Received 13 June 2021
Revised 27 September 2021
10 November 2021
Accepted 16 November 2021

Towards quality primary health care: the dilemma of Community-Based Health Planning and Services (CHPS) in health service provision in Ghana

Barnabas Addi
Architecture and Urban Studies, Politecnico di Milano, Milan, Italy and Department of Planning, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana, and
Benjamin Doe and Eric Oduro-Ofori
Department of Planning, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

Abstract

Purpose – Over the past two decades, Community-Based Health Planning and Services (CHPS) has been a pragmatic strategy towards universal Primary Health Care (PHC) in Ghana. However, the ability and capacity of these facilities to deliver quality primary health care remain an illusion as they are still crumbling in myriad challenges. These challenges are translated to the poor-quality services provision and low community utilization of CHPS facilities. The study presents a comparative analysis of three communities in the Kassena-Nankana East Municipality, Ghana.

Design/methodology/approach – Using a mixed-method research design, the study gathered and analysed data from 110 households, three community health officers (CHOs) and three community leaders using semi-structured questionnaires and interview guides.

Findings – The findings indicated that the facilities do not have the requisite inputs such as drugs and supplies, logistics, appropriate health personnel, good infrastructure, funding support necessary to deliver quality and appropriate healthcare services that meet the health needs of the communities. For the CHPS to realize their full potentials as PHC facilities, it is required that the needed inputs such as logistics, drugs and appropriate staff are in place to facilitate the activities of CHOs.

Research limitations/implications – Due to the limited number of participants and selection of the study communities, the results may generalization. Also, the researchers acknowledged the inability to interview the district level health officials and the Kassena-Nankana Municipal Assembly during the field visits. This could have provided in-depth knowledge on the findings of this research as well as the validation of the results from the communities' perspective. Several attempts were made to contact and interview district-level authorities which proven futile due to the unavailability of targeted respondents. This resulted in limiting the studies at the community level. However, this limitation does not disprove the findings of this study.

Practical implications – The article implications for planning primary health care strategies include a keen assessment of community health needs and institutional management of primary health care facilities, equip PHC facilities with adequate resources such as drugs and appropriate staffing to provide the health needs of the communities.

Journal of Health Organization and Management
Vol. 36 No. 4, 2022
pp. 482-502

1477-7266
DOI 10.1108/JHOM-06-2021-0219

Compliance with Ethical Standards: All procedures performed in the study involving human participants were in accordance with the ethical standards of the institutional research ethics committee. The article does not contain any studies involving animals performed by any of the authors. Informed consent was obtained from all individuals participants involved in the study.

Funding: The authors received no financial support for the research, authorship and/or publication of this article.

Conflict of interest: Authors declare that they have no conflict of interest.

Originality/value – The paper fulfils the gap in the literature by providing empirical data on how the challenges of primary health care facilities affected the provision of high quality service and how this can affect community's use of the facilities.

Keywords CHPS, Primary health care, Health services, Kassena-Nankana East, Ghana

Paper type Research paper

1. Introduction

Health is an important factor that contributes to the individual's development and realization of their potentials. The formation of an individual's potential from childhood largely depends on the state of their health. The accessibility to and utilization of quality health services is indispensable to human and national development (Wiru *et al.*, 2017). The quest to achieve Universal Health Care gained international momentum following the declarations of the Alma-Ata conference in 1978 (WHO, 1978) as primary healthcare strategies were considered a crucial tool in achieving universal health care. For instance, according to Aregbeshola and Khan (2017), the declaration led to drafting the first National Health Policy based on PHC models and the subsequent establishment of the National Primary Health Care Development Agency (NPHCDA) entrusted with implementing PHC activities in Nigeria. Yet, other countries like South Africa lagged in developing the PHC programme due to political upheavals and will. The political conflict, apartheid that caused social inequalities brought retardation (Maillacheruvu and McDuff, 2014) in comprehensive primary health care. This is evident in the limited number of facilities, overcrowding, and long waiting time at the few available PHC facilities. In the case of Nigeria, PHC improvement in quality health care is limited by poor policy formulation and implementation, administration and organization challenges and mismanagement, corruption, funding and other supporting social amenities at the community level (Alenoghena *et al.*, 2014; Olalubi and Bello, 2020). Many other strategies were implemented in different countries, including, Traditional Birth Attendants, Community Health Workers, Community Drugs Distributors, and others (WHO/AFRO, 2018).

In Ghana, the effort to deliver PHC dates to the colonial era with the introduction of mobile clinics to provide basic care in rural communities. Efforts to PHC became a national priority following the Alma-Ata declaration. Several approaches such as the Village Health Workers, the Bamako Initiative, Community Health Nurse, among others, were implemented to provide basic health services to remote communities. But they failed alongside due to resources, organization, personnel and supervision problems (Phillips *et al.*, 2005; Nyonator *et al.*, 2005; Sulemana and Dinye, 2014; Wiru *et al.*, 2017). Premised on the lessons from these strategies, rigorous experimental research into participatory healthcare provision in communities led to the discovery of Community-Based Health Planning and Services (CHPS) in Ghana (Wood and Esena, 2013; Ministry of Health, 2016; Oladipo, 2014).

The CHPS has been Ghana's pragmatic strategy to deliver PHC services to remote communities and is geared towards achieving Universal Health Care in Ghana (Assan *et al.*, 2019; Kweku *et al.*, 2020; Wiru *et al.*, 2017). The government's commitment to improving access to PHC facilities has increased considerably over the past two decades. According to the 2017 holistic assessment of the Health Sector Programme of work, 5,100 CHPS functional zones operate across Ghana (Ministry of Health, 2018). The growth of CHPS zones indicates relatively high access to health care facilities/services. Among the successes of CHPS is the drastic reduction in Child mortality from 111 per 1,000 live births in 2003 to 60 per 1,000 live births in 2014. Maternal mortality also dropped considerably from 740 per 100,000 live births in 1990 to 319 per 100,000 live births in 2015 (Ministry of Health, 2016).

Despite the impressive successes, literature has unearthed the many problems that these CHPS facilities are battling (Adam and Awunor, 2014; Assan *et al.*, 2019; Woods *et al.*, 2019).

These challenges have remained the weaknesses of these facilities to realize the needed quality PHC services. The impact is reflected in how the communities utilize these facilities, as Wiru *et al.* (2017) and Wood and Esena (2013) identified. Factors such as shortage of drugs; inadequate logistics, health personnel and funding; lack of institutional support were identified to be limiting the facilities in living to their expectations as PHC facilities (Wood and Esena, 2013; Ministry of Health, 2016; Sulemana and Dinye, 2014; Wiru *et al.*, 2017).

Over the year, many studies have pointed to the challenge of primary health care. Little has delved into providing empirical evidence on how these challenges affect the quality of health care provided by PHC facilities and community utilization. This paper addresses the empirical gap on the causes and effects of the challenges impeding the potential of CHPS to contribute to achieving UHC in Ghana. The study aimed to explore the challenges of CHPS, which explain their inability to deliver quality PHC. Hence, it seeks to answer why is CHPS not delivering the needed high-quality health services? It draws primary data from a survey of three communities sampled from Kassena-Nankana Municipality in the Upper East Region, where the success story of the [CHPS] experiment and further adoption emanated.

