbol, 2016; White, 2015), there are still several self-acclaimed herbal doctors and unlicensed practitioners in Ghana who may endanger the lives of individuals. An understanding of the underlying motivations for these spiritual beliefs is essential to be able to understand families' motives and to achieve optimal health outcomes. In the rural areas, traditional leaders and heads of households could be involved to facilitate the education agenda since they play influential roles in the communities. This could be

effective if the leaders are given leadership roles in the community mobilization aspects of the program. In the Kwahu West Municipality, the health staff made efforts to involve the spiritualist or herbalist as key stakeholders in the management of the malnourished children. A key informant from the municipality indicated that they educated the spiritualists about malnutrition and the CMAM program and requested that the spiritualists refer the clients to the clinic after they had dealt with the spiritual aspects of the disease. According to the staff, this collaboration proved worthwhile as the spiritualist started referring the cases to the clinic, (previously, they kept the children in the shrines and churches till they died). This collaboration did not occur in the city probably due to the difficulty in reaching out to the wide array of spiritualists and herbalists scattered around the city. As it is challenging for health professionals to connect and have a collaborative interaction with spiritualists, an alternate approach to the issue of spirituality in the city may be necessary. For instance, making use of the local radio stations, most of which communicate in the various local languages, could be a good alternative to educate as well as mobilize the herbalists and spiritualists around the city. In the same vein, mothers in the city could be educated on the CMAM program to improve their health seeking behaviour with regards to their malnourished children.

While some mothers indicated their satisfaction with the CMAM program, others reported dissatisfaction with the treatment. These mothers indicated that their children could not tolerate the plumpy nut due to its solid consistency. They stated that the nature of the plumpy nut made it difficult for the children to consume. They suggested a semi solid consistency to enable easy consumption. Mothers' efforts to make the supplement easy to consume resulted in incorrect administration of the supplement by mothers. Some mothers mixed it with water or other foods, which could delay recovery because per the CMAM guidelines, the plumpy nut was to be taken directly without mixing with anything. The reason for this was to prevent possible over dilution of

the supplement. Again, mothers indicated that the children were fed-up with eating the same meal for a long time and suggested that the plumpy nut could be made into different food preparations to enhance variety. Staff confirmed that they had encountered such complaints but did not have alternate solutions. Similar studies have found noncompliance with treatment with plumpy nuts due to what they termed dietary boredom (Guimón & Guimón, 2010). There has been a growing interest by Nutriset, the largest producer of Plumpy nuts, to build on this innovation by producing different variety of RUTF based on locally available nutritious foods (Guimón & Guimón, 2010). However, this may require additional research and clinical testing of the products to determine their effectiveness. While this is yet to be done, the clinical staff could find innovative ways to liquefy the Plumpy nut without compromising its nutritional value.

Lack of improvement in a child's condition could also be attributed to improper use of the supplement. One second level manager reported that some mothers shared the supplements with other children in the household, others also used the supplement to prepare peanut butter soup for the entire household. Akparibo et al. (2017) recorded similar findings in their study and indicated that this could be the result of cultural influences. They observed that sharing is a cultural norm especially in rural communities of Ghana. This was confirmed by a study conducted in the Tolon district in Ghana by Yeboah (2016). In her study, mothers indicated that the plumpy nut was shared among the entire household. Mothers stated that failure to share led to being branded as wicked by family members. The challenge with this is that if sharing of the supplement among family members occurs, it becomes difficult to determine if a child received the daily requirements per the body weight.

Most mothers complained about having to travel every week to the facility to access service. They were of the view that the health staff could administer the quantity of supplement that could

last two weeks or a month. In that way they will not need to come every week to the center. Mothers again stated that traveling to the clinic every week affected their trading and other household activities. Clinic staff explained that the purpose of seeing the children each week was to assess the progress of the children and review treatment accordingly. Similar studies in Ghana recorded the same complaint by mothers (Akparibo et al., 2017; Yeboah, 2016). For instance, Yeboah's study revealed that about 73.3% of mothers reported long distance to health facility as a challenge to accessing service. Distance also had financial implications; mothers did not bring their child to clinic when there was no money for transport. This is where locating services within the community becomes a key issue that needs to be addressed. Facilities in the communities could be well resourced to be able to manage in-patient cases so that they may not need to refer such cases to the main hospitals.

A key factor that motivated mothers to attend the clinic was the improvement they saw in their children within a few days after commencing treatment. These findings are similar to other findings in Ghana (Appiah, 2015; Yeboah, 2016). For instance, Yeboah's results suggested that changes in the health of the children inspired mothers to attend clinic. Conversely, improvement in the child's condition led to absenteeism on the part of some mothers (Akparibo et al., 2017). Key informants at all levels confirmed that mothers defaulted with the slightest improvement in the child's condition. This phenomenon is reported in other studies (Akparibo et al, 2017; Maeleta & Amadi, 2014; Yeboah, 2016). Akparibo et al.'s study showed that 28.5 % of the children dropped out of the CMAM program before the stipulated time of completion due to reasons including early signs of recovery in the children. Out of this figure only 6% had met the discharge criteria at the time they left. This situation could be attributed to inadequate communication with mothers concerning the treatment regimen, the discharge criteria and the importance of completing the

treatment schedule. On the other hand, some mothers were well aware of the modalities but relaxed with the sign of recovery due to other pressing family issues. Akparibo again indicates that sometime these women are overtaxed with home chores and yet without the support of their spouses. The CMAM program requires that children spend at least 6 weeks on the program for effective results. Children who stayed on the program for six weeks or more experienced improved weight gain as compared to those who spent less than 6 weeks (Akparibo, et al., 2017).

Gender Implications

Women's experience with CMAM has gendered implications. A woman's identity is swayed by several interconnecting socio-cultural and religious factors. Within the African context, parenting is synonymous with motherhood (Bawa, 2016), a notion of parenting quite distinct from many western conceptualizations of parenting (Bawa, 2016; Bakare-Yusuf, 2003). However, globalisation has weakened some sociocultural dictates that relegated women to the background and associated them only with motherhood. This notwithstanding, elements of patriarchy exist. In the African context women are considered the primary caregivers of children, placing them in a crucial position with regards to caring for children (WVI, 2017). This stems from the patriarchal system that shared power unequally among men and women to the disadvantage of women (Facio, 2013). Bakare-Yusuf (2003) notes that the male-female roles have been established in African society since pre-colonial times. She confirms the placement of women as primary caregivers who also double as breadwinners of the family. The author posits that "women play central but socially subordinate roles in the African society" (p. 2). In the current study, fathers were noticeably absent during the entire data collection period. All the children were brought to the clinic by their mothers. Mothers provided various reasons for their spouse's absence, including their busy schedules, looking for money to cater for the family and lack of concern or support for the family. Some

mothers defended their spouse's absence. In spite of the traditional caregiver role played by mothers, interactions revealed that some mothers played the dual role of caregiver and breadwinners. These mothers had to work hard and earn money while still expected to care for the children.

During interviews most mothers indicated that they were traders, however when mothers were probed it turned out that most of them were actually out of employment as a result of their children's ill health. Some participants indicated that their husbands asked them to stop work and concentrate on taking care of the sick child. Ironically, these mothers had to depend on the husbands for 'everything'. This scenario affected the women's sense of power and reduced their sense of autonomy. One mother indicated that though her husband asked her to stop working, the financial support was inadequate. There is a wide array of literature to establish a linkage between women's economic autonomy and empowerment and the overall health of their children (Li, 2004; Shroff et al., 2009; Smith et al., 2003). Though women's economic empowerment significantly influences the care of their children, pathways explaining this may be diverse. While woman's employment is associated with improvement in income and therefore household nutrition (Li, 2004), the reverse may occur, where women's engagement in active employment may take their attention away from children. As indicated earlier in this work, some women confirmed their inability to adequately care for their children due to their busy trading activities. Additionally, several traditional and cultural practices place the woman in a position where they have to rely on the man for everything including decisions regarding their health seeking behaviour. For instance, in some parts of Northern Ghana, the woman has to wait for the husband to get transport money to the clinic or to make a decision regarding where to take the child for healthcare (Appiah, 2015; Yeboah, 2016). These cultural, and sometimes religious practices reduced the woman's agency and autonomy. In Yeboah's study,

fathers restricted mothers' clinic attendance because of home chores, fathers insisted that mothers carried out all home chores before they attended clinic. Meanwhile the SDG 5 considers shared responsibility within households and family as nationally appropriate. Yet this target is inhibited by cultural and religious practices that are deeply rooted in history. To this end I tend to agree more with Bakare Yusuf's assertion that "culture and tradition are unfinished projects that are continuously being transformed by cultural actors" (p. 1). Li (2004) indicates that a woman's health seeking behaviour is often linked to the extent to which the husband shares housework and childcare (p. 699). Articulating clear policies on these issues could lessen some of the effects of gender and power imbalances with regards to house chores and child care. There is a need to share responsibilities thereby allowing men or fathers to be stakeholders in the care of their children while women actively participate in both formal and informal employment activities while still fulfilling their parental responsibilities.

Contextual Factors Impacting Program Implementation

The influence of context in policy implementation is well expounded, however mechanisms through which context acts to influence implementation are diverse. The importance of context in explaining complex issues in health policy implementation is well documented (Coles et al., 2017). Coles et al. posit that a thorough understanding of program context is essential for the successful implementation of programs. Therefore, to be effectively implemented, programs should be tailored to 'fit' specific local contexts. The OECD (2019) indicates that "all policies have spatial consequences" (p.1). Meaning, different geographical areas have different linkages and different influential factors that often cross administrative boundaries. Say and Raine (2007) identified funding, organisation of health care, and culture as contextual issues influencing program implementation. They explained that in order to address the challenges in program implementation

in developing countries, interventions should address contextual issues. Understanding of the dynamics of context is key in dealing with disparities during program implementation. This study purposely selected two diverse settings to determine whether there were any contextual differences between the two sites with regards to CMAM implementation. Although both sites shared similar characteristics, several differences were identified between the sites that could influence program implementation.

Perception, Attribution and Sociocultural Variations. Perception of the causes of malnutrition among mothers attending the PML hospital were similar to those in the Kwahu West Municipality. Most mothers in both areas reported that malnutrition was the result of activities of witchcraft during pregnancy. They believed that if an evil eye looks at you during pregnancy, your child will become malnourished. However, this view was particularly prominent among people at the Kwahu West municipality, most of whom chose to visit an herbalist and/or spiritualist. Yeboah (2016) posits that such beliefs influenced the health seeking behaviour of mothers and prevented them from patronizing CMAM services.

Another observation was that mothers at PML were typically petty traders who were mostly occupied with their daily trading activities making it difficult to attend to their children. Discussions with mothers revealed that they most often kept the children strapped to their back during trading activities and only brought them out to feed them when they (mothers) needed to rest from their trading activities. Mothers at Kwahu municipality were most likely influenced by sociocultural factors other than economic. Unlike mothers attending the PML hospital, mothers at the Kwahu Municipality were more relaxed, most of them were unemployed or had their trading activities close to their homes.

Interviews with both staff and mothers indicated that there were many self-acclaimed doctors in the municipality who daily advertised and sold herbal medications to mothers. One participant from the municipality indicated that she was given herbal medications to bath her malnourished child to drive away evil spirits. Another likely cause of malnutrition in the Kwahu municipality was the perception that feeding the child on foreign milk connotes a good socioeconomic standing. Every new mother was therefore expected by the community members to buy artificial milk and feed their child on it. Since most of the artificial milk preparations were expensive, mothers over diluted the milk in order to minimize cost. In view of this, mothers were not breastfeeding but rather resorted to the use of these milk preparations, which led to malnutrition among the children. Dealing with such socio-cultural practices, which are deeply rooted, demands a continuous education from healthcare staff. Since Ghana is a multiethnic country with several different cultures, program planners may need to allow flexibility for healthcare staff to tailor fit education and other program activities to the various contexts and cultures.

Service Provision. Service provision at both sites was similar. Staff at both sites adhered to the national CMAM guidelines in the management of the children. Relationships with mothers were satisfactory at both sites. For instance, mothers were warmly welcomed by clinic staff and spoken to in a calm manner. The staff took time to take them through the routines of the program and educated them in a non-judgemental way. However, staff-client interaction at PML hospital was more formal. Again, service provision was very organized at the PML site. Mothers visited the clinic every Friday to have their children weighed and MUAC taken, and also to collect supplies for their children. This made it easy for staff to monitor progress in the children's condition and detect absenteeism. This was not evident in the Kwahu West Municipality. Client-staff interaction was less formal. Staff knew the mothers personally and their individual challenges and tried to tailor fit their services. However, there were no scheduled days for clinic visits, therefore mothers could attend clinic on any day. Although this made it flexible for mothers to attend clinic on their less busy days, it made it difficult to track client's visits. I observed that having a specific day for visits at PML made it easier for mothers to interact with each other, and some mothers were encouraged to see other children recover through the intervention. An important observation in the Kwahu municipality was that the staff at the district found ways to raise funds in the local communities to provide food supplements for the children. Consequently, alongside the plumpy nuts the district was able to provide some locally prepared food to supplement the CMAM supplies. This encouraged clinic attendance since mothers were assured of receiving other supplements even when plumpy nuts were unavailable. Again, this was not visible at PML hospital, where one staff member indicated that it does not lie within their power to raise funds for the units. However, they stated that they occasionally receive food items from donors that they shared among mothers.

A key observation was that while logistics were scarce in both sites, inadequate supply was more acute in the rural settings than the urban settings. For instance, while staff at the Kwahu municipality complained of complete lack of logistics, PML still had a few to give to clients who really needed them. This occurred because supplies usually passed through Accra before they were dispatched to the more remote areas. When probed about the availability of supplies, a member of the clinic staff at the Kwahu Municipality indicated how difficult it was in the rural areas to have logistics especially where the city was lacking. Contrary to this view, an urban key informant indicated that most often funders perceived the city to be well endowed as compared to rural areas and therefore most of the resources are sent to rural places, leaving the city rather underprivileged. Some top-level officials confirmed this and indicated that some parts of the Northern, Upper East and Upper West regions received some supplementary foods, an aspect of the CMAM program that was never implemented in the other regions. Similar to the current study, some studies also identified rural-urban disparities in program implementation (Ingenmansson et al., 2018; Say & Raine, 2007). While rural communities are usually perceived to be underprivileged, evidence has shown that there are areas in the cities which may also be deprived (OECD, 2019). This raises questions about the notion of pushing all aid or assistance to the rural areas at the expense of deprived urban communities.

