UNIVERSITY OF CAPE COAST

ASSESSMENT OF COMMUNITY-BASED EXPERIENCE AND SERVICE IN MEDICAL SCHOOL EDUCATION: A STUDY IN AKYEMANSA DISTRICT, GHANA

BENJAMIN ABNORY

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BY

BENJAMIN ABNORY

Thesis submitted to the Department of Integrated Development Studies, School for Development Studies, College of Humanities and Legal Studies, University of Cape Coast, in partial fulfillment of the requirements for the award of Master of Philosophy degree in Development Studies.

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DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research work and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature: …… Date: …….

Name: …….

Supervisor's Declaration

I hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Supervisor's Signature..... Date: .....

Name: ……

ABSTRACT

Community-Based Experience and Service (COBES) as a pedagogical approach in medical school education exposes students to the primary health care needs of rural and underprivileged communities and further provides students with a first-hand experience of medical practice in these areas. This study assessed the contribution of COBES to the health needs of rural communities, the perception of students on the perceived usefulness of COBES as an instructional method to their medical education as well as the perception of faculty members on whether the COBES is meeting its set goals. The research employed a mixed-method approach and a cross-sectional research design where purposive and random sampling techniques were used to select study participants. To elicit respondents' opinions, a questionnaire, semi-structured interview guide, and focus group discussion guide were used. From the perspectives of community leaders, the COBES programme provides them with easy access to health care services, social amenities and quality health education. The majority of students perceived COBES to be essential to their training because it exposed them to healthcare practice within rural areas. From the perspective of the lecturers, the COBES aim of providing practical knowledge on theoretical concepts taught in the classroom and helping community members in obtaining health education and prompt treatment for their diseases is being realised. The study recommended that, owing to the positive impact of the COBES programme on healthcare delivery, it should be therefore scaled up to cover more deprived communities in the country. It was further recommended that provisions should be made by the University to ensure that students are present at COBES centres throughout the year to positively deliver health care.

KEY WORDS

Healthcare Delivery

Community Health care

Community-Based Experience and Services

Akyemansa District

University of Cape Coast

Medical School

Physician Assistants

Preventive Care

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DEDICATION

To my elder brother, Dr. Moses Maclean Abnory

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LIST OF ACRONYMS

CBL	Community-Based Learning
COBES	Community- Based Experience and Service
DQHCO	Donabedian Quality of Health Care Outcomes Model
WHO	World Health Organisation

CHAPTER ONE

INTRODUCTION

Several pedagogical strategies are employed in medical education and training (Challa et al., 2021; Kelly et al., 2014). Examples are Case-Based Learning, Evidence-Based Learning, Simulation-Based Learning, Community-Based Experience and Service amongst others. The Case-Based Learning approach involves using clinical cases to supplement classroom lectures. Simulation-Based learning is a method of learning in which simulations are used to mimic clinical cases. Evidence-based learning involves equipping students with adequate resources and skills to critique medical literature.

As a pedagogical strategy in medical education, the Community-Based Experience and Service (COBES) as a pedagogical strategy in medical education involves sending students to communities to be actively involved in the community through service provision and the subsequent reflection of their period of stay and service provided (Deans, 1999; Seifer, 1998). Students are exposed to the community as a result of this process and their experiences shape their medical practice orientation and future practice (Maeshiro et al., 2010; Prislin et al., 2010). This distinguishes this approach to medical education from the others.

Globally, medical schools have implemented the COBES programme to provide students undergoing medical training with community exposure. Some researchers have evaluated the programme concerning its impact on the future career choice of medical students (Amalba et al., 2016). This study assesses the role of Community-Based Experience and Service in Medical Education and health care delivery in selected communities in Akyemansa District, Ghana.

Background to the Study

The changing dynamics of society, as well as the evolving healthcare system, requires that medical education and training be more oriented towards community needs and the development of closer ties with the community (Mennin & Mennin, 2006). Medical education, which is primarily based in the classroom and hospital environment, does not provide holistic training considering that individuals who report to the hospital form a small fraction of the population requiring health care intervention (Mennin & Mennin, 2006).

Medical and health providers must be oriented towards meeting the primary health needs of populations to promote the wellbeing of communities. The development of every society is closely linked to the health and wellbeing of its human capital. Health care systems are therefore strongly linked to a country's economic development. A weak health care system that only focuses on secondary and tertiary care significantly slows down the development of a country (Moon et al., 2018). Primary prevention and care should be of utmost importance within the health care system to promote the health and productivity of the population (Gordois et al., 2016). Medical education can have these impacts on the medical graduate if there is a strong collaboration between the medical, educational institutions, the health sector, and the community (Mennin & Mennin, 2006).

Over the past 100 years, medical education has been in a state of change with the medical school curricula shaped by three main types (Magzoub & Schmidt, 2000). These are the pre-Flexner period of the apprenticeship model of medical training, the Flexner era of the biomedical approach to medical training, and the approach integrating community-oriented medical education. The pre-

Flexner era witnessed the delivery of medical education in proprietary schools with no set standards. However, the Flexnerian medical education model resulted in the solidification of ties between medical schools and universities and the introduction of the laboratory into the curriculum. This shift in medical education was dominant in American and Canadian medical schools (Magzoub & Schmidt, 2000).

The Flexnerian medical education model places emphasis on building ties between medical schools and universities, and further enhancing laboratory experience in all of the sciences with a focus on investigative science joined to practical training in the education of a modem doctor. The model further seeks to make medical education, just like elementary and secondary school education, progressive (Lazerson, 2001). With time, many medical schools especially in developing countries have realised that both the Pre-Flexner and the Flexner models of medical education were not sufficiently adequate to produce graduates able to address local community health needs (Amalba et al., 2019). Consequently, Community-Based Education and Service (COBES) and rural outreach programmes are increasingly being used in the delivery of undergraduate medical education in rural communities to address the disparity of health workers in developing countries.

The COBES model is driven by three main objectives. First, COBES responds to the concerns about the training of students in different contexts to see patients in the context of a secondary/tertiary hospital and those who present themselves at the healthcare facilities in rural communities which emphasize primary health care. This will help students to appreciate those differences and

help them to navigate different complexities (Kristina et al., 2005). Secondly, COBES enables students to understand the efficiency of health services in rural communities and further draws their attention to the benefits of the inclusion of health promotion and the prevention of diseases than from curative care (Bligh, 2002). Finally, COBES aims to reduce the inequity concerning access to healthcare services by improving access to health facilities in rural areas.

With these objectives driving the approach, COBES has become widely accepted as an important improvement in undergraduate medical training due to the emphasis placed on local community health needs. According to the World Health Organisation (WHO), COBES is a learning activity that uses the community as a learning environment, in which not only students but also teachers, members of the community, and representatives of other sectors are actively engaged throughout the students' educational experience (WHO, 1989). For Frenk et al. (2010), COBES provides a wide variety of instructional methods and programmes that educators use to connect what is being taught in the classroom to real-life situations in communities. COBES is motivated by the philosophy that all communities have intrinsic educational assets and resources that educators can use to enhance the learning experiences of students.

Similarly, other scholars consider COBES as a strategy for health sciences education that bridges the gap between academia and the community. In South Africa for instance, COBES among nursing students has been used to address the issues of gender-based violence within some communities while also equipping students with the knowledge, skills, and critical thinking abilities (Kristina et al., 2006). Research by (Kennedy & Lingard, 2006) also indicates that medical

students tend to show more interest in primary health care and community-based career after being exposed to COBES training. The working principle of the COBES programme is to create awareness in students to formulate a hypothesis, collect, analyse and interpret health data, suggest solutions, and evaluate health provision and health services at the community level (Dhital et al., 2015; Liu et al., 2018).

Recently, some medical schools in Ghana including the University of Cape Coast, have integrated COBES into their curriculum, to help students acquire skills and experiences, enhance their learning processes, future professions and shape their career choices. The University of Cape Coast School of Medical Science introduced the COBES programme in 2008 as a practical component of medical training for medical students and physician assistant students (University of Cape Coast Medical School, n.d). The core tenet of the programme was community-based, problem-solving, and student-centred. The programme was designed purposely to give the medical students a strong inclination towards community work and community experience which will increase their realisation and recognition of the role socio-cultural, household-level, community-level, and broad environmental factors play in health care and the relationship between health and development and also promote health care delivery in the host communities.

Students, through the COBES educational model, gain community experience and become conversant with early patient contact and interaction, as well as build their clinical skills. Furthermore, students are sometimes assigned to district hospitals for COBES, this kind of exposure has a different focus, mainly

on medical practice within the clinical settings. The COBES programme is organised for all students from the medical and other health sciences in their second and third years and medical students up to their fifth year. It is usually undertaken during the long vacation in the second semester of the academic calendar (Sherbino et al., 2014).

The current study draws on the symbolic interactionist and activity learning theories. The symbolic interactionist theory argues that individuals attach their interpretative meaning to their actions and therefore may pursue health care in different ways leading to different healthcare outcomes (Samdahl, 1988). Health is a cultural concept because culture frames and shapes how we perceive the world and our experiences. Therefore, COBES may shape health choices differently for different individuals because community members may have different views about health and illness, as well as about the underlying causes (Boon et al., 2017).

The activity learning theory, on the other hand, argues that robust learning takes place when students are actively engaged in activities and tasks that are authentic. It further posits that the relationship between the doer of the activity and the object is important. In the activity theory, the object denotes the purpose or objective of the activity while the doer refers to a person or group. The outcomes of activity learning could be intended or not intended and these outcomes are assessed differently by members of a group (Hassan & Kazlauskas, 2014). Therefore, exploring the effectiveness of COBES from the perspective of community leaders, students and lecturers will provide insights into the

effectiveness of the approach in promoting health behaviour among residents and impacting the medical career of students.

The study chose Akyemansa District as its focus because the District is part of the areas selected by UCC to host the COBES programme. Therefore, all the selected centres stand a chance of being used as the focus of the study. However, the Akyemansa District has facilities that house the COBES students and thus makes it possible to house many students as compared to other centres. Therefore, to get the appropriate number of participants for the study, it was important to leverage the capacities of the centre in the Akyemansa District for the study.

Statement of the Problem

The disengagement of medical practice from the community results in ineffective medical interventions and poor health outcomes (Mennin & Petroni-Mennin, 2006). Consequently, most medical schools and health training institutions have incorporated community engagement into their training to bridge the profession, practice, and community gaps (Hassan & Kazlauskas, 2014). In view of this, the University of Cape Coast uses the COBES approach for medical education (Mennin et al., 2006). The clinical delivery system of COBES provides the means to take health care into the households and the community in order to deliver health care services to the population or the community.

However, after its inception, the progress of the programme in relation to the original intention of its institution is yet to be assessed. This has left a gap as to whether the original motive of the COBES programme is being realised or not.

Additionally, the absence of a review of the original motives put the standard of care, quality of health care services provided, and the cost of the programme into question. The absence of a review also means, there is a paucity of data on the effectiveness of the COBES programme on the health care needs of the communities where the intervention is implemented,

Ahmad et al. (2014) state that students who go through the COBES programme experience difficulties that affect their output and perception of the programme and thus fail to inculcate in them the purpose of such training. However, no research study has delved into how useful the programme is to students as well as students' perceptions of the programme. Meanwhile, studies conducted in the area of community engagement underscore the need to examine how students who are key stakeholders of such a programme perceive it for purposes of practical policy adjustment (Amalba, et al., 2020; Amalba et al., 2016). Apart from policy formulation, such information is needed to improve the programme and to allow other health education institutions considering implementing COBES to learn from the ongoing programme in other institutions.

Furthermore, to efficiently serve the need of the communities Rumala et al. (2011) indicated that the views of the community members about the quality, usefulness, challenges and benefits of the programme should be gathered and reviewed periodically. Thus, it is important to examine information concerning the perception of the community members on the COBES programme.

Most studies on COBES in Ghana focused on the impact of the programme on students' future career choices, the role of COBES in ensuring the equitable distribution of health professionals across the country, and the logistics and

challenges associated with implementing the programme (Amalba et al., 2020; Amalba et al., 2016; Amoako-Sakyi & Amonoo-Kuofi, 2015). However, limited studies exist on how community members perceive the COBES programme implemented by the University of Cape Coast. This study therefore, seeks to add unto the knowledge base and throw more light on the issue of how community members perceive the COBES programme.

Purpose of the Study

The purpose of the study aims to assess the community-based experience and service on medical school education in the Akyemansa District of Ghana. Specifically, the study seeks to explore how community-based experience and service influence medical school students' knowledge, skills, and attitudes towards community health, as well as their preparedness for entering the workforce as professionals. The study also aims to identify the challenges encountered in implementing community-based education and service programs and to recommend strategies for enhancing the effectiveness of such programs in medical education. Overall, the study aims to contribute to the development of medical education programs that produce graduates who are well-equipped to address the health needs of their communities.

Research Objectives

Main objective

The main objective of this study is to assess community-based experience and service in medical school education in the Akyemansa District, Ghana.

The study is guided by three specific objectives. These objectives are to:

1. Determine the original motives behind the introduction of COBES in UCC medical education curricula to promote health care delivery in the Akyemansa District.
2. Investigate students' perceived benefit from COBES.
3. Assess the prception of community leaders on the COBES programme in relation to the health needs of the community

Research Questions

1. How do the original motives behind the introduction of COBES in the UCC medical education curricula promote health care delivery in the Akyemansa District?
2. What is the perception of the students on the benefits of COBES?
3. What is the perception of the community leaders on the benefits of COBES?

Research Hypotheses

Based on the study's specific objectives, the following alternate research hypotheses were formulated to guide the study.

1. Medical students who participate in community-based experiences and service in Akyemansa District, Ghana will have a greater understanding and appreciation for the social determinants of health and their impact on individual and community health outcomes.
2. Participation in community-based experiences and service in Akyemansa District, Ghana will enhance medical students' cultural competency and enable them to better understand and address health disparities among diverse populations.

3. Medical students who participate in community-based experiences and service in Akyemansa District, Ghana will report higher levels of job satisfaction and fulfillment in their future medical careers.
4. Community-based experiences and service in Akyemansa District, Ghana will positively impact the health outcomes of community members, as medical students provide targeted health education and assistance to address local health concerns.
5. Medical students who participate in community-based experiences and service in Akyemansa District, Ghana will demonstrate improved clinical skills and patient communication abilities, as they learn to work with limited resources and in resource-poor settings.

Significance of the Study

Recruitment and retention of healthcare professionals in rural and deprived areas are amongst one of the major problems confronting the health sector worldwide, especially in developing countries such as Ghana. Existing research evidence suggests that COBES can be used to prepare and acclimate healthcare professionals to work in rural and deprived areas as well as to achieve equity in the distribution of health professionals to benefit rural communities. In this regard, development practitioners, government and non-governmental organisations, and all stakeholders interested in health care delivery in rural and deprived communities require information on the potential impact of the COBES programme in promoting quality health care in these areas. This study provides information to enable stakeholders involved in the COBES programme to plan and strengthen the different aspects of the programme.

Also, data from this work will also provide information on the impact of COBES on health care delivery in communities in the Akyemansa District of the Eastern Region of Ghana. These findings could help guide the expansion of COBES to cover the entire country. Finally, the findings from this study will also provide information on the relevance of COBES in medical education from the perspectives of students and lecturers as well as its role in health care delivery from the perspective of community leaders. Identification of the lapses in COBES and its role in health care delivery can enable the programme to be scaled up which will improve health care delivery in the country. This will go a long way to improve national development as good health contributes to the development of the nation. The information gained could also be used to improve the practical aspect of medical education and thus improve medical education in the country.

Delimitations of the Study

In the conduct of every research study, it is important to note that, not a single research study can provide a comprehensive understanding of a phenomenon. In this specific study, the focus was on assessing the community-based experience and service in medical school education in the Akyemansa District of Ghana. However, the study is limited in scope due to various factors. Firstly, the geographical area of the study was restricted to only the Akyemansa district of Ghana. Therefore, the findings may not be applicable to other regions or countries with different socio-economic and cultural contexts. Furthermore, the study focused solely on assessing the effectiveness of community-based experience and service in medical education, excluding any evaluation of the overall medical school curriculum or teaching methods. Moreover, the study's

time frame was limited to a specific period, ranging from 2019 to 2021. Therefore, it may not fully capture the long-term impact of community-based experience and service on medical students' education and future practice. Additionally, the study only included medical students in their final year of training, which may not be representative of medical students at different stages of their education. The study's methodology relied on self-reported data from medical students, community members, and program facilitators, which may be subject to response bias. Finally, the small sample size of the study may limit the generalization of the findings. The study inclusion provided insight into the community-based experience and service in medical school education in the Akyemansa District of Ghana, it was however imperative to recognize its limitations and understand that additional research is necessary to fully comprehend the phenomenon.