To address the research gap, the article first explores the concept of Primary Health Care and the concept of CHPS as a basis to understanding what is lacking in the Ghanaian PHC system. Second, we point to conceptual frameworks relevant to understanding what is and what could be in place to achieve high-quality PHC service. Third, the immediate subsequent section presents an overview of the Ghana Health system and its linear healthcare provision function. The result is presented in two parts. First, we assess the services that the facilities are currently providing. This is followed by a causal explanation of the challenges associated with the ability or inability to perform certain functions or services. The second part conveys the challenges to explain the factors that affect the utilization of health services. Finally, we draw a conclusion and proffer recommendations necessary to inform health policy planning and management.

2. Concepts and the conceptual framework

2.1 The concept of primary health care

Health is a fundamental human right, and its attainment to the highest level is considered an imperative objective of every country globally. The UN Declaration on Human Rights in 1948 and the Cocoyoc Declaration of 1970 have recognized health as a fundamental human right that all governments must attain.

Health is "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" (World Health Organization, 1978). The definition of health is multifaceted and embraces all factors that contribute to the well-being of an individual (Callahan, 1973). The healthcare delivery system, accessibility arrangement and the health facility are but a few of the factors that affect the health of people. Primary health care provides a key roadmap to ensuring universal healthcare. Primary healthcare as envisioned during the Alma-Ata Conference is described as "essential healthcare based on practices, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination" (World Health Organization, 1978). Central to this ambition of Universal Primary Health Care is the fundamental responsibility to ensure high-quality universal health coverage (WHO, 2018). The mere presence and access to facilities do not guarantee the delivery of high-quality healthcare if the prerequisite inputs are not fed into the system to yield the required quality services.

According to WHO (WHO/AFRO, 2018), primary health care is rooted in three pillars, empowering people and engaging communities, multisectoral action for health, and health

services that prioritize delivery of high-quality primary care; and essential public health functions. As a people-centred activity, the first pillar of PHC is to empower people and engage communities in designing PHC strategies (i.e. utilizing community resources and collaborating with communities to improve their general health status). This ensures that the health services provided meet the essential health needs of localities and the people's expectations (Kweku *et al.*, 2020). The active involvement of the localities is prime to the development of any effective strategy that is geared towards delivering basic health services.

While the second pillar emphasized the integration of the PHC with existing functioning public health systems, the last core pillar stresses the provision of adequate quality services that meet the health needs of the targeted population. This indicates that quality health care does not occur spontaneously due to availability or improved accessibility to health care facilities. Quality health service must be prioritized through an effective health system (WHO, 2018). Thus, feeding into the health system the appropriate inputs to generate the needed quality health care.

Quality primary health care is described as a health care system that consistently provides safe, effective, efficient, timely, and people-centred health care service (WHO, 2018). It is trusted and valued by the people to whom such services are delivered (Primary Health Care Performance Initiative (PHCPI), 2018b). Such an efficient hallmark in PHC provision is only possible in a well-organized health system that is well-managed. For primary health care facilities to have the capacity to provide quality health care, the health system must be supported with adequate and well-furnished infrastructure, sufficient human resources, drugs, and other logistical supplies to guarantee a smooth operation of the various components that deliver the health service (Ministry of Health, 2016; Woods *et al.*, 2019). Regardless of the different minimum or maximum packages of services provided under PHC, such services must conform to the basic standard necessary to ensure quality services are delivered to clients.

2.2 The concept of CHPS

CHPS emerged in 1999 as Ghana's effective tool to deliver PHC. Premised from the experimental study, the CHPS is modelled in three main components that allow both community members and health officials to plan and deliver health services to the communities at their doorsteps: (1) Availability of a CHPS compound where Community Health Officers (CHOs) provide health services and could be reached by the people. Though there is no standard of a CHPS facility, an archetype must have a space to house the CHO and a clinical area, where maternity services are approved, a separate ward should be incorporated in the existing facility; (2) The presence of Community Health Volunteers (CHVs) to assist with the community outreach; and (3) Community Health Management Committees (CHMCs) responsible for community mobilization and support for the CHPS activities (Ministry of Health, 2016). CHPS aimed at reducing physical and geographic barriers to accessing health care in rural communities (Adongo *et al.*, 2013) by increasing the number of health officials and health delivery points. The core strategy of CHPS entails deploying trained nurses, known as Community Health Officers (CHOs), to rural communities to provide essential preventive, curative and health education or promotion services in homes and/or health facilities (Awoonor-Williams *et al.*, 2013).

The National CHPS policy 2016 integrated the CHPS initiative into the Ghana Health System and specified various minimum service packages and guidelines for developing CHPS. These services include maternal and reproductive health; neonatal and child health service; management of minor ailments; and health education, sanitation, and health counselling. It further stated that delivery might not be performed by CHOs unless approved by the district health management body. To deliver such essential services, the Ministry of

Health have a certain category of drugs that should be made available at the community level – CHPS facilities, as shown in Table 1 (see Ministry of Health, 2017).

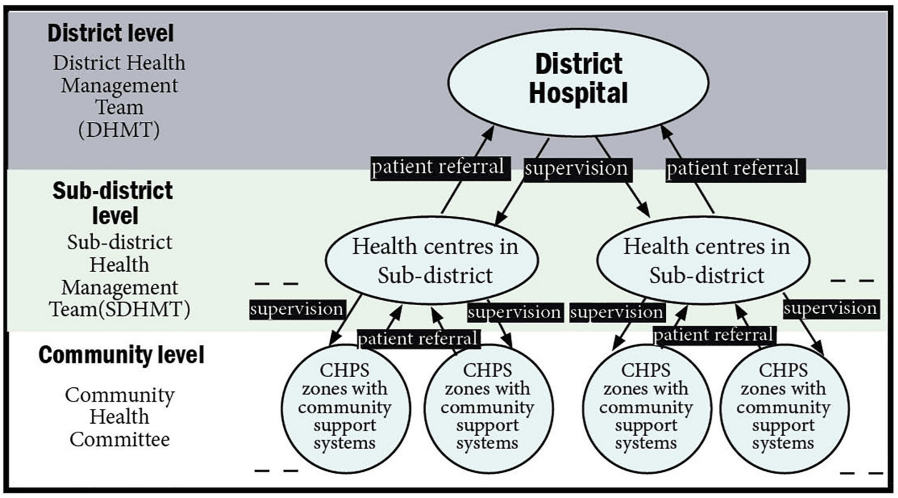
2.2.1 Ghana health care system. Ghana adopted a three-tier management level, organized from the district, regional and national levels. The strategy focused on preventive services and curative care. For effective coordination of health activities and decisions at the local level, the district health service is further structured (see Figure 1) into three levels of linear relation (Ministry of Health, 2016; WHO, 2017). The national health insurance model [2] is adopted into the health care structure to improve access to health care. This is the most efficient health system to integrate primary health care activities into the national health system to achieve universal coverage. These three levels are interconnected and seamlessly operate in a linear chain appropriate to deliver primary health care services to all Ghanaians and provide a systemic referral for patients (Agbenyo *et al.*, 2017; Ministry of Health, 2016). At the first stage and bottom of the ladder is the community health service provided through the CHPS facilities. CHPS brings health services to the doorstep of the community members with services including clinical care of minor ailments, preventive and health promotion services (Agbenyo *et al.*, 2017; Ministry of Health, 2005, 2016). The next stage is the sub-district level, composed of the Sub-District Health Management Teams, which plan, supervise, and serve as referral points for the CHPS facilities through health centres. As indicated in Figure 1, the district hospital at the top serves as the highest referral point for all treatments.