CMAM Implementation and the Determinants of Nutrition

As discussed in the literature maternal formal education had some bearings on program implementation. Most mothers had their education up to the primary level, some had no formal education, and few had high school education. Even those who had primary education stated that they dropped out of school in the course of their education. Some studies conducted in Ghana and other countries identified low education among beneficiary mothers and found a significant

association between maternal educational level and successful treatment of children on the CMAM program (Appiah, 2015; Yeboah, 2016; Somiya & Adam, 2018). Though pathways were not clearly established by these studies, a possible explanation could be that educated mothers understood the modalities of the treatment better and therefore adhered to the treatment regimen. This also confirms earlier submissions in the literature that parental education, particularly mother's education, influenced nutritional status of children (Alderman and Headey, 2017; Block, 2007; Johnson, 2014; Iftikar et al., 2017). Iftikar et al. (2017) argue that efforts to combat child malnutrition should embrace improving maternal education.

Mother's occupation and income levels also played a role in the nutritional status of their children and their motivation to access CMAM services. Most mothers were traders who earned an average monthly income of less than 100GHC ($23 CAD). Since CMAM service was not adequately decentralized, mothers needed to travel long distances to the centers as indicated previously, which also had monetary implications for mothers who were already under resourced. Subsequently, mothers only attended clinic when they had money. Though the CMAM program was free, which meant even poor households could benefit from the program, issues with mothers having to travel before accessing service defeated the purpose. In reality accessing CMAM services came with a cost. Another means through which mothers' occupation affected their children's nutritional status and access to service, was their busy trading activities. As stated earlier, mothers could not make time to feed their children on the RUTF as recommended, and only fed the children when they (mothers) needed a break. This could influence recovery, since per the CMAM guidelines the child was supposed to consume a number of sachets of RUTF per week based on the MUAC.

Mothers' educational level, occupation and income level also affected their autonomy (Alderman & Headey, 2017; Burroway, 2017; Smith & Haddad, 2000; UN, 2017), and subsequently their ability to make decisions concerning clinic attendance. Though some mothers indicated that they were traders, close interaction revealed that they had stopped working due to the children's ill-health. Therefore, their decision to attend clinic greatly relied on the spouses' willingness to provide money for transport to the hospital. A study in Northern Ghana on CMAM implementation, implicated fathers' willingness to provide spouses with transportation money as a motivation for clinic attendance (Yeboah, 2016). Improving education and income levels of mothers could influence their decision-making capabilities (Burroway, 2017) and improve their health seeking behaviour.

Facilitators of CMAM Program Implementation

One of the key objectives of the study was to identify the facilitators of the CMAM implementation process. The aim was to explore these factors and make recommendations towards strengthening the process, thus injecting feedback into the policy process as recommended by Hayes (2014). Since the CMAM program started in the humanitarian context of conflict and famine, transferring it to the non-humanitarian context meant that there needed to be strategies in place to ensure successful integration into the regular health system. This included ensuring adequate human and financial resources and the presence of structures to facilitate the process. Informants confirmed that the existing health structure (managerial) served as a good environment for CMAM operations. First the structure expedited the supply of logistics from the national level to the districts and facilities. It also facilitated transfer of information among top level managers and frontline healthcare workers. Another important aspect of structures that was not mentioned by informants, although essential for successful program implementation, was physical structures, especially in the community. Though access to health care has improved with the introduction of the CHPS initiative, with several compounds scattered in the districts, these compounds lacked major structures to handle acute malnutrition. My personal observation was that most of the CHPS compounds were not operating CMAM services although operationally they were supposed to be. Strengthening the CHPS compounds therefore will be a great step towards achieving greater coverage. Evidence from the study revealed that the issue of structures was more nuanced than that described by informants. Since this program was community-based there needed to be structures that addressed the informal or non-professional aspects of the program. For instance, structures that could link formal administrative relationships with opinion leaders or gatekeepers of the communities where CMAM was being implemented. A thoughtful consideration of these

intermediaries helps to strengthen the policy implementation process (Bullock & Lavis, 2019). This must occur in tandem with current policy approaches that require implementation of a "multi-actor, multi-level approach," thus ensuring that stakeholders function in a flexible network structure that involves informal processes and unstructured groupings (Cerna, 2013, p. 24).

Another element that facilitated the implementation process was the plumpy nut (RUTF), its regular supply and the advantage of it being free. Key informants mentioned that the nature of the plumpy nuts simplified the process. By design, the plumpy nut did not need cooking, adding water or mixing with anything. As ready-to-use it was easy to administer to the child at anytime, anywhere. Additionally, plumpy nut deviated from previous treatments that were milk based and therefore attracted bacteria contamination. Plumpy nut was designed in a way that didn't encourage bacterial growth even when exposed, because it was oil based. Again, it didn't require water to prepare, therefore it could be taken in areas where there was water shortage or water bodies were contaminated. Andre Briend, the French pediatrician and inventor of Plumpy nuts, called it "a revolution in the management of acute malnutrition" (Concern Worldwide, 2019). A stable supply of CMAM logistics was a major consideration to successful implementation. Availability of the products was a criterion for CMAM adherence by both implementers and beneficiaries (Adda, 2016; Appiah, 2015; Ireen et al, 2018; Maleta & Amadi, 2014). In Savelugu Nanton Municipality for example, mothers' clinic attendance was motivated by the continuous supply of plumpy nuts at the clinics. Attendance dwindled when staff reported shortage of plumpy nuts (Appiah, 2015). The final and most important aspect of the RUTF was that the product was free. This increased accessibility to the target beneficiaries, most of whom could not have afforded were it to be sold. According to the informant from UNICEF, the plumpy nuts were very expensive and transferring the cost to mothers who were already impoverished would have been practically impossible.

Several authors have discussed the availability of resources as an influential factor in the implementation of policies (Ali, 2006; CDC, 2019; Signe, 2017). A stable source of funding is therefore a prerequisite for resource availability. Unfortunately, at the time of writing this report there was an acute shortage of CMAM logistics in most facilities, even in the city. Similar studies in Ghana and other LMICs have reported inadequate and inconsistent supply of logistics as a major setback to implementation (Appiah, 2015; Ireen et al., 2018). During a review of the program in 2011 by FANTA, health care staff indicated that future program success is highly dependent on a continuous and sustainable supply of RUTF. In spite of the review reports seemingly nothing was done to secure a continuous supply. In countries like Malawi, Kenya and Niger, the product has been produced locally to improve supply (BBC, 2019). Though some attempts have been made at producing RUTF in Ghana, it has not been without challenges. Moreover, production was by a private company. The question this raises is who is to procure the product from the company. Meanwhile per the policy guidelines, the product should be administered to beneficiaries' free of charge. This coupled with recent legal issues on who owns the right for commercial production of RUTF is threatening the future of CMAM.

Figure 4: Plumpy Nut

A third factor that facilitated the CMAM program was the innovation in the diagnosis through the use of the MUAC tape. Previous forms of assessing acute malnutrition involved the use of the weighing scale to check the weight and height before finding the standard deviation. The MUAC tape is a simple calibrated and colour coded tape used to measure the mid-upper arm circumference to detect malnutrition, and it's easy to carry around by both health workers and community volunteers. This makes it possible for anybody to screen for SAM in the community and to refer to the clinic for further investigation.

Figure 5: MUAC Tape

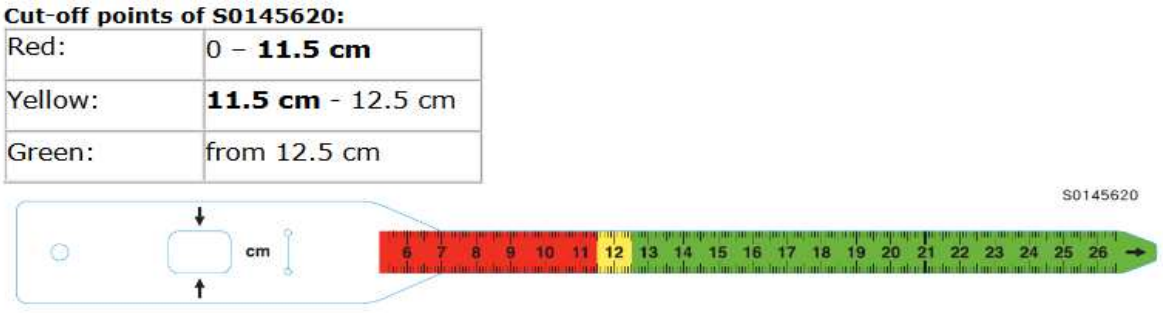


Image courtesy UNICEF

Other factors known to facilitate the implementation process that still lagged behind is the availability of human resource and the presence of well-structured monitoring and reporting systems (Maleta & Amadi, 2014; Otieno, 2000; WVI, 2017). These factors have been discussed extensively in earlier submissions in this chapter.

Telling the Success Stories

Notwithstanding the challenges that influenced the implementation of the CMAM program, several authors have confirmed the effectiveness of the program in managing severe acute malnutrition (Akparibo et al., 2017; Maeleta & Amadi, 2014). According to the national program coordinator, CMAM has drastically reduced disease and deaths from SAM since its inception with the cure rate at close to the global expectation. Key informants testified to this and indicated that the introduction of CMAM was a great innovation in the management of Severe Acute Malnutrition. This finding confirms results from other Ghanaian studies that showed a reduction in mortality and increase in the cure rate of SAM cases, with a cure rate of 73% - a little below the global standard of 75% (Maeleta & Amadi, 2014). This success was generally attributed to innovation in diagnosis (use of the MUAC tape) and innovation in management (use of RUTF). Informants showed pictures of cases that were successfully managed under the program. Most of these pictures were shown during community education to indicate the effectiveness of the program or used as evidence of program success to advocate for funds. Despite the success stories, some parts of the country were still not covered. Additionally, evidence from the study indicated that some components of the CMAM program were not being implemented. For instance, interaction with key informants revealed that the community mobilisation, supplementary feeding program and in-patient components were not completely implemented. A UNICEF representative confirmed and explained that the in-patient component for instance, was very expensive to run so UNICEF stopped exporting logistics for in-patient treatment.

Similar to the experiences of the professionals, mothers confirmed that they saw a drastic change in their children after they were enrolled on the program. Some mothers expressed excitement about this improvement and testified that CMAM works if the treatment regimen is

followed. This is consistent with findings from other studies that reported caregivers' satisfaction with the result of the CMAM program (Adda, 2015; Appiah, 2015). Satisfaction with the program served as a motivating factor for some mothers to continue treatment. Some mothers actually became advocates for the CMAM program in their communities, using their children's recovery as evidence of its effectiveness.

Connecting the Strands

Findings from this study indicated that funding was the main thread that connected all the strands identified in the analysis. As indicated earlier, sustainable funding plays an important role in the execution of public policies and programs. As revealed by the study, successful implementation of the CMAM program was highly dependent on funding from international agencies and development partners. First, there was the need to train people who could adequately manage cases based on the CMAM guidelines. Training of staff, whether in-service or pre-service, required sufficient funding. Key informants confirmed that they needed to organize and train trainers of trainers from all the regions, which was cost intensive. Alongside training of staff to build capacity, there was the need to purchase supplies for the program. Once UNICEF's funding period ended, securing the plumpy nuts and other supplies for the program became problematic. Additionally, CMAM implementation thrived with in-person monitoring and follow up visits. From the highest levels of operations there needed to be regular or scheduled visits to the regions, districts and facilities to monitor and support staff with implementation, however this programmatic support slackened due to funding difficulties. Some key informants indicated that they only visited when they had funds for transport. Another area affected by lack of funding was the inability of the clinic staff to follow up on clients who missed scheduled visits to the clinic. Although lack of follow up

could be attributed to other reasons, staff pointed to inadequate funds as the main reason behind their inability to follow up on clients.

Financial difficulties also emerged as a factor influencing clinic attendance. Due to incomplete scale up of the program and some other probable causes, mothers had to travel long distances to access service. This indirectly affected clinic attendance and led to defaulting. Inadequate coverage is also linked to insufficient funding. Although the CMAM program was mainly funded by UNICEF, funding was concentrated in the five focused regions resulting in lack of total coverage in the non-focused regions.

As with any public policy, implementation of the CMAM program suffered some administrative, sociocultural and financial setbacks. One may wonder how these problems persisted after almost ten years of implementation. In Ghana most sponsored programs have experienced similar challenges because they were seen as projects of the funding agencies, and so managers or heads of institutions were not ready to sustain funding of the programs when funders withdrew funds (CMAM report, 2011). Another explanation for incomplete implementation was the staffing concerns that impacted implementation, influencing identification and referral of cases, follow up visits and monitoring by higher level managers. This again was attributed to lack of funds to conduct ongoing training for new staff. It is recommended that effective programs like the CMAM should be sustainably funded by Government, even when donor funding is terminated.

Chapter 6: Summary, Recommendations, Conclusion

This chapter highlights the implications of this study, including the conclusions drawn from the discussion of findings and the recommendations. As indicated earlier in the previous chapters, the purpose of this case study was to investigate the implementation of the Community-based Management of Acute Malnutrition in Ghana. The aim was to identify key stakeholders in the implementation process, identify the major challenges associated with the implementation, determine what facilitated the implementation and make recommendations based on the findings. The study which examined the insights of stakeholders, professionals, and program beneficiaries on the implementation process has implications for policy and proposes some recommendations.

Implications of Study.

Implications for nursing. The current work has implications for nursing in two main ways. First, the role of nurses in relation to nutrition and second, the nurse's positionality in the formulation and implementation of health policies.

Nurses and nutrition. The association between nursing and nutrition is evident in literature (Arkansas State University, 2018; DiMaria-Ghalili et al., 2014; Xu, Parker, Ferguson & Hickman, 2017). In the early stages of the profession, nurses were actively involved in the planning of patient diet and the education of clients on nutritional issues. Presently, this responsibility goes beyond planning patient's diet and serving of meals to addressing more nuanced and complex nutritional

issues. The importance of nutrition knowledge among all category of health staff including nurses cannot be overemphasized. DiMaria-Ghalili et al. (2014) posit that nutrition is a vital element in health and wellness as well as in the management of both chronic and acute diseases. Again, in the advent of few dieticians and nutritionist in the system, nurses most often step in to render nutritional services to clients (Henning, 2009). The increasing numbers of dietary related Non- Communicable Diseases (NCDs) worldwide (Badasu et al., 2016), places a demand on nurses to harmonize and strengthen nutritional capabilities.

