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Reconciling primary healthcare delivery with social media: A case study of Cape Coast, Ghana

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ABSTRACT

Background: In bringing healthcare closer to individuals in their natural environment, Ghana rolled out the Community-based Health Planning Services (CHPS) with a corresponding increase in the training and deployment of qualified community health officers (CHOs) to provide primary healthcare at community level.
Objectives: Since primary healthcare thrives on the active engagement/participation of key stakeholders within the community and coupled with the increasing adoption of technologies in health, the study examines how technological platforms like social media are incorporated in healthcare delivery at the community level regarding the trends, institutional framework, opportunities, and challenges.
Design: Using the case study approach, a semi-structured interview is used to engage six community health nurses of four CHPS zones in the Cape Coast Metropolis of Ghana.
Results: A thematic analysis of the data reveals that WhatsApp is highly useful for informing users either on one-on-one basis or as a participatory group platform. However, since there is no policy backing the use of social media for health delivery at this level, the practice tends to be at the discretion of CHOs, thus exposing such initiatives to some ethical concerns.
Conclusions: With no formal policy in existence, the CHPS initiative are missing out on the inherent opportunities provided by social media to deepen primary healthcare at the community level. Accordingly, the study recommends formal policy guidelines, as well as on-the-job training and incorporating social media skills in the curriculum for community health training institutions to respond to the demands and trends of this contemporary era.

1. Background

After the Alma-Ata Declaration in 1978, the need to bring healthcare closer to individuals within their natural environment became obvious to global health agencies and the health sectors in many countries (Cotlear et al., 2015; Derry, 2017; World Health Organization [WHO], 2019). Primary Health Care, according to the World Health Organization (1981) is defined as "essential health care based on practical, scientifically-sound and socially-acceptable method 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 system, of which it is the central function and main focus, and of the overall social and economic development of the community. It is the first level of contact of individuals, the family and community with the national health system bringing health care as close as possible to where people live and work and constitutes the first element of a continuing health care process" (p. 32). To ensure improved access to quality health service, there is the need to consider how service is organized, managed, and delivered to those who need it at the right time. It is for this reason that the idea of decentralization is pursued by many health regimes to make healthcare responsive to the needs of the population at every level – from national to the sub-district level. Globally, there has been an increase in nurses working outside of the

Abbreviations: Community-based Health Planning Services, CHPS; Community Health Officer, CHO; TBA, Traditional Birth Attendant; ICT, Information and Communications Technology.

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hospital setting, a community-focused strategy seen as potent in meeting numerous health targets (WHO, 2010; Berman, Kozier & Erb, 2012). Unique to community health nursing is the opportunity for nurses to learn and develop partnership skills with all stakeholders and key actors in their communities. Community health care focuses on the primary care level of the healthcare delivery system, which is dedicated to the promotion and maintenance of health, the prevention of disease, the management of common episodic disease, and the monitoring of stable or chronic conditions (Bovbjerg & Ormond, 2013; Mona, 2016; WHO, 2018).

Due to consistent change in demographics, as well as changing disease patterns and reforms in global health financing, there has been growing demand for innovations in healthcare delivery (Cotlear et al., 2015; WHO & World Bank, 2013). In addition, the information and communication technology (ICT) revolution has affected healthcare delivery especially in disseminating health information to populations with limited access to information (Rouleau et al., 2015). The timely availability of accurate health information is crucial in health delivery, thus necessitating the integration of popular technologies such as social media. Social media are platforms for social networking, content sharing, web publishing, and Wikis, with examples including Facebook, Flickr, Twitter, Instagram, and Blogs (Casella, Mills & Usher, 2014; McCay-Peet & Quan-Haase, 2016). Social media technology is increasingly being applied in different aspects of healthcare, a trend which has been propelled by an equally increasing application of mobile technology in health (Agarwal et al., 2016; Chilvers, 2011; Casella et al., 2014; Sulley, 2018). For instance, Kung and Oh (2014) indicated that in 2009, Twitter was used effectively during the pandemic flu to predict and track disease outbreaks by analyzing message contents. Several other pieces of evidence abound in how social media technologies have been utilized. These include the sharing of health information among healthcare professionals (Kung & Oh, 2014; Ventola, 2014) and the transfer of knowledge from practitioners in advanced countries with others in Low- and Middle-Income countries (Hao & Gao, 2017). Other uses of this technology are the direct communication with patients to augment clinical care, and for patients to share experiences, receive medical education and alerts (Hao & Gao, 2017; Lau, 2011; Ventola, 2014). To Casella, Mills and Usher (2014), nurses have brought some balance to work systems by the adoption of technology in their work even though there is room for more improvement.