Limitations of the Study

The study is a cross-sectional study that was carried out in one out of the eight districts where COBES is undertaken. This implies that the results obtained from the study cannot be generalised to all the sites where COBES is undertaken or to all the students who go through the COBES programme. Additionally, data collected for this study is based on the perceptions of study participants and may therefore not be a true reflection of what happens within the communities. These limitations could not be overcome as a result of resource constraints that did not permit the study to be conducted within all the eight districts where COBES is undertaken.

Definition of Terms

In this study, the underlisted definition of terms can be explained:

1. Community-Based Experience: Refers to the practical learning opportunities that students receive in community settings, outside the traditional classroom environment. It involves engaging with community members in health education and promotion, and providing healthcare services under supervision from trained professionals.
2. Community-Based Service: Involves providing healthcare services to the community, with a focus on preventive care and health promotion. It often involves working in collaboration with community health workers and local health facilities to deliver care to underserved populations.
3. Medical School Education: Refers to the formal training that prepares students to become licensed medical practitioners. It includes classroom instruction, clinical rotations, and experiential learning opportunities such as community-based experiences and service.
4. Akyemansa District: A district in the Eastern Region of Ghana, with a population of approximately 119,000 people. It is largely rural, with limited access to healthcare services, and therefore a key area for community-based medical education and service provision.
5. Ghana: A West African country with a population of approximately 31 million people. It has a limited number of medical schools and a shortage of healthcare workers, particularly in rural areas, which highlights the need for community-based medical education and service delivery.

Organisation of the Study

The study is organised into five chapters. The first chapter delineates the introduction and objectives of the study. This is followed by the literature review.

Chapter three presents the methods employed for the study. Specifically, chapter three comprises the research design, study area, population, sample size, sampling procedure, data collection instruments used, data collection procedures, and the description analysis used. Chapter four presents the analysis and discussion of the results. Finally, the last chapter presents the study's summary, conclusions, and recommendations of the study as well as suggestions for future research.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Introduction

This chapter discusses the related literature on the subject area using relevant books, journals evidence from previous studies. The first section of the review focuses on the theories underpinning the study; symbolic interactionist and activity learning theories. The second section discusses the terms, definitions, and concepts related to Community-Based Experience and Service. The chapter further discusses the empirical literature from other studies related to Community-Based Experience and Service. The last section presents the conceptual framework of the study based on theoretical and conceptual underpinnings that provide information on the role of Community-Based Experience and Service in promoting health care delivery as well as impacting the educational experience of medical and other health students.

Theoretical Perspectives of the Study

Several theories have been used by researchers to analysis the concept of community-based learning to health care providers within the society, as well as the influence of community service in influencing the educational experience and shaping career paths of medical and health students. This study employs the symbolic interactionist and the activity learning theories to assess the impact of community-based experience and learning programmes on health care delivery within host communities as well as its impact in influencing the medical education experience of students from the perspectives of community leaders, students, and lecturers.

The symbolic interactionist theory

The Symbolic interactionist theory was propounded by George Herbert Mead. It is a micro-level theory that explains the relationships that exist among people in a community and the exchanges that occur within the communal setting (Aksan et al., 2009). Ofosu and Ako-Nnubeng (2014). Argue that individuals are products of their society and they create meaning and perceptions of things happening in and around them. Through these exchanges and communal existence, people understand the nature of their world (Rose, 1962). The theory was further expounded by Herbert Blumer who posited that individuals interact with things based on how they perceive the things or the meanings they ascribe to the things and these perceptions and meanings are often a result of their interaction within the society or their socio-cultural context (Aksan et al., 2009).

The assumption of the interactionist theory has practical implications for the success or otherwise of the COBES programme. This is because the theory deals with the perception of individuals as a function of products in their environments. However, products like COBES are created to solve a societal problem. Therefore, a positive perception of the product will lead to making sure that all necessary materials are gathered to ensure its success. On the other hand, if people have negative perceptions about the product, the zeal and commitment towards its success may be slow, thus affecting it negatively. Aksan et al. (2009) however argued that in dealing with perception, context plays a significant role.

In this sense, people perceive things differently depending on their socio-cultural context. Also, the symbolic interactionist theory is strongly underpinned by the principle of human interaction. According to symbolic interactionists, there

are three propositions to this theory which are that the attitude humans assign to things are based on the meaningfulness of the things to them, and the meaning assigned is a result of continual interaction with these things, and these meanings can change as a result of changing interpretive process (McAllister et al., 1998).

The aforementioned suggests that community members assign different perceptions to events such as COBES based on continuous interaction with the programme (Aksan et al., 2009). These perceptions are shaped through continuous interaction and any improvement in such a programme is likely to improve the perceptions and meanings ascribed to the programme. Improvement can be made when there is a current understanding of the perceptions and meanings community members ascribe to the COBES programme (Charmaz & Belgrave, 2013). Additionally, health care and expected outcomes are also influenced by the socio-cultural context within which health care occurs, and as such similar care delivery processes are perceived differently by people of different communities and societies.

However, Amalba et al. (2016), indicated that if the success of importance of a programme is placed solely on the perception of the actors of the programme, the actual strength of the programme could be missed. The authors argued that within the socio-cultural context as argued by the symbolic interactionist theory, proper education, progressive human relationship and experiences could influence how people perceive things. Therefore, whenever there is little education and people have little experience with a programme, they will have a bad perception of the programme and this will not mean that the programme is bad.

Additionally, the symbolic interactionist theory underscores the need for participation in order to ensure development (Landers et al., 2020). The theory emphasises that for communities to develop in terms of structure, culture and deepen strong social values, it requires universal participation (Mariam et al., 2014). The emphasis is on the active, interpretive, and constructive capacities of individuals in the creation of social reality (Charmaz & Belgrave, 2013). It is against this backdrop that the study relies on the perception of community leaders to examine whether the COBES programme is serving their needs in terms of health care delivery.

The Activity Learning Theory

The activity learning theory on the other hand is based on the assumption that more learning takes place when students are put in an actual setting where a particular learning activity of interest is expected to take place. The activity theory is one of the popular approaches that have been used within the educational setting to bridge the gap between theory and practice (Bruner, 2006). In activity learning, the individual direct effort toward the object to achieve desired outcomes (Arnseth, 2008). The overall import of activity learning is based on the constructivist approach.

This theory emphasises that though individuals have their motives or aims for learning, these motives are shaped by the materials and the environment within which practice takes place (Kristina et al., 2005). Therefore, it further posits that learners can make sense of themselves and their environment through continual practice and learning. Activity learning theorists are of the view that learning and critical thinking should happen simultaneously and this is easy to achieve within

a practical context (Jonassen & Rohrer-Murphy, 1999). The COBES programme is a practical-oriented learning activity but may shape the learning experiences of learners differently depending on the personal goals of students and how they interact with the practical environment.

In the COBES programme, students play important roles since the programme aims at helping students understand the socio-cultural dynamics of societies, they will be working post-training. Therefore, the activity learning theory is employed to understand how students perceive benefits of the COBES. If students become well-versed in the COBES programme, it will shape their understanding of patients in the long run.

Conceptual Review

This section explains key concepts related to the sub-matter under study. Some of these key concepts include community-based experiences and services, quality of healthcare delivery, community engagement and healthcare delivery, activities that are carried out during the COBES programme, benefits and associated challenges of the COBEs programme.

The Concept of Community-Based Experience and Services (COBES)

The concept of the Community-Based Experience and Services curriculum has three foundational pillars which are student-centred, community-based, and problem-solving. COBES is student-centred because the students are continually encouraged and stimulated to be actively involved in their learning process rather than be passive persons in the learning process (Bardsleyet et al., 2013). The students work with supervisors to find solutions to problems encountered by the community through the formulation of hypotheses. Thus, it is

a problem-solving programme (Koka et al., 2016; Strauss et al., 2001). The COBES curriculum directs the study of medicine towards increased community involvement by using the community as a teaching aid and learning environment (Nguyen et al., 2006).

According to Lehmann et al. (2008). COBES is also described as problem-based learning because it exposes students to health problems in rural communities through which the students learn actively. The working principle of the COBES programme is to make students more creative in solving community-based health problems through hypothesis formulation, collection, and analysis of data, the interpretation of data, and recommendation and evaluation methods thereby ultimately providing services to the community (Lehmann et al., 2008).

The practical period of COBES is to enable physician assistants and medical students to acquire community participation skills and also equip them in identifying key issues in health service delivery and management as well as administration at mostly district and community levels to help the community

The Concept of Quality of Health Care Delivery

The quality of health care is one of the most important principles underpinning health policy, and it has always been high on policymakers' agenda at both national and international levels (Karahoca et al., 2018). At the national level, the need to address the issue of quality healthcare delivery may be motivated by several factors, ranging from a general commitment to high-quality healthcare services or the renewed and continual focus on patient outcomes in the context of cost-effective optimal healthcare ideas to the identification of specific healthcare quality problems to target health care (Kennedy & Lingard, 2006).

At the international level, the SDGs reiterate the need for quality health care and target achieving universal health coverage for all persons at the minimum possible cost (Cené et al., 2010). This target implies that quality health care should be prioritised in care delivery by providing all people with access to safe, effective, high-quality, and affordable essential medicines and vaccines. This will help mitigate the high costs incurred as a result of negligence and poor health care services (Bridges et al., 2011).

Definition of Quality Health Care

The definition of quality health care differs from organisation to organisation, as well as from person to person. Different institutions and organisations have their working definitions for the quality of health care delivery. The Table summarises various people's and organisations' definitions of quality health care.

Table 1: Definition of Quality Health Care

Donabedian (1980) In: *"Explorations in quality assessment and monitoring. The definition of quality and approaches to its* assessment*"*	Quality of care is the kind of care that is expected to maximize an inclusive measure of patient welfare after one has taken account of the balance of expected gains and losses that attend the process of care in all its parts. More generally, quality in this work is the ability to achieve desirable objectives using legitimate means.

Institute of Medicine, IOM (1990) In: *"Medicare: A Strategy for Quality Assurance"*	Quality of care is the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.
Council of Europe (1997) In: *"The development and implementation of quality improvement systems (QIS) in health care. Recommendation No. R (97) 17"*	Quality of care is the degree to which the treatment dispensed increases the patient's chances of achieving the desired results and diminishes the chances of undesirable results, having regard to the current state of knowledge.
European Commission (2010) In: *"Quality of Health care: policy actions at EU level. Reflection paper for the European Council"*	Good quality care is] health care that is effective, safe and responds to the needs and preferences of patients. The Paper also notes that "Other dimensions of quality of care, such as efficiency, access, and equity, are seen as being part of a wider debate and are being addressed in other for a
WHO (2018) In: *"Handbook for national quality policy and strategy"*	Quality health services across the world should be: Effective: providing evidence-based health care services to those who need them. Safe: avoiding harm to people for whom the care is intended.

	People-centred: providing care that responds to individual preferences, needs, and values''.
	To realise the benefits of quality health care, health services must be timely, equitable, integrated and efficient''.

Source: Schofield (2007)

Donabedian defined quality as the ability to achieve desirable objectives using legitimate means. This definition implies that the word "quality" is not specific only to healthcare but could be used by many different individuals in various sectors of society (Claramita et al., 2019). People use the term quality not only to describe the positive aspects of hospital-based care and interactions with health personnel but also when they speak about other things such as food or cars. The indiscriminate use of the word quality also explains some of the ambiguity surrounding the use of the term quality in the description of healthcare when policymakers or analysts use the word for all sorts of positive or beneficial aspects of the health systems. However, Donabedian also provides a more specific definition of quality of care, stating that it is care which is expected to maximize an inclusive measure of patient welfare after one has taken account of the balance of expected gains and losses that attend the process of care in all its parts (Kapanda et al., 2016).

The definition of health care as conceptualized by Donabedian is important because it notes that the level of healthcare is related to the series of events surrounding treatment in its entirety and that a high standard of care has the

primary goal of improving the well-being and quality of life of the patient. The health condition of the patient including social, neurological, and psychological should be addressed to ensure the patient's wellbeing (Tudor, 1971). The concept of patient welfare also includes an approach in which the needs of the patient and the patient is considered the most important. Furthermore, Donabedian's definition recognises that there are natural limits to the process of care and that gains and losses could be incurred in the process but the optimal aim is for the gains to far outweigh the losses (Koka et al., 2016).

In contrast to other definitions of healthcare quality, which mainly focuses on patient's care, the IOM's definition is focused on general health care services, individuals, and populations rather than on patient-centered care and states that healthcare implies a broad set of services, including acute, chronic, preventive, restorative, and rehabilitative care, which are delivered in many different settings by many different health care providers. This definition strengthens the link between quality health care, preventive health service, and health promotion (Jennings & Greenberg, 2009). The current definition of the concept of quality health care emphasises the need for providing care that is based on scientific evidence and highlights that the concept of health care quality is dynamic and continuously evolving. In that sense, the quality of care provided can only be assessed against current scientific evidence and the state of knowledge (Kennedy & Lingard, 2006). Therefore, what is considered good quality care today may be poor quality care in years to come.

The definitions from the European Union (2010) and the WHO (2018), contrary to the other definitions, define three key dimensions of quality. These

concepts are also important as they mention some characteristics of healthcare and healthcare programmes that are of relevance to the quality of care, including access, timeliness, equity, and efficiency. They note that these other elements are either part of a broader concept or are necessary to achieve the benefits of quality health care.

Community Engagement in Health Care Delivery

Aristotle first defined the word community as a group, established by men and having common values (Prcic et al., 2016). The inhabitants of the world are organised in smaller groups referred to as communities where they share similar opinions, beliefs, and ideas. According to Tsertsvadze et al. (2009) a common definition of community emerged as a group of people with diverse characteristics who are linked by social ties, share common perspectives, and engage in joint action in geographical locations or settings. The definitions differ by the kind of emphasis placed on the particular elements of the definition. Community is construed differently by people of diverse backgrounds (Kristina et al., 2005). Living and working successfully within the community requires acting and behaving by societal norms and values. Education must target the issues that affect the society where people live and also connect real-life situations in communities to the content delivered within the classroom (Kolb & Kolb, 2005).

John Hopkin defines Community Based Learning (CBL) as an instructional model that links classroom learning to relevant community engagement. It is also based on the principle that medical and other allied health students understand the socio-cultural beliefs that influence health outcomes from the beginning of their training (Kirby & Wilkerson, 2003). This level of

comprehension can be achieved through a well-structured curriculum and well-outlined learning experience (Mariam et al., 2004). The curriculum should provide opportunities for students to gain hands-on experience throughout the learning process. As part of the COBES programme, medical students learn and understand the socio-cultural context of health care through a well-structured programme providing the chance and space for students to apply their theoretically applied knowledge (Landers et al., 2020).

Over the last two decades, health care practice, health care promotion, and research have increasingly employed and recognised the benefits of community engagement. Community engagement is defined by the Center for Disease Control (CDC) (1997) as the process of working together with and through groups of people with a common geographical location, common interests, or similar situations to address issues affecting their well-being and quality of life (Volvovsky et al., 2014). Logan and Burdick-Will (2017) revealed that the objectives of community engagement are to build strong community bonds and trust, identify potential resources within the community and create better community interaction and improve overall health outcomes as successful through sustainable collaborations

Also, Dussault and Franceschini (2006) point out that the logic behind community-based health promotion, research, and policymaking is largely embedded in the fact that social-economic conditions within communities affect disease incidence, distribution, lifestyle, and behaviours of the population. This ecological view is consistent with the idea that health inequalities have socioeconomic underpinnings (Volvovsky et al., 2014). Health inequalities are

rooted in the context of prevailing socioeconomic inequalities, and hence approaches to health improvement must take into account the concerns and needs of the communities as well as be able to provide for these needs. Health issues could be best addressed by engaging community members whose perspectives and understanding of life and care issues are fundamental to health care delivery.

Activities Carried out During COBES in Host Communities

There are a host of activities carried out during COBES. Activities performed during COBES include community entry, community mapping, survey (data collection) using both qualitative and quantitative methods, health screening, and rotation in a health facility.

Frenk, (2000) grouped activities carried out in host communities into three categories. He revealed in his study that activities performed included voluntary service, community service, and learning through service. He explained that voluntary service or volunteerism is the willingness of students to engage in activities that result in beneficial effects within the community. These activities are voluntary because they do not form a core part of service-learning activities. They include clean-up exercises within the community among others. He opined that the main aim of community service is for students to provide services that will be beneficial and make a significant difference in the lives of the service recipients. As part of volunteerism, students spend time observing problems within the community such as water sources and quality, waste disposal, and road network among others. Through this experience, students also learn to appreciate how their services and actions make a difference in the lives of others and this forms an important part of community-based learning (Rahman, 2001).