This case study has highlighted the significant role played by nurses in the nutritional status of both hospitalized and out-patients. Evidence from the study revealed that nurses were hugely involved in both IPC and OPC aspects of the CMAM program. Consequently, nursing needs to re-conceptualize this crucial role and build capacity to address the ever-changing trends in the nutrition of people especially in the developing worlds. The curriculum of nurses should be strategically restructured to include adequate nutritional knowledge to enhance the dual role of nursing and nutrition.

Nurses Positionality in Policy Issues. Nurses constitute the majority of the global healthcare workforce (Juma, Edwards & Spitzer, 2014), yet they are less often recognized or involved in major health policy formulation. Nursing's unique role in policy implementation cannot be overemphasized, this places a demand on nurses to be actively involved in both formulation and implementation of health policies. In spite of the valuable role played by nurses in the policy arena, they sometimes lack the requisite knowledge to make impact as policy advocates (Spenceley, Reutter and Allen, 2006). Oestberg (2013) argues that nurses spend more contact hours with patients compared to all the other health workers and should therefore have the most influence on health policy. Again, many health policies affect nursing practice and nurses 'work environment'

(p. 1). Yet, Juma et al. acknowledge that nurses have been relegated to the background in terms of policy formulation and are only seen as good for implementation (Arabi, Rafii, Cheraghi, Ghiyasvandian, 2014). This is attributed to various reasons including the fact that nursing is dominated by the female gender (Juma et al., 2014). This is also linked to elements of patriarchy where 'males' rule', males here representing medical doctors. Nevertheless, nurses in their practice, acquire various experiences and skills that can inform health policy.

In this study nurses were not involved in the initial formulation of the CMAM policy. It was later during the implementation process, where staffing issues surfaced that nurses were considered to step in. This work exposes the lack of involvement of nurses in health policy formulation. To be able to take their place in the policy advocacy and formulation arena, nurses need to acquire adequate knowledge in order to influence and make meaningful contribution to policy issues. There is also the need to deal with issues within the nursing profession itself that become obstacles to reaching to the top. Juma et al. posits that for nurses to be involved in health policy formulation, policy formulators should "address issues of gender, hierarchies and domination inherent in the healthcare system that makes it difficult for nurses to get to the national level" (p. 8). Finally, nurses should be strategically involved in future health policy planning and programming from the initial stages of formulation so that they can make meaningful inputs based on practical experience. That said, nurses should be visible in their advocacy roles, nurses need to take advantage of the media to showcase their capabilities in policy issues.

Implications for Practice. The study also exposes the practicalities of policy implementation. The CDC enumerates three things that ensures effective policy implementation. These are keeping the desired outcomes in mind which involves making goals clear to everyone

involved in the process, identifying resources that can help with implementation of the policy which include funding, staffing and infrastructure and finally planning who will be involved and what their roles are (CDC, 2019). Though these are ideals to ensure effective implementation. Implementation is confronted social, economic and cultural factors on the field of practice that challenges these ideals. Following a strict top down approach to policy implementation may limit frontline healthcare workers ability to take initiative and tailor fit program guidelines to their specific context. Sometimes these initiatives are taken but not documented to avoid incurring sanctions from the 'powers that be' yet these initiatives may be helpful within those contexts. The contingency approach to policy implementation may seem more practical with the CMAM program. This approach is neither top-down or bottom-up but indicate that there is no one size fit all approach, therefore the "appropriate strategy is contextual depending on the contingency and how they can be best addressed" (deLeon & deLeon, 2002).

Policy Implications. The current study highlights important factors influencing health policy implementation particularly in lower and middle-income countries. Evidence from this study revealed lack of sustainable funding as a major factor affecting implementation of the CMAM program. CMAM which is a part of a larger policy, the National Nutrition Policy, was mostly sponsored by international funders. Interactions with key informants showed that after the funding period ended the government has not fully taken over funding. Therefore, the program which has been found to increase the cure rate of children with severe acute malnutrition is currently suffering major setbacks. Evidence from literature has revealed similar problems with the implementation of other policies both in Ghana and other developing countries (Alhassan et al, 2016). This raises questions of how well we have learnt as a nation from implementation of other programs in the past.

It has been suggested by a policy analyst that it is very easy to formulate very good policies, but the problem always lies in the willingness of governments and other stakeholders to have it sustainably implemented (Wright, 2017). This is attributed to the fact that most policies are politically rather than socially motivated (Ajulor, 2018). Ajulor (2018) blames challenges of implementation on what he termed the "adoption of foreign made solutions" to local problems. This means policies are sometimes adopted without due recourse to the prevailing sociocultural and economic context.

Additionally, it was expected that a program which was in its tenth year of implementation would have overcome some of the challenges enumerated, but this was not the case. A key informant suggested a total review of the CMAM program since several changes have occurred in the last 10 years necessitating a corresponding change in some aspects of the program. This suggest the need for a constant review of policies and programs to correspond to prevailing circumstances. This is in tandem with the mutual adaptation approach to policy implementation which suggest that policies should constantly be reviewed, revised, modified and redefined by relevant policy actors (Karip, 1996).

Implications for research. This study involved evaluation of CMAM implementation in two out of the 16 regions in Ghana. These regions may have different cultural and socio-economic circumstances. Future research could therefore focus on the other regions of the country to determine possible contextual similarities and variances that have implications on CMAM implementation. Exploring the phenomenon in the other regions of the country could inform policy makers on how differences in those settings may influence the implementation of CMAM. Again, findings from the study suggested that mothers defaulted for various reasons. However, the researcher could not trace defaulters to interview them. Future research may trace defaulters to gain data on default from the mothers' own perspective.

Additionally, the perspectives of previous volunteers may shed light on the volunteering situation, and effective strategies put in place to improve volunteering in community-based programs in Ghana. Furthermore, the issue of treatment coverage showed up strongly further research may be needed to examine the coverage situation across the country.

Suggestions for Improvement in CMAM Implementation

For a strategic approach to implementation of the CMAM program in Ghana, the following recommendations are made.

This study exposed funding and inadequate supply of logistics as major constraints to implementation. Consequently, the Ministry of Health in conjunction with the Ghana Health Service need to explore and utilize sustainable ways of funding the CMAM program, including sourcing for funding from local sources. Another way is to include CMAM in mainstream health financing by either including it on the essential supplies list or the National Health Insurance Scheme. Again, measures should be put in place for government to produce the CMAM supplements locally to reduce cost and improve supply. Also, there should be an upward adjustment of domestic budgetary allocation for the nutrition department and subsequently for the CMAM program.

Inadequate nutrition knowledge was implicated as a possible reason why mothers sought for help from fake doctors and herbalist. Consequently, use of the media, for example the local radio and television stations could be an effective way to educate mothers on good nutritional practices and improve their health seeking behavior. In the remote areas, community education should be intensified through the local communication systems. Furthermore, spiritualist and fake herbal doctors should be considered as important stakeholders in the prevention and management of acute malnutrition and considered in the planning of such services.

Again, the study revealed inadequate monitoring of staff and lack of follow up of clients as a key implementation issue that also led to default of clients. Evidence from this study identified inadequate staff strength as contributing to this. Staff capacity should be improved to make up for challenges of inadequate volunteers. Additionally, the pre-service training has been found to be the effective way of improving the staffing challenges. In this way newly graduated staff come in with prior knowledge on diagnosing and managing cases. It is recommended that concerted efforts are taken to actively involve all stakeholders concerned in this process and impress upon them the need to have it incorporated in the curriculum. While that is yet to happen, there should be budgetary allocation for regular in-service training for staff to ensure adherence to management protocols.

Additionally, members of churches and other religious bodies could be encouraged to volunteer to aid in community sensitization and case search. Again, community health nurses should be involved to make up for the inadequate nutrition officers in the system. As well, the Ministry of Health and Ghana Health service should provide resources and options for staff to be able to follow up on clients to enhance clinic attendance.

Stakeholder collaboration was identified as a vital part of the implementation process. Thus, collaboration should be well coordinated through effective communication among collaborating partners. Roles and responsibilities should be clearly defined among these stakeholders. Again, collaboration should be viewed with a contextual lens since the local context may sometimes point to the category of persons that should be brought on board to facilitate the process.

The study identified that policies and programs to reduce malnutrition were fragmented. It is therefore suggested that CMAM should be implemented together with or fully integrated into other sustainable ways of improving child health and preventing child malnutrition such as the Infant and Young Child Feeding Program (IYCF) or the Integrated Management of Childhood Illnesses

(IMCI). CMAM must not operate as a stand-alone program but incorporated into some of these programs to ensure a holistic approach to child health.

Additionally, engaging the community is crucial to scaling up of the program. Involving community leaders, Christian churches and civil society organizations could improve community mobilization and active case finding. Moreover, the CHPS compounds should be equipped in order for them to be able to manage inpatient cases, in this way community members will not have to travel long distances to access service. As well regular monitoring and supportive supervision of the CPHS compounds will ensure compliance with treatment guidelines. In the humanitarian context, the use of mobile services was found to be effective in improving coverage. This could be exemplified in the non-humanitarian contexts to improve program scale up. A critical consideration of the different contexts in implementing the CMAM program is key. The program should allow flexibility for the health care officials to tailor fit the program based on the socio-economic and cultural situation prevailing in those contexts.

Limitations of the Study

The study concentrated on two out of the 16 administrative regions in Ghana. This could possibly affect the richness of the data since each region has unique cultures and socioeconomic contexts that could affect program implementation in those sites. Case study researchers require an extended time of observation in data collection sites in order to ensure prolonged engagement. However, during the field work I realized that some components of the program were not being implemented and so there was nothing to observe for those aspects, again procedures at the clinic were very routine so after the second week of observation, no new themes were emerging. This notwithstanding, the shorter period of observation yielded good evidence. Again, gathering

documentary evidence from some key informants was quite difficult. After persistent visits and reminders, I surrendered. Nonetheless some informants provided some documentary evidence mostly in the form of job aids, photo booklets and reports.

Due to the busy schedules of the key informants, scheduling time for interviews became very difficult. At one point most of them had travelled out of the country for either a conference, or even when they were in the country, they were out on field visits. This affected my timelines for collecting data, which also had monetary implications. Again, I had initially planned a top-down approach to data collection, however due to the issues discussed above I had to do a mix of top-down and bottom-up. This yielded very interesting results since I was able to ask questions from the 'top or down' based on some earlier response from previous interviews, which helped to confirm or clarify issues.

Navigating through the qualitative research terrain as a novice qualitative researcher was like running a marathon for me. It took me long hours and days to transcribe audio recorded interviews, but the experience has been worthwhile. One of my interest groups to be interviewed was community volunteers who played a pivotal role in CMAM implementation. However, this was not achieved due to the absence of volunteers. At the greater Accra site, informants indicated that there were no volunteers on the program as at the time of data collection. At the Kwahu municipality they indicated that they had one volunteer but efforts to trace him proved futile. Interviewing a volunteer could have helped to shed light on the volunteering situation with the CMAM program

Where do I go from here?

During my interaction with top level officials, they indicated that they will be happy to see what I found with my study. Based on this expectation I intend to prepare a policy brief,

schedule a meeting with the coordinators of the program and other relevant stakeholders, and present the findings of the study to them, reiterating the concerns of staff and beneficiaries. A working relationship/partnership will be established with the director of nutrition at the Ghana Health Service and the CMAM program coordinators and based on their response measures put in place towards improving the program.

Again, findings will be disseminated to the scientific community through conference papers, poster presentations and publications in peer reviewed journals focused on child nutrition, health policy implementation and case study methods. I plan to liaise with some of the local media stations in Ghana to participate in public education on general nutritional issues and create awareness about the CMAM program. Beginning from the Eastern region where I reside, I will liaise with the regional nutrition officer and Christian churches to organize periodic screening and active case search in the surrounding communities. Finally, a wide range of audiences and knowledge users will be reached through social media handles like Twitter, LinkedIn YouTube and Facebook.

Conclusion

This study offered insights into the actualities in nutritional policy implementation in Ghana. The Ministry of Health adopted the Community-based Management of Acute Malnutrition as part of the larger policy to deal with malnutrition in children under-five. The program has been successful in reducing child mortality from acute malnutrition since its inception. However, like any other policy, the program suffered some implementation hold-ups. Prominent among these were challenges with funding, inadequate human resource, lack of consistent monitoring and follow up, ineffective community involvement and limited coverage, creating impediments in the way of implementation and subsequently, the achievement of the main purpose of the program. Subsequent

to these findings, recommendations are made for the Ministry of Health and Ghana Health Service to review the entire program and make evidence informed changes to the program. Again, possible sources of sustainable funding have to be explored and utilized in other for the program to continue. In closing, the CMAM program has proven to be effective where completely implemented. The program can achieve its intended objective in the non-humanitarian context if the issues enumerated above are given sufficient consideration. This research work has ignited in me the need to indulge in advocacy for these children who speaks but whose voices are not heard.

References

Abukari, Z., Kuyini, A. B., & Mohammed, A. K. (2015). Education and health care policies in Ghana: Examining the prospects and challenges of recent provisions. *SAGE Open*, *5*(4), 11p. https://doi.org/10.1177/2158244015611454

Abuya, B. A., Ciera, J., & Kimani-Murage, E. (2012). Effect of mother's education on child's nutritional status in the slums of Nairobi. *BMC Pediatrics 12,* 80 doi:10.1186/1471-2431-12-80

Adda, R. (2016). Assessment of quality care of community-based Management of Acute Malnutrition Services in Accra Metropolitan Area. School of Public Health, College of Health Sciences, University of Ghana.

Addae-Korankye, A. (2013). Challenges of Financing Health Care in Ghana: The Case of National Health Insurance Scheme (NHIS). *International Journal of Asian Social Science,* (2), 511.

Adisah-Atta, I. (2017). Financing health care in Ghana: Are ghanaians willing to pay higher taxes for better health care? Findings from afrobarometer. *Social Sciences, 6*(3). https://doi.org/10.3390/socsci6030090

AFMC (2017). *The policy cycle*. Retrieved from https://afmc.ca/AFMCPrimer.pdf?ver=1.1

Akortsu, M. A., & Abor, P. A. (2011). Financing public healthcare institutions in Ghana. *Journal of Health Organization & Management, 25*(2), 128–141.