Notwithstanding the many virtues of social media extolled, they could pose potential risks to healthcare stakeholders in their over-reliance in healthcare delivery (Hao & Gao, 2017). Instances of distribution of poor-quality information, damage to a professional image, distractions, breaches of patient privacy, and violation of personal-professional boundaries, as well as legal issues have been associated with the wrongful application of social media in healthcare contexts (Antheunis, Tates & Nieboer, 2013; Hao & Gao, 2017; Ventola, 2014). Whereas literature is replete with the role of social media in the health delivery process in other jurisdictions, very little is known of how this concept is incorporated in healthcare operations at the basic level of the healthcare continuum in Ghana.

In Ghana, significant successes in the health milestone were recorded as far back as 1977 (even predating the Alma Ata Declaration) after the recognition of the community health concept (and its subsequent adoption) in improving healthcare access (Yeboah et al., 2019). For instance, Guinea worm eradication, elimination of childhood killer diseases, family planning, and maternal health improvement have all been realized because of the decentralization of healthcare access (Baatiema, Sumah, Tang & Ganle, 2016). Ghana's effort at responding to and improving primary healthcare needs at the community level are currently spearheaded by the Community-Based Health Planning and Services (CHPS) concept. The Population Council International and Ministry of Health (2009, p.35) explained the CHPS concept as "the mobilization of community leadership, decision making systems and resources in a defined catchment area (zone), the placement of reoriented frontline health staff known as Community Health Officers (CHO), with logistics support and community volunteer systems to provide services according to the principles of primary health care (PHCPlus)". The Ghana Government introduced CHPS in 1999 as an initiative to deepen community healthcare, and this has led to a surge in the training of Community Health Nurses in Ghana (Ministry of Health, 2014). The precursor of CHPS was a piloted project called the Community Health Family Planning which was nursed in the northern part of Ghana to experiment the best model to meet the health needs of underserved communities (The Population Council International & Ministry of Health, 2009). This pilot project revealed that when health staff resided within the communities in which they served, it positively impacted on key health indicators such as the efficient delivery of family planning services and resources, maternal mortality and morbidity and infant and child health (The Population Council International & Ministry of Health, 2009). The CHPS initiative, true to its communal nature, mobilizes grassroots support including community labour and building technology/materials to create a sense of community ownership right from the very onset. Health is practically administered at five levels in Ghana – Teaching/Referral hospitals; Regional Hospitals; District Hospitals; Polyclinics; Clinics; and CHPS (Ministry of Health, 2014). In essence, the CHPS zones belong to the basic level of care in the healthcare delivery continuum focusing on partnership with households, community leaders, and social groups (Ministry of Health, 2016). With a dearth of doctors and other high-level medical professionals available for deployment into the communities, the CHPS initiative was seen as a timely intervention in reducing the huge gap in the health professionals-to-citizens ratio (Ministry of Health, 2014). Hitherto, Traditional Birth Attendants (TBAs), volunteer health workers, traditional rulers, and family heads were historically relied upon in Ghana's healthcare system to help in community mobilization, health awareness creation, and overall implementation of Primary Healthcare strategies (Baatiema et al., 2016; Derry, 2017). Due to its strategic significance, CHPS was tied to other poverty alleviation and community development strategies such as the Ghana Poverty Reduction Strategy.

Despite the faith reposed in the programme, an observation revealed that CHPS was not as responsive and readily meeting the expectations of the intended goal (Kweku et al., 2020). In a study that involved four focused group discussions and two general discussions among CHPS stakeholders in two System Learning Districts, Kweku et al. (2020) found out that lack of efficient engagement between community health nurses and community members was a major drawback of the programme. Meanwhile, owing to the improving mobile telephony in Ghana, there has been an increase in mobile phone (or smartphone) ownership across all social stratifications (Akanferi et al., 2014; National Communication Authority, 2018; Pew Research Center, 2015). Aryee (2014) underscored the increased use of mobile phones for disseminating and seeking of health information in rural communities in Ghana. Inherent in the definition of primary health care is cost efficiency whilst not jeopardizing increased participation at the grassroots level. As a community-focused approach to healthcare targeting the vulnerable who lack access to healthcare, it is intriguing to determine the role social media plays in meeting this purpose by the CHPS initiative. Hence, the current study explores whether (and how) managers of CHPS zones use social media in their operations. This overarching goal is simplified into key objectives including:

To ascertain the extent to which social media is incorporated in the operations of CHPS.