Similarly, Koka et al. (2016) also revealed that activities carried out in host communities included students providing health education on fundamental health issues such as family planning, exclusive breastfeeding, and its benefits, screening for cancers through pap smear and self-breast examination, adolescent reproductive health and elderly health care. To ensure health sustainability, community members are taught by students' which actions to take to improve their health and develop positive health-seeking behaviours that promote their health and wellbeing in the long term (Frenk et al., 2010; Gillies, 2008). Students apply the theoretical and conceptual models and other concepts they have learned to ensure the overall success of the COBES programme through activities such as peer and personal health education, interaction and exhibitions, health education, distribution of printed health brochures, forums, face-to-face demonstrations, short quizzes and assignments, audio-visuals, games, and health screening (Mainz et al., 2019).

Benefits of Community-Based Experience and Services

Community engagement is increasingly gaining popularity in the health sciences for various reasons. The benefits of COBES are mutual and as such all stakeholders involved in the programme experience one benefit or another. The benefits are discussed below.

Benefits of COBES to host communities

For the host communities, COBES not only improves their health and wellbeing but also has other social benefits some of which are discussed below.

Improved Health Care Delivery within Communities

Although temporary, COBES improved health care delivery in host communities. According to McAllister et al. (2016), community-based education as part of medical and health education programmes contributes to the local health system to meet the needs of the community. COBES is often undertaken in deprived areas that have inadequate staff and as such the presence of students boosts the number of health care personnel available to provide health services to community members. In assessing the benefits of community-based learning to the community in South Africa, (Diab & Flack, 2013) identified improved health for the community members through improved service delivery. The students lived in the communities, visited the sick at home, helped with consultation and other healthcare delivery services at the health centres, and attended to patients promptly who would have otherwise waited in long queues in their absence. Participants of the study also indicated that they did not have to be referred or travel to distant hospitals because students actively supported health care staff to take care of them (Diab & Flack, 2013).

In another study where community based-therapeutic recreation and adaptive sports programme was evaluated in the United States, it was observed that the overall health, quality of family, and social life were improved after participation in such activities (Zabrinskie et al., 2005). Sherbino et al. (2014) posit that modern medical practice and other allied healthcare services face a significant challenge in terms of inequality in the distribution of health professionals between rural and urban areas.

Early community experience as part of medical training and engagement with rural areas can shape the future practices of medical students towards practicing in rural communities. COBES has the potential to improve doctor-patient interaction in the long run since students learn ethical skills and get to understand the norms of particular communities through the programme.

Increase Health Knowledge and Preventive Health Care

Several types of research have revealed that the one-way community members benefit from the COBES programme and other community learning service-learning services is through providing education and knowledge to community members on how to prevent common ailments and diseases that are prevalent within the community. Strauss et al. (2001) reveal the host communities have benefited from the COBES programme through increased knowledge and awareness of protective and preventive behaviour. The benefits include increased health knowledge and health awareness, positive healthcare-seeking behaviour, and reductions in risk factors associated with the occurrence of certain diseases.

The overall impact of these is a long-term reduction in disease incidence, morbidity, and mortality. They further revealed that through COBES the overall quality of life of the community members has improved and has been sustained while they have also been empowered to improve their health. Collaborative works and strategic partnerships between the community and educational institutions both now and in the future will result in enormous benefits for both the community and learning institutions (Sherbino et al., 2014).

Socio-Economic and Socio-Cultural Benefits to Students and the Communities

The benefits of COBES go beyond promoting health care within the community it also provides other latent benefits. COBES provides economic gains to the community through purchases made by students and other staff of the COBES team. It provides a platform for cultural exchange, practising the language, and learning new ways of doing things (Kusi et al., 2020). Students get the opportunity to learn new skills and ways of doing things and the community members also learn from students. The cultural exchange is typically observed amongst the youth of the community who may take up students as their mentors and model their ways of doing things.

Improved Social Amenities

Community-Based Experience and Service have been a driving force in improving and providing a lot of social amenities in host communities. Through the COBES programmes, a lot of communities do receive good sources of drinking water, a good road network, electricity, and other donations geared towards improving the social life of community members (Mboi et al., 2018). Through advocacy, donations, and undertaking projects, COBES has provided a lot of amenities and facilities to host communities (Mboi et al., 2018; Mennin & Petroni-Mennin, 2006). These achievements have been a result of the support and active involvement of lecturers, students, community leaders and traditional rulers, community members, monitors, and other field support staff. Again, benefits of COBES to the host communities include, improved infrastructural development such as road network and communication systems; increased

determination and interest of girls to pursue higher-level education; improved environmental sanitation, improved water supply; increased enrolment on the Ghana Health Insurance and among the students of the community; and high university entry rate. All these social benefits are sometimes thrown out at communities where COBES is being done in order to make the programme successful. However, since COBES programmes are temporary, the provision of these amenities becomes by-products of the programme.

Benefits of COBES to the Community Healthcare Personnel

The health care worker located within the community has his or her share in the benefits associated with COBES. This moves from strengthening the human resource to building knowledge and skills as well as enhancing professional knowledge and practical skills.

Increase Human Resource Strength at the Host Communities

The presence of students increases staff strength and the ability to finish the task within an acceptable time. During the COBES period, the presence of students within the community boosts the number of hands available to deliver health care.

These additional human resources lessen the burden on permanent staff who are more often than not insufficient to effectively cater for the health care needs of the populace. Staff is most of the time overwhelmed by the number of Out Patient Department attendance and hence are unable to provide other health services such as screening and vaccination. Thus, the presence of students during COBES frees the hand of community health staff to engage in other health

delivery activities or even direct students to undertake particular health services (Moons et al., 2018).

Update of Knowledge and Skills

During the period of COBES, there is the sharing of ideas among students, health care staff within the community, and community members. Community health care staff whose knowledge and practice may be outdated get the opportunity to upgrade their knowledge and skills through continuous interaction with students who have up-to-date knowledge (Morse, 2012). Health personnel impact students by teaching them clinical skills and simple ways of carrying out certain procedures; they also, in turn, learn from students new and updated ways of carrying out health care activities (Moons et al., 2018). Also, the presence of students within the community and the community health facility makes it a requisite for health staff to learn and update their knowledge base to transfer knowledge and be able to answer the questions and concerns of students (Nyarko et al., 2018).

Benefits to Students Instructors

Assessment of Practical Skills

COBES provides the avenue and opportunity for instructors to assess practical skills taught to students such as communication skills, and health education amongst others. These are skills that are difficult to assess through written examinations.

COBES provides the opportunity for lecturers to assess how students implement on the field the theoretical aspects they are being taught. Through this

lecturer can also determine the lapses in the theoretical course and focus more attention on areas where students face practical difficulty (Holmboe et al., 2010).

Break from Routine Classroom Environment

COBES provides an opportunity for instructors to make the learning experience varied and devoid of monotonous classroom instruction. It is a way to vary the instructional process and make teaching and learning more fun, as well as broaden the educational experiences of their students (Ofosu & Ako-Nnubeng, 2014). During the period of COBES, faculty can also take a break to rest from classroom instruction. Mboi et al. (2018) revealed that teachers tend to employ monotonous methods of teaching continuously; an approach that denies students the chance to experience other forms of teaching methods.

Mboi et al. (2018) were of the view that the use of traditional teaching methods such as lecturing, class assignment, and test gives students little or no exposure to their community and make understanding certain concepts difficult. Such situations may frustrate the lecturer. However, research evidence shows that students develop a keen interest, knowledge, and understanding of courses and subjects when they are delivered through varying teaching methods (Logan & Burdick-Will, 2017). Landers et al. (2020) also opined that those teachers who use varying teaching methods are more likely to produce strategic and independent learners. The needs, capabilities, and strengths of students vary and so do the different teaching methods, thus the use of only one instructional method is ineffective in bringing out the best in students.

Teachers who employ different strategies to make students learn, assess their learning and the degree to which they internalize what they have been taught

and produce and achieve more at the end of the teaching period. Learning as a process should go beyond rote learning but rather make students inquisitive to experiment, explore and discover their communities (Logan & Burdick-Will, 2017).

Benefits to Students

The benefits of COBES training are enormous and ranges from enhancing students' professional and clinical skills to providing an opportunity for mentorship.

Enhance Professional Knowledge and Practical Skills

One of the major roles of schools is to link real-life situations in the proximal community to the learning process but most educational institutions have lost this focus (Nyarko et al., 2018). Modern public education has not given recognition to the role community engagement can play in enhancing the learning experience of students especially higher education has failed to recognize the benefits of students (Logan & Burdick-Will, 2017). Research indicates that as many as 40% to 60% of students are distanced from the happenings in their communities by the time they reach the high school level (Arja et al., 2018; Nyarko et al., 2018).

COBES enhances the knowledge and professional skills of medical trainees (Mennin & Petroni-Mennin, 2006). This is achieved through continuous interaction with community members, exposure to community problems, and students brainstorming and learning on how to solve these problems. Students get the opportunity to enhance their clinical skills through getting the opportunity to practice them at the community level. COBES also serves as a platform for

students to improve their communication skills by interacting with community members, working in teams, and conducting needs assessments. Kapanda et al. (2016) are of the view that the goal of community-based instruction is to provide students with varying levels of practical learning skills that are necessary to succeed in the world of work. CBI reinforces learning by providing a platform for students to practicalize the abstract things they learn within the classroom setting (Nyarko et al., 2018).

Jennings and Greenberg (2009) also opined that students would be able to make a connection between classroom content and the community where they live when they critically analyse information to get its essential meaning by making use of their abstract thinking abilities. This type of knowledge application is indistinguishable from continuous practice and is capable of making youngsters integrate information and make them responsive to an evolving situation which is characteristic of higher-level learning (Anteghini et al., 2001). The community can serve as a learning laboratory where students can learn a wide range of practical clinical skills such as what they learn in the hospital laboratories. (Amalba et al., 2016). Community-based education promotes practical and experiential education as has been outlined in Kolb's experiential learning (Godlee et al., 2004). Community-based instructional learning is an effective approach to developing the functionality of students in the area of practical skill application and continuous practical development (Kapanda et al., 2016). Also, participation in activities outside the classroom has been used to equip individuals with literacy skills and for health professionals, better communication, and clinical skills (Jemal et al., 2002).

Mentoring Opportunity

According to Greysen et al. (2011), the components of CBI are field practice, mentorship, service provision, network building, and apprenticeship.

Mentoring is an instructional and learning approach where newly recruited professionals or staff are assigned to long-term experienced staff to provide professional and carrier guidance to them. This is like the Peer In-Service Approach (PISA) which takes place within the workplace and saves resources that would have otherwise been used for training and another practical development programme. Mentoring in the COBES programme involves assigning students to health professionals who work within the community (Arja et al., 2018; Nyarko et al., 2018).

The mentoring relationship can be based on shared interests, common career aspirations, and similar socio-cultural perspectives (Dussault & Franceschini, 2006b). Mentor-mentee relationships foster close ties between experienced and novice professionals and can result in long-term health professional relationships that are built on mutual respect and common interest.

Apprenticeship

Apprenticeship is a practical teaching strategy wherein a student is matched with an experienced professional to transfer practical skills to the student. This learning approach works best for students who learn best through imitation and visualisation as in the case of COBES.

A memorandum of understanding is often signed between the school and the training institution and sometimes with parental involvement. In this instance, school-based teaching and learning are planned to meet the practical skills and

theoretical knowledge required for a successful apprenticeship. Experiences gained by students ranged from personal to professional skills for successful operation and work within the work environment (Arja et al., 2018; Nyarko et al., 2018). Networks that are formed serve as a future source of references, support for challenges encountered, and interdisciplinary learning. Networking also has the advantage of making information readily available to students in the modern world where the global world could be reached via varying communication channels. Service-learning through apprenticeship enhances learning while at the same time providing affordable or free human resources and services to several industries (Greysen et al., 2011). Service-learning provides students from pre-school to the tertiary and postgraduate levels an opportunity to apply classroom knowledge to real-life situations within the community.

Graphed Institute for Public Service is of the view that service-learning can be used in different settings ranging from academic institutions to community-based and other faith-based organisations. It can be applied to students of a pre-specified grade or students across all levels. This collaboration between the student, community, and school facilitates the learning and transformation process of students (Julie et al., 2005).

Shadowing, on the other hand, is a relatively short-term service experience where students observe work and events as they occur in a real work environment. Learning within a particular social context possesses to provide the advantage of being exposed to practical changes in the field of work as and when these changes occur. The major idea is that man is part of an adynamic environment that is constantly changing and the problems that emanate from this environment or

man's relationship with the environment are also constantly changing (Kapanda et al., 2016).

Improves Academic Performance

COBES has a positive impact on the academic performance of the student physician during the activities of the programme. Education is the backbone of sustainable development and trains individuals such that they will fit into society. Education sets the background for work, future progression, and overall quality of life. Thus, education for the entire population in different specialities and areas of knowledge and skill is critical to ensure the equity and fair distribution of opportunities such as employment (Tollman et al., 2008).

Service to the community is a vital way for students to explore their interests, experiment with their beliefs and aspirations, as well as define a career path. Students have a chance to learn skills by investing in volunteer work. As they pursue ventures that make a difference they learn where their interests are, what capabilities they have and which areas they need to improve. Such learning exposures present them the opportunity to make more informed choices about their college and professions and at the same time to deepen their knowledge and improve their academic performance.

Generally, studies published on COBES acknowledged that the main motive behind COBES is to promote the health and wellbeing of the community and that most medical schools have this in their mission statements (Stearns et al., 2000; Cosgrove et al., 2007; Sakai et al., 2002). Therefore, medical and health training should not only focus on training for hospital-based care but that they have a pivotal role to play in community health and wellbeing (Stearns et al., 2000

; Cosgrove et al., 2007; Sakai et al., 2002). Additionally, studies pointed out that COBES usually takes place in deprived communities where activities such as health education and campaigns and routine clinical services are provided (Moskowitz et al., 2006; Olney et al., 2006; Peek, 2007).

In a systematic review that included fifty-seven papers published from 1990 to 2008 on the COBES programme, Hunt et al. (2011) found that during the COBES programmes students participate in both clinical and non-clinical activities such as health promotion, volunteering in the care of terminally ill patients as well as providing service and support during natural disasters. These activities are intended to improve the health and overall quality of life of the host communities. They further posited that, though community health improvement was a core component of the COBES programme, the level of engagement of community leaders and community members reported by the studies reviewed was low. However, findings from the theory review are biased considering that they included only articles that were conducted in the United States of America.

Cené et al. (2010) conducted a review with the sole aim of providing information to medical educators on the use of COBES as a means of teaching health disparities within the society. They reported that the community placement provides the best setting for learning about health disparities by providing students with the opportunity to perform community needs assessment, understanding and addressing issues related to socio-cultural and economic barriers to health care, maximising the use of community resources and participating in community activities. They reported that the community setting provides the best avenue for

teaching about health disparities and learners are able to fully comprehend the role of social and contextual in shaping health and medical care.

Studies have also been conducted on the impact of COBES on student learning outcomes and have shown that students experience a vast improvement in four main areas following COBES. These include professional, personal, social, and academic areas (Deeley, 2010; Furco & Root, 2010; Kretchmar, 2001). Deeley (2010) conducted a mixed-method study among students engaged in service-learning activities to assess their views on the importance of the COBES programme after they went through it, as well as how ready and willing the programme has prepared them for community service. They reported that service-learning boosts the confidence of students while their intellectual abilities were greatly enhanced. Students indicated that service learning has made them to critique information and happening as well as probe more into situations. However, the small sample size of fourteen students was a major limitation, especially in the quantitative aspect of the study. In a study to assess the impact of COBES on learning among undergraduate medical students in the United Kingdom, it was found that students perceived COBES as an essential part of their training that enabled them to maximize their learning as well as learn key professional skills. Furthermore, students acknowledged that COBES enabled them to learn about the importance of the patient-doctor relationship and the influence of the proximal environment on health (Howe, 2001). This study was also limited by the small sample size as it involved forty-eight students.

Similar findings were also reported by O'Toole, et al., (2005) among undergraduate medical students in the United States. Generally, students rated the

community-based experience favourably but also mentioned challenges such as inadequate clinical exposure and having to do a lot of menial work within their host communities. In the same study, when students were asked what they learned from COBES that was not taught in the theoretical curriculum, the common responses of students included learning the importance of the physician-patient relationship and physician support for patients, as well as the specific health needs of disadvantaged groups. These outcomes may be a result of the fact that community-based health facilities and practices are more focused on primary health care and are community-oriented (Aoki, et al., 2020). In assessing the role of service-learning in promoting inter-professional relationships, Bridges et al. (2011) in a descriptive study documented that the service-learning approaches such as COBES required students to work in teams and as such enhance the inter-professional skills and students had a positive impression and attitude towards working in collaborative teams (Bridges et al., 2010). They further explained that, through the COBES programme medical students and students of the allied health science learn about their own professional requirements and skills as well as that of others. This in their view sets the tone for effective collaboration during their practice

Psychological Benefits

COBES gives a sense of fulfilment and promotes self-actualisation and satisfaction (Effah et al., 2017). These are achieved through volunteering and service activities. Volunteerism makes students feel proud of themselves, their achievement, and their identity. These positive feelings are linked to greater academic and future life and career achievements.