Alderman, H., & Headey, D. D. (2017). How important is parental education for child Nutrition? *World Development*, *94,* 448-464. doi:10.1016/j.worlddev.2017.02.007

Allendorf, K. (2007). Do women's land rights promote empowerment and child health in Nepal? *World Development*, *35*(11), 1975-1988. doi:10.1016/j.worlddev.2006.12.005

Alhassan, R. K., Nketiah-Amponsah, E., & Arhinful, D. K. (2016). A Review of the National Health Insurance Scheme in Ghana: What Are the Sustainability Threats and Prospects? *PLoS ONE, 11*(11), 1–16.

Ali, S. (2006). Why does policy fail? understanding the problems of policy implementation in Pakistan - a neuro-cognitive perspective. International Studies in Educational Administration, 34(1). Retrieved from http://ecommons.aku.edu/pakistan_ied_pdck/10

Agbadi, P., Urke, H. B., & Mittelmark, M. B. (2017). Household food security and adequacy of child diet in the food insecure region north in Ghana. *PLoS ONE*, *12*(5), 1-16. doi:10.1371/journal.pone.0177377

Agyepong, I. A., & Adjei, S. (2008). Public social policy development and implementation: a case study of the Ghana National Health Insurance scheme. *Health Policy and Planning*, *23*(2), 150–160. https://doi.org/10.1093/heapol/czn002

Ahuvia, A. (2001). Traditional, interpretive, and reception based content analyses: Improving the ability of content analysis to address issues of pragmatic and theoretical concern. *Social Indicators Research, 54,* 139–172.

Ajulor, O. V. (2018). The challenges of policy implementation in Africa and Sustainable Development Goals. PEOPLE: *International Journal of Social Sciences, 3*(3). https://dx.doi.org/10.20319/pijss.2018.33.14971518

Akparibo, R., Harris, J., Blank, L., Campbell, M., & Holdsworth, M. (2017). Severe acute malnutrition in children aged under 5 years can be successfully managed in a non-emergency routine community healthcare setting in Ghana. *Maternal and Child Nutrition*, *13*(4), 1-9. doi:10.1111/mcn.12417

Akparibo, R., Lee, A.C.K. and Booth, A. (2017). Recovery, relapse and episodes of default in the management of acute malnutrition in children in humanitarian emergencies: A systematic review. Humanitarian Evidence Programme. Oxford: Oxfam GB

Anwar, S., Nasreen, S., Batool, Z., & Husain, Z. (2013). Maternal education and child nutritional status in Bangladesh: Evidence from Demographic and Health Survey Data. *Pakistan Journal of Life & Social Sciences*, *11*(1), 77-84.

Anyidoho, N. A., & Manuh, T. (2010). Discourses on Women's Empowerment in Ghana. *Development*, *53*(2), 267-273.

Anyidoho, N. A., & Manuh, T. (2015). To Beijing and back: Reflections on the influence of the Beijing conference on popular notions of women's empowerment in Ghana. *Ids Bulletin-Institute of Development Studies*, *46*(4), 19-27.

Appiah, B. O. (2015). The community-based management of acute malnutrition (CMAM) programme: implementation realities in the Savelugu Nanton Municipality of Northern Ghana. School of Allied Health Sciences, University of Development Studies, Ghana.

Arabi, A., Rafii, F., Cheraghi, M. A., & Ghiyasvandian, S. (2014). Nurses' policy influence: A concept analysis. *Iranian Journal of Nursing and Midwifery Research, 19*(3), 315–322.

Arkansas State University (2018). The role of nurses and nutrition in healthy patients. Retrieved from https://degree.astate.edu/articles/nursing/the-role-of-nurses-and-nutrition-in-healthy-patients.aspx

Asare, M. Danquah, S. A. (2017). The African belief system and the patient's choice of treatment from existing Health Models: The Case of Ghana. *Acta Psychopathol.* 3 (4) 49.

Badasu, D. M., Abuosi, A. A., Adzei, F. A., Anarfi, J. K., Yawson, A. E., & Atobrah D. A. (2018). Educational status and beliefs regarding non-communicable diseases among children in Ghana. *BMC Public Health 18,* 313. https://doi.org/10.1186/s12889-018-5211-5

Bakare-Yusuf, B. (2003). Beyond Determinism: The Phenomenology of African Female Existence. Feminist Africa 2. Retrieved from http://www.agi.ac.za/sites/default/files/image_tool/images/429/feminist_africa_journals/a

rchive/02/fa_2_feature_article_1.pdf

Barkenbus, J. (1998). *Expertise and the policy cycl*e. Energy, Environment, and Resources Center, University of Tennessee, Knoxville, Tennessee.

Baxter, P., & Jack, S. (2008). Qualitative case study methodology: study design and implementation for novice researchers. *Qualitative Report*, *13*(4), 544-559.

Bawa, S. (2016). Paradoxes of (dis)empowerment in the postcolony: women, culture and social capital in Ghana, *Third World Quarterly, 37* (1) 119-135, DOI: 10.1080/01436597.2015.1086636.

BBC (2019). Legal fight over plumpy nuts, the hunger wonder-product. Retrieved from http://news.bbc.co.uk/2/hi/europe/8610427.stm

Benson, T. (2012). Cross-sectoral coordination in the public sector: a challenge to leverage agriculture for improving nutrition and health. In S. Fan & R. Pandya-Lorch (Eds.), Reshaping agriculture for nutrition and health (An IFPRI 2020 Book). Washington: International Food Policy Research Institute.

Black, R. E., Victora, C. G., Walker, S. P., Bhutta, Z. A., Christian, P., de Onis, M., ... Uauy, R. (2013). Series: Maternal and child undernutrition and overweight in low-income and middle-income countries. *The Lancet*, *38*(2), 427-451. doi:10.1016/S0140-6736(13)60937-X

Block, S. A. (2007). Maternal nutrition knowledge versus schooling as determinants of child micronutrient status. *Oxford Economic Papers*, *59*(2), 330-353.

Boaheng, J. M., Amporfu, E., Ansong, D., Osei-Fosu A. K. (2019). Determinants of paying national health insurance premium with mobile phone in Ghana: a cross-sectional prospective study. *International Journal for Equity in Health 18,* 50 doi:10.1186/s12939-019-0946-x

Boateng, M. A., Danso-Appiah, A., Turkson, B. K., & Tersbøl, B. P. (2016). Integrating biomedical and herbal medicine in Ghana - experiences from the Kumasi South Hospital: a qualitative study. BMC *Complementary and Alternative Medicine, 16,* 189. https://doi.org/10.1186/s12906-016-1163-4

Bullock, H.L., Lavis, J.N. (2019). Understanding the supports needed for policy implementation: a comparative analysis of the placement of intermediaries across three mental health systems. *Health Research Policy and Systems, **17,*** 82 https://doi.org/10.1186/s12961-019-0479-1

Burza, S., Mahajan, R., Marino, E., Sunyoto, T., Shandilya, C., Tabrez, M., … Mishra, K. N. (2015). Community-based management of severe acute malnutrition in India: new evidence from Bihar. *The American Journal of Clinical Nutrition, 101*(4), 847–859. doi:10.3945/ajcn.114.093294

Carlson, G. J., Murray-Kolb, L. E., & Kordas, K. (2015). Associations between women's autonomy and child nutritional status: a review of the literature. *Maternal and Child Nutrition*, *11*(4), 452-482. doi: 10.1111/mcn.12113

Cerna, L. (2013). The Nature of Policy Change and Implementation: A Review of Different Theoretical Approaches, OECD, Paris.

CIDA. (2008). *Evaluation of CIDAS program in Ghana, executive report*. Retrieved from https://www.oecd.org/countries/ghana/42321954.pdf

CIDA. (2009). *Ghana country strategy*. Retrieved from http://www.international.gc.ca/development-developpement/assets/pdfs/countries-pays/Ghana-Country-Strategy-2009.pdf

CIDA. (n.d). *Increasing food security: CIDA food security strategy*. Retrieved from http://www.international.gc.ca/development-developpement/assets/pdfs/food-security-strategy-e.pdf

Coles, E., Wells, M., Maxwell, M., Harris, F. M., Anderson, J., Gray, N. M., … MacGillivray, S. (2017). The influence of contextual factors on healthcare quality improvement initiatives: what works, for whom and in what setting? Protocol for a realist review. *Systematic Reviews, 6*(1), 168. https://doi-10.1186/s13643-017-0566-8.

Collins, S., Sadler, K., Dent, N., Khara, T., Guerrero, S., Myatt, M., … Walsh, A. (2006). Key issues in the success of community-based management of severe malnutrition. *Food and Nutrition Bulletin,* 27(3 Suppl), S49–S82.

Compassion (2012). Ghana Traditions: Culture, Customs, & Society. Retrieved from https://blog.compassion.com/traditions-of-ghana-warrior-king/

Concern Worldwide (2019). RUTF AND CMAM: how a simple peanut paste became a humanitarian revolution. Retrieved from https://www.concernusa.org/story/rutf-cmam-humanitarian-revolution/

Cornwall, A., & Anyidoho, N. A. (2010). Introduction: Women's Empowerment: Contentions and Contestations. *Development*, *53*(2), 144-149.

Countries and Cultures (2019). Culture of Ghana. Retrieved from https://www.everyculture.com/Ge-It/Ghana.html

Creswell, J. W. (2007). *Qualitative inquiry & research design: choosing among five approaches* (2nd ed.). Thousand Oaks: Sage Publications.

De Benedictis, A., Lettieri, E., Masella, C., Gastaldi, L., Macchini, G., Santu, C., & Tartaglini, D. (2019). WhatsApp in hospital? An empirical investigation of individual and organizational determinants to use. *PLoS ONE, 14*(1), 1–12. https://doi-10.1371/journal.pone.0209873.

deLeon, P. & deLeon. L. (2002). What Ever Happened to Policy Implementation? An Alternative Approach. *Journal of Public Administration Research and Theory: J-PART*, *12*(4), 467.

De Muro, P., & Mazziota, M. (2011). *Towards a food insecurity multidimensional index*. www.fao.org/fileadmin/templates/ERP/uni/FIMI.pd

Desai, S., & Alva, S. (1998). Maternal education and child health: Is there a strong causal relationship? *Demography*, *35*(1), 71-81.doi: 10.2307/3004028

Devereux, S. (2016). Social protection for enhanced food security in sub-Saharan Africa: Towards a food secure future: Ensuring food security for sustainable human development in Sub-Saharan Africa, *Food Policy*, *60,* 52-62. doi:10.1016/j.foodpol.2015.03.009

Devereux, S., & Maxwell, S. (2001). *Food security in Sub-Saharan Africa.* London: ITDG.

DiMaria-Ghalili, R. A., Mirtallo J. M., Tobin, B. W., Hark, L., Van Horn, L., Palmer, C. A., (2014). Challenges and opportunities for nutrition education and training in the health care professions: intraprofessional and interprofessional call to action. *The American Journal of Clinical Nutrition, 99* (5), 1184–119.

Dwi, S., & Darwin, K. (2002). Malnutrition and poverty alleviation. *Asia Pacific Journal of Clinical Nutrition*, 11: 323-330 doi: 10.1046/j.1440-6047.11.s13.1.x

Edwards, J. (1984). Does Dividend Policy Matter? *Fiscal Studies*, *5*(1), 1–17. https://doi.org/10.1111/j.1475-5890.1984.tb00373.x

Egyir, B., Ramsay, S., Bilderback, B., & Safaii, S. (2016). Complementary Feeding Practices of Mothers and Their Perceived Impacts on Young Children: Findings from KEEA District of Ghana. *Maternal & Child Health Journal, 20*(9), 1886–1894. https://doi10.1007/s10995-016-1994-0

Ecker, O. & Nene, M. (2012). Nutrition policy in developing countries; challenges and highlights. Project Paper Retrieved from https://www.ifpri.org/publication/nutrition-policies-developing-countries

Embassy of the Republic of Ghana, The Hague (n.d). *What is the official language of Ghana.* Retrieved from http://www.ghanaembassy.nl/index.php/faqs-mainmenu-25/121-what-is-the-official-language-of-ghana.html

Facio, A. (2013). What is patriarchy? Retrieved from http://learnwhr.org/wp-content/uploads/D-Facio-What-is-Patriarchy.pdf

Fan, S., Cho, E. E., & Rue, C. (2017). Food security and nutrition in an urbanizing world: a synthesis of the 2017 global food policy report. *China Agricultural Economic Review*, *9*(2),162-168. doi:10.1108/CAER-02-2017-0034

Feagin, J. R, Orum, A. M, & Sjoberg, G. (1991). *A case for the case study.* Chapel Hill: University of North Carolina Press.

Fischer, F., Miller, G., & Sidney, M. S. (2007). *Handbook of public policy analysis: theory, politics, and methods*. Boca Raton: CRC/Taylor & Francis.

Food and Agricultural Organization. (2017). The Face of Street Food Vending in Ghana. Retrieved from https://www.empowerwomen.org/en/community/stories/2017/02/the-face-of-street-food-vending-in-ghana

Food and Agricultural Organization. (2016). Street food vending in Accra, Ghana: Field Survey Report 2016. Retrieved from http://www.fao.org/3/a-i6369e.pdf

FAO, IFAD, & WFP. (2013). The *State of Food Insecurity in the World 2013.The multiple dimensions of food security.* Rome, FAO.

Food and Agricultural Organization. (2006). *Food security; policy brief*. Retrieved from http://www.fao.org/forestry/13128-0e6f36f27e0091055bec28ebe830f46b3

Food and Agricultural Organization. (2008). *An introduction to the basic concepts of food security: Food security information for action guides*. Retrieved from www.foodsec.org/docs/concepts_guide.pdf

Food and Agricultural Organisation (2015). The state Food and agriculture: Social protection and agriculture breaking the cycle of rural poverty. Retrieved from http://www.fao.org/3/a-i4910e.pdf

Food and Nutrition Technical Assistance (2011). *Report on the Review of the Integration of Community-Based Management of Acute Malnutrition into the Ghana Health System*. Retrieved from https://www.fantaproject.org/sites/default/files/resources/Ghana_CMAM_Review_Report_Oct2011.pdf

Food and Nutrition Technical Assistance (2013). SQUEAC/SLEAC Coverage Survey Report: Agona West Municipal District. Washington, DC: FHI 360/FANTA.