The model was designed on the recommendations of the Ghana Health Service reforms, which provided for a decentralized process in the health service delivery system (Russell, 2008) geared towards achieving primary health care for all Ghanaians. Community members

Policy directives	Services and responsibilities
Duty of care and minimum package of services	1. Minimum package may include maternal and reproductive health, neonatal and child health services, management of minor ailments including fever, malaria and domestic accidents and health education, sanitation, and health counselling 2. CHOs may not perform delivery. These are expected to refer all delivery cases to a higher level of care
Human resources for CHPS	1. Community health nurse shall be designated as a CHO in a CHPS zone. Must receive the necessary training to deliver the full complement of CHPS services 2. There shall be up to three (3) CHOs of appropriate staff mix to a CHPS zone 3. The establishment and integration of community health volunteers with appropriate incentives
Infrastructure and equipment for CHPS	1. The existence of a CHPS compound with accommodation for CHOs and a clinical area for service delivery. A standard and approved design 2. Where maternity services are CHPS compound, there shall be a separate ward for that service 3. The CHPS shall be furnished with essential equipment such as motorbike CHO community and home visitation, bicycles for the volunteer as well as sufficient supplies, medicines, furniture
Financing	1. Government shall allocate funds for the scaling up the operation of the CHPS 2. All services delivered in the CHPS compound shall be free of charge
Supervision, monitoring and evaluation	1. CHPS supervision shall be directly under the management of the district health management committee or designated person

Source(s): Extract from the CHPS National policy documents (Ministry of Health, 2005, 2016) and the CHPS implementation milestones [1]

Table 1. CHPS policy directives for the implementation of CHPS



Source(s): Ministry of Health, 2016

Figure 1.
The system of primary health care in Ghana

are at the centre of providing essential services (Rifkin, 2014), and primary Health Care is mainly delivered through Community-Based Health Planning and Services (CHPS). As indicated in Figure 2, it can be deduced that Ghana has made headway in integrating its PHC strategy through an inherent health system structure.

2.3 Conceptual framework

Primary healthcare services are effective strategies in meeting the basic health needs of rural communities, given that the intended beneficiaries substantively utilize rendered services. Utilization, in this case, is proportionally influenced by the quality of/and range of health services provided by PHC facilities. PHC as a community health strategy forms an integral part of countries' health systems and is a crucial element for the socio-economic development of rural communities (Olalubi and Bello, 2020). For this study, two conceptual models are adopted to assess PHC quality service provision and individual utilization:

(1) The Primary Health Care Performance Initiative (PHCPI) Framework (PHCPI, 2018a, b), to assess the varying factors that affect the quality of service provided through these health facilities, and

(2) Andersen and Newman's framework for health service utilization (Andersen and Newman, 2005). Though the two conceptual frames are different and independent, they demonstrate a mutual level of convergences when applying the cause-and-effect mechanism in quality health provision and individual utilization. The components of these two frameworks are intrinsically interconnected in investigating the quality health of service provision and individual behaviour towards utilizing the PHC facilities.

The PHCPI Conceptual Framework is developed to elaborate on the critical components of an effective primary health care system and serves as a benchmark for assessing and developing PHC activities. As shown in Figure 2, the framework is a guide indicating the relevant elements that should be measured to inform and facilitate efforts to improve PHC. It

Source(s): PHCPI Conceptual Framework, (PHCPI, 2018a)

Figure 2.
Conceptual framework

comprises of the health system of which PHC is embedded and prioritized; key inputs, necessary supplies, facilities and personnel, service delivery process to ensure the delivery and access to high quality health services, as well as the goals of an effective PHC system (Kweku *et al.*, 2020; PHCPI, 2018a).

The conceptual framework is based on the theory of change, which demonstrated a linear process; inputs-process-outputs-outcome. The linear and logical procedures apply the cause-and-effect mechanism in the primary health system. This implies that to achieve the needed high-quality primary health services, the right inputs such are drugs and supplies, personnel, furnished infrastructure must be fed into the system. All things being equal, any deviation in the inputs will undeniably generate the respective level of quality service.

The second conceptual framework adopted is Andersen and Newman's framework for health service utilization. Our attention here is shifted towards the health services delivery system (Andersen and Newman, 2005) and purported to discover the conditions that either facilitate or limit individual access and use of health services. In the broader framework, these factors are grouped into four general interlinked frames or stages; the environmental factors consist of the health care system and external influence; population characteristics; predisposing factors; enabling factors, and health needs of the people. In this study, the focus is on the enabling factors and health needs of the targeted population. Do PHC facilities provide services that meet the needs of the communities? How does perception of quality service delivery influence individual utilization of the facilities?