One of the most powerful elements of feedback for our learners is to provide them with positive feedback and reinforcement for their hard work and efforts and encourage them throughout the community-based learning process. All learners should be encouraged irrespective of their effort levels and cooperation. Many educators contend that some students enjoy participating in extracurricular activities of which COBES is no different. Therefore, engagements in extracurricular activities serve as a motivation for some students who prefer community-based activities and learning to formal classroom settings. Maintaining such motivations are very important to ensure that learners enjoy classroom learning and school as a whole. All instructors should make the factors that positively influence and motivate students their priority as it is the backbone of a sustainable educational system (Greysen et al., 2011).

There is also research evidence that shows that when young persons are exposed to community challenges through the COBES programme, they become motivated to provide solutions to these problems. Provision of solutions to the problems of their community creates in students a sense of fulfilment, improves their level of confidence and can-do attitude as well as creates a stronger bond between and their communities through sharing common values beliefs, attitudes, and aspirations. COBES improves the overall mental health and has a positive psychosocial impact on students (Attree et al., 2011). Positive behaviours are much more developed when there is continuous interaction between students and their communities and a perception of how such interaction positively impacts the lives of their communities and the resulting outcomes (Depeursinge et al., 2010). Young people are also in the best position to manage their own lives when they

appreciate how their actions can improve the lives of others. Such resolve makes them avoid risky behaviours that can be detrimental to their health, education, and well-being (Bdiwi et al., 2019).

Self-fulfilment

The advocates of community-based service-learning are of the view that it broadens the perspectives of students regarding their own lives and the life of others, and it helps them to prioritize. Advocates of COBES and other forms of service-learning have the idea that voluntarily meeting the needs of others and expressing compassion towards others result in self-fulfilment and happiness. (Yeboah-Manu et al., 2013). Students can experience this positive feeling when they undergo community service programmes and are involved in voluntary activities geared towards improving the lives of others. Furthermore, COBES is an opportunity for students to demonstrate their innate strengths and acceptable social behaviour.

In Africa, most medical schools have adopted COBES as part of the training of their medical students even though research on the evaluation of such programmes is limited. In a review of different models of the COBES programme in twelve medical schools in Africa, Mariam et al. (2014) noted that the commonest primary aim for the COBES programme is to train doctors who are willing to work in rural and deprived areas by being aware of the health needs of such population. This main aim was followed by the need to produce doctors and other health professionals who have a strong interest in primary health care.

Mariam et al. (2014) went on to suggest that, medical schools need to continuously evaluate the entire service-learning programme in order to identify

which approaches are best for helping students learn as well as present with least challenges. To explore the impact of service learning on university and community partnership for development, Naidoo and Devnarain (2009) found that medical schools undertake service-learning activities as their civic responsibility by engaging with the communities that surround it and sharing their knowledge and skills to improve the livelihoods of these communities. In the same study, it was reported that the university's institutional arrangement and formalisation of policies on institution-community partnership are essential to creating long-lasting and impactful partnerships. In Nigeria, a comparative analysis of medical schools that ran COBES and those that do not show that students from medical schools that ran COBES possess more in-depth knowledge and understanding of primary health care. (Mboi et. al., 2018).

Combats Depression

COBES significantly reduces the risk of depression. Social exclusion is one of the major risk factors of depression and is defined as a situation where individuals are isolated from the community in which they live and the activities that occur within. A voluntary activity provides the opportunity for constant interaction within the community and is linked to strongly formed networks that can be depended upon during difficult times. This, therefore, protects individuals against stress and depression (Sherman et al., 2011).

Cognitive Benefits

Cognition and being knowledgeable involve the capacity to obtain concrete and factual information and the ability to reproduce the knowledge acquired. Cognitive ability can be easily tested and assessed. COBES programme

improves the thinking ability of students as they are being exposed to social problems in the society. Cognition differs from creativity and social and emotional development. Cognition, as a field of scientific study, encompasses ideals and issues of critical thinking, perception, and learning ability. Volunteerism enhances individual knowledge, experiences, and growth and promotes interpersonal communication skills (Carr et al., 2015).

Research by Connor-Linton (1995) suggests that service-learning can be direct or indirect and takes several forms or approaches. In his study, he describes what he terms as a personalised view and experience of his implementation of indirect service learning (Mboi et al., 2018). The indirect approaches described include the presentation model where students make a presentation to the community on some of the concepts taught within the classroom. There is also the product model which encompasses the provision of tangible products such as medical brochures or websites for an agency or institution within the community. The third is the project model involves the planning and execution of projects to address specific community health needs or social challenges that have a direct impact on their health. The project may be undertaken by students together with an agency or an organisation within the community (Pedersen et al., 2007). In the placement model which COBES fall under, students are allocated to sites or communities for some time to provide direct services.

Benefits of COBES to Ghana

Retention of Medical Staff in Rural and Deprived Areas

Employing and retaining health workers in rural areas is a challenge across all health sectors in the world especially in developing countries. COBES can be

used as a means to introduce, prepare and acclimatise soon-to-be health professionals to rural areas and other settings with deprived living conditions. This will ensure even and equitable distribution of health workers in all communities whether rural or urban, deprived or non-deprived. In Ghana, for instance, there is now increased attention and action towards strategies to improve the retention of medical officers in the country (Sherman et al., 2011).

Some of the strategies used to improve retention have included introducing and strengthening post-graduate programmes, salary increments, and introducing and strengthening community-based engagement as part of medical education and programme. When well structured, COBES provides an opportunity for students to be systematically introduced to problems at the community level and the impact their services and training have on the life of the populace (Sherman et al., 2011). This will enable students to appreciate their role in community development especially in the area of health promotion and thus increase their commitment to serving their country, reduce the rates of migration of medical professionals to other countries and increase the capability of health professionals to successfully work in rural and deprived areas (Reeve et al., 2017).

Though urbanisation has led to an increase in the number of urban dwellers, a higher number of the Ghanaian population continues to live in rural areas. The rural population makes up about 66% of the total Ghanaian population (Amalba et al., 2018). Most physicians in the country are concentrated in the urban areas, especially in Accra and Kumasi where the doctor-to-patient ratio is around 1:8, 000, in rural areas of the country, especially in the Northern part, the doctor-patient ratio is as high as 1: 10,450. This uneven distribution trend is associated

with poor health delivery and sub-standard health care in rural areas (Ghana Statistical Service, 2021). Low socio-economic opportunities and lack of some essential amenities in rural areas, as opposed to urban areas, negatively influence the willingness of healthcare professionals to practice in rural areas, especially in developing countries (Reid et al., 2011).

Rural postings are not or reluctantly accepted due to lack of motivation and recognition, lack of specialists to serve as mentors, lack of educational institutions and specialist training facilities are among the common reasons for refusing rural postings. Therefore, compulsory rotation in rural areas through the COBES programme has been suggested by some researchers. Research evidence suggests that students from rural areas are more likely to accept postings and work successfully in rural areas compared to their counterparts from urban centres (Atuyambe et al., 2016).

Increase Health Care Delivery in Rural and Deprived Areas

The COBES programme benefits the government and the country by improving health care delivery in rural and deprived areas. The government of the day and the country face unrest when there is poor health care delivery in some areas of the country. This situation can burden the tertiary health care systems within the country by worsening disease outcomes, increasing referrals to urban and tertiary hospitals, and loss of confidence in the government.

COBES however, provides free health services to community members and as a result, eases the pressure on the government and the country as a whole. The health education provided through COBES also reduces the occurrence of diseases within the communities. For instance, community members are taught

how to use mosquito nets to prevent malaria. The reduction in disease occurrence is also associated with increased economic output, all of which benefits the government and the country (Seifer, 1998; Irby & Wilkerson, 2003).

Challenges Faced During the COBES programme

A service-learning programme such as COBES provides enormous benefits to stakeholders. However, the programme also presents some challenges that should be recognised to implement appropriate strategies to curb their potential negative impact on the programme. The challenges differ for the different stakeholders; instructors, monitors, field workers, students, and community members involved in the programme.

Challenges faced by Instructor/Supervisor

For challenges faced by instructors and faculty, Ziegert and McGoldrick (2008) identified different problematic areas and the actions to implement to overcome these challenges. First of all, instructors are often faced with the challenge of integrating COBES into the existing curriculum and course content. There is sometimes a concern about the inadequate amount of time to cover the theoretical aspect of the course to move on to practical aspects such as COBES. This situation may make adopting COBES as part of the teaching curriculum a challenge for some instructors.

Secondly, instructors are concerned that with COBES, the control over learning is limited. Service-learning programmes require students to be placed within the community where there is a limit to the amount of control the instructor can exercise. The outcomes of service-learning activities are less predictable and as such faculty are most of the time concerned about the regulation of outside

classroom activities. Signing a memorandum of understanding with stakeholders and outlining their roles in the contract can make them aware of what is expected of them to align their actions accordingly. This can make the instructor predict to a large extent what students will achieve and the experiences they will gain by the end of the service-learning period.

Challenges Faced by Students

The challenges students are likely to face during the COBES programme are discussed. Like instructors, students are also faced with the challenge of time constraints with a service-learning programme like COBES. Combing the practical work, demands, and expectations of COBES and that of classroom theoretical work demands a lot of time, careful planning, and management on the part of students.

Also, students are still in the process of learning and as such are unable to perform most activities to perfection. They may however be required to serve as support staff in the facilities they are posted to which is outside the scope of the programme. This may result in the students providing services that are below standards. (Rumala et al., 2011).

Challenges Faced by Community Leaders and Members

Community leaders and members are active stakeholders of the COBES programme and they also face some challenges during the COBES period.

Several programmes are undertaken during the COBES period which requires community members to converge and or have spare time to interact with students. These activities held within the communities can lead to the destruction of the daily routine of community members, most especially for community

leaders whose presence is often needed to get the programme running smoothly throughout the period. Community leaders and members should be informed ahead of time to plan towards the time and commitments associated with the COBES programme being hosted within the community. Furthermore, activities carried out during COBES should be of benefit to the entire community to make the time spent in the COBES engagements worthwhile (Seifer, 1998).

Language Barrier

Like students, community members may also face a barrier in terms of language when communicating with students and other members of the COBES team. This may result in an inability to explain in detail the signs and symptoms of the disease being presented or seek clarification from the student with regard to the treatment given. Interaction of students and community members should be monitored by health care staff within the community to ensure that both the student and the community member understand what is been communicated. Teams with at least one member who speaks and understand the local language can also help address this concern.

Impact of COBES on Future Career

Employing and retaining professional healthcare providers to work in rural areas have been a global challenge (Amalba et al., 2016; Strasser, 2003). The causes of this problem are well known and include poor road networks, lack of social amenities, under-resourced health centres, and limited opportunities for self-development among others. Community-based learning is an educational approach by which health professionals are trained to provide care to individuals and populations by considering all other factors that might affect the health of an

individual (Hamad, 1991). The end goal is to produce willing healthcare professionals who are determined to effectively handle the health needs of communities at various levels, primary, secondary and tertiary. Several research reports indicate that students who get rural exposure through COBES or by other means are more likely to venture into rural practice (Amalba et al., 2016; McAllister et al., 1998).

In assessing reports written by students after their rural attachments at the University of Sydney, Australia, McAllister et al. (1998) reported that the students had more of a positive than a negative impact. Most of them were willing to practice in such areas due to the welcoming nature of the people, the relaxed lifestyle, and the recognised health need. For others, it was the wide spectrum of health needs that informed their decision to work in similar rural settings in the future.

Similarly, in Ghana, Amalba et al. (2016) assessed the effect of community-based experience and service on medical school graduates' choice of speciality and willingness to work in rural communities. Their findings revealed that such experiences enabled the students to adapt to the rural way of living which often falls short of the urban style they are used to. Furthermore, the poverty levels and lack of access to quality health motivated the students to want to work in such settings to extend help to the populace. Others also mentioned that such settings hosted the "real deal" of health problems for which they were trained to address. When asked why they chose to work in rural communities, some doctors referred to having an earlier experience during training where they realised the low doctor-to-patient ratio and decided to return upon graduation to give back to the

community and contribute to improving their health care (Amalba et al., 2018). Community-based/experience-based learning provides an avenue for students to encounter the very things they are likely to meet during their practice in the future. This opportunity prepares them and gives them a first-hand experience in understanding the very factors which impact the health of an individual. It further minimizes the panic an inexperienced health professional goes through upon encounter with certain conditions while minimizing any damage that may be caused due to that same inexperience (Dornan et al., 2019).

The Community-Based Experience and Service Programme

The Millennium Declaration and the Sustainable Development Goals which were launched in the years 2000 and 2015, respectively, called for accelerated development efforts to address poverty in all dimensions. Ensuring adequate health for all communities in Ghana is one major opportunity future doctors have to contribute to this global objective.

In line with this, the Community-Based Experience and Service (COBES) programme was established as a flagship programme with the inception of the UCC School of Medical Sciences. The programme is innovative, community-based, problem-solving and student-centred. It additionally gives the students a strong community orientation which serves to increase their awareness of the role of social, cultural, and environmental factors in health and the relationship between health and development.

COBES reinforces the roles played by doctors and other health professionals, as well as government and civil society in healthcare delivery. During the COBES programme, students are posted to a community for four (4)

weeks with set objectives which are aligned with the overall objectives of UCCSMS. As the name implies, COBES has two main components: the Experience component and the Service component. The experience component requires that students live in the selected communities, research into health, socio-cultural and socio-economic problems and provide practical and cost-effective solutions and interventions that promote health and bring development to the communities. The service component requires that students provide tangible, short-term to medium-term services that bring about environmental sanitation, behaviour change concerning health and education and improvements in gender, health, socio-economic and socio-cultural disparities. The first batch of students who undertook this programme started in 2008 at Okwampa, close to Bawjiase in the Awutu Bereku district of the Central Region.

The broad objectives of the programme are to produce high-calibre medical doctors and other health professionals who have a broad-based education, are people-centred, community-oriented and research conscious. Our students are trained to use their acquired medical knowledge to provide appropriate solutions for the existing medical problems within the community. It is also to train doctors to provide leadership and example in dealing with the ethical and moral problems confronting the community and be a conduit for establishing a centre of excellence in medical research into diseases commonly found in Ghanaian communities;

Furthermore, it is to create and maintain strong collaborative links with local and international organisations and institutions involved in community health and education through exchange programmes and collaboration in multi-centre medical research and healthcare solutions.

Eligibility and Timing

The programme is organised for all pre-clinical and clinical students, except the levels 100 and 600 students. It is carried out in the second semester of each year beginning from February for the first group that leaves the university campus for the community to which they are assigned, and ends in May for the last class group to leave campus. Each eligible class takes turns to have up to a month of field experience.

Field Implementation

Once the sites are assigned and the themes for the various classes are agreed upon by a COBES committee, budgets for each class are prepared by the coordinator and Submitted to the dean's office for approval. Two weeks before the commencement date, the class is given a primary orientation to help them develop tools and gather resources for the field experience. Students are divided into groups according to the number of communities' available and assigned facilitators. A final orientation is organised for both students and facilitators (usually academic senior members) three days before the commencement date. Logistic preparations are also made. Students are posted to the field where they carry out research and implement solutions, interventions and services aimed at correcting observed gaps and disparities in health. Students usually spend up to three weeks on the field and one week on campus to prepare their reports.

The field work usually begins with a community entry process and durbar to inform them about the theme and objectives for the year. At the end of the third week, an exit community durbar is held to give feedback on the activities carried out and achievements made. The durbars are usually attended by the district

coordinating council, chiefs and elders and community members. The press is usually invited to capture events. The Vice-Chancellor of the University or his representative also attends the durbar.

Once the students return to the campus, they do detailed analyses of the data collected and make presentations to the faculty and students of the school at a one-day seminar. The seminars usually begin with photo-exhibitions. Detailed reports are submitted by the students and graded. Copies of reports are sent to the districts and communities visited and also to the school's library.

Modest Achievements

The COBES programme has made some modest achievements in the last few years. Most of these have been as a result of advocacy to major players in health and education in the communities and active provision of resources by the School of Medical Sciences in particular and the University as a whole. Some examples of these achievements are highlighted below.