Frost, M. B., Forste, R., & Haas, D. W. (2005). Maternal education and child nutritional status in Bolivia: finding the links. *Social Science & Medicine*, *60* (Equity, Capabilities and Health), 395-407. doi:10.1016/j.socscimed.2004.05.010

Gale, N. K., Heath, G., Cameron, E., Rashid, S., & Redwood, S. (2013). Using the framework method for the analysis of qualitative data in multi-disciplinary health research. *BMC Medical Research Methodology*, *13*(1), 1-8. doi:10.1186/1471-2288-13-117.

Glewwe, P. & Muralidharan, K. (2016). *Improving education outcomes in developing countries: evidence, knowledge gaps, and policy Implications*. Handbook of Economics of Education. 653-743 doi:10.1016/B978-0-444-63459-7.00010-5

Global Goals for Sustainable Development (n.d). *Gender equality.* Retrieved from https://www.globalgoals.org/5-gender-equality

Ghana Beyond Aid Charter (2019). Retrieved from: http://agricinghana.com/wp-content/uploads/2019/05/Ghana-Beyond-Aid-Charter-and-Strategy-Document-April-2019_Agricinghana-Media-Copy.pdf

Ghana Health Service (2017). The Ghana Health Sector Facts and Figures Retrieved from https://www.ghanahealthservice.org/ghs-item-details.php?cid=2&scid=55&iid=128

Ghana Statistical Services (2012). Population and Housing Census Summary of Final Report. Retrieved from https://www.statsghana.gov.gh/gssmain/storage/img/marqueeupdater/Census2010_Summary_report_of_final_results.pdf

Ghana Statistical Service (GSS), Ghana Health Service (GHS), and ICF International (2015). *Ghana Demographic and Health Survey 2014*. Rockville, Maryland, USA: GSS, GHS, and ICF International.

Ghana Statistical Service (2019). Rebased 2013-2018 Annual gross domestic product. Retrieved from:http://www.statsghana.gov.gh/gssmain/storage/img/marqueeupdater/Annual_2013_2018_GDP_April%202019%20Edition.pdf

Gobah, F. K., & Zhang, L. (2011). The national health insurance scheme in Ghana: prospects and challenges: a cross-sectional evidence. *Global Journal of Health Science*, *3*(2), 90-101. doi:10.5539/gjhs.v3n2p90

Godfray, H. J., Beddington, J. R., Crute, I. R., Haddad, L., Lawrence, D., Muir, J. F., & Toulmin, C. (2010). Food security: The challenge of feeding 9 billion people. *Science*, *327*(5967) 812-818. doi:10.1126/science.1185383

Gomm, R., Hammersley, M., & Foster, P. (2000). *Case study method: key issues, key texts*. London; Thousand Oaks, Calif.: SAGE.

Goshtaei, M., Ravaghi, H., Sari, A. A., & Abdollahi, Z. (2016). Nutrition policy process challenges in Iran. *Electronic physician*, 8(2), 1865–1873. doi:10.19082/1865

Government of Ghana (2010). Ghana school feeding program; annual operating plan 2010. Retrieved from hgsf-global.org

Government of Ghana (2013). National Nutrition Policy 2013-2017. Retrieved from https://extranet.who.int/nutrition/gina/sites/default/files/GHA%202013%20National%20Nutrition%20Policy.pdf

Government of Ghana (2016). *National nutrition policy for Ghana*. Accra: Government of Ghana.

Grindle, M. (1980). Policy content in implementation. In M. Grindle, *Politics and Implementation in the Third World.* Princeton: Princeton University Press.

Guimon, J., & Guimon, P. (2010). Innovation to fight hunger: The case of Plumpy'Nut. UAM-Accenture Working Papers #2010/01. Retrieved from: https://www.catedrauamaccenture.com/documents/Working%20papers/WP2010_01_guimon_guimon.pdf

Guevarra, E., Norris, A., Guerrero, S., & Myatt, M. (2012). Assessment of coverage of community-based management of acute malnutrition. *CMAM forum, Technical brief*

Haggarty, L. (1996). What is content analysis? *Medical Teacher, 18*:2, 99-101, DOI: 10.3109/01421599609034141

Halkoaho, A., Pietilä, A., Ebbesen, M., Karki, S., & Kangasniemi, M. (2016). Cultural aspects related to informed consent in health research: A systematic review. *Nursing Ethics*, *23*(6), 698-712. doi:10.1177/0969733015579312

Hanandita, W., & Tampubolon, G. (2015). The double burden of malnutrition in Indonesia: Social determinants and geographical variations. *SSM - Population Health*, *1*16-25. doi:10.1016/j.ssmph.2015.10.002

Hancock, D. R., & Algozzine, R. (2017). *Doing case study research: A practical guide for beginning researchers. New York: Teachers College Press.*

Harris, D., Moore, M., & Schmitz, H. (2009). Country classifications for a changing world. IDS Working Papers. 326 Retrieved from https://assets.publishing.service.gov.uk/media/57a08b65ed915d3cfd000cc4/Wp326.pdf

Harrison, H., & Mills, J. (2016). Case study: a good choice for nursing and midwifery Research. *Pacific Rim International Journal of Nursing Research*, *20*(3), 179-182.

Hasan, M. T., Soares Magalhaes, R. J., Williams, G. M., & Mamun, A. A. (2016). The role of maternal education in the 15-year trajectory of malnutrition in children under 5 years of age in Bangladesh. *Maternal & Child Nutrition*, *12*(4), 929-939. doi:10.1111/mcn.12178

Hayes, W. (2001). *The public policy cycle.* Retrieved from http://profwork.org/pp/study/cycle.html

Heltberg, R. (2009). Malnutrition, poverty, and economic growth. *Health Economics*, *18 Suppl 1*S77-S88. doi:10.1002/hec.1462.

Henning M. (2009). Nursing's role in nutrition. CIN: *Computers, Informatics, Nursing,* 27(5), 301–306. https://doi10.1097/NCN.0b013e31819f7ca8

Hidrobo, M., Hoddinott, J., Kumar, N., & Olivier, M. (2018). Social protection, food security, and asset formation. *World Development*, *101*88-103. doi:http://dx.doi.org/10.1016/j.worlddev.2017.08.014

Hill, M. (1993). *The policy process : a reader*. Harvester/Wheatsheaf.

Hogwood, B. W., & Gunn, L. A. (1984). *Policy analysis for the real world.* Oxford: Oxford University Press.

Howlett, M., & Ramesh, M. (2003). *Studying public policy: Policy cycles and policy subsystems.* (2nd ed). Don Mills, Ont.: Oxford University Press.

Howell, F. (2001). *Social assistance - Theoretical background in social protection in the Asia and Pacific,* (1st ed.). Ortiz, Asian Development Bank, Manila.

Houghton, C. E., Casey, D., Shaw, D., & Murphy, K. (2010). Ethical challenges in qualitative research: Examples from practice. *Nurse Researcher*, *18*(1), 15-25.

Houghton, C., Casey, D., Shaw, D., & Murphy, K. (2013). Rigour in qualitative case-study research. *Nurse Researcher*, *20*(4), 12–17.

Hudson, B., Hunter, D., and Peckham, S. (2019). Policy failure and the policy–implementation gap: can policy support programs help? *Policy Design and Practice* 2, 1–14.

Iftikhar, A., Bari, A., Bano, I., & Masood, Q. (2017). Impact of maternal education, employment and family size on nutritional status of children. *Pakistan Journal of Medical Sciences*, *33*(6), 1401-1405. doi:10.12669/pjms.336.13689

IFPRI (2016). From promise to impact: Ending Malnutrition by 2030. Retrieved from http://ebrary.ifpri.org/utils/getfile/collection/p15738coll2/id/130354/filename/130565.pdf

IFPRI (2017). Global food policy report. Retrieved from http://ebrary.ifpri.org/utils/getfile/collection/p15738coll2/id/131085/filename/131296.pdf

Ikye B. N. & Odhiambo N. M. (2015). A comparative analysis of key economic policy reforms in Sub-Saharan Africa: Experiences from three Lower-middle-income countries. *Interdisciplinary Journal of Economics and Business Law.* 4 (4)107-137

International Monetary Fund (2008). The fiscal implications of climate change. Retrieved from https://www.imf.org/external/np/pp/eng/2008/022208.pdf

Imurana, B.A., Haruna, R. K., Nana Kofi, A. B. (2014). The politics of public policy and problems of implementation in Africa: an appraisal of Ghana's National Health Insurance Scheme in Ga East District. *International Journal of Humanities and Social Science.* 4(4 Special Issue):196-207.

Ingemansson, M., Hedlin, G., Jonsson, M., Henriksson, P., Kiessling, A., Wikström Jonsson, E., … Krakau, I. (2019). Influence of contextual factors on quality of primary care in children with asthma. *Journal of Evaluation in Clinical Practice,* 25(3), 521–530. https://doi-10.1111/jep.13078

International Labour Organisation (2016). *World employment social outlook: trends for the youth*. International Labour Office, Geneva.

Ireen, S., Raihan, M. J., Choudhury, N., Islam, M. M., Hossain, M. I., Islam, Z., … Ahmed, T. (2018). Challenges and opportunities of integration of community-based Management of Acute Malnutrition into the government health system in Bangladesh: a qualitative study. BMC Health Services Research, 18(1), 256. https://doi10.1186/s12913-018-3087-9

Issaka, A. I., Agho, K. E., Burns, P., Page, A., & Dibley, M. J. (2015). Determinants of inadequate complementary feeding practices among children aged 6-23 months in Ghana. *Public Health Nutrition,* 18(4), 669–678. https://doi.org/10.1017/S1368980014000834

Jacelon, C. S., & O'Dell, K. K. (2005). Analyzing qualitative data. *Urologic Nursing*, *25*(3), 217-220.

Johnson, K. (2008). Between Self-Help and Dependence: Donor Funding and the Fight against HIV/AIDS in South Africa. *Africa: Journal of the International African Institute*, *78*(4), 496. https://doi.org/10.3366/E0001972008000417

Johnson, R., & Waterfield, J. (2004). Making words count: the value of qualitative research. *Physiotherapy Research International*, *9*(3), 121-131.

Joshi, N., Bolorhon, B., Narula, I., Shihua, Z., & Manaseki-Hollan, S. (2017). Social and environmental determinants of child health in Mongolia across years of rapid economic growth: 2000-2010. *International Journal for Equity in Health*, *16*1-17. doi:10.1186/s12939-017-0684-x.

Juma, P. A., Edwards, N., & Spitzer, D. (2014). Kenyan Nurses Involvement in National Policy Development Processes. *Nursing Research & Practice*, 1–10. https://doi-10.1155/2014/236573

Kahissay, M. H., Fenta, T. G., & Boon, H. (2017). Beliefs and perception of ill-health causation: a socio-cultural qualitative study in rural North-Eastern Ethiopia. BMC *Public Health,* 17(1), 1–10. doi-10.1186/s12889-017-4052-y

Kaplan, D. M. (2012). *The Philosophy of Food*. University of California Press. Retrieved from www.jstor.org/stable/10.1525/j.ctt7zw2cx

Karip E. (1996). Policy implementation mutual adaptation of educational policy. *Kura ve Uygulamada Egitim Yonetimi Dergisi.* 2(1), 71-82

Kelly, M., & Humphrey, C. (2013). Implementation of the care programme approach across health and social services for dual diagnosis clients. Journal of Intellectual Disabilities, (4), 314.

Kotoh, A., Aryeetey, G., Van der Geest, S. (2018). Factors That Influence Enrolment and Retention in Ghana' National Health Insurance Scheme. *International Journal of Health Policy and Management*, 7(5), 443-454. doi: 10.15171/ijhpm.2017.117

Koontz, T. M., & Newig, J. (2014). From Planning to Implementation: Top-Down and Bottom-Up Approaches for Collaborative Watershed Management. *Policy Studies Journal*, *42*(3), 416–442.

Laleman, G., Kegels, G., Marchal, B., Van der Roost, D., Bogaert, I., & Van Damme, W. (2007). The contribution of international health volunteers to the health workforce in sub-Saharan Africa. *Human Resources for Health,* 5 (19), 9. doi- 10.1186/1478-4491-5-19

Laar, A., Aryeetey, R. N. O., Akparibo, R., Zotor, F., & Ghana SUN Academy Platform. (2015). Nutrition sensitivity of the 2014 budget statement of Republic of Ghana. *Proceedings of the Nutrition Society*, *74*(4), 526–532. https://doi.org/10.1017/S0029665115002426

Lee, J., Banda, T., Sling, K., Mandalazi E., & Bahwere, P. (2013). The nature, causes, and impact of defaulting from a CMAM program in Nigeria. Retrieved from https://www.coverage-monitoring.org/wp-content/uploads/2013/11/C3-VALID.pdf

Leon, N., Sanders, D., Van Damme, W., Besada, D., Daviaud, E., Oliphant, N. P., Berzal, R., Mason, J., & Doherty, T. (2015). The role of "hidden" community volunteers in community-based health service delivery platforms: examples from sub-Saharan Africa. *Global Health Action*, *8*, 1–7. https://doi.org/10.3402/gha.v8.27214

Li, J. (2004). Gender inequality, family planning, and maternal and child care in a rural Chinese county. *Social Science & Medicine*, *4*, 695.

Lincoln, Y. S, & Guba, E. G. (1985). *Naturalistic inquiry.* Beverly Hills, CA: Sage Publications.

Lioret, S., Cameron, A., Mcnaughton, S., Crawford, D., Spence, A., Hesketh, K., & Campbell, K. (2015). Association between maternal education and diet of children at 9 months is partially explained by mothers' diet. *Maternal and Child Nutrition*, *11*(4), 936-947. doi:10.1111/mcn.12031

Makinde, T. (2005). Problems of Policy Implementation in Developing Nations: The Nigerian Experience. Department of Public Administration, Obafemi Awolowo University, Ile-Ife, Nigeria.