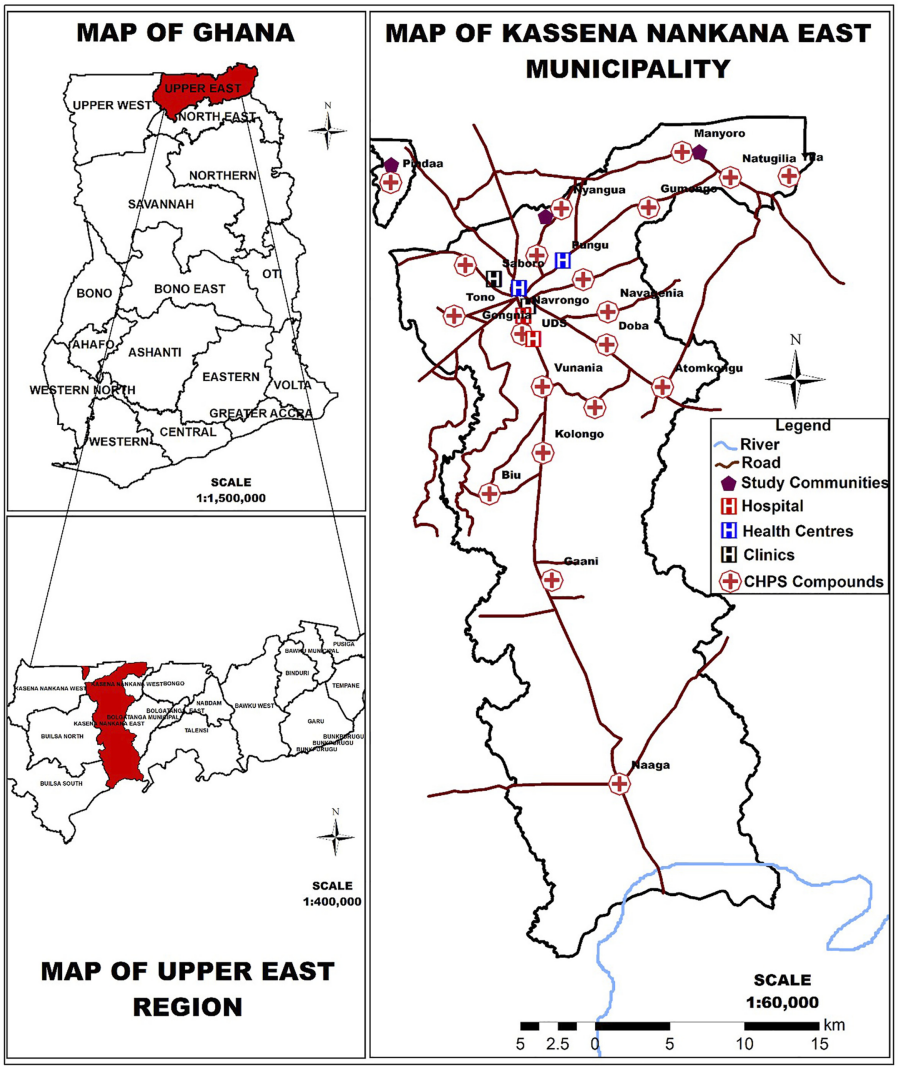
3. Material and method

3.1 An overview of Kassena-Nankana East Municipality

Kassena-Nankana East Municipality (KNEM) is one of the 13 districts in the Upper East Region of Ghana, with Navrongo as the political and administrative capital. It is subdivided into six (6) Urban/Area councils, made of 99 dispersed communities, with 35 electoral areas. It lies approximately, between latitude 11°10'and 10°3' North and between longitude 1°00' and 1°30' West (Ghana Statistical Services, 2014 & KNMA, 2017). The Municipality shares boundaries with Burkina Faso to the North, Bolgatanga Municipality to the East, Kassena Nankana West District and Builsa North District, West and West Mamprusi District of Northern Region to the South (see Figure 3). Currently, the Municipality covers a total land area of 801.2 km^2 (Ghana Statistical Services, 2014). The highly dispersed nature of human settlements in the district makes it a vital component to ensure the well-functioning of PHC facilities to serve the remote communities.

The Municipality is mainly inhabited by two indigenous ethnic groups, the Kassena and the Nankana, with the latter being the dominant group (Ghana Statistical Services, 2014). Other migrants from the neighbouring communities and Burkina Faso reside in the Municipality. It is mainly rural, with 72.7% of the population living in rural communities (Ghana Statistical Services, 2014). The local economy is predominantly agrarian, with 82.7% of the households engaged in agriculture for survival. In addition to the scattered settlements and poor road conditions, access to high order services such as hospitals is limited to the few urban populations.

The Municipality has 27 health facilities consisting of two hospitals; Navrongo War Memorial Hospital is the Municipal Hospital, which serves as the highest point of referral in healthcare delivery within the Municipality and the University for Development Studies Hospital. In addition, it has two Health Centres and 20 functioning CHPS Compounds, one health research centre, and three clinics, of which two are Private (KNMA, 2017). Other few private health providers (Licensed over-the-counter drug stores) are present in most communities (Ghana Statistical Services, 2014; KNMA, 2017).



Source(s): Authors' construct, 2021

Figure 3.
Map of Kessena-Nankana East Municipality showing the Location of health facilities

3.2 Research methodology

3.2.1 Study design and method of analyses. The study adopted a mixed-method research approach to investigate the challenges of CHPS that have affected their utilization in three (3) selected communities in the Kassena-Nankana East Municipality. It employed a combination of qualitative and quantitative research design to explore the dilemma of CHPS in providing quality PHC services. Data were collected from household heads, Community Health Officers, local authorities, and community volunteers through semi-structured questionnaires and interview guides. The interviews were conducted in a face-to-face mode in March 2018. The data was recorded with a digital recorder complemented with handwritten notes in a field notebook.

3.2.2 Study population and sample size. For this study, three CHPS zone (communities) out of the 20 functioning zones were purposively selected to investigate the challenges of CHPS compounds in service delivery in the Kassena-Nankana East Municipality. These include Manyoro, Nyangua and Pindaa CHPS facilities. The factors considered in selecting these communities includes media publication on the physical condition of the facilities, service provision of these facilities, accessibility to the communities given the span of the studies, and the accessibility of these communities to higher order services in the Municipality. A total of 2,506 households constituted the three selected communities.

3.2.3 Sample size, sampling technique, and data collection procedure. In calculating the sampling size, Slovin's Equation was used to ensure representation for analysis. Out of the 2,506 households (Ghana Statistics Service, 2014), using a confidence level of 95% and an error margin of 0.08, a total of 147 households were sampled. Using the household proportion as a determinant (see Table 2), 75, 40 and 32 household questionnaires were sampled for Manyoro, Nyangua and Pindaa, respectively. However, a total of 110 households were interviewed. The study's main objective is to identify challenges facing CHPS facilities and how they affect their ability to deliver high-quality PHC service to the communities. The daily preview of the gathered data demonstrates a certain degree of commonality in the responses [3]. The authors then unanimously agreed to terminate the data collection process upon reaching 75% of the sample data for each community. Following this procedure, 56, 30 and 24 questionnaires were administered in Manyoro, Nyangua and Pindaa, respectively. The simple random sampling technique was used to select households in the selected communities for interviews. Purposive sampling was then used to select CHOs, CHVs and Assembly Members of the communities chosen for interviews.

3.2.4 Data analysis. All quantitative data gathered were manually coded and inputted into Statistical Package for Social Scientist (IBM SPPS Statistics, *version 20*) for analysis. Using descriptive statistical analysis, the results generated were grouped according to thematic areas to aid the analysis of the case studies. In the same way, all the interview and qualitative data in audio recording and handwritten notes were transcribed and analysed using NVivo 12 software. This is supported with descriptive analysis of quantitative data on various selected factors. In a nutshell, the study adopted both content and thematic tools to interpret and analyse the data (i.e. interactive process of inductive and deductive analysis). Content-wise, the analysis categorized the relevant themes that support the research objective. We analyse the transcribed interviews using an iterative procedure to enable the understanding and interpretation of the themes.

4. Results

4.1 Socio-demographic characteristics of respondents

Table 3 presents the basic socio-demographic characteristics of the respondents. Out of the 110 participants, 41.8% are males, and the remaining 58.2% constitute females. The majority fall in the age bracket above 60, while the average age was 48.7. About 70% of all the respondents were married, with an average household size of 5.1. Based on religion,

Community	Households	Percentage
Manyoro	1,276	50.9
Nyangua	683	27.3
Pindaa	547	21.8
Total	*2,506*	*100*

Source(s): Authors' construct, March 2018

Table 2. Proportion of samples selected from the study communities

Variable	Frequency	Percentage (%)
Gender		
Male	46	41.8
Female	64	58.2
Age		
21–30	10	9.1
31–40	22	20
41–50	17	15.5
51–60	23	20.9
60+	38	34.5
Marital status		
Married	77	70
Single	1	0.9
Divorced	4	3.6
Widowed	28	25.5
Religion		
Christianity	64	58.1
Islam	4	3.6
African traditional	42	38.3
Education		
Primary	18	16.4
JHS/Middle school	15	13.6
SHS	8	7.3
Tertiary	6	5.4
Non-formal	2	1.8
No education	61	55.5
Occupation		
Farming	61	55.5
Trading	23	20.9
Formal work	9	8.2
Unemployed	13	11.8
Other activities	4	3.6

Source(s): Field survey, March 2018

Table 3. Socio-demographic data of respondents

Christianity dominates with 57.8%. Illiteracy was higher as 55.5% of the participants had no formal education. Due to a low level of education, the majority rely on seasonal farming (55.5%) as a source of income and livelihoods.

4.2 Healthcare services delivered by the CHPS

Per the design of the Community-Based Health Planning and Services (CHPS) programme, the facilities are expected to deliver certain basic services, which include: ante-natal and post-natal care, maternity and child health, vaccination, family planning, health education and promotion, as well as treatment of minor diseases and sicknesses (Adongo *et al.*, 2013; Ministry of Health, 2016; Nyonator *et al.*, 2002; Oladipo, 2014; Wiru *et al.*, 2017).