At the start of the programme ten years ago, there were no lights in the communities and the telecommunication network was very poor. Through advocacy efforts by UCCSMS to PLAN Ghana and the district assembly, electricity supply has been provided to all the communities except one. The telecommunication network which was non-existent has also seen a massive improvement. Through advocacy efforts, a well for underground water has been constructed at the Okwampa CHPS zone by PLAN Ghana. UCCSMS provided funds to purchase a submersible pump and additional reservoirs (4No.) to improve water storage and supply. Through advocacy efforts also, PLAN Ghana has constructed a 12-room teachers' quarters to support the retention of teachers in the

community. These rooms also serve as students' accommodation during the COBES period. A newly constructed structure for child welfare clinics and community durbars has also been provided at the CHPS centre by PLAN Ghana.

Impact

The COBES programme has had a significant impact on both students and the communities. The impact reported here is based on summaries of surveys and desk reviews carried out within the period. With regards to impact on students, it improved research capabilities and skills and increased appreciation and deeper understanding of factors involved in health and disease. It also increased appreciation of disease trends and characteristics in different communities and increased competencies in the investigation of diseases

It has the ability to live and survive in hardship areas and under hardship conditions and provides development as good team players capable of functioning in any group dynamic, while increasing leadership competencies and communication skills and improving report writing skills. Furthermore, it increases skills in functioning in culturally diverse settings and cultural sensitivities and improved competencies in the practice of medicine in district settings and also increases understanding of the challenges (health and social) of living in a deprived community

In the communities**,** it increases knowledge about disease causation. For example, the shift from the hot sun as a cause of malaria-to-malaria parasites as a cause of malaria, increased OPD attendance, increase attendance at ANC and delivery, increased family planning uptake and improve infrastructural development. For example, roads and communication

Furthermore, it increases the willingness of girls to pursue education to higher levels, improves environmental sanitation, improved water supply and power provision, improved male involvement in health promotion practices, increased uptake of health insurance and improved university entry rate

Challenges

Some of the challenges faced by the COBES programme are the lack of permanent accommodation for students, poor power supply and lack of alternative power sources at the various sites. Other challenges include inadequate funding to support student field activities and a lack of long-term partnerships. With industry players to support the programme (Challa et al., 2021).

Empirical Review

In a systematic review that included fifty-seven papers published from 1990 to 2008 on the COBES programme, Hunt et al. (2011) found that during the COBES programme students participate in both clinical and non-clinical activities such as health promotion, volunteering in the care of terminally ill patients as well as providing service and support during natural disasters. These activities are intended to improve the health and overall quality of life of the host communities. They further posited that, though community health improvement was a core component of the COBES programme, the level of engagement of community leaders and community members reported by the studies reviewed was low. However, findings from the theory review are biased considering that they included only articles that were conducted in the United States of America.

Cené, et al. (2010) conducted a review with the sole aim of providing information to medical educators on the use of COBES as a means of teaching

health disparities within the society. They reported that the community placement provides the best setting for learning about health disparities by providing students with the opportunity to perform community needs assessment, understanding and addressing issues related to socio-cultural and economic barriers to health care, maximising the use of community resources and participating in community activities. They reported that, the community setting provides the best avenue for teaching about health disparities and learners can fully comprehend the role of social and contextual in shaping health and medical care.

In another research, Greysen et al., (2011) indicated that there is also research evidence that shows that when young persons are exposed to community challenges through the COBES programme, they become motivated to provide solutions to these problems. Provision of solutions to the problems of their community creates in students a sense of fulfilment, improves their level of confidence and can-do attitude as well as creates a stronger bond between and their communities through sharing common values beliefs, attitudes, and aspirations. COBES improves the overall mental health and has a positive psychosocial impact on students (Attree et al., 2011).

In a review of different models of the COBES programme in twelve medical schools in Africa, Mariam et al. (2014) noted that the commonest primary aim for the COBES programme is to train doctors who are willing to work in rural and deprived areas by being aware of the health needs of such population. This main aim was followed by the need to produce doctors and other health professionals who have a strong interest in primary health care. Mariam et al. (2014) went on to suggest that medical schools need to continuously evaluate the

entire service-learning programme in order to identify which approaches are best for helping students learn as well as present with the least challenges. With the objective of exploring the impact of service learning on university and community partnerships for development,

Naidoo & Devnarain (2009) found that medical schools undertake service-learning activities as their civic responsibility by engaging with the communities that surround them and sharing their knowledge and skills to improve the livelihoods of these communities. In the same study, it was reported that the university's institutional arrangement and formalisation of policies on institution-community partnership are essential to creating long-lasting and impactful partnerships. In Nigeria, a comparative analysis of medical schools that ran COBES and those that do not show that students from medical schools that ran COBES possess more in-depth knowledge and understanding of primary health care.

Amalba et al. (2016) in another research indicated that the causes of problems in the implementation of COBES programmes are well known and include poor road networks, lack of social amenities, under-resourced health centres, limited opportunities for self-development among others. Community-based learning is an educational approach by which health professionals are trained to provide care to individuals and populations by considering all other factors that might affect the health of an individual

Conceptual Framework

The theoretical and conceptual information, as well as the empirical studies, have revealed that the promotion and success of community-based

experience and service are based on instructors, students and community leaders/members. These instructors, students and community leaders/members are the key constructs or variables in the community-based experience and service. The instructors design the curriculum for the programme and develop, analyse and set out the framework of implementation. In this process, the instructors undertake wider consultations with relevant stakeholders like community leaders. In the case of students, they follow up on measures outlined by instructors to provide health services to the communities where the programme is being implemented. Coordinators and instructors double as supervisors for the running of the programme. The instructors and the students both operate within the environment. From the conceptual and empirical literature, a care enhancement of the benefits and reduction in challenges contribute efficiently to actualizing successful community-based experience and service. The cooperation or relationship among the concept is presented in Figure 1

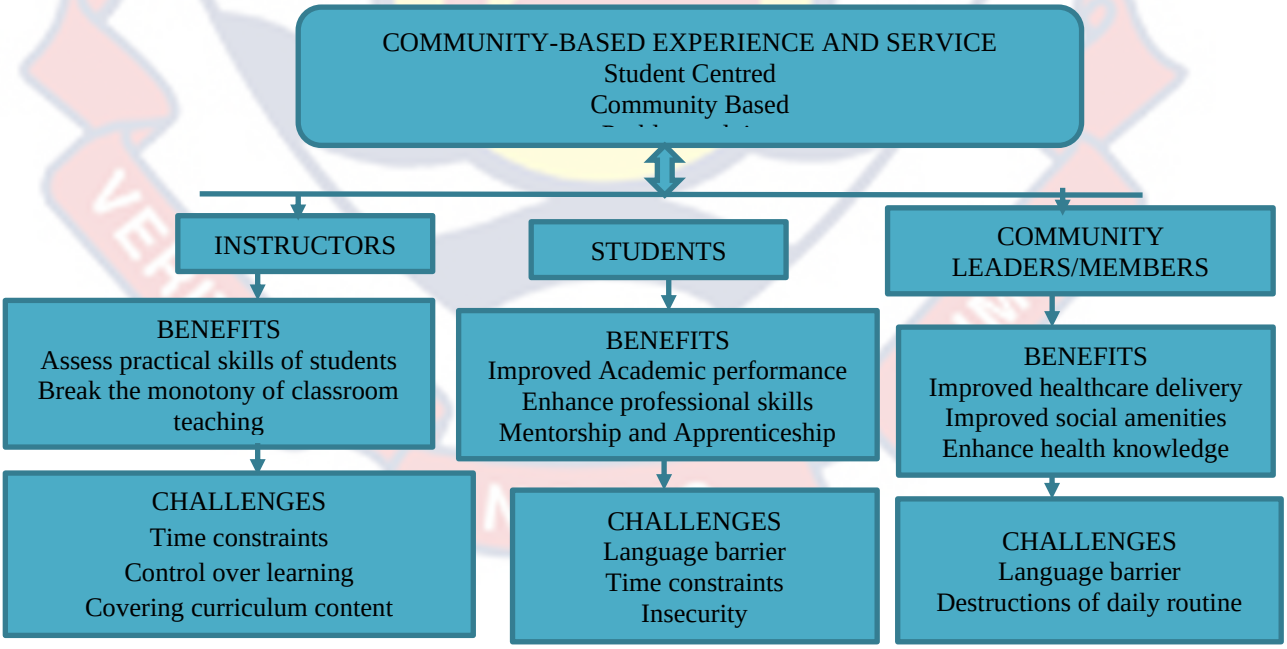


***Figure 1*: Conceptual Framework of COBES**

Source: Adapted from Amalba et al., (2016)

Chapter Summary

Chapter Two has presented related literature focusing on theories that underpin the study. The theories included the theory of symbolic interactionist theory and the activity learning theories. Additionally, key concepts of the study, as well as related empirical studies, have been examined.

CHAPTER THREE

RESEARCH METHODS

Introduction

This chapter looks at the research methods adopted for the study. The chapter presents a detailed discussion of the research paradigm, research design, study area, study population, sampling procedure, methods and instruments of data collection procedure, pre-testing of the questionnaire and interview schedule, ethical consideration and data processing and analysis. The methods employed explain the various scientific methods used to achieve the study's objectives.

Research Paradigm

Bezuidenhout et al. (2014) explain the research paradigm as a cluster of beliefs that have the capacity to effect what should be studied, how research is done and how findings should be interpreted. For a specific research paradigm, there are different research approaches which in turn determine the research design. According to Thanh & Thanh (2015), the interpretive approach is a research paradigm which could be used for mixed research approaches or methods. This current study adopted the pragmatic approach, which, according to Govender (2012), is a collective meaning-making process. The pragmatist believes that it is important to understand the context in any situation to be able to interpret data.

Thanh & Thanh (2015) further explain that the pragmatic approach enables researchers to get more information from the participants in a study. The interpretivist approach helps to solicit responses from participants' behaviour and actions to get in-depth information and does not dominate the participants.

Inferring from the forgoing explanation coupled with the nature of this current study, the use of the interpretivist approach remains the best. This is because the perception of community leaders and lecturers on the benefits and challenges of the COBES programme is a social phenomenon. Additionally, the use of the interpretivist approach offers the opportunity to delve into the original motive of the COBES programme and to examine if the programme is meeting its goal.

Research Design

The study adopted a mixed-method approach that uses the cross-sectional descriptive design. According to Creswell and Clark (2007), the mixed-method approach provides more comprehensive data and gives greater strength to the study as compared to using either a quantitative or qualitative approach. Additionally, the use of the cross-sectional descriptive design supported the collection of the data for the study at a one-time point. This study design is also appropriate for collecting data from a sample of the population and provides an in-depth description of a phenomenon as well as gathers data on an existing situation. The use of the cross-sectional method also helped to collect data from the different sample frames (see Lavrakas, 2008). In this wise students, teachers, and community leaders were selected based on this principle. Also, with this design data collection can be done within a reasonable period and it is relatively inexpensive (Lavrakas, 2008). The use of cross-sectional study design and a mixed-method approach was used to collect data and to describe the perception of community leaders on the COBES programme to the health care needs of the community, determine if the original motive behind COBES promotes health care

delivery, and describe the benefits of the COBES programme to medical education and training from the perspectives of students.

Study Area

The study was undertaken in the Akyemansa District. The Akyemansa district is part of the main administrative districts in the Eastern Region of Ghana with its capital at Akyem Ofoase. The Akyemansa District used to be part of the Birim District but was carved out status in 2008 under Legislative Instrument 1919. The Akyemansa District is strategically located especially the district capital, which is situated between Oda and Nkawkaw. Oda and Nkawkaw are major commercial towns in the Eastern Region. Akyemansa is bounded by Birim North District to the north.

Akyemansa has a total land size of 611.80, km^2 constituting 3.4% of the land size in the Eastern Region and a population size of 97, 374. This figure makes up 3.7% of the total population in the Eastern Region of Ghana. The district is predominantly rural with few urban settlements which include Ofoase, Ayerebi, Abenase, and Bontodiase Adjobue (Ghana Statistical Service, 2013). The district has a predominantly mountainous landscape. The central part of the district is a low-lying area rising to a maximum height of 61 meters while the southern end of the district is elevated between 61 and 122 meters above sea level. The district is drained by several rivers and streams notable among them are the two great historical rivers, the Pra and Birim tributaries. The Pra River serves as the boundary between Akyemansa and the neighbouring districts in the Ashanti Region, while the Birim River serves as the southern boundary of the district.

Administratively, the political structure is made up of the local administrative structure namely the district assembly and the traditional authority. The district assembly constitutes the local government authority and is the administrative head of the district. The district assembly can make laws and enforce them as well as undertake major developmental projects. The traditional rulers work hand in hand with the District Assembly, attending meetings and workshops to share ideas and offer solutions to the challenges confronting the district. The contribution of the traditional authorities is enormous in the governance of the district, as the institution promotes peace and unity amongst the people to create an enabling environment for sustainable socio-economic development.

Economically, the Akyemansa District is dominated by the agricultural sector which employs 80% of the working population of the district (Eastern Regional Co-ordinating Council, 2016). The district is predominantly rural and well-endowed with rivers, streams, fertile lands, and forests that support the cultivation of different types of crops, both cash and food crops. There exist in the districts agricultural training and research institutions and these contribute positively to agricultural growth within the district. A few communities in the district carry out non-traditional agricultural activities such as snail and grasscutter rearing, bee-keeping, and tree planting under the National Plantation Programme.

Farmers in the district face several challenges such as difficulty in assessing the major markets in the neighbouring districts as a result of poor road connectivity. These major markets offer good prices for produce and thus increase the profit margin on foodstuffs produced. Other challenges faced are inadequate

storage facilities for produce, especially during bumper harvest resulting in food losses and inadequate agricultural extension services resulting in the wrong application of fertilizers, pesticides, and other chemicals used for food production. Access to credit facilities at the bank and other financial institutions is also a challenge as a result of the requirement of collateral before being able to secure a loan.

The Akyemansa District has a total of 28 health facilities; 6 health centres, one CHAG clinic and maternity, 20 CHPS compounds, and one private maternity home. Approximately 85% of the population within the Akyemansa District has easy access to health care services. The health worker--to-population ratio is as follows; Midwives' population ratio is 1:1639, Community health nurses' is 1:1969, and Physician Assistants' is 1:59478 (Ministry of Finance, 2019).

The Akyemansa District is amongst the eight districts where the COBES programme is undertaken by the University of Cape Coast. The district was purposively selected as the study area because it is one of the districts where the University of Cape Coast COBES programme was started and the COBES programme has been running there up to date. The University currently has a permanent COBES site within the district and therefore, the use of the district could provide the needed information on COBES and health care delivery.

Study Institution

The University of Cape Coast is one of the public universities in Ghana. It was established in 1962 as a university college and attained full university status in 1971. It is located within Cape Coast the Central Region of the country. It is the third university that was established in Ghana with the sole aim of training

graduate teachers for second-cycle institutions within the country. The university has however added to its core mandate the training of other professionals such as Physician Assistants, Medical Doctors, and Optometrists amongst others. The vision of the University of Cape Coast is to be a university with worldwide acclaim that is strongly positioned for innovative teaching, research, outreach, and professional development. The COBES programme aligns well with the university's vision as it fosters community outreach and inculcates a positive communal work attitude in health professionals. The university currently has six colleges namely the College of Agriculture and Natural Sciences, the College of Education Studies, the College of Distance Education, the College of Humanities and Legal Studies, and the College of Health and Allied Health Sciences. The University of Cape Coast has a student population of 80,000 of which 10, 000 of them are graduate students. The School of Medical Sciences of the University of Cape Coast was established in August 2005 and the pioneering students were matriculated in 2008. The Department of Physician Assistants on the other hand was established under the School of Allied Health Sciences in January 2016 (UCC School of Medical Sciences, n.d.).

As part of the training of medical doctors, the University of Cape Coast Medical School established the COBES programme in the year 2008 where the first batch of students was deployed to Okwampa in the Awutu Bereku district of the central region. The Physician Assistant Studies Department introduced COBES as part of student training in the year 2018 within which its first batch of students was deployed to three rural communities in the Akyemansa district of the Eastern region of Ghana (Department of Physician Assistant Studies, 2019).

For the Medical School, COBES is undertaken by Level 200 up to Level 500 medical students while in the Physician Assistant Studies Department, COBES is undertaken by Level 300 students. Students are being oriented and prepared in Level 100 for the COBES and as such, they are omitted from the programme at that level. COBES The Level 300 Physician Assistant students undertake the COBES programme usually in August and students spend three weeks in the communities they are assigned. Medical students also spend three weeks in their assigned communities but they start their COBES in January and continue till all eligible students have their turn. Students in both departments do not go for COBES during their final year which is Level 600 for medical students and Level 400 for physician assistant students. In the final year, students have gained rich experience in the COBES programme and are also occupied with their project work and as such do not for COBES in the final year (Medical School, 2020).