Makoka, D., & Masibo, P. K. (2015). Is there a threshold level of maternal education sufficient to reduce child undernutrition? Evidence from Malawi, Tanzania and Zimbabwe. *BMC Pediatrics*, *15 (*96). doi:10.1186/s12887-015-0406-8

Maleta, K., & Amadi, B. (2014). Community-based management of acute malnutrition (CMAM) in sub-Saharan Africa: Case studies from Ghana, Malawi, and Zambia. *Food and Nutrition Bulletin*, *35*, 34-38. doi:10.1177/15648265140352S105

Manuh & Anyidoho (2008). Taking the Lead: A Study of Discourses and Practices on Women's Empowerment by Ghana's Ministry of Women and Children's Affairs (MOWAC) *Conference paper*

Manuh, G. S., & Colecraft, E. K. (2012). The nutrition-microcredit synergy: a case for multiple interventions and strategies. *African Journal of Food, Agriculture, Nutrition & Development*, *12*(1), 5674-5686.

Maxwell, D. (2000). *Urban livelihoods and food and nutrition security in Greater Accra, Ghana*. Washington, D.C.: International Food Policy Research Institute.

McDonald, B. L. (2010). *Food security*. Cambridge: Polity.

Merriam, S. B. (1998). *Qualitative research and case study applications in education.* (2nd ed.). San Francisco: Jossey-Bass Publishers.

Merriam, S. B. (2009). *Qualitative research: a guide to design and implementation.* (2nd ed.). San Francisco: Jossey-Bass.

McCurdy, D. B., & Fitchett, G. (2011). Ethical issues in case study publication: 'Making our case(s)' ethically. *Journal of Health Care Chaplaincy*, *17*(1/2), 55-74. doi:10.1080/08854726.2011.559855

McGuire, S. (2015). The state of food insecurity in the world 2015: Meeting the 2015 international hunger targets: Taking stock of uneven progress. Rome. *Advances in Nutrition*, *6*, 623-624. doi:10.3945/an.115.009936

Mills, A. J., Durepos, G., Wiebe, E. (2010). *Encyclopedia of case study research*. (2nd ed.). Thousand Oaks: Sage Publications.

Ministry of Health. (2012). Training course on inpatient care of severe acute malnutrition. Retrieved from https://www.fantaproject.org/sites/default/files/resources/Ghana-Inpatient-Care-Module1-Mar2012.pdf

Ministry of Health. (2013). *National nutrition policy for Ghana*. Retrieved from http://extwprlegs1.fao.org/docs/pdf/gha145267.pdf

Ministry of Health. (2017). *Ghana health service.* Retrieved from http://www.moh.gov.gh/ghana-health-service/

Munung, N. S., Mayosi, B. M., & de Vries, J. (2017). Equity in international health research collaborations in Africa: Perceptions and expectations of African researchers. *PLoS ONE,* 12(10), 1–17.

Multerud, K. (2001). Qualitative research: standards, challenges, and guidelines. *The Lancet,* 358, 483-488.

Naumes, W., & Naumes, M. J. (1999). *The art and craft of case writing.* Thousand Oaks, Calif: Sage Publications, Inc.

Nketia-Amponsah, E. (2015). Ghana's middle income status. *The Researcher* 3 Retrieved from http://isser.edu.gh/researchervolume3/ghanas-middle-income-status-perspectives-of-an-economist.html

Normand, M. (2016). Less is more: Psychologists can learn more by studying fewer people. *Frontiers in Psychology*, *7*(JUN), doi:10.3389/fpsyg.2016.00934

Nti, C. A., & Lartey, A. (2007). Young child feeding practices and child nutritional status in rural Ghana. International Journal of Consumer Studies, 31(4), 326–332. https://doi.org/10.1111/j.1470-6431.2006.00556.x

Nyarko, S. H. (2016). Assessment of the school feeding programme in Ghana: A study of primary schools in the Abura-Asebu-Kwamankese district in the central region of Ghana**.** *International Journal of Research in Social Sciences, 4* (2), 13-28.

OECD (2019). Principles on Urban Policies and on rural policies. Retrieved from https://www.oecd.org/regional/ministerial/documents/urban-rural-Principles.pdf

Oestberg, F. (2013). Getting involved in policy and Politics. *Nursing,* 8 (3) 48. doi: 10.1097/01.CCN.0000429392.92546.6f

Oppong, A. (2013). Politics of public policy implementation in Ghana: A case study of the Ghana Education Trust Fund (GETFUND). Department of Political Science, University of Ghana, Accra, Ghana.

Otieno, F.A.O. (2000). The role of Monitoring and Evaluation in Projects. *Conference Paper,* 2nd International conference on construction in developing countries: challenges facing Construction Industry in developing countries, Gaborone, Botwana

Palao (2013). *Stages of policy making.* Retrieved from https://www.slideshare.net/yhamskiey/policy-making-process

Pitney, W. A. (2004). Strategies for Establishing Trustworthiness in Qualitative Research. *Athletic Therapy Today*, *9*(1), 26-28.

Pratley, P. (2016). Review article: Associations between quantitative measures of women's empowerment and access to care and health status for mothers and their children: A systematic review of evidence from the developing world. *Social Science & Medicine*, *169,* 119-131. doi:10.1016/j.socscimed.2016.08.001

Puett, C. & Guerrero, S. (2015). Barriers to access for severe acute malnutrition treatment services in Pakistan and Ethiopia: a comparative qualitative analysis. *Public Health Nutrition.* 18(10): 1873–1882. doi: 10.1017/S1368980014002444

Rudolf, R. S., Elfriede, P., & Pervez, N., G. (2008). Enhancing the trustworthiness of qualitative research in international business. *Management International Review*, (6), 689.

Sadler, K., Myatt, M., Feleke, T., & Collins, S. (2007). A comparison of the programme coverage of two therapeutic feeding interventions implemented in neighbouring districts of Malawi. *Public Health Nutrition,* (9), 907.

Sakyi K. A. (2011). The import of middle-income status for Ghana. Retrieved from: https://www.ghanaweb.com/GhanaHomePage/features/The-Import-Of-Middle-Income-Status-For-Ghana-214836

Sandelowski, M. (1995). Focus on qualitative methods: Sample size in qualitative research. *Research in Nursing & Health*, *18*(2), 179-183.

Say, L., & Raine, R. (2007). A systematic review of inequalities in the use of maternal health care in developing countries: examining the scale of the problem and the importance of context. *Bulletin of the World Health Organization,* (10), 812.

Semba, R. D., de Pee, S., Sun, K., Sari, M., Akhter, N., & Bloem, M. W. (2008). Articles: Effect of parental formal education on risk of child stunting in Indonesia and Bangladesh: a cross-sectional study. *The Lancet*, *371(9609),*322-328. doi:10.1016/S0140-6736(08)60169-5

Senah K. A. (2013). In search of health and well-being in Africa. In: T. Manu and E. Sutherland-Addy (eds), Africa in Contemporary Perspective. Accra: Sub-Saharan Press. Pp: 282-306.

Sen, B., & Begum, S. (2015). Women's Empowerment, Maternal Nutrition and Chronic Poverty: Further Evidence from Bangladesh. *Bangladesh Development Studies*, *38*(2), 61-93.

Se-Eun, P., Sungtae, K., Ouma, C., Loha, M., Wierzba, T. F., & Nam Seon, B. (2012). Community Management of Acute Malnutrition in the Developing World. *Pediatric Gastroenterology, Hepatology & Nutrition*, *15*(4), 210-219. doi.org/10.5223/pghn.2012.15.4.210

Sharma, S., & Sharma, P. (2017). Agricultural Production, Marketing and Food Security in India: A Peep into Progress. *Productivity*, *58*(2), 155-165.

Shaw, D. J. (2007). *World food security: A history since 1945*. New York: Palgrave Macmillan.

Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, *22*(2), 63-75.

Shroff, M., Griffiths, P., Adair, L., Suchindran, C., & Bentley, M. (2009). Maternal autonomy is inversely related to child stunting in Andhra Pradesh, India. *Maternal & Child Nutrition, 5*(1), 64–74. https://doi-10.1111/j.1740-8709.2008.00161.x

Signé, L. (2017). Policy Implementation – A synthesis of the Study of Policy Implementation and the Causes of Policy Failure. *Research Papers & Policy Papers*. Retrieved from https://www.policycenter.ma/sites/default/files/OCPPC-PP1703.pdf

Smith, L. C., Ramakrishnan, U., Ndiaye, A., Haddad, L. J., & Martorell, R. (2003). The importance of women's status for child nutrition in developing countries: *Research Reports.* Retrieved from https://core.ac.uk/download/pdf/6289649.pdf

Smith, L. C., & Haddad, L. (2015). Reducing child undernutrition: past drivers and priorities for the post-MDG era. *World Development*, *68,* 180-204. doi:10.1016/j.worlddev.2014.11.014.

Spenceley, S. M., Reutter, L., & Allen, M. N. (2006). The road less traveled: nursing advocacy at the policy level. *Policy, Politics & Nursing Practice, 7*(3), 180–194.

Stake, R. E. (1995). *The art of case study research.* Thousand Oaks, California: Sage Publications

Streubert, H. S., & Carpenter, D. R. (2011). *Qualitative research in nursing : advancing the humanistic imperative*. Wolters Kluwer Health/Lippincott Williams & Wilkins.

Somiya G. S. M., & Adam M. Z. Y. (2018). The Effectiveness of Community Outreach in Increasing the Coverage of Community Based Management of Acute Malnutrition (CMAM) Program, in Rural Kassala Locality. *Edelweiss Applied Science and Technology 2: 124-13*

The Hunger Project. (2016). Hunger notes. Retrieved from https://www.worldhunger.org/2015-world-hunger-and-poverty-facts-and-statistics/#hunger-number

The OR Research Team. (2014). How to strengthen the CMAM programme in Northern Nigeria and reduce rates of programme defaulting. Brighton: ORIE.

The World Hunger Project. (2017). *Know your world: facts about hunger and poverty.* Retrieved from: http://www.thp.org/knowledge-center/know-your-world-facts-about-hunger-poverty/

The Research Ethics Guide Book. (n.d.). Dissemination and impact. Retrieved from http://www.ethicsguidebook.ac.uk/Dissemination-and-impact-144

Tsiboe, F., Popp, J. S., Zereyesus, Y. A., & Osei, E. (2017). The effect of women's empowerment in agriculture on household nutrition and food poverty in Northern Ghana. *Social Indicators Research*, 1-20. doi:10.1007/s11205-017-1659-4

United Nations Development Programme (2013). Human Development report 2013. The rise of South Human Progress in a divers world. Retrieved from http://hdr.undp.org/sites/default/files/reports/14/hdr2013_en_complete.pdf

United Nations Development Programme. (2014). Inequality in Ghana: A fundamental national challenge. *Briefing Paper*. Retrieved from: https://www.undp.org/content/dam/ghana/docs/Doc/Inclgro/Ghana-unicef%20Inequality%20Briefing%20Paper%20FINAL%20DRAFT%20Apr%202014.pdf

United Nations Development Programme (2018). *Sustainable development goals: Goal 5 targets.* Retrieved from https://www.undp.org/content/undp/en/home/sustainable-development-goals/goal-5-gender-equality/targets/

United Nations Human Rights (1996). Conventions on the right of the child. Retrieved from http://www.ohchr.org/Documents/ProfessionalInterest/crc.pdf

United Nations (2017). *Progress of goal 5 in 2017*. Sustainable development knowledge platform. Retrieved from: https://sustainabledevelopment.un.org/sdg5

UNICEF (n.d). *Multi-sectoral approaches to nutrition.* Retrieved from https://www.unicef.org/eapro/Brief_Nutrition_Overview.pdf

UNICEF (n.d). *Social protection.* Retrieved from https://www.unicef.org/socialpolicy/index_socialprotection.html

UNICEF (2006). *Annual report.* Retrieved from https://www.unicef.org/publications/files/Annual_Report_2006.pdf

UNICEF (2013). Improving child nutrition: the achievable imperative. Retrieved from https://www.unicef.org/gambia/Improving_Child_Nutrition_-_the_achievable_imperative_for_global_progress.pdf

UNICEF, WHO, & World Bank Group. (2017). *Levels and trends in child malnutrition.* Retrieved from http://www.who.int/nutgrowthdb/jme_brochoure2017.pdf?ua=1

Urke, H. B., Bull, T., & Mittelmark, M. B. (2011). Socioeconomic status and chronic child malnutrition: wealth and maternal education matter more in the Peruvian Andes than nationally. *Nutrition Research*, *31,* 741-747. doi:10.1016/j.nutres.2011.09.007

United States Department of Agriculture. (2017). *Definition of food security.* Retrieved from https://www.ers.usda.gov/topics/food

Valid International (2006) Community based therapeutic care. Retrieved from: https://www.fantaproject.org/sites/default/files/resources/CTC-Field-Manual-Oct2006-508.pdf

Valid Nutrition (2018). Our story. Retrieved from https://www.validnutrition.org/our-story/

Varshney, D., Atkins, S., Das, A., & Diwan, V. (2016). Understanding collaboration in a multi-national research capacity-building partnership: a qualitative study. Health Research Policy & Systems, 14, 1–10. https://doi10.1186/s12961-016-0132-1

Vollmer, S., Bommer, C., Krishna, A., Harttgen, K., & Subramanian, S. V. (2017). The association of parental education with childhood undernutrition in low- and middle-income countries: comparing the role of paternal and maternal education, *International Journal of Epidemiology*, *46*, (1), 312–323, https://doi.org/10.1093/ije/dyw133

Vorster, H. H., & Kruger, A. (2007). Poverty, malnutrition, underdevelopment and cardiovascular disease: A South African perspective. *Cardiovascular Journal of Africa*, *18*(5), 321-324.

Wang, C., Kane, R. L., Xu, D., Li, L., Guan, W., Li, H., & Meng, Q. (2013). Maternal education and micro-geographic disparities in nutritional status among school-aged children in rural Northwestern China. *Plos ONE*, *8*(12), 1-8. doi:10.1371/journal.pone.0082500

Watt, S., Sword, W., & Krueger, P. (2005). Implementation of a health care policy: An analysis of barriers and facilitators to practice change. *BMC Health Services Research*, *5(*53), 1-10. doi:10.1186/1472-6963-5-53

Weible, C. M., & Sabatier, P. A. (2017). *Theories of the policy process*. New York, NY: Westview Press.