As indicated in Table 4, it was found from the field survey that the CHPS facilities are not delivering all the stated services of the programme. The results show that only the Manyoro CHPS facility renders all these services, including mini laboratory works. Currently, the Nyangua and the Pindaa facilities are not rendering ante-natal and post-natal care, maternity, and child health services to the communities. This indicated that the facilities, though present in the communities, are not providing the essential health services that meet the communities'

needs. An interview with the CHOs disclosed that the facilities lack the specialized staff to render these services to the communities. Midwives who are specialized in maternity and child healthcare were lacking in these communities. This is a major challenge in the provision of health services in rural communities. In the Nyangua community, a CV stated that:

> The midwife who was sent here only visited the compound and never showed up because there was no light in the facilities. (CV, Nyangua, March 2018)

The CHPS facilities at Nyangua and Pindaa are no longer providing outreach services to communities. The outreach activities remain the prime service of the CHPS owing to its pragmatic design as a PHC strategy. At present, these facilities are not providing listed services, thereby turning the CHPS into clinics for treating minor ailments. Pindaa and Nyangua CHPS do not conduct outreach services or door-to-door visitation. The CHO explained that there are no resources and the logistics and appropriate staff to undertake such services as he cannot deliver all the services alone. He asserted that:

> Currently, I am the only health official here. My colleague was transferred to another CHPS three months ago, and there has not been any replacement since he left. (CHO Nyangua, March 2018)

Since the facilities are not rendering these services that define a CHPS compound, some community members turn to have a different view of the role of the facility. The absence of the outreach service and concentration on treating minor ailments turned the facilities into clinics instead of PHC facilities. This creates misconceptions among community members about the function of the facility. Communities view CHPS as clinics or hospitals and demand treatments reserved for hospitals and clinics alike.

> The clinic over their only treats common sicknesses. There is no Doctor [Medical Officer] in the facility to handle peculiar cases like surgical operations, blood infusion, etc. (Household head, Pindaa, March 2018)

4.3 Challenges confronting the CHPS

The study identified several challenges that limit the ability of the CHPS facilities to deliver high-quality services to rural communities. As revealed in the study, these challenges fall within the health system and input factors (see PHCPI Framework). These challenges stretch health quality management infrastructure, including drugs and supplies, facility infrastructure and equipment, workforce, funds arrangement and lack of supervision of CHPS facilities.

(1) Facility infrastructure and equipment

Furnishing the facilities with logistics is critical to enable CHPS facilities to function effectively as PHC providers. As indicated in the National policy, CHPS must be equipped with essential equipment and a good health facility. This is a crucial component to aid the CHOs and CHVs to provide proper and high-quality health services to their clients. A cursory

Services	Community		
	Manyoro	Nyangua	Pindaa
Outreach service	+	−	−
Maternal and child health	+	−	−
Ante-natal and post-natal care	+	−	−
Treatment of minor ailments	+	+	+
Health education	+	+	+
Vaccination	+	+	+

Source(s): Field survey, March 2018

Table 4. Health service provision by the CHPS facilities

assessment (refer to Appendix 1) of the facilities' equipment indicated that all the facilities lack essential items such as bicycles, motorbikes, refrigerators, tables and chairs, delivery beds, and benches, among other essential tools. Inadequate logistics and equipment make it difficult for CHOs to embark on outreach services and perform other essential care to the communities. For instance, an engagement with CHOs of Pindaa and Nyangua CHPS facilities indicated that the facilities have no motorbikes or bicycles to support them in their daily routine. CHOs either cut off such services or render them at their own cost to the communities.

> This CHPS compound has no motorbike, not even a bicycle to be used for the outreach services. We have an annual action plan for our outreach programmes. Since there is no motorbike, we must either abandon the activities or render them at our own cost. (CHOs, Nyangua, March 2018)

> We used to go out with the health officer at the facilities for outreach activities, but now we can no longer go. There is neither a motorbike nor a bicycle at the facility. (CV, Nyangua, March 2018)

Second, the field visit shows that the community have CHPs compounds available to deliver health care. However, the CHPS compounds lacked maintenance which resulted in their deplorable condition. An engagement with local leaders and community members in the three communities show that the facilities have never undergone any major maintenance since their establishment (over ten years). For instance, the Pindaa CHPS compound is in its ruinous state with a leaking roof, cracked walls and broken doors (see plate 1). Though the other two facilities (Manyoro and Nyangua) are in bad condition, the Pindaa facility is at its worse stage with broken doors, leaking roofs, cracked walls, and damaged furniture. Community members and CHOs stated that the facilities should be maintained to attract health personnel to stay in the community.

> Sitting under the facility is quite frightening. We have been killing snakes almost every week . . . and anytime it is raining, the whole place gets flooded due to the leaking roof and ceiling. I agree to travel from Navrongo to the community to do my work and go back each day than to risk my life in this rotten building. (CHO Pindaa, March 2018)

> The extent of damage to which this facility has gotten to, it does not qualify to be called a health facility. Many of our community members, though, expressed bad sentiments about it. It is the only facility near here. (Household head Pindaa, March 2018)

Poor infrastructure design was also noted as one of the challenges of CHPS to provide the appropriate services to the communities. Again, the design of the Pindaa health facility did not incorporate a labour room to support the provision of delivery services. This situation is worse off due to the unavailability of nurses and a midwife at the facility.

Women during labour are always carried on motorbikes or tricycles to access delivery services at the Municipal Hospital (about 15 km away from the community) (Pindaa Assembly Member, March 2018).

(2) Drugs and supplies

The study revealed that CHPS facilities frequently face the problem of drugs shortage. Shortage and irregular supply of the drugs to the CHPS compound was identified as a big challenge in all three CHPS facilities. At present, PHC service at CHPS is made and funded by the National Health Insurance Scheme (NHIS). CHOs complained that they lack a regular and adequate supply of drugs to administer proper treatment to patients. The issue was blamed on the NHIS capitation policy.

> The problem of unavailability of drugs is due to the health system arrangements and NHIS capitation grants. The government owes most of the suppliers a huge sum of money. Because of the delay in the payment, suppliers only give out limited quantities to the district hospital. (CHO, Manyoro, March 2018)

Furthermore, other diagnostic tools were generally unavailable at the three (3) facilities. The study shows that Rapid Diagnostic Test (RDT) kits for diagnosing Malaria (the most prevalent sickness) were in short supply at the facilities. The CHO of Nyangua community revealed that they get these kits in limited quantities anytime they request from the district health office. Consequently, CHOs have inadequate essential drugs and supplies to deliver appropriate treatment to patients in the CHPS facilities.

(3) Workforce

The field visit showed that the CHPS lack the adequate, appropriate, and right mix of health officials at the facilities. CHOs revealed that most of the services expected to be delivered by the CHPS facilities are left out due to inadequate and inappropriate staff. Two out of the three CHPS facilities cannot provide maternity and child health services due to a lack of specialized nurses (midwives). Pindaa facilities have two health officials each. None of them is specialized in midwifery to perform maternity and child health services. In the case of Nyangua, it was revealed by the CHV that the CHPS facility used to perform delivery services for pregnant women. However, it recently lacked a midwife to provide delivery services.

> The recent midwife posted to the community visited and never came back. It is because the facility does not have electricity. (CHV Nyangua, March 2018)

In the Pindaa community, respondents complained bitterly about the lack of midwives at the facility and the suffering of pregnant women to access ante-natal and post-natal care. It was revealed that the Pindaa community does not have a resident nurse. The two health officials working in the facility do not live in the facility either in the community due to the facility's poor condition.