Study Population

Three different types of the population were used for the study. This comprised the community leaders within the Akyemansa District, the physician assistant and medical students of the University of Cape Coast who participate in the COBES programme, and the lecturers at both the Medical School and the Physician Assistant Studies Department of the University of Cape Coast who monitor students during the COBES programme.

Sampling Procedure

A sample is defined as the selected units from a population from which data is obtained and analysed (Kumar & Phrommathed, 2005). In this study, both

probability and non-probability sampling techniques were used. The probability sampling technique used was simple random sampling and the non-probability sampling technique used was purposive sampling.

The sampling process was in three parts and involved the selection of community leaders, students, and lecturers as well as some communities where the COBES programme was ongoing at the time of fieldwork.

The Akyemansa district is made up of 96 communities. However, the COBES programme is run in eight out of the 96 communities. The eight communities where COBES activities are undertaken are Ofoase, Ayirebi, Akokoaso, Abenase, Brenase, Ayirebi, Otwereso, and Adjobue. Out of these eight communities where COBES activities are held, simple random sampling was used to select three for the study. The selected communities were Adjobue where the COBES office is located, Ofoase and Ayirebi

A total of five community leaders were selected for each community because Creswell et al., (2007) suggest that for qualitative research, a sample size of 5-25 is enough to elicit appropriate responses. The number of community leaders differed from one community to the other. Therefore, for this study, the community leaders selected included the Chief, Assemblyman, Queen Mother, Market Queen, and the Youth Leader. These individuals were purposively selected because they were the community leaders and the first point of contact for the entire COBES team and are conversant with the COBES activities within the communities. They could therefore provide information on the COBES programme in terms of health care delivery within the communities.

Four lecturers were purposively selected out of the total number of eight lectures in the physician assistant department involved in COBES monitoring activities. The four of them were purposively selected because they were engaged in COBES monitoring activities at the Akyemansa District. Within the medical school, of the 18 lecturers who participate in COBES monitoring activities, six of them were purposively selected because they were engaged in COBES monitoring activities at the Akyemansa District. In total, ten lecturers; six from the medical school and four from the of Department Physician Assistant Studies were purposively selected because they were lecturers in charge of COBES monitoring activities within the Akyemansa district for the two student groups respectively.

For the sampling of students, the purposive sampling technique was used to select both the Medical School and the Department of Physician Assistant Studies of the University of Cape Coast because they are the only departments that ran the COBES programme. The COBES programme is undertaken by all medical students in level 200, level 300, level 400, and level 500. For physician assistant students, COBES is undertaken by only those in level 300. The level 300 and 400 medical students were purposively selected for the study because they were the only student groups assigned to the Akyemansa District for the COBES programme. The medical students at the other levels are assigned to other districts. The number of level 300 and level 400 medical students were 68 and 111 respectively while the total number of level 300 physician assistant students were 92. The combined total number of students assigned to the Akyemansa district was 271.

The Krejcie and Morgan (1970) table was used to determine the appropriate sample size of students for the study. The sample size determined from the table per the population of 271 students was 159. The sample size was distributed among the three groups based on their population size thus for level 300 medical students, the sample selected was 40, for Level 400 medical students 65 were selected, and for Level 300 physician assistant students 54. Simple random sampling was used to select the sample within each of the three different student groups.

In total, 184 persons participated in the study comprising 15 community leaders from the three communities, 10 lecturers, and 159 students. Table 2 presents a summary of the total sampled respondents.

Table 2: Summary of Sampled Respondents

Constituent		Number sampled
Community leaders		
	Adjobue	5
	Ofoase	5
	Ayirebi	5
Students		
	Medical School	105
	Physician assistant	54
Lecturers		10
Total		**184**

Source: Field Data (2019).

Sources of Data

The study used primary data as the fundamental source of data for analysis. Data was sourced directly from the participants through the use of questionnaires, interview schedules, and focus group discussion guides. The study used the primary source of data collection because the researcher intended to have first-hand information from persons involved in the COBES programme.

Methods and Instruments of Data Collection Procedure

Three different approaches were used for the collection of data from study participants. Questionnaires, in-depth interviews schedule and focus group discussion guide were the main instruments that were used to collect data from the respondents. Focus group discussion was used to collect data from community leaders. One focus group discussion made up of five persons was conducted in each community in Twi which is their local language.

In-depth interviews using an interview guide were used to collect data from lecturers. Interviews were conducted in English. A questionnaire was used to collect data from students who have participated in COBES.

Pre-Testing of the Questionnaire and Interview Schedule

Questionnaires for the students were pre-tested among a sample of ten level 600 students who had experience with COBES but were no longer attending COBES, while the interview guide for lecturers was tested among five lecturers from other allied health departments who are engaged on a part-time basis to help with COBES supervision but are not permanent facilitators or supervisors of the programme. As suggested by Saunders et al. (2009) the community instruments were pre-tested among community leaders in Twifo Praso which is also a site for the COBES programme. The pretesting was done two weeks before actual data collection on the field. The responses and feedback obtained from the pretesting served as a guide to modify the questionnaire such as reframing ambiguous questions and simplifying questions that respondents could not easily understand. All these were done to finalize the instruments for data collection.

Data Processing and Analysis

Quantitative and qualitative data were collected for this study. The Statistical Package for Social Sciences (SPSS) version 22 was used for the analysis of quantitative data. Descriptive statistics were used to analyse the socio-demographic characteristics of the students. Students' perceptions of the benefits and challenges of the COBES programme are presented as frequencies and bar graphs.

The qualitative data collected were analysed using a thematic network approach to explore the perception of community leaders on COBES about health care delivery within the communities. The approach was also used to explore the perceptions of lecturers and students about the role of COBES in the medical training of students. The thematic analysis approach was used because it makes it possible for the data collected to be organised into themes and for each theme to be supported by data as well as explored (Creswell et al., 2007; Anderson et al., 2015). This characteristic made it useful for analyzing both in-depth interviews with lecturers as well as focus group discussion data from community leaders.

According to Creswell (2013), there are many qualitative methods to analyse collected data. These include the use of thematic, discursive, structured and instrumental methods. The data in the current study were analysed thematically and the five data analysis steps identified by Schutt (2011) were employed in this process. These steps are documentation, organisation, and categorization of data, the connection of the data, corroboration, and reporting of the findings.

The first step was the documentation. Due to the number of participants that were interviewed and the length of the interviews, a large amount of data was collected and transcribed. Once the recorded interview data were transcribed, the transcriptions were edited and reviewed to make meaning out of the participants' experience.

The second step according to Schutt (2011) is the organisation and categorization of the data into concepts. To get an in-depth understanding of such data, the information had to be read through several times. Re-reading through the text and comparing it with the recorded interviews enabled the researcher to identify statements made by the participants and edit the data. The collected data was summarised and important categories were identified and saved in files to make it manageable. During this part of the analysis, the researcher eliminated possible errors in the data. The researcher identified key themes which emerged from the research questions as well as the literature review. Based on the objectives of the study, the themes were categorised into benefits of the COBES programme as well as challenges

The third stage was the connection of data. During this stage, the collected data were organised according to various concepts to establish how the concepts were interrelated with each other (Oduro-Asabere, 2017; Schutt, 2011).

According to them, the researcher then reflects on the findings collected from the participants' experiences. The fourth stage was the corroboration stage. Here, the data collected were compared to each other to find out if they corroborated by evaluating alternative explanations, disconfirming evidence and searching for negative cases (Oduro-Asabere, 2017). The finding was compared

to the transcribed data to validate the data gathered. The transcribed data were compared with the literature reviewed to confirm if the collected data corroborated or contradicted the findings reported in the literature.

Ethical Consideration

The Ethical Review Board of the University of Cape Coast reviewed the study and provided ethical clearance for it. Ethical principles of anonymity, confidentiality, and rights of withdrawal were adhered to. According to Saunders et al. (2009), ethics is the standards that guide moral conduct, our association, and our connection with others. The study participants were briefed on the purpose and significance of the study as well as its intended benefits, and their concerns and questions were addressed. Respondents were informed that their participation in the study was not compulsory and that they could opt-out if not comfortable or interested. Community leaders were assured that their refusal to partake would not affect their access to health services provided by the community health facility or during the COBES programme. For students, they were assured that refusal would not affect their grading on the programme, and for lecturers' animosity was strongly assured. Participants were not given any gift or something to entice them to participate. Participants were also made to sign a written consent form or give oral consent before conducting the interviews and administering the questionnaires. The consent form could be seen in Appendix A.

Inferential statistics

The mean scale analysis was used for the inferential analysis. With the mean scale, the magnitude and direction of data are determined by the mean values on a scale (Anderson et al., 2015). In the analysis, students' perception of the

importance of COBES activities in relation to their professional development was run on a scale of 1-5. A mean value of 2.9-50 demonstrated a higher level of benefits and 0-2.9 indicates a lower level of benefits.

Field Experience

My interaction with the community leaders was not difficult. I visited the leaders individually at their residences and explained my motive as well as the objectives of my study to them. I then scheduled a day and time to meet them for the focus group discussion. The head of the Department for Physician Assistant Studies and the medical school gave me official permission to meet faculty members and students involved in the COBES programme. Students and faculty members cooperated with me and willingly partook in the study. Bad road networks were the major challenge faced during the conduct of this study but I resorted to the use of motorbikes which provided easier access to the communities.

Chapter Summary

Chapter three has discussed the research paradigm has been explained. Additionally, the procedures and approach used in population sampling, data collection as well as the research design have been discussed. In this chapter, the data processing procedure has also been explained.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

This chapter presents the results and discussion of the study. The primary objective of this study was to assess community-based experience and service in medical school education in the Akyemansa District of the Eastern Region of Ghana. The first section discusses the socio-demographic characteristics of the study of the students. This is followed by the presentation of data results based on the objectives of the study. The data presentation is in two parts. The first part deals with the qualitative analysis of data which forms a greater part of the data results and analysis. The second part deals with quantitative analysis which is done to support the qualitative results.

Background Characteristics of Students

A total of 159 medical and physician assistant students completed the questionnaire with a 100% participant rate. Across the two programmes, there were more males than females. The majority 59.4% of these students were males, indicating a low female-to-male ratio.

Original motives behind the introduction of COBES in UCC medical education curricula promote health care delivery in the Akyemansa District

This objective sought to examine whether the COBES programme as introduced by UCC had been able to meet its goal of promoting health delivery. To assess whether the original motive was met, the researcher had interactions with lecturers being met. The research had interactions with lecturers to understand how the original motives of the COBES promote health care delivery. Direct quotes from a participant (lecturer) are denoted by #L1, #L2 …#Ln

The literature review indicated that the health of an individual at any point is affected by multiple factors such as the social, physical, and economic environments. Thus, theoretical training for healthcare providers leaves them unprepared for the spectrum of diseases and conditions they may have to deal with in the course of their practice (Katwa et al., 2018; Mennin & Petroni-Mennin, 2006). To enhance the professional skills and knowledge of healthcare providers, community-based learning experiences were rolled out. Lecturers voiced what they thought to be the motivation for the introduction and maintenance of the COBES programme.

The results revealed that all the lecturers had been involved in COBES monitoring activities and were conversant with the COBES programme and how it was implemented within the host communities. They were also conversant with the aims and overall goals of the COBES programme and what was achieved at the end of the entire COBES programme. Faculty members indicated that the main motive behind COBES was to provide health services to the community as part of their community social responsibility, as well as to offer opportunities to students to have hands-on experience in the field. In so doing both community members and students mutually benefitted from the COBES programme. The COBES programme exposed them to medical and health practices within rural and deprived areas and for community members, they get the opportunity to interact with future doctors, informed them of their health concerns and obtained assistance from them. Some lecturers specifically indicated that COBES is an excellent health care tool that can be used to assess and address the health care needs of community members. Some of the responses captured are as follows:

COBES is motivated by the need for community engagement and to give back to society. This positive motive behind the programme makes COBES an excellent health care tool that addresses the health care needs of the populace (#L6)

This kind of opinion was held by almost all the lecturers and some mentioned that COBES is associated with positive health outcomes especially as students provide health services under the supervision of qualified health care workers within the communities. One of them put it as:

COBES has no adverse health effects and is associated with only positive health outcomes. Students do not provide health services in isolation but rather work with trained professionals who supervise them to make sure that the right thing is done (#L3).

One of the lecturers was also of the view that COBES is an opportunity to make students experience community work as most of them lacked the experience. Therefore, the COBES programme has been added as a pre-requisite to complete Medical School and Physician Assistant studies to expose students to community work and practice. The lecturer indicated that it was a requirement for both the Physician Assistant and Medical programme. It helps the students to have a feel of community work because most of them have no such experience. COBES provides the only avenue to equip students with such a rich community.

The information given by the lecturers is in consonance with the COBES programme. The main motive behind COBES is to promote the health and wellbeing of the community and that most medical schools have this in their mission statement. Therefore, medical and health training should not only focus

on training for hospital-based care but that they have a pivotal role to play in community health and wellbeing (Stearns et al., 2000). Additionally, studies pointed out that COBES usually takes place in deprived communities where activities such as health education and campaigns and routine clinical services are provided (Moskowitz et al., 2006; Peek, 2007).

Across the world, most service-learning activities are motivated by the need to produce medical professionals who have a strong community orientation and at the same time promote health care in deprived areas (Stearns et al., 2000). Also, COBES usually takes place in deprived communities where activities such as health education and campaigns, and routine clinical services are provided with the sole aim of promoting the health and wellbeing of community members (Katwa et al., 2018; Moskowitz et al., 2006; Mennin & Mennin et al., 2006). Although, few negative reports have been pointed out such as teaching students activities outside their practices and in this study delaying visits to a health care facility, COBES is generally associated with positive health delivery outcomes (Kathuria et al., 2005).

According to Barrows (1996), the pioneers of problem-based learning in medical school, McMaster University Faculty of Health Sciences, mentioned that they took this approach due to the excitement that was observed among students when they started their residency. Further, it had been observed that students were given information that did not have much relevance to their practice (Barrows, 1996). Thus, the outlined perspectives of the lecturers are in line with this. Some other faculty members stated that COBES is now a part of the required modules for the training of the students.

The lecturers further mentioned that aside from the motivation that drives the COBES programme, COBES is an important health care tool that can be used for surveillance activities as well as for detecting diseases and illnesses affecting populations at the community level. Surveillance systems are important health strategies that are used to detect diseases especially infectious diseases among the population (Morse, 2012). One lecturer stated:

> *During community health screening and other surveillance activities, it is possible to detect some diseases that are unknown but are specific to the particular geographical location. Population-specific studies are often under-researched and as such limited treatment options are known for such diseases. (#L7).*

This information affirms the origin behind the detection of certain diseases in communities (Morse, 2012). For instance, in Ghana, surveillance systems and community epidemiological screening and studies have been used to detect diseases such as Buruli Ulcer Guinea worm infestation and fistula (Ackumey et al., 2011). These diseases are rare among the general population but are rather specific to specific groups among whom the diseases could be detected and treated before they are infectious, and spread to other members of the population. Some of the lecturers were of the view that one of the motivations and driving forces of the COBES programme is the fact that it is a potent health care tool. One of the lecturers shared his thoughts as follows:

> *COBES is an important tool for health care and could be used as a surveillance system to track health issues. Additionally, it enables students to build their competence in research to health care and also to produce*

medical doctors with a strong community orientation. It helps lecturers to engage in basic research (#L4).

The evidence further revealed that COBES serves as a tool that can be used as diagnostics for detecting community diseases as well as treatment. COBES is one of the tools that can enable students to identify problems in the community so they can quickly identify and deal with them.

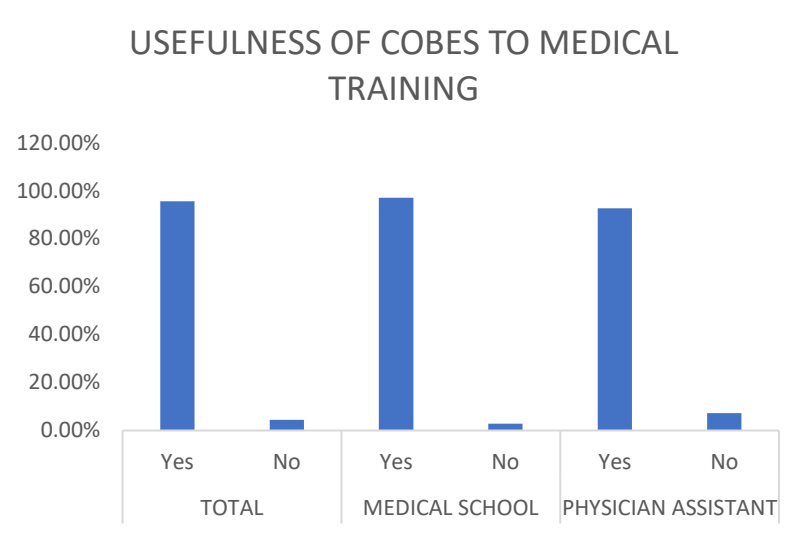
The findings have practical information as far as the COBES programme is concerned. For instance, Uthman, (2008) COBES as with other experiential learning activities can be used to detect and monitor the progress of the community in terms of how much the prevalence of certain diseases has reduced within the population. Students are themselves able to track the achievements that have been made in the community as a result of the goods and services they provide to the community.