World Food Program. (2009). *Comprehensive food security and vulnerability analysis, Ghana.* Retrieved from http://documents.wfp.org/stellent/groups/public/documents/ena/wfp201820.pdf

World Food Program (2012). Comprehensive food security and vulnerability analysis. Accra, Ghana. Retrieved from https://documents.wfp.org/stellent/groups/public/documents/ena/wfp257009.pdf

World Food Program. (2016). *Maximizing food security and Nutrition*. Retrieved from http://documents.wfp.org/stellent/groups/public/documents/communications/wfp287651.Pdf

White, P. (2015). The concept of diseases and health care in African traditional religion in Ghana. *HTS Theological Studies, 71*(3), 01–07. doi-10.4102

World Health Organization. (2005). *Health services planning and policy making*. Retrieved from http://www.wpro.who.int/publications/docs/hsp_mod4_1E08.pdf

World Health Organization. (2017). *The double burden of malnutrition.* Policy Brief. Geneva Switzerland. Retrieved from http://apps.who.int/iris/bitstream/10665/255413/1/WHO-NMH-NHD-17.3-eng.pdf?ua=1

World Health Organization. (2017). Primary health care systems (PRIMASYS): comprehensive case study from Ghana. Geneva: Licence CC BY-NC-SA 3.0 IGO. Retrieved from http://www10.who.int/alliance-hpsr/projects/AHPSR-PRIMASYS-Ghana-comprehensive.pdf

World Health Organization. (2018). *Global Database on Child growth and Malnutrition.* Retrieved from: http://www.who.int/nutgrowthdb/about/introduction/en/

World Health Organisation. (2019). Universal Health Coverage. Retrieved from: https://www.who.int/healthsystems/universal_health_coverage/en/

World Vision International (2012). Community-based management of acute malnutrition model. Retrieved from https://www.wvi.org/nutrition/project-models/cmamive

World Vision International. (2017). Project Model: Community-based Management of Acute Malnutrition. Retrieved from https://www.wvi.org/sites/default/files/Community_Based_Management_of_Acute_Malnutrition_Project_Model%20%281%29.pdf

Wright, A. (2017). What's so important about health policy implementation? Retrieved from https://digitalpublications.parliament.scot/ResearchBriefings/Report/2017/9/7/What-s-so-important-about-health-policy-implementation.

Xu, X., Parker, D., Ferguson, C., & Hickman, L. (2017). Where is the nurse in nutritional care? *Contemporary Nurse,* 53(3), 267–270. doi-10.1080/10376178.2017.1370782.

Yaro, J. A. (2013). *Building Resilience and reducing Vulnerability to Climate Change: Implications for Food Security in Ghana. Friedrich Ebert Stiftung*, Ghana Office.http://www.worldometers.info/world-population/#growthrate.

Yeboah, M. K. (2016). Community participation and challenges to implementation of health programmes: The case of community-based management of Malnutrition in the Tolon District, Ghana. Retrieved from http://ir.knust.edu.gh/xmlui/handle/123456789/10377

Yin, R. K. (2009). *Case study research: design and methods* (4th ed.). Los Angeles, Calif: Sage Publications.

Zereyesus, Y. A., Amanor-Boadu, V., Ross, K. L., & Shanoyan, A. (2017). Does women's empowerment in agriculture matter for children's health status? Insights from Northern Ghana. *Social Indicators Research*, *132*(3), 1265-1280. doi:http://dx.doi.org.login.ezproxy.library.ualberta.ca/10.1007/s11205-016-1328-z

Zhou, W., Yu, Y., Yang, M., Chen, L., & Xiao, S. (2018). Policy development and challenges of global mental health: a systematic review of published studies of national-level mental health policies. BMC *Psychiatry, 18*(1), 138.

APPENDICES

Appendix A: Participant Information Sheet for Professionals at all Sites

Title of Study: Evaluating the implementation of child nutritional policies: A case study of the Community-based Management of Acute Malnutrition (CMAM) in Ghana

Principal Investigator: Susana Somuah RN, PhD Candidate, Faculty of Nursing, University of Alberta
Email: somuah@ualberta.ca

Co-Supervisors:
Dr. Lynne Ray, Faculty of Nursing, University of Alberta lynne.ray@ualberta.ca
Dr. Christine Ceci, Faculty of Nursing, University of Alberta christine.ceci@ualberta.ca
Dr. Patience Aniteye, School of Nursing, University of Ghana,

Introduction: I am a 3rd year PhD student at the Faculty of Nursing, University of Alberta, Edmonton, Canada. I am inviting you to participate in my research study

Nature of research: This is a Qualitative Case Study to explore the barriers and facilitators to the implementation of the community-based management of acute malnutrition in Ghana. The purpose is to identify any barriers or facilitators in the process and make recommendations towards the improvement of the program.

Participants Involvement: You will be involved in an interview, which may take about 60-90 minutes at a place and time of your convenience. There is the possibility of follow up to clarify issues with the first interview. By answering questions from this interview, you are consenting to be part of this study which is purely for academic purposes. Your responses will be audio-taped and transcribed. Audiotaped information will be password protected and will be accessible to only the principal investigator and supervisors, Information will be discarded after five years or re-used only with the permission of the Research Ethics Board. You are hereby informed that the interview is anonymous and only the researcher and co-investigators will have access to the transcripts. Though pieces of information in the interview transcript will be used for analysis and during presentations, your identity will not be revealed. Participation in this study is voluntary and you may decide to opt out at any point in this study without any consequences.

Potential Risks: You may have some concerns about talking about the difficulties you have in your work but I will keep information you share with me private. The only inconvenience you may experience is the time required to answer the questions. There are no other anticipated risks associated with this study.

Benefits: You may not benefit directly from the study; however, information gathered may help to improve the implementation of child nutritional policies and reduce malnutrition rates in Ghana.

Compensation: You will not be paid by participating in the study, however you may receive refreshment and a token for transport and communication after the study.
Confidentiality: The interviews will occur at a place of your choice so that our discussion can be private. During the study we will be collecting data about you. We will do everything we can to make sure that this data is kept private. No data relating to this study that includes your name will be released outside of the researcher's office or published by the researchers. We will use code names and remove any identifiers to specific people that you mention. Data files will be password protected. Hard copies and electronic data will be stored in locked file cabinets in the researcher's office, and access will be limited to the researcher and supervisors in Ghana and Canada.

Voluntary participation/withdrawal: Being in this study is your choice. If you decide to be in the study, you can change your mind and stop being in the study at any time without penalties. Note that you are permitted to ignore questions you are not comfortable with. If you choose to withdraw, any information you have provided before the withdrawal will be discarded and not used as part of the study. If after we have spoken, you change your mind about being in the study, you have 30 days to contact me to remove your information from the study.

Funding information: This study has no external funding

Who to Contact for Clarification: If you have any questions about the research, please contact me Susana Somuah, Faculty of Nursing University of Alberta, via e-mail at somuah@ualberta.ca.

The plan for this study has been reviewed by a Research Ethics Board at the University of Alberta and the Ghana Health Service. If you have questions about your rights or how research should be conducted, you can contact the Research ethics board of the University of Alberta on (780) 492-2615 or the Research Ethics committee administrator at the Ghana Health Service on These offices are independent of the researchers via phone on +233-0302681109 or +233-0302679323. These offices are independent of the researchers or email at ghserc@gmail.com

Appendix B: Consent Form for Professionals

I have read this form and the research study titled; ***(Evaluating the implementation of child nutritional policies: A case study of the Community-based Management of Acute Malnutrition (CMAM) in Ghana)*** has been explained to me. I have been given the opportunity to ask questions and my questions have been answered. It has been explained to me that the conversation between me and the researcher will be recorded but my name will not be tagged to it. I have also been told that in case I refuse to take part or withdraw at any point in time, it will not affect the care I receive from the health facility. If I have additional questions, I have been told whom to contact. I agree to participate in the research study described above and will receive a copy of this consent form after I sign it.

_____ _____

Participant's Name (printed) and Signature **Date**

Witness

I was present while the benefits, risks and procedures were read to the research participants. All questions were answered and the participants has agreed to take part in the research.

_____ _____ _____

Name **Signature or thump print of witness** **Date**

I certify that the nature and purpose, the potential benefits, and possible risks associated with participating in this research have been explained to the above individual. He/She has been given enough time to deliberate on the explanations given concerning this study, all concerns raised by the participant has been explained.

_____ _____ _____

Name **Signature** **Date**

This study has been reviewed for ethical clearance by the Research ethics board of the University of Alberta and Ghana Health Service Ethical Review Committee, In the event of any breech in agreement or in case you feel your right is being trampled upon, you may contact: Research & Development Division, Ghana Health Service via phone on +233-0302681109 or +233-0302679323. These offices are independent of the researchers or email at ghserc@gmail.com

Appendix C: Information Sheet for Family Caregivers

Study Title: Evaluating the implementation of child nutritional policies: A case study of the Community-based Management of Acute Malnutrition (CMAM) in Ghana

Researcher: Susana Somuah RN, PhD Candidate, Faculty of Nursing, University of Alberta
Email: somuah@ualberta.ca

Co-Supervisors:
Dr. Lynne Ray, Faculty of Nursing, University of Alberta lynne.ray@ualberta.ca
Dr. Christine Ceci, Faculty of Nursing, University of Alberta christine.ceci@ualberta.ca
Dr. Patience Aniteye, School of Nursing, University of Ghana,

Introduction: I am Susana Somuah a 3rd year PhD student from the Faculty of Nursing, University of Alberta, Edmonton Canada. You are being asked to talk with me because your child is getting help with feeding at the clinic. We'd like to hear what works for you and what could be made better. Before you decide I will tell you about this form. You can ask questions at any time. You will get a copy of this letter to keep.

Nature of Research: This study seeks to find out what works best for families in terms of different ways of helping children with nutritional problems. As part of gathering information for the study, we will ask you questions about the care you receive at the center. We will also ask clinic staff what makes it easy or hard to help families. We will tell the Department of Nutrition, Ministry of Health what we find. This may help make care better in the future.

Participants Involvement: You will be involved in an interview, which may take about 60-90 minutes at a place and time of your convenience. You will be asked questions about your feeding practices and how the CMAM program is working for you. A second interview may be necessary to fill in any information gaps. If you agree to participate in this study, you will be aided to sign a consent form after which you will be involved in a one-on-one interview with the researcher. You can choose when and where we talk. I would like to tape record what we say. Recorded information will be password protected and will be accessible to only the principal investigator and supervisors.

Potential Risk: I do not expect that you will be harmed by being in the study. You may feel emotional stress talking about your experiences in caring for your child. If talking about feeding your child and the care you receive at the clinic is upsetting, we can take a break from our conversation and continue when you feel better. In case of serious difficulties, I can help you find emotional support from a clinical psychologist at my cost. Also, the interviews will take some of your time.

Benefits: You may not get any benefit from being in this research study. However, some caregivers find it helpful to talk about their struggles feeding their child. The things caregivers tell us may help make feeding programs better in Ghana and inform policy formulation and

advocacy. You will not be paid for being in the study. You may receive refreshment and a token for transport or a phone card after the study.

Confidentiality and Anonymity
The interviews will occur at a place of your choice so that our talk can be private. During the study we will be collecting data about you. We will do everything we can to make sure that this data is kept private. No data relating to this study that includes your name will be released outside of the researcher's office or published by the researchers. We will use code names and remove any identifiers to specific people that you mention. Data files will be password protected. Hard copies and electronic data will be stored in locked file cabinets in the researcher's office, and access will be limited to the researcher and supervisors in Ghana and Canada. The consent form and the transcripts will be securely kept, and nobody will have access to them apart from the research team. The data collected from you will be kept for five (5) years after which it will be discarded (the electronic copies will be deleted, and the hard copies will be burnt).

Voluntary Participation/Withdrawal
Being in this study is your choice. If you decide to be in the study, you can change your mind and stop being in the study at any time and it will in no way affect the care you receive at this centre. You do not have to answer all the questions if you are uncomfortable. If you choose to stop being in the study, anything you have already said will be discarded and not used as part of the study. If after we have spoken, you change your mind about being in the study, you have 30 days to contact me to remove your information from the study.

For Further Information
If you have any questions about the research, please contact me via e-mail at somuah@ualberta.ca.

The plan for this study has been reviewed by a Research Ethics Board at the University of Alberta and the Ghana Health Service. If you have questions about your rights or how research should be conducted, you can contact the Research ethics board of the University of Alberta on (780) 492-2615 or the Research Ethics committee administrator at the Ghana Health Service via phone on +233-0302681109 or +233-0302679323 or email at ghserc@gmail.com. These offices are independent of the researchers.

Appendix D: Consent Form for Family Caregivers

I have read this form and the research study titled; ***(Evaluating the implementation of child nutritional policies: A case study of the Community-based Management of Acute Malnutrition (CMAM) in Ghana)*** has been explained to me. I have been given the opportunity to ask questions and my questions have been answered. It has been explained to me that the conversation between me and the researcher will be recorded but my name will not be tagged to it. I have also been told that in case I refuse to take part or withdraw at any point in time, it will not affect the care I receive from the health facility. If I have additional questions, I have been told whom to contact. I agree to participate in the research study described above and will receive a copy of this consent form after I sign it.

_____ _____

Participant's Name (printed) and Signature **Date**

Witness

I was present while the benefits, risks and procedures were read to the research participants. All questions were answered, and the participants has agreed to take part in the research.

_____ _____ _____

Name **Signature or thump print of witness** **Date**

I certify that the nature and purpose, the potential benefits, and possible risks associated with participating in this research have been explained to the above individual. He/She has been given enough time to deliberate on the explanations given concerning this study, all concerns raised by the participant has been explained.

_____ _____ _____

Name **Signature** **Date**

This study has been reviewed for ethical clearance by the Research ethics board of the University of Alberta and Ghana Health Service Ethical Review Committee, In the event of any breech in agreement or in case you feel your right is being trampled upon, you may contact: Research & Development Division, Ghana Health Service via phone on +233-0302681109 or +233-0302679323. These offices are independent of the researchers or email at ghserc@gmail.com

Appendix E: Interview Guide for Participants in Site One (Ghana Health Service)

I am a student of the University of Alberta, Faculty of Nursing. I am conducting this research as part of the requirement for the award of a Doctor of Philosophy Degree in Nursing. The purpose of this study is to explore the barriers and facilitators to the implementation of the Community-based Management of Acute Malnutrition in Ghana. As an important part of this research and to better understand the implementation process, I will be conducting interviews with people inside and outside this institution to gather information for the study.