To investigate if (how) institutional frameworks have influenced the use of social media by managers of CHPS facilities.

To discover the opportunities and challenges in the application of social media in Primary Health Care.

2. Materials and methods

2.1. Study setting and research design

The study was carried out in some CHPS compounds within the Cape Coast Metropolitan area anonymized as CHPS Compound A, CHPS Compound B, CHPS Compound C, and CHPS Compound D. The areas in reference are located few miles away from the Atlantic Ocean in the capital of the Central Region of Ghana – Cape Coast. Around the enclave of the study location is the University of Cape Coast, a public university. The predominant occupations of residents within the study area are trading and artisanal works, commercial driving, as well as fishing and fish processing. The main health facility, which is the university hospital, apart from strictly serving core members of the university community, is also located away from the communities in the study areas implying that one would have to incur transportation cost to access primary healthcare in that facility. Thus, the University hospital serves as a referral institution.

The case study research design was adopted for the study. This is a research design which intensively studies a phenomenon, person or group of persons, community, or group of communities (Fabregues & Fetters, 2019; Yin, 2014). A key tenet of the case study design is the examination of complex phenomena in their natural settings in a holistic manner for an enhanced understanding (Yin, 2014). In this study, in-depth data relating to the application of social media technologies in CHPS operations were gathered from community health nurses in multiple communities. The nature of this study depicts the key characteristics necessary for the adoption of the case study approach. First, social media in community health practice is barely a norm in Ghana, and this is in harmony with the key strength of the case study design in enhancing the understanding of a less researched topics. Again, in this study, community health nurses are engaged in their natural work environments, which is also key in case study research. Closely related to this, the current study helps to understand how nurses accommodate and negotiate the nuances of administrative, legal, and social frameworks within which they operate at the community level. Finally, since by their very nature case study designs have descriptive, explanatory, and exploratory capacity, this flexibility allowed for the research problem to be studied at multiple locations in this study. In essence, evidence from multiple CHPS compounds leads to the thorough exploration of the research question. That is, in collecting datasets about this phenomenon from different sources, the results will be strengthened for a deeper insight (Fabregues & Fetters, 2019; Swanborn, 2010).

2.2. Study population, sampling, and eligibility criteria

The study population entails health personnel stationed at CHPS compounds within CHPS Compound A (2 CHOs), CHPS Compound B (3 CHOs), CHPS Compound C, (3 CHOs), and CHPS Compound D, (2 CHOs). Due to their number, the study aimed at engaging the entire population. As such, the key requirement for inclusion in the study was for one to be a staff member of the included CHPS compounds, as well as one's willingness and availability to participate.

2.3. Data collection, management, and analysis

The instrument of data collection was a semi-structured interview guide with questions informed by the study objectives and developed based on the reading of previous literature. The interview guide entailed questions on the nature of the CHPS operations, extent of use of technology, levels of use of social media in their operations, as well as the benefits and challenges of using social media. The interviews were conducted in the month of August 2019. Each participant was interviewed within her station (office) at the CHPS compound. Each interview session lasted between 45 and 60 min and was audio recorded with participants' permission. After all the interviews had been conducted, they were transcribed, and the transcripts of the interview was shared with respondents to ensure that the content and context had been correctly recorded by the researcher. Apart from providing an opportunity to make corrections and/or additions, sharing the transcripts with the participants also ensured construct validity (Yin, 2014).

Before commencing analysis, the researchers read through the transcripts while listening to the audio-recording to cross check any omissions. Analysis was done by first coding statements/sentences and bringing related codes together to form categories. Each transcript was coded independently by two authors to ensure intercoder reliability. Coding was done inductively to allow the themes to naturally emerge from the data. In doing this, a four-column MS Office Word table was created with headings such as 'raw transcript, codes, categories, and themes. Sentences or group of sentences which connoted an idea were thus represented by a code, including the occasional use of exact words from the transcript as codes. Related codes were grouped together, thus providing an organized representation of the data. This led to the identification of categories/sub-themes which were subsequently refined upon discussion with the research team members to eventually agree on the broader themes representing the entire data in response to the research questions.