Comparing the findings to the tenets of the symbolic interaction theory, it could observe that the positive narration of the lecturers about the COBES programme is a result of their interaction with the programme. The findings confirm the assertion that as much as people interact with a social construct, they stand a better chance of forming perception about it either positive or negative (Aksan et al., 2009).

Students' perceived benefit from COBES

The second objective examined students perceived benefits of the COBES programme. The benefits of COBES in medical and health training were assessed from the perspectives of students using a questionnaire. Due to the use of a questionnaire, the second objective was analysed quantitatively.

These students were at the COBES site at the time of data collection and data was collected on the last day of the COBES programme. The majority of the students 95. 6% indicated that COBES is an essential part of their training as health professionals; however, more medical students 97.1% perceived COBES to be useful to their training than Physician Assistant students 92.7% as illustrated in Figure 2.



Usefulness of COBES to medical training from the perspectives of students

Source: Field Data (2019).

Research on community-based experience suggests that generally, students rate the community-based experience favourably, even though they point out challenges such as inadequate clinical exposure and having to do a lot of menial work within their host communities (O'Toole, et al., 2005). In research by Menin and Petroni (2006), students opine that COBES provides them with the opportunity to learn important concepts such as physician-patient relationship and physician support for patients, as well as the specific health needs of disadvantaged groups which are not taught in the theoretical curriculum. COBES

also provides the students with an avenue to learn on the job, understand social determinants of health while influencing their choice of specialty or station for houseman ship (Barak et al., 2016; Hunt et al., 2011). It has further been noted to significantly improve test scores for final-year students (Howe, 2001; Mogre et al., 2014).

#From this study, over 90% of the students indicated the usefulness of COBES to their programmes of study; however, more medical students 97.60% perceived COBES to be useful to their training than physician assistant students 91.80%. This corroborates with the findings of Howe (2001) who investigated community-based learning among 89 undergraduate medical students in the UK. In her study, the students reported learning through personal interaction with patients and the observed impact of society and culture on health. In expounding clinical teaching for the twenty-first century, Dornan et al. (2019) opine that learning on the job is the best for clinical practitioners because 80% of knowledge comes from handling real patients not case studies in books. They further illustrated that such clinical practices expose students to conditions they are likely to deal with in their practice; thereby, preparing them to confidently handle similar cases. Such training also minimises the degree of harm patients are exposed to in the hands of inexperienced health professionals (Dornan et al., 2019).

Besides the students' perceived usefulness of the COBES programme, various activities that are carried out during the COBES programme which boost the confidence and experience of students were also examined. Students were asked to select, from their own perspective, which among the activities had the most influence on their career. The results are presented below:

Table 3: Activities carried out during COBES

Statements	Number	Mean	Standard Deviation
Medical screening	159	3.90	.684
Community durbars	159	3.86	.729
Visit health care centres for training	159	3.85	.673
Counselling activities	159	3.82	.655
Community needs assessment outreach	159	3.82	.655
Discussions of health topics	159	3.81	.777
Recommendation of treatment of diseases	159	3.74	.691

Source: Field Data, (2019).

The results were scaled from 1-5 with 1 being the lowest and 5 being the highest. From the results in Table 4., it could be observed that the students perceived all the listed activities as important for their careers. This is because with a maximum value of 5 on the scale all the activities scored above 3. Specifically, the results demonstrated that medical screening and community durbars were the activities that the students perceived to have the most influence as far as their careers were concerned.

This finding is consistent with the activity learning theory which posits that learners can make sense of themselves and their environment through continual practice and learning (Jonassen & Rohrer-Murphy, 1999).

Perception of community leaders on the COBES programme in relation to the health needs of the communities.

This was examined through the perspectives of community leaders. To analyse the information sought from the respondents, focus group discussions were held in communities. The views of the participants as expressed by them have been analysed in relation to existing literature.

From the literature, it was noted that health care delivery encompasses the provision of health care services; the process of diagnosis and treatment with the sole aim to promote, maintain or restore health and wellbeing. Several approaches exist for assessing health care delivery (Prcic et al., 2016). Health care delivery can be assessed through individual experience and satisfaction surveys and outcome measures such as health-related wellbeing after treatment. It can also be measured in terms of the implementation of standard procedures and protocols.

As already indicated above, the study assumed that COBES play a significant role in promoting health care delivery. The issue of whether or not this assumed role of the COBES programme is been realised lies in its benefits to both the beneficiary communities. Additionally, the implementors of the programme should also be able to indicate whether, through the implementation, the original motive of the programme is being met.

The results indicated that during the COBES programme within the host communities, several activities and services were provided. Some of the activities provided included health education, screening, home visits, and other community durbars aimed at promoting the health of the general populace through empowerment, improved knowledge levels, attitudes, and practices. One of the

participants indicated that but for the introduction of the COBES programme, there has not been health screening in his community. It was revealed that members in this community always moved to the district capital before they could get access to health screening. However, with this COBES programme, we frequently see health people here in our small town.

This observation was not surprising since students assigned to the COBES sites undertook these activities (home care and health screening) for about three weeks before conducting a needs assessment to determine the health needs of the community.

The activities undertaken during the COBES programme included community durbars, community health education, one-on-one consultation, and home visits. During durbars, for instance, students acted out the health impact of preventive practices such as the use of insecticide-treated nets for the prevention of malaria and the positive impact of cleanliness in preventing diseases such as cholera. Community leaders are actively involved in COBES activities and sensitise community members to avail themselves throughout the entire duration of the COBES programme and to partake in activities organised such as health screening amongst others.

The data from the respondents further revealed that community leaders became aware and participated in COBES activities through the community entry process. The community entry process was led by a faculty member, most often the COBES coordinator or a lead member of the COBES team. The community entry process involves faculty members and students paying a courtesy call to the chiefs and other leaders within the communities to inform them of their mission

within the communities and urged them to participate in the COBES activities as well as sensitising their subjects to partake in all COBES activities. The community entry process was also an opportunity for faculty to introduce all students who were assigned to particular community leaders.

It was revealed that this was usually to ensure that community leaders became aware of the presence of all the students and in turn inform their subjects of the presence of the students. They informed their subjects through the community information system. The responses of community leaders within the three communities were similar in terms of the role of the COBES programme in the promotion of health care delivery within the community.

Generally, community leaders in Ofoase indicated that they always actively participated in the COBES programme and had been involved in one way or the other since the commencement of the programme in the community. Participation in COBES activities implied being involved in community mobilisation and sensitisation, being present at most times for the durbars and other public-related COBES activities, and or providing assistance to students when the need arose. Participants were of the view that the COBES programme promoted health care delivery within the communities. The findings further indicated that COBES equipped the community members including me with knowledge on how to prevent diseases such as malaria which was rampant in this community. There was one time that they taught us how to handle the insecticide-treated net to prevent us and our families from being infected with malaria. The students sometimes distributed mosquito nets to participants and all these reduced the incidence of malaria in Ofoas*e.*

Prior studies have revealed that malaria is a pandemic in many African countries and most communities in Africa share a greater 67% portion of the world's malaria burden (WHO, 2021). Ghana accounts for 3% of the world's malaria burden and is rated among the 15 topmost countries with high malaria burdens (WHO, 2019). Despite the implementation of various programmes and initiatives to reduce the incidence of malaria, the number of cases and death are still substantially high, especially in underserved and poor communities such as Ofoase (Observatory, 2021). The Akyemansa district lies within the semi-deciduous forest region of Ghana and forests have been reported to provide a conducive environment for the breeding of malaria vectors (Kar et al., 2014). Thus, it can be said that the geography of the district contributes to the malaria cases within the community, and thus services rendered that are geared towards preventing the incidence of malaria positively impact health care within the district and specifically the towns. Furthermore, illegal mining activities can also upset water bodies, resulting in the creation of stagnant waters which are a hot spot for malaria vectors (Douine et al., 2019). Since the Akyemansa District is surrounded by two commercial and one mining town, illegal mining likely contributes to the incidence of malaria. Therefore, the provision of mosquito nets to community members can reduce the incidence of malaria significantly, and from the perspectives of community leaders in the Ofoase community, such provisions improve health care delivery.

This is consistent with the response from community members in South Africa who had benefited from community-based education (Diab & Flack, 2013). Aside from health education, other reported short-term benefits of the similar

programme include improved health care delivery service, reduced waiting times and referrals, and a patient-based health care approach (Amalba et al., 2016; Diab & Flack, 2013; Howe, 2001). The community members also mentioned some other benefits they receive from the COBES training.

In the Ofoase community, it was revealed that medications such as dewormers and folic acid supplements were provided to women and children and these also improved health amongst them. Participants were of the view that these medications were meant to promote the health and well-being of women and children within the community as they constituted a vulnerable group. This was obvious as discussions indicated that during the COBES programme, women and their children were given deworming medications to protect them from worm infestation. Many of the children in a community like to play in dirt and filth and are therefore at risk of worm infestation. Some of the children become anaemic, develop fever and lose appetite as a result of this and grow very lean. The medication they are provided with helps to free them of worms and promote their health.

Worm infestation especially among children is not uncommon in Ghana and predisposes children to anaemia, malabsorption, and undernutrition. According to the World Health Organisation, worm infestation is one of the common major problems in childhood and among school-aged children in Africa, and most children get infested through the faecal route (Koomson et al., 2020). The prevalence of infestation ranges between about 5% to 13% and it significantly contributes to anaemia, morbidity, and mortality within the region (Nyarko et al., 2018). Epidemiological evidence suggests that periodic deworming can

significantly reduce worm infestation among pre-school and school children (Koomson et al., 2020). However, most parents especially in rural areas do not deworm their children because they cannot afford the cost of deworming or lack knowledge. Worm infestation can cause serious illness in school children and affect their school attendance and academic performance. Research by Ofosu and Ako-Nnubeng (2014) suggests that deworming exercise not only improves the health of students but also their school attendance, cognitive ability, and their educational attainment. Among pregnant and non-pregnant women, deworming is associated with a reduced occurrence of the prevalence of anaemia, and perinatal and maternal complications significantly. Among pregnant women barriers to deworming include lack of knowledge and low socio-economic status, such programmes are directed towards improving the knowledge of women and providing free deworming services to improve their health and wellbeing (Zegeye et al., 2021).

Some community leaders in Ayirebi were also of the view that the COBES programme improved health delivery in the area but its impact was sporadic and was greatly realised during the period when the programme was ongoing. They further bemoaned that once the programme was over, they were no follow-ups until the next time the programme was undertaken.

On the one basis of challenges, it was revealed that the COBES programme promoted health in Ayirebi and the community members benefited immensely from it. However, it was noted that the community members only got these benefits during the period within which the programme was undertaken.

Once the programme was over, they depended on the health workers or herbalists within the community for our health needs.

The COBES programme is run during long vacations and the nature of the academic calendar does not make running the COBES programme throughout the year feasible. Running community-based and other experiential activities also comes with a huge economic cost, intensive planning, and organisation, and these factors may affect the ability of academic institutions to run such a programme throughout the year (Chang *et al.*, 2011). Additionally, before COBES, students should be equipped with theoretical knowledge and understanding which they could put into practice while working in the field and thus students took need some periods for classroom studies and other curricula activities to make their training all around.

In Ayirebi, community leaders perceived that COBES had a positive impact on the health of the community members. The community leaders were however concerned that COBES activities take a lot of their time and they further emphasised that though COBES was beneficial, it could be time-consuming and that this could distort the daily and work routine of community members. However, one of them also mentioned that some community members did not participate in COBES because it distracted their work activities and daily routine.

From the discussions, it was observed that the COBES programme was beneficial to us because the students conducted health screening activities and they informed us of the status of our health and precautionary measures that we should implement. Some of the students also helped the nurses at the health centre and this reduced the waiting time at the health facility. However, some of the

students spent so much time during the consultation process and other COBES activities and this demotivated some community members from fully participating in the programme.

Other community members from Ayirebi were of the view that activities undertaken during the COBES programme such as health screening are directed towards preventing the onset of diseases among the population and that time spent on such activities is worthwhile as it will reduce significantly illness and as such visits to the health centre and hospital.

Challenges Identified from the Discussions

As part of the discussions in Ofoase, it was identified that the COBES programme was time-consuming, especially during community health screening where the students their blood pressure and conducted other tests on us. Though this could take almost the whole of our day, was intended to detect illness at a very early stage. When diseases or illnesses are detected early, they can easily be treated and usually, it does not take a lot of time and resources to treat diseases and illnesses that are detected early. In this way COBES is helpful and spending time for any COBES activity becomes worthwhile.

It was further revealed that health screening activities were primary prevention tools that could be used to detect illness even before clinical signs start showing within the individual. They are cost-effective and their main goal is to detect disease at its initial stage. This was in consonance with prior observation from Bell (2017) who indicated that community health screening is an essential public health interventional strategy that promoted the wellbeing of the population and increases their work output thereby ensuring development. Societies and

communities that are faced with pandemics have low work output and are more often than not underdeveloped. Early detection and treatment of health conditions among the population, therefore, improve their economic status. In many jurisdictions, health screening has been used to diagnose and treat diseases way before visible signs and symptoms start to appear. Diseases such as breast cancer and other types of cancer that invade and spread throughout the body before sometimes clinical symptoms appear are among several diseases that could be detected early and treated (Ebu et al., 2019). In countries such as Ghana, health screening activities are uncommon and seldom conducted among the population (Ebu et al., 2019).

One of the focus group members in Ayirebi was of the view that the presence of students during the COBES programme increased work output in the community health centre and helped staff at the community health facility to work more efficiently. He was of the view that the staff at the community health centre were often overburdened with work and sometimes do not work to the expectation of community members. The presence of students in the community helped the nurses to work well and as such, they relieved the nurses of some of their work burdens.

The discussions revealed that the nurses in the community sometimes did not work as expected because they often had a lot of people to attend to. This made them agitated at the least provocation. When the students come around during COBES, they help them with some of the work and release them from stress.

In deprived communities, there is the likelihood of waiting in long queues to access primary health care due to the low healthcare provider-to-patient ratio

(Diab & Flack, 2013). Low health staff-patient ratios are much prevalent in rural and deprived communities. Poor attitude of health care providers towards patients also hinders people from seeking care from the right facilities in the case of an ailment (Adefuye et al., 2019). These factors contribute to self-medication in assessing self-medication practice in Akuse, another rural setting in Ghana. Mensah et al. (2019) observed that "medical" advice from family and friends was the main reason for self-medication as long waiting hours demotivated most sick people from visiting a health facility. Most of these people had a low educational background and had no idea about the consequence of self-medication and possible drug abuse. In addition to low education, an inadequate number of personnel promotes the practice of self-medication among residents.

Focus group participants in Adjobue also indicated that the COBES programme promoted health care delivery in the community through the detailed information students provided community members as well as on their treatment regimen. According to them most of the students who attended to them during the COBES programme were more friendly and they provided many details about medication given compared to community health staff. They further explained that the friendly nature of the students made the community members feel at ease to ask any questions that bothered their minds, especially about the medication they were been given. This outcome is an important aspect of health care delivery.

During discussions in Adjobue, it was observed that Students provided detailed information to you on the kind of medication they gave you. They took their time to explain the dosage and the side effects of the drug and why you should follow through with the treatment. The community health workers most

often are overwhelmed with work and do not have time to explain the medication given. Additionally, some members of the community do not ask them questions because they know they have a lot of people to attend to.

Adequate health care services are easily provided when there is a good number of health care personnel providing care. When health care workers are under pressure to care for a large number of people, they stand the chance of omitting and skipping some essential and important aspects of health care (Lang et al., 2004). Among patients, this kind of pressure and subsequent rush through the care process often result in relapse and revisits to the hospital. Patients are more likely to follow treatment regimens when they are aware of how their medication should be taken and the possible side effects of the medication (Shekelle, 2013). It is through continuous interaction of health care workers and patients that patients build confidence in the health care system.