> The nurses do not live in our community. They always come from Navrongo (14 km) to work for a few hours and go back. Sometimes they come very late and close from the facility by 2 pm. (Household head Pindaa, March 2018)

4.4 Factors that affect the utilization of the CHPS compounds

Factors that affect the utilization of health services were examined among the household respondents. These were mainly health delivery factors as identified in Andersen and Newman's framework of health service utilization. The results showed that the healthcare system factors have negatively affected communities' utilization of the facilities.

From Table 5, it is realized that poor medication to clients was a prime challenge to community members' visitation to the CHPS compound. About 88.4% of the respondents

Factor	Percentage of respondents
Poor medication	88.4
Proximity to facility	43.8
Inadequate and inappropriate staff	76.3
Long-time waiting	23.4
High charges	1.8
Attitude of CHOs	31.8
Availability of CHOs	28.2
The physical condition of the facility	32.7

Source(s): Field survey, March 2018

Table 5. Factors that affect the utilization of CHPS compounds

acknowledged that poor quality service in terms of drugs directly inhibited their frequent visits to the facilities. Most respondents indicated a preference for licensed over-the-counter drug stores for their health needs over the CHPS compounds. This is primarily because most of the respondents or their household members have experienced poor medication over several visits to the facilities. Hence, they tend to seek PHC in private facilities than from CHPS. One of the respondents presented the situation as:

> There are not enough drugs at that facility. The only drugs that they give are Paracetamol and Amoxicillin. (Household head, Manyoro March 2018)

Another critical factor is the inadequate and inappropriate health staff available at the facilities. This was strongly affirmed by the CHOs of the various health facilities. The facilities lack midwives to administer certain services such as ante-natal, post-natal, delivery and childcare services. This explains why Pindaa and Nyangua CHPS do not provide maternity and child health services to the communities. The inadequate health personnel also resulted in long waiting times in the CHPS.

Also, the general attitude of some community health officers was found as a challenge to health service utilization. Insufficient attention towards clients and the unavailability of CHOs at the facilities tend to affect the regular visitation of the clients at CHPS compounds. The attitude of nurses has negatively affected people's patronage of the facilities. Respondents made varying complaints, including disrespect for clients, poor attention to patients' complaints (chatting with other nurses and busily using phones whilst attending to the client), not responding to clients on time, and not being ready to attend to patients. The poor attitude of the nurses towards community members affected their continuous visitation to the facilities. Some indicated that they prefer to visit the drug stores or do self-medication at home than go to the facility. In Nyangua and Pindaa, community members only visit or patronize the facilities based on non-existing alternatives (that is, when there is even a nurse at the facilities to attend to them). Some community members asserted that:

> Even if they do not treat you well or insult or shout at you, you have no option because they are the only ones to treat you in the community when you are ill. (Household head Pindaa, March 2018)

Periodic unavailability of the community health officers at the facilities has also been a factor that affected people's patronage of the facilities. The field survey revealed that health personnel are not often present at the facilities to take care of patients. Respondents stated that the nurses are not always available at the facilities to attend to them. The Pinda community complained that the nurses do not live in the community.

> Because the nurses do not live in the community, sometimes they do not even come to the facilities, especially during the rainy season. (Household head Pindaa, March 2018)

> The facility is always closed. There is no nurse at the facility all the time to attend to us. Sometimes we carry our children to the facility, and there is no one available in the compound. (Household Head Pindaa, March 2018).

The poor physical state of the facilities had tremendous effects on both the operations of the facilities and their utilization. Both the health officials and community members in Pindaa were worried about their safety under the poor facility. Participants in Pindaa rated the physical condition of the facility as bad. Though the respondents in the other communities expressed their concern about the condition of the facilities, the Pindaa facility has gone out of hand and require immediate attention. This explains why the CHOs do not reside in the community. Figure 4 gives the pictorial view of the poor condition of the facility.

Source(s): Field survey, March 2018

Figure 4.
The ruinous state of the Pindaa CHPS facility

5. Discussion

The study seeks to explore the problems facing CHPS in delivering high-quality PHC services to rural communities as well as the utilization of CHPS services. With resident nurses deployed to the communities, CHPS compounds are required to deliver certain basic health services. Despite the increasing coverage of CHPS in the country, many of these facilities are confronted with challenges that limit their ability to deliver basic health care services properly. The findings of this study are consistent with the existing literature (Assan *et al.*, 2019; Wood and Esena, 2013; Wiru *et al.*, 2017) on the challenges facing CHPS and community utilization of these facilities. Community members are willing to utilize the services of the CHPS facilities. However, the facilities cannot administer quality and appropriate health services that meet the needs of the community members. The unavailability of effective PHC service negatively influences individual patronage. This affirmed the finding by Kahabuka *et al.* (2012) and WHO/AFRO (2018), indicating that many PHC facilities users tend to undermine the facilities due to insufficient and poor-quality services.

Also, the study found that there were general non-availability of basic logistics, refrigerators for storage of drugs, diagnostic accessories and transport logistics (motorbikes and bicycles). Such principal logistics were lacking in the CHPS facilities. The CHPS concept emphasized door-to-door services as a core objective to bring health care to rural communities. Inadequate logistics and equipment at the facilities make it difficult for CHOs to fulfil this creed. As stated in the national CHPS policy (see Table 2), CHPS must be equipped with essential tools and equipment to enable CHOs and CHVs to perform outreach programmes and home visitations and the treatment of minor ailments. The absence of these services creates misconceptions and perceptions among community members about the CHPS facilities.

As indicated in the PHCPI conceptual framework, to ensure effective PHC service, it is required to have available health personnel with the requisite competencies to manage the diversity of health needs of the community. This implies that different skilled health professionals are required to provide this range of services. This was a major challenge in two of the CHPS facilities. Early studies by Binka *et al.* (2009) and Wood and Esena (2013) reported similar issues concerning the lack of midwives or any CHO equipped with the skills in midwifery to deliver maternity and child health services.

Inadequacy and unavailability of CHOs at the post, when needed, is another critical challenge to the provision of PHC services. Earlier studies (Kweku *et al.*, 2020; Woods *et al.*, 2019; Wood and Esena, 2013; Wiru *et al.*, 2017) also identified the inadequacy of health personal as a prime challenge in community health service provision. High-quality and appropriate health service in the CHPS facilities is compromised by the lack of adequate and right mix of health personnel. Also, the frequent unavailability of CHOs at the facility remains a critical factor in accessing PHC services and community utilization. Paramount to the CHPS strategy is the availability of a residing nurse to be readily accessible by the community. The study found that Pindaa CHPS does not have a resident nurse in the community. The unavailability of CHOs at post could be blamed for poor supervision of CHPS facilities by DHMT.

It was also clear from the study that the poor condition of the CHPS infrastructure is due to the lack of proper maintenance culture. The poor state of the facilities threatens CHOs and health care seekers and has multiple impacts on service provision and community utilization. CHOs and other nurses are unable or unwilling to stay in the communities due to the poor condition of CHPS facilities. As stated in earlier studies (Wood and Esena, 2013; Binka *et al.*, 2009), the facilities have suffered general structure and logistics maintenance. Inadequate staff and attrition, as identified, are directly linked to the unwillingness of CHOs to stay in such delipidated structures.