As explained in the information sheet, this interview will last for 60-90 minutes and you will be asked questions based on your knowledge on the policy process in the organization. Your knowledge is very important for the completion of this project. It is anticipated that information gathered will improve the policy implementation process and inform future policy development.

Interview questions

Can you briefly tell me about yourself: what is your position in this institution and how long have you served in that capacity?

Generally, what are your roles in this position, have you worked in any other capacity in the institution?

Policy formulation

What role does this department play in the formulation of nutritional policies?

Who were the primary stakeholders in the formulation of the recently launched National Nutritional Policy?

How do you promote the program?

Could you briefly explain the processes taken by the department to disseminate information regarding policies and specific guidelines of the program?

Barriers and facilitators to policy implementation

What are some of the challenges you face generally with implementation of such programs.

Can you tell me briefly about the CMAM initiative: Why was the program adopted as part of the larger policy? How has it fared since its inception, who are involved in the implementation of the program?

CMAM? What would you consider the barriers to the implementation of the program? What do you consider as facilitators of the implementation process?

What strategies do you utilize for program evaluation and monitoring?

Overall what do you consider to be the general impact of the CMAM since its launch in reducing malnutrition in Ghana?

Is there anything else you would want to say?

Thanks for participating in the study.

Appendix F: Interview Guide for Participants in Sites Two and Three (Regional Nutrition Officers)

I am a student of the University of Alberta, Faculty of Nursing. I am conducting this research as part of the requirement for the award of a Doctor of Philosophy Degree in Nursing. The purpose of this study is to explore the barriers and facilitators to the implementation of the Community-based Management of Acute Malnutrition in Ghana. As an important part of this research and to better understand the implementation process, I will be conducting interviews with people inside and outside this institution to gather information for the study.

As explained in the information sheet, this interview will last for 60-90 minutes and you will be asked questions based on your knowledge on the policy process in the organization. Your knowledge is very important for the completion of this project. It is anticipated that information gathered will improve the policy implementation process and inform future policy development.

Interview questions

Can you briefly tell me about yourself: what is your position in this institution and how long have you served in that capacity?

Generally, what are your roles in this position, have you worked in any other capacity in the institution?

In what way were you involved in the development of the recently launched National Nutritional Policy?

How do you receive information regarding policies from the national office?

Knowledge and role played in implementation

Can you briefly explain the processes taken by your department to disseminate information regarding the goals and specific guidelines of policies and programs to the districts and sub-districts health centers?

Can you tell me about the CMAM initiative: Why was the program adopted as part of the larger nutrition policy? How has it fared since its inception, who are involved in the implementation of the program?

Can you briefly explain the processes taken by the department to disseminate information regarding the goals and specific guidelines of the program?

Barriers and facilitators

CMAM? What would you consider the barriers to the implementation of the program? What in your opinion could be done to improve implementation process?

What strategies do you utilize for program evaluation and monitoring?

Overall what do you consider to be the general impact of the CMAM since its launch in reducing malnutrition in Ghana?

Is there anything else you would want to say?

Thanks for granting me audience.

Appendix G: Interview Guide for Participants in Sites Four and Five (Field staff at the nutritional centers)

I am a student of the University of Alberta, Faculty of Nursing. I am conducting this research as part of the requirement for the award of a Doctor of Philosophy Degree in Nursing. The purpose of this study is to explore the barriers and facilitators to the implementation of the Community-based Management of Acute Malnutrition in Ghana. As an important part of this research and to better understand the implementation process, I will be conducting interviews with people inside and outside this institution to gather information for the study.

As explained in the information sheet, this interview will last for 60-90 minutes and you will be asked questions based on your knowledge on the policy process in the organization. Your knowledge is very important for the completion of this project. It is anticipated that information gathered will improve the policy implementation process and inform future policy development.

Interview questions

Participants No……..

Can you briefly tell me about yourself: what is your position in this institution and how long have you served in that capacity?

Generally, what are your roles in this position, have you worked in any other capacity in the institution?

Knowledge about the program

What do you know about the National Nutrition Policy? How did you get to know about it, do you have access to the policy document/program guidelines?

How do you manage acute malnutrition in this facility? Do you have any specific guidelines for managing acute malnutrition?

How familiar are you with the Community-based Management of Acute Malnutrition program? How does the system work?

Who are involved in the implementation of the program in your facility?

Barriers and facilitators

What are some of the challenges you face in implementing the policy

In your opinion what could be done to improve the process at this level

Explain whether you feel you receive adequate guidance, monitoring and evaluation regarding implementation of the CMAM.

Is there anything else you want to say?
Thank you for participating in the study!

Appendix H: Interview Guide for Caregivers

Interview questions

Biographic information

Participants No_____.

How related are you to this child?

What is your current marital status? (For biological parents)

What is your highest level of education?

What is your current employment?

Which of the following best describe your monthly income: below 200GHC, 300-500GHC, 600-900GHC 1000GHC and above

Caregiver experiences

Can you tell me briefly about your household; how many are you, how do you fund the feeding of the household

What has been your experiences with the care of this child before you were enrolled in the program?

Can you briefly tell me about your experiences at this facility? When and how did you get enrolled in this program?

How is the program working for you? Do you see any changes in your child? Can you explain what these changes are?

Apart from the Ready-to-use therapeutic food, what else do you gain from the program?

In your opinion what can be done differently to improve the program

Is there anything else you would want to say?

Thanks for participating in the study.

Appendix I Ethics Approval Ghana Health Service

GHANA HEALTH SERVICE ETHICS REVIEW COMMITTEE

In case of reply the number and date of this Letter should be quoted.

Research & Development Division
Ghana Health Service
P. O. Box MB 190
Accra
Tel: +233-302-681109
Fax + 233-302-685424
Email: ghserc@gmail.com

MyRef. GHS/RDD/ERC/Admin/App 18/420
Your Ref. No.

19th October, 2018

Susana Erica Somuah
Faculty of Nursing
University of Alberta
Edmonton, CA

The Ghana Health Service Ethics Review Committee has reviewed and given approval for the implementation of your Study Protocol.

GHS-ERC Number	**GHS-ERC013/08/18**
Project Title	Evaluating Implementation of Child Nutritional Policies: A Case study of the Community-based Management of Child Nutrition in Ghana
Approval Date	19th October,2018
Expiry Date	18th October, 2019
GHS-ERC Decision	**Approved**

This approval requires the following from the Principal Investigator

- Submission of yearly progress report of the study to the Ethics Review Committee (ERC)
- Renewal of ethical approval if the study lasts for more than 12 months,
- Reporting of all serious adverse events related to this study to the ERC within three days verbally and seven days in writing.
- Submission of a final report **after completion** of the study
- Informing ERC if study cannot be implemented or is discontinued and reasons why
- Informing the ERC and your sponsor (where applicable) before any publication of the research findings.

Please note that any modification of the study without ERC approval of the amendment is invalid.

The ERC may observe or cause to be observed procedures and records of the study during and after implementation.

Kindly quote the protocol identification number in all future correspondence in relation to this approved protocol

SIGNED.....

PROFESSOR MOSES AIKINS
(GHS-ERC VICE CHAIRPERSON)

Cc: The Director, Research & Development Division, Ghana Health Service, Accra

Appendix J Ethics Approval University of Alberta

RESEARCH ETHICS OFFICE

308 Campus Tower
Edmonton, AB, Canada T6G 1K8
Tel: 780.492.0459
uab.ca/reo

Notification of Approval

Date:	July 26, 2018
Study ID:	Pro00082262
Principal Investigator:	Susana Somuah
Study Supervisor:	Christine Ceci
Study Title:	Evaluating the Implementation of Child Nutrition Policies: A Case Study of Community-Based Management of Acute Malnutrition (CMAM) in Ghana
Approval Expiry Date:	Monday, July 25, 2019

Approved Consent Form:	Approval Date	Approved Document
	7/23/2018	PARTICIPANTS INFORMED CONSENT.docx

Thank you for submitting the above study to the Research Ethics Board 1. Your application has been reviewed and approved on behalf of the committee.

A renewal report must be submitted next year prior to the expiry of this approval if your study still requires ethics approval. If you do not renew on or before the renewal expiry date, you will have to re-submit an ethics application.

Approval by the Research Ethics Board does not encompass authorization to access the staff, students, facilities or resources of local institutions for the purposes of the research.

Sincerely,

Anne Malena, PhD
Chair, Research Ethics Board 1

Note: This correspondence includes an electronic signature (validation and approval via an online system).

Appendix K - P Permission Letters to Sites

Appendix K

29th October 2018

The Medical Director

Princess Marie Louis Hospital

Accra-Ghana

PERMISSION LETTER

I write to ask permission to collect data in your facility. I am a 3rd year PhD student at the Faculty of Nursing, University of Alberta in Canada. My doctoral dissertation will evaluate the implementation of the Community-Based Management of Acute Malnutrition (CMAM) policy in selected sites in Ghana.

I have received ethical approval for my study from the University of Alberta and the Ethical Review Board of the Ghana Health Service.

During the research I plan to speak with the staff at the nutritional unit of the hospital and other staff who are specifically involved with the implementation of the Community based Management of Acute Malnutrition. I will be asking questions related to the CMAM policy with the goal of helping providers who care for these children and families. I am very much looking forward to working with you.

If you have any questions I would be delighted to answer. My contact information is below. I trust that our work will be congruent with the goals of Ghana Health Service and the Princess Marie Louis Hospital.

Thank you.

Sincerely,

Susana Somuah

Email somuah@ualberta.ca

Appendix L

29th October 2018

The Director

Family Health Division

Ghana Health Service

Accra, Ghana

PERMISSION LETTER

I write to ask permission to collect data in your facility. I am a 3rd year PhD student at the Faculty of Nursing, University of Alberta in Canada. My doctoral dissertation will evaluate the implementation of the Community-Based Management of Acute Malnutrition (CMAM) policy in selected sites in Ghana.

I have received ethical approval for my study from the University of Alberta, Canada and the Ethical Review Board of the Ghana Health Service.

During the research, I plan to speak with the Director of Nutrition and two deputies at the Department. I will be asking questions related to the CMAM policy with the goal of helping providers who care for these children and families. I am very much looking forward to working with you.

If you have any questions, I would be delighted to answer. My contact information is below. I trust that our work will be congruent with the goals of Ghana Health Service. Thank you.

Sincerely,

Susana Somuah

Email somuah@ualberta.ca

Appendix M

29th October 2018

The Nutrition Officer

Greater Accra Regional Health Directorate

Accra, Ghana

PERMISSION LETTER

I write to ask permission to collect data in your facility. I am a 3rd year PhD student at the Faculty of Nursing, University of Alberta in Canada. My doctoral dissertation will evaluate the implementation of the Community-Based Management of Acute Malnutrition (CMAM) policy in selected sites in Ghana.

I have received ethical approval for my study from the University of Alberta and the Ethical Review Board of the Ghana Health Service.

During the research, I plan to speak with you and other staff who are specifically involved with the implementation of the Community based Management of Acute Malnutrition. I will be asking questions related to the CMAM policy with the goal of helping providers who care for these children and families. I am very much looking forward to working with you.

If you have any questions, I would be delighted to answer. My contact information is below. I trust that our work will be congruent with the goals of Ghana Health Service and the Greater Accra Regional Health Directorate. Thank you.

Sincerely,

Susana Somuah

Email somuah@ualberta.ca

Appendix N

29th October 2018

The District Health Director

Kwahu West Municipal Health Directorate

Easter Region, Ghana

PERMISSION LETTER

I write to ask permission to collect data in your facility. I am a 3rd year PhD student at the Faculty of Nursing, University of Alberta in Canada. My doctoral dissertation will evaluate the implementation of the Community-Based Management of Acute Malnutrition (CMAM) policy in selected sites in Ghana.

I have received ethical approval for my study from the University of Alberta and the Ethical Review Board of the Ghana Health Service.

During the research I plan to speak with the staff at the nutritional unit of the hospital and other staff who are specifically involved with the implementation of the Community based Management of Acute Malnutrition. I will be asking questions related to the CMAM policy with the goal of helping providers who care for these children and families. I am very much looking forward to working with you.

If you have any questions I would be delighted to answer. My contact information is below. I trust that our work will be congruent with the goals of Ghana Health Service and the Kwahu Municipal Health Directorate.

Thank you.

Sincerely,

Susana Somuah

Email somuah@ualberta.ca

Appendix O

4th December 2018

The Country Director,

UNICEF,

Accra-Ghana

PERMISSION LETTER

I write to ask permission to collect data in your facility. I am a 3rd year PhD student at the Faculty of Nursing, University of Alberta in Canada. My doctoral dissertation will evaluate the implementation of the Community-Based Management of Acute Malnutrition (CMAM) policy in selected sites in Ghana.

I have received ethical approval for my study from the University of Alberta and the Ethical Review Board of the Ghana Health Service.

An earlier interaction with some staff at the Ghana Heath Service has revealed that UNICEF is one of the main sponsors of the CMAM Program in Ghana, l will therefore like to interview one person in your facility who is specifically involved with the implementation of the Community based Management of Acute Malnutrition Program and could furnish me with information on UNICEF's involvement with CMAM. I will be asking questions related to the CMAM policy with the goal of helping providers who care for these children and families. I am very much looking forward to working with you.

If you have any questions I would be delighted to answer. My contact information is below. I trust that our work will be congruent with the goals of UNICEF Ghana. Thank you.

Sincerely,

Susana Somuah

Email somuah@ualberta.ca

Appendix P

29th October 2018

The Nutrition Officer

Eastern Regional Health Directorate

Koforidua, Ghana.

PERMISSION LETTER

I write to ask permission to collect data in your facility. I am a 3rd year PhD student at the Faculty of Nursing, University of Alberta in Canada. My doctoral dissertation will evaluate the implementation of the Community-Based Management of Acute Malnutrition (CMAM) policy in selected sites in Ghana.

I have received ethical approval for my study from the University of Alberta and the Ethical Review Board of the Ghana Health Service.

During the research, I plan to speak with you and other staff who are specifically involved with the implementation of the Community based Management of Acute Malnutrition. I will be asking questions related to the CMAM policy with the goal of helping providers who care for these children and families. I am very much looking forward to working with you.

If you have any questions, I would be delighted to answer. My contact information is below. I trust that our work will be congruent with the goals of Ghana Health Service and the Eastern Regional Health Directorate. Thank you.

Sincerely,

Susana Somuah

Email somuah@ualberta.ca