Another community member mentioned that during the COBES programme students together with community members engaged in cleaning activities within the community. The students undertook cleaning activities such as desilting gutters, and collecting refuse dumped indiscriminately within the ever-provided dustbins at vantage points within the community. The community leaders perceived that through these actions of the students, the community was rid of filth that could serve as breeding places for pathogenic organisms such as mosquitoes. They further explained that such actions reduced the incidence of malaria and other infectious diseases such as cholera in the community.

In this community, malaria is amongst the most common health challenges that community members face. Some of the community members assist the

students with the cleaning activities and this keeps the community environment very clean thereby driving away mosquitoes. These activities reduce the occurrence of diseases such as malaria and cholera in our community.

The findings also indicated that the presence of students in the community led to a general change in the attitude of community members. This was because, it was revealed that most community members clean in and around their homes to welcome students when they came for home visits. Thus, the research draws inferences that community members become excited when they see students around and they usually put-up positive behaviour when they see students come around. These behaviours often include keeping their household and surrounding neat to get them ready for home visits by the students. All of these promote health in the community by reducing the breeding of mosquitoes within the community and other germs that cause diseases within the community.

From the focus group discussion conducted, it was reported that, the COBES programme provided the Ayirebi community with which KVIP have also improved sanitary conditions and health in the Ayiriebi community. This was supported by other community members who further explained that before the provision of the KVIP, cases of insanitary conditions and infectious diseases were prevalent within the community and were associated with the high turnout at the community health centre.

In the form of social contribution to communities, discussions in Ayirebi revealed that the community used to have just one public toilet that served all the members of this community. The high burden on the one toilet facility resulted in long queues and worn out of the facility. The combined effect of these led to some

community members resulting in open defecation which causes a lot of diseases and infections in this community, especially among children. With the new facility provided through the COBES, there has been a significant reduction in open defecation and an improvement in the sanitary conditions of the Adjobue community.

The foregoing information confirms the symbolic interactionist theory which draws a symbiotic relationship between the COBES programme and the benefits that the receiving communities get from the programme. Boadi & Kuitunen, (2005) indicated that inappropriate waste management practices in rural and poor communities are linked to the occurrence and spread of infectious diseases such as cholera and malaria. The authors further stressed that in such communities open dumping is rampant and most individuals dispose of their household waste at open dumpsites and reliable refuse removal and other waste management services do not exist in such communities. Therefore, with the introduction of COBES, the communities are able to link up with students and stakeholders to provide some amenities that help in reducing diseases (Dladla et al., 2016).

Community members also agreed that such clean-up activities undertaken by the students promoted health and wellbeing within the community. In a similar study by (Diab & Flack, 2013) among community members who had ever been involved in community-based learning, it was observed that most members were satisfied with the students' service and that community members turned to put up positive behaviour to motivate the student to return to the community for another COBES programme or even to work there. Participants in the study indicated the

COBES promoted health care delivery within the community. Participants requested that more students be made on come regular basis. Kelly et al. (2014) suggested that community learning programmes such as COBES bring about meaningfulness to underserved communities. Consequently, members of the community form a good relationship with the learners who are likely to be in the workforce of the same communities upon graduation.

Summary of the key findings

The summary of the key findings of this study are as follows:

1. The original motive behind COBES promotes health care delivery and was focused on a mutual relationship between the university and community where students learn from the community experience and where community members also benefit from health services and tangible products provided by students through the programme.
2. Students perceive COBES as useful to their medical training and find the activities they undertake during the programme as very important to their overall career.
3. COBES improves health care and health care delivery in host communities from the perspectives of community leaders. Some community leaders however raised concerns about the routine distracting nature of the programme. Students perceive COBES as useful to their medical training.
4. COBES provides students with the opportunity to have real-time experience with members of the community who needs medical attention and this boosts the practical confidence of students.

5. Using the interactionist theory, one key finding from the study was that COBES provides the opportunity for satellite communities to be provided with basic social amenities. This is because, for the programme to function properly potable drinking water and good and accessible road networks are needed. Hence, when a community is selected, implementors of the programme advocates for these social amenities. This improves the development of the selected communities

6. The feedback approach in the execution of the COBES programmes provides the Medical Schools with empirical information to strengthen their medical practices to suit the needs of the communities.

CHAPTER FIVE

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

The increasing population necessitates that health care services should be expanded to meet the needs of the population. This also requires that the approach to medical education be reviewed to be more community and experiential-based. However, limited data exist on the role of experiential activities such as COBES in meeting health care needs and promoting health care delivery in host communities. It was for this reason that this study assessed the role of COBES in promoting health care delivery, as well as its perceived importance in medical education. The first chapter of this research work presents the background, statement of the problem, objectives as well as research questions. This research is underpinned by the social interactionist theory and the activity learning theory. These theories are applicable to such research in that the social interactionist theory explains how individuals interpret a service depending on their social relations and values. This implies that community leaders assign different perceptions to events, such as COBES, based on continuous interaction with the programme. The activity learning theory on the other hand is based on the assumption that more learning occurs when students are placed in an actual setting where a particular learning activity of interest is expected to be undertaken.

The study employed a mixed-method approach to obtain data to answer the research questions for the study. The questionnaire was used to collect data from students while an interview guide was used to collect data from lecturers.

For community leaders, focus-group discussions were used to collect their perceptions on the COBES programme about health care delivery within the host communities. The Statistical Package for Social Sciences (SPSS) version 22 was used for the analysis of quantitative data. Data were presented as frequencies and bar graphs. Qualitative data were analysed using a thematic network approach. The interviews and focus group discussions were transcribed verbatim in English on Microsoft word and analysed under their respective thematic codes using an Excel codebook.

Summary of the Research

This study's general objective was to assess community-based experience and service in medical school education in the Akyemansa District, Ghana. The literature review provided supporting theories, conceptual grounding, and empirical justification for the assessment of the community-based experience and service in medical school education in the Akyemansa District, Ghana.

Findings from the study based on objective one revealed the motives behind the introduction of the COBES in UCC medical education curricula to promote healthcare delivery in the Akyemansa district. Lecturers were of the view that COBES was motivated by the need to provide health care services to deprived communities and also expose students to the community for experiential learning. They asserted that this motive promotes health care delivery within the host communities through the provision of health education, and supervised health services among other voluntary activities such as free screening within the communities. Lecturers again emphasised that providing such services is part of the role the university is supposed to play in society. Lecturers also pointed out

that COBES can be used as a surveillance tool for diagnosing diseases at the community level as well as monitoring the health progress made within the community.

The majority of students perceived COBES as an essential part of their training as medical personnel. More than 90% of them responded positively to the question of whether the COBES programme was an essential part of their training. This positive response implies that students support the COBES programme. Since students are the main actors in the field so far as the COBES programme is concerned, this positive outlook is essential and has a good impact on the running of the programme.

Again, findings from the study based on objective two revealed that, COBES has a positive impact on community health delivery, and meets the health and promotes health care delivery within the community. This was the view of community leaders who play a pivotal role during the execution of COBES in the communities. The community leaders were of the view that COBES promote health care delivery through the provision of prompt services, detailed information about the treatment given and activities carried out during the programme such as clean-up exercises, health screening, and the provision of toilet facilities by students through the COBES programme. For instance, some community leaders mentioned that through the COBES programme, women and children were being given deworming medications that promoted growth and prevented infections and illness amongst them. Community leaders further explained that although the COBES programme can be time-consuming. Community leaders asserted that students sometimes distract their work and other schedules through home visits

and durbar activities. They also mentioned that COBES is undertaken only periodically within the community and as such its impact is sporadic, but generally, it promoted the health and wellbeing of their subjects.

Conclusions

Based on the findings of this study the following conclusions can be drawn:

COBES positively impact health care delivery in beneficiary communities and could therefore be scaled up to other communities as a means to improve health. Aside from the main aim of helping equip students with health care skills and to make them community-oriented as well as promoting health care delivery in beneficiary communities.

Again, Community leaders perceive COBES as a health promotion tool within the communities. This suggests that when the programme is scaled up to other communities, it is most likely to receive the support of community leaders.

Also, the perception of the community leaders was confirmed by the lecturers who also were of the view that, the motive behind COBES which is to promote health care delivery in satellite communities is being achieved.

Lastly, Students opine that COBES forms an essential part of their training to become future medical personnel. They, therefore, indicated that students have the willingness to undergo the programme.

Recommendations

The following recommendations were made based on the key findings of this study:

The COBES programme should be expanded to more communities in Ghana. At least, it is recommended that every region should have one centre for the COBES programme

The opportunities for service learning should be spread throughout the curriculum such that students have periodic practical exposure. Before the community programme, students should be oriented toward the community in terms of its health system and health challenges. Service-learning as a teaching method and learning plan combines the traditional teaching and learning strategy of community service

Students should continually be educated and informed through seminars of the importance of the COBES programme to their training to sustain their interest in the programme. Though a few thoughts that the COBES programme was not important, it is needful that their reasons for such a stance be assessed to inculcate in all students' interest and positive attitude towards the programme.

It is also recommended that community members be sensitised to develop means of helping sustain the COBES programme after the few weeks that students spend in the various communities. On the other hand, due to the immense contribution of the COBES programme to members of the community, the University should design a system where a small group of students will be on the programme at a time to make it a year-round activity.

Suggestions for Future Research

The findings of this research work were based on the perceptions and views of lecturers, students, and community members. Longitudinal studies are needed to confirm the findings of this study, especially about the impact of

COBES on health care delivery among the people of the Akyemansa district. The perception of community members who are the target of COBES services should also be assessed to determine the usefulness of the programme in terms of health care delivery.

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APPENDIX A

QUESTIONNAIRE
UNIVERSITY OF CAPE COAST
SCHOOL OF DEVELOPMENT STUDIES
DEPARTMENT OF INTEGRATED DEVELOPMENT STUDIES

COMMUNITY-BASED EXPERIENCE AND SERVICE AND HEALTH CARE DELIVERY IN SOME SELECTED COMMUNITIES IN AKYEMANSAH DISTRICT IN THE EASTERN REGION OF GHANA.

Hello Respondent,

This questionnaire has been designed to solicit information for research work being undertaken to investigate the above topic. The information obtained from the survey will in no way reflect the identities of the people participating. Your cooperation, attitudes, preferences, and opinions are very important to the success of the study and will be kept strictly confidential. Your response will only be used when grouped with those of the other people taking part in the study. I deeply appreciate your cooperation in taking part in the study.

Consent to Participate in Research:

I understand that any information I share will remain confidential and that when the results of the research are published or discussed at conferences, no information will be included that would reveal my identity or that of my institution. I am eighteen years of age or older. By agreeing to continue with the survey and submit a response to the researcher in question, I am giving consent to participate in this research work.

I consent to participate in this survey: ☐ _Yes ☐ _No

Thank you for your participation

APPENDICES

APPENDIX B: QUESTIONNAIRE FOR STUDENTS WITH COBES EXPERIENCE

SECTION (A)

Demographic Information. Please tick the most suitable section.

1. What is your sex?

a. Male b. female

2. Age……..

3. Which level are you

a.100. b.200 c. 300 d. 400

4. Have you ever deferred the course or program

a. Yes b. No

SECTION B

This section seeks to gather responses to the background knowledge of COBES and Medical health care delivery in the Akyemansa district. The various students that attend COBES are considered in this study. Tick [√] as applicable.

5. How many times have you been involved in the COBES?

a. Once b. Twice

6. When was the first time you heard of the COBES programme

a. level 100 b. level 200 c. level 300

7. Do you think the COBES experience is useful to the study of your program?

a. Yes. b. No

SECTION C

This section solicits information on the health needs of people at Akyemansa district during the COBES programme.

8. Do you think the health needs of the people are met during and after COBES?

a. Yes b. No

9. Why do you think the people of Akyemansa participate in the COBES programmes?

1. medical reasons 2. Socialization 3. no reason

10. Do you think the people of Akyemansa have a health need to which they attend COBES?

1. Yes 2. No

11. Which of these are the health conditions you mostly encounter when you go for COBES?

1. Headache 2. Stomachache 3. Skin disease 4. Malaria 5. Other: .....

12. Are you able to provide treatment to those with health conditions

1. Yes 2. No

13. Are they satisfied with the treatments you give them?

1. Yes 2. No

14. How do you know they are satisfied

.....
.....
.....
.....

15. Does the district you had the COBES have health facilities?
1. Yes 2. No
16. How many hospitals do they have in the various communities?
.....
17. Where do they seek healthcare per your interactions with them?
a. Self-medication b. hospital c. Shrine d. Church e. CHIP Compounds
6. Other:
.....
18. What do you think are the health needs of the people of Akyemansa
1. health facilities (e.g. Hospitals, CHIP compounds etc)
2. disease conditions
3. portable drinking water
4. Other: .....
19. In which areas in terms of health are the people of Akyemansa disadvantaged?
.....
.....
.....

SECTION D

This section discusses the activities that are carried out during COBES. Please tick/choose the answers based on your experience at COBES?
20. What are some of the health activities performed at COBES?
1. Medical Screening
2. Community Durbars
3. Visit health care centers for training
4. Counselling activities
5. community need assessment/research
6. discussion of health topics
7. recommendation of treatment of diseases
8. Other.....
21. Which of the activities do they (host communities) participate in most
1. Family attachment
2. Visit rural homes
3. Visit health care centers
4. Counselling activities
5. community need assessment
6. discussion of health topics
7. treatment of diseases
8. Other.....
21. Do you think these activities benefit the community?
1. Yes 2. No
22. State your reason for your answer in 21.

.....
.....
.....
.....
.....

23. What percentage of the population (people in the community) participate in the activities of COBES?

1. less than (10%) 2. (10 - 29%) 3. (30 - 49%) 4. (50 - 69%)

5. above (70%)

24. How do you get the people to participate in the activities

1. by force
2. through education
3. they join freely without anyone inviting them
4. other: .....

SECTION E: Motive behind COBES

25. COBES is specifically designed to help the .....

1. community 2. the student 3. both 4. None of them

26. What do you think is the main motive behind COBES?

.....
.....
.....
.....

27. Do you think the motives are in line with the health needs of the community?

1. Yes 2. No

28. Why?

.....
.....
.....
.....

29. Why was Akyemansa selected as the area for COBES?

.....
.....
.....
.....

Challenges and Recommendations

30. What are some of the challenges you face during COBES?

1. language barrier 2. lack of funds 3. low motivation
4. other.....

31. Do you think the people of Akyemansa have any challenges when you go there for COBES?

1. yes 2. No

32. What challenges do you think the community face concerning COBES?

.....
.....
.....
.....

End of Survey
Thank you

APPENDIX C: INTERVIEW GUIDE FOR LECTURERS AND COORDINATING TEAM FOR COBES

1. Designation at the department?
a. Assistant lecturer, b. lecturer, c. Senior lecturer, d. Professor)
2. Number of years as a lecturer in the department?
3. Number of classes you lecture at the department?
4. Number of students you supervised at the COBES site
5. Number of courses you lecture at the department
4. Number of years spent as coordinating team member of the COBES programme
5. Major activities students go through in delivering health care to the people of Akyemansah district
6. Schedule timetable for the COBES programme
7. Duration for the COBES programme
6. Basic health needs do you identify for the students to work on
7. Motivation drive for the COBES programme
8. Plans to sustain the COBES programme to enhance health care delivery in the Akyemansah district
9. COBES as a tool to promote health care in the Akyemansah district
10. Importance of COBES to the students and the community (Akyemansah district)
11. Commitment of host communities towards COBES
13. COBES programme has an adverse impact on health care delivery on the host community
14. Positive and negative effects of COBES programme to determine some health activities

APPENDIX D: INTERVIEW GUIDE AND FOCUS GROUP DISCUSSION FOR COMMUNITY MEMBERS AND KEY INFORMANTS

1. age
2. occupation
3. location place of stay
4. level of education
5. main and other health conditions in this community
6. Individual health-seeking behaviors
7. Medical conditions and health centers assessed
8. Frequency of visit the healthcare center
9. Reasons for utilizing the health center
    a. Probe whether a visit to the health care center is mainly for checkups or generally when you are sick
    b. Frequency of visit to the health center during and after COBES
10. Awareness of COBES programme in the community.
    a. Probe for source
    b. Probe for knowledge of COBES service providers
    c. Probe for functions and nature of services provided by COBES Team
    d. Probe for the relevance of COBES in the community
    e. Probe for participation in COBES activities
    f. Probe for services provided by the COBES team when they come to the community.
    g. Check for a rating in terms of satisfaction of COBES services along a continuum
11. Behaviour post-COBES visits
    a. Emphasize access to Healthcare (facilities) within this community
    b. Changes in behaviour at individuals with a focus on COBES.
    c. Changes in behaviour at the community level with a focus on COBES.
    d. Check if the services provided by COBES to the c community meet their health needs