Furthermore, the PHCPI conceptual framework recognized an adequate supply of drugs as a necessary factor in implementing PHC (PHCPI, 2018a). The study found that the availability of essential drugs in all the facilities is a major challenge. Over 88.4% of the respondents in the three communities rated poor medication as one of the major factors that affect their utilization of the facilities. The situation has negatively affected people's patronage of the CHPS services and individual preferences. Wood and Esena (2013) also identified in the Komenda-Edina-Eguafo-Abrem Municipality of the Central Region of Ghana and Wiru *et al.* (2017) at Kintampo North Municipality, the then Brong-Ahafo Region, shortage of drugs has ripple effects on individual utilization of the facilities. The quality of PHC services is directly linked to the CHPS ability to ensure proper treatment of clients (i.e. good medication). Hence, this must become a priority in the implementation of the CHPS programme.

The study also identified some health system factors that affect the Utilization of CHPS facilities. These include the proximity of the facilities, the attitude of CHOs, availability of CHOs at the facilities, and inadequate medication. Similar findings were identified by Wood and Esena (2013) and Wiru *et al.* (2017). This implies that health system factors contribute significantly to determining individual utilization of CHPS facilities.

6. Limitations of the study

The researchers acknowledged the inability to interview the district level health officials and the Kassena-Nankana Municipal Assembly during the field visits. This could have provided in-depth knowledge on the findings of this research and the validation of the results from the communities' perspective. Several attempts were made to contact and interview district-level authorities, which proved futile due to targeted respondents' unavailability. This resulted in limiting the studies at the community level. However, this limitation does not disprove the findings of this study.

7. Conclusion and recommendations

7.1 Conclusion

The dilemma of CHPS in the provision of high-quality and effective PHC is demonstrated in the chronic challenges facing CHPS. The study revealed that access to PHC service has substantively increased in Ghana over the years due to the government's effort in scaling up

the CHPS strategy. However, the emphasis is on establishing PHC facilities as an indicator for measuring access to health care rather than ensuring the quality of these services. The findings show that the PHC facilities face chronic challenges that limit their ability to deliver essential health services that meet the needs of the communities. CHPS compounds lack the requisite infrastructure, adequate and right combination of health personnel, basic logistics and equipment, and the availability of drugs to ensure effective PHC services. Since the inception of CHPS, several studies have reported the challenges facing these facilities, which affect their potential to provide quality health services. As found in this study, the pressing health needs that necessitate the adoption of CHPS are currently left out in most of the facilities. Various studies, including this study, score the health system factors as the primary determinant of quality health service provision and individual utilization. It is important to note that the mere presence of the facilities does not guarantee the provision of quality health care. The availability of appropriate staff and other resources is indispensable for delivering the required PHC services in communities. Therefore, it is important to immediately respond to these challenges of CHPS and improve their capacity to function as PHC facilities.

7.2 Recommendations

Based on the findings from the research and the conclusion, the following are proposed to strengthen the capacity of CHPS to deliver high-quality PHC facilities:

(1) The District Health Management Team should intensify the supervision of CHPS to ensure they are in good standing to deliver quality PHC services.

(2) Effective procedures should be put in place to ensure adequate and regular supply of drugs to CHPS facilities. Last Mile Distribution policy serves as a stepping stone to addressing this problem. Government should ensure timely release of funds to various suppliers.

(3) The government and municipal assemblies should commit to funding the activities of CHPS and regularly maintain the facilities to keep them in good condition.

(4) Staffing of CHPS facilities is very important. There should be at least one midwife at each facility to deliver maternity and child health services.

(5) CHPS should be furnished with basic logistics and equipment to support CHOs and CHVs to effectively render the recommended healthcare services to the communities.

(6) Maternity and delivery services are crucial to the design. It is also recommended that delivery theatres and wards be incorporated in CHPS compound design to facilitate such services in most deprived areas.

Notes

1. Summary 15 steps and milestones for CHPS implementation. This document was obtained online on 01/09/2021 from PHCPI website: https://improvingphc.org/summary-15-steps-and-milestones-chps-implementation
2. https://www.pnhp.org/single_payer_resources/health_care_systems_four_basic_models.php
3. This was qualitative judgment following a cross checking of the various responses.

References

Adam, V.Y. and Awunor, N.S. (2014), "Perceptions and factors affecting utilization of health services in southern Nigeria", *Journal of Biomedical Sciences*, Vol. 13 No. 2, pp. 117-124.

Adongo, P.B., Tapsoba, P., Phillips, J.F., Tabong, P.T.-N., Stone, A., Kuffour, E., Esantsi, S.F. and Akweongo, P. (2013), "The role of community-based health planning and services strategy in involving males in the provision of family planning services: a qualitative study in Southern Ghana", *Reproductive Health*, Vol. 10 No. 1, p. 36, doi: 10.1186/1742-4755-10-36.

Agbenyo, F., Galaa, S.Z. and Abiiro, G.A. (2017), "Challenges of the targeting approach to social protection: an assessment of the Ghana livelihood empowerment against poverty programme in the Wa municipality of Ghana", *Ghana Journal of Development Studies*, Vol. 14 No. 1, doi: 10.4314/gjds.v14i1.2, available at: https://www.ajol.info/index.php/gjds/article/view/156466.

Alenoghena, I., Aigbiremolen, A., Abejegah, C. and Eboreime, E. (2014), "Primary health care in Nigeria: strategies and constraints in implementation", *International Journal of Community Research*, Vol. 3 No. 3, pp. 74-79.

Andersen, J. and Newman, R. (2005), "Societal and individual determinants of medical care utilization in the USA", *The Milbank Quarterly*, Vol. 83 No. 4, pp. 1-28, doi: 10.2307/3349613.

Aregbeshola, B.S. and Khan, S.M. (2017), "Primary health care in Nigeria: 24 years after Olikoye Ransome-Kuti's leadership", *Frontiers in Public Health*, Vol. 5, doi: 10.3389/fpubh.2017.00048.

Assan, A., Takian, A., Aikins, M. and Akbarisari, A. (2019), "Challenges to achieving universal health coverage through community-based health planning and services delivery approach: a qualitative study in Ghana", *BMJ Open*, Vol. 9 No. 2, pp. 1-9, doi: 10.1136/bmjopen-2018-024845.

Awoonor-Williams, J.K., Sory, E.K., Nyonator, F.K., Phillips, J.F., Wang, C. and Schmitt, M.L. (2013), "Lessons learned from scaling up a community-based health program in the Upper East Region of northern Ghana", *Global Health Science and Practice*, Vol. 1 No. 1, pp. 117-133, doi: 10.9745/GHSP-D-12-00012.

Binka, F.N., Aikins, M., Sackey, S.O., Aryeetey, R., Dzodzomenyo, M., Esena, R. and Opoku-Mensah, K. (2009), *In-depth Review of the Community-Based Health Planning Services (CHPS) Programme, A Report of the Annual Health Sector Review* 2009 (Issue April), Accra.

Callahan, D. (1973), "The WHO definition of 'health'", *The Hasting Centre*, Vol. 1 No. 3, pp. 77-87.

Ghana Statistical Services (2014), *2010 Population and Housing Census-District Analytical Report: Kassena-Nanakana East Municipality*, Ghana Statistical Services, Accra, pp. 1-92, available at: www2.statsghana.gov.gh.

Kahabuka, C., Moland, K.M., Kvåle, G. and Hinderaker, S.G. (2012), "Unfulfilled expectations to services offered at primary health care facilities: experiences of caretakers of underfive children in rural Tanzania", *BMC Health Services Research*, Vol. 12 No. 158, doi: 10.1186/1472-6963-12-158.

Kassena-Nankana Municipal Assembly (KNMA) (2017), *Municipal Medium-Term plan, 2018-2022*, Nnavrongo, pp. 1-450.

Kweku, M., Amu, H., Awolu, A., Adjuik, M., Ayanore, M.A., Manu, E., Tarkang, E.E., Komesuor, J., Asalu, G.A., Aku, F.Y., Kugbey, N., Anumu, F., Boateng, L.A., Alornyo, J.S., Glover, R., Letsa, T., Bawah, A.A., Kanlisi, N.S., Awoonor-Williams, J.K. and Gyapong, J.O. (2020), "Community-based health planning and services plus programme in Ghana: a qualitative study with stakeholders in two Systems Learning Districts on improving the implementation of primary health care", *PLoS ONE*, Vol. 15 No. 1, pp. 1-24, doi: 10.1371/journal.pone.0226808.

Maillacheruvu, P. and McDuff, E. (2014), "South Africa's return to primary care: the struggles and strides of the primary health care system", *The Columbia University Journal of Global Health*, Vol. 4 No. 1, pp. 10-14, doi: 10.7916/thejgh.v4i1.4886.

Ministry of Health (2005), *Community-Based Health Planning and Service:The Operational Policy 2005*, 20th ed., Ministry of Health, Accra, pp. 1-63.

Ministry of Health (2016), "National community-basic health planning and service (CHPS) policy; Accelerating of universal health coverage and bridging the access inequity gap", available at: http://www.ghanahealthservice.org/downloads/MOH_CHPS_Policy_Final.pdf.

Ministry of Health (2017), "Essential medicines list", *Essential Medicines List*, 7th ed.

Ministry of Health (2018), *Holistic Assessment of 2017 Health Sector Programme of Work*, Ministry of Health, Accra, pp. 1-110.

Nyonator, F., Abgadza, C., Gbeddy, D., Nyarku, G., Jones, T.C., Miller, R.A. and Phillips, J.F. (2002), *Community-Based Health Planning and Services (CHPS) in Ghana: A Multi-Level, Qualitative, Assessment in the Volta Region*, Ghana Health Services, Accra, pp. 1-48.

Nyonator, F.K., Awoonor-Williams, J.K., Phillips, J.F., Jones, T.C. and Miller, R.A. (2005), "The Ghana Community-based Health Planning and Services initiative for scaling up service delivery innovation", *Health Policy and Planning*, Vol. 20 No. 1, pp. 25-34, doi: 10.1093/heapol/czi003.

Oladipo, J.A. (2014), "Utilization of health care services in rural and urban areas: a determinant factor in planning and managing health care delivery systems", *African Health Sciences*, Vol. 14 No. 2, pp. 322-333, doi: 10.4314/ahs.v14i2.6.

Olalubi, O. and Bello, I.S. (2020), "Community-based strategies to improve primary health care (PHC) services in developing countries. Case study of Nigeria", *Journal of Primary Health Care Gen Practice*, Vol. 4 No. 1, pp. 1-6, available at: www.scientonline.org.

PHCPI (2018a), *Conceptual Framework*, PHCPI, available at: https://improvingphc.org/phcpi-conceptual-framework.

PHCPI (2018b), *High-Quality Primary Health Care*, PHCPI, available at: https://improvingphc.org/improvement-strategies/high-quality-primary-health-care.

Phillips, J.F., Bawah, A.A. and Binka, F.N. (2005), "Accelerating reproductive and child health program development: the Navrongo initiative in Ghana", *Social and Behavioral Science Research*, Population Council, New York, Vol. 208, pp. 1-30.

Rifkin, S.B. (2014), "Examining the links between community participation and health outcomes: a review of the literature", *Health Policy and Planning*, Vol. 29, pp. 98-106, doi: 10.1093/heapol/czu076.

Russell, S. (2008), "Community-based health and planning services: decentralizing Ghana's health system", *GU Journal of Health Sciences*, Vol. 5 No. 1, pp. 1-8.

Sulemana, A. and Dinye, R.D. (2014), "Access to healthcare in rural communities in Ghana: a study of some selected communities in the Pru district", *European Journal of Research in Social Sciences*, Vol. 2 No. 4, pp. 122-132.

WHO/AFRO (2018), *Primary Health Care Programme in the WHO African Region from Alma-Ata to Ouagadougou and beyond (Draft)*, WHO, Brazzaville, pp. 1-72.

Wiru, K., Kumi-Kyereme, A., Mahama, E.N., Amenga-Etego, S. and Owusu-Agyei, S. (2017), "Utilization of community-based health planning and services compounds in the Kintampo North municipality: a cross-sectional descriptive correlational study", *BMC Health Services Research*, Vol. 17 No. 1, pp. 1-22, doi: 10.1186/s12913-017-2622-4.

Wood, A.E. and Esena, K.R. (2013), "Assessment of community utilization of CHPS services in Komenda-Edina-Eguafo-Abrem (KEEA) municipality in the central region of Ghana", *Journal of Biology, Agriculture and Healthcare*, Vol. 3 No. 8, pp. 63-81.

Woods, H., Haruna, U., Konkor, I. and Luginaah, I. (2019), "The influence of the community-based health planning and services (CHPS) program on community health sustainability in the upper west region of Ghana", *International Journal of Health Planning and Management*, Vol. 34 No. 1, pp. e802-e816, doi: 10.1002/hpm.2694.

World Health Organization (1978), *Primary Health Care, Report of International Conference on Primary Health Care Alma-Ata, USSR, 6-12 September 1978*, World HealthOrganization, Geneva.

World Health Organization (2017), "Primary health care systems (Primasys): comprehensive case study from Ghana", *World Health Organization*, available at: http://www.who.int/alliance-hpsr.

World Health Organization (2018), "Quality in primary health care", *Health Policy and Planning*.

Further reading

Dalaba, M.A., Stone, A.E., Krumholz, A.R., Oduro, A.R., Phillips, J.F. and Adongo, P.B. (2016), "A qualitative analysis of the effect of a community-based primary health care programme on reproductive preferences and contraceptive use among the Kassena-Nankana of northern Ghana", *BMC Health Services Research*, Vol. 16 No. 1, pp. 1-8, doi: 10.1186/s12913-016-1325-6.

Nyarko, P., Wontuo, P., Nazzar, A., Phillips, J., Ngom, P. and Binka, F. (2000), "Navrongo demographic survey system", *INDEPTH Monograph*, Vol. 1 No. part C, pp. 1-13.

Phillips, J.F., Binka, F.N. and Nazzar, A. (1995), "The Navrongo community health and family planning project", *Studies in Family Planning*, Vol. 26 No. 33, pp. 121-139.

Appendix

Table A1.
A cursory assessment of CHPS equipment and logistics

Equipment and logistics	Manyoro	Nyangua	Pindaa
Thermometer	+	+	+
Stethoscope	+	+	+
Rapid diagnostic kit	+	+ (limited)	−
Weighing scales (for adults and babies)	+	+ (adult)	+ (adult)
Outreach kit	+	+	+
Motorbike	+	−	−
Bicycles	−	−	−
Refrigerator	+	−	−

Source(s): Field survey, March 2018

Corresponding author
Barnabas Addi can be contacted at: addibarnabas@gmail.com