2.4. Ethical concerns and researcher positionality

Researcher experience, confidence and competence brought into the research process, and how these background characteristics are negotiated to enrich the study are very important in qualitative studies such as this. Our choice of the topic, study setting, research participants and methodology are appropriate for many reasons. To begin, all four researchers have expertise in human-centred healthcare. The lead author comes from a health information background, making it very appropriate for a study that looks at social media and public health. More significantly, two of the co-authors are registered nurses with accumulated years of rural practice and research experience. The other author is an expert in health administration. All researchers have previously used the case study research method. As a result, the research team possesses the needed understanding of the tools, strategies, and the nuances to efficiently collect the relevant information from the relevant sources.

Before the study was conducted, permission was sought from the Municipal Health Management Team. The study was considered as being of minimal risk since no personal health record or personal data was to be collected. This notwithstanding, it was made expressly clear to participants about their right the leave the study at any time without having to explain whatsoever. Participants were assured of privacy and confidentiality in the study. Participants were also assured beforehand that the interview transcripts would be shared with them before publication, and this was duly done. Based on this thorough explanation and assurance, each participant gave their verbal informed consent to the interviewer and as granted the permission for the interview to be recorded. Throughout the study, participants data has not been shared with third parties. Accordingly, a unique identity number was linked to their data (both the audio and the interview transcript) instead of using their real names. And in reporting, this unique ID was used in the case of a direct quote. The recorded interview audio file is stored on a secure hard drive with the first author. This will be completely deleted after publications.

3. Results

The study set out to investigate the extent to which social media is incorporated into the operations of the CHPS zones; whether institutional frameworks govern the use of social media in CHPS operations; and the prospects and challenges associated with the application of social media in primary healthcare. All the participants engaged had been formally trained as Community health nurses with not less than four years of practice. From the analysis of the data, three themes emerged –

situational responsivity, policy indifference, with the last being propriety and possible misapplication. These have been presented below.

3.1. Situational responsivity

One broader theme the data represents is situational responsivity. This overarching theme commonly runs through as a description of the nature of community health nursing work and how social media fits in as a beneficial technology. Sub-themes under this broader theme include receptivity/openness, communal and collaborative, as well as improvisation and technological. Generally, the participants pointed out the nature and focus of their work as being communal and collaborative. As claimed by a respondent,

> "We have been trained and deployed with the mandate of handling some basic health conditions. Health issues that are very common in the communities we serve are malaria, cholera, childhood diseases etc. These are the issues that, as a health facility, we handle often" [CCR, 4].

Confirming this, another respondent states,

> "We are expected to focus on the prevention of these conditions more than the treatment of them. This CHPS compound responds to the basic health needs of the people. We serve close to 2,000 residents of 5 adjoining communities. Here, the closest health facility with a medical officer is about 5 miles away. So, we are called upon to practically handle not only emergencies but also, non-referral situations which do not make sense to take to hospitals in bigger towns" [CCR, 2].

Participants were very particular about the collaborative nature of effective primary healthcare delivery. To a respondent,

> "Our work thrives upon the availability of participatory community stakeholders. As you may be aware, we [the nurses] don't hail from this community. We are not from this community, we are only here due to work. A core aspect of our work entails health promotion. And to be able to embark on effective health promotion, there is a need for you to know the community values and culture. You need to 'belong' to the community" [CCR, 1].

Again, the operations of the CHPS compounds are very responsive to the evolving nature of the information landscape by relying on both simple and complex virtual and offline communication strategies which appreciate local nuances. The communities had shifted away from relying on traditional mass media to currently depend largely on local broadcasting services as depicted by the existence of functional community information centres with public address systems. This discovery is in line with a respondent who revealed that,

> "These days, if you say you are using radio or television to give health information or education, the target might be so broad that it may fail to address the peculiar needs of the communities we serve. As such the public address system of the various communities are often used to relay health-related messages" [CCR, 3].

Far from the norm, it was also revealed that in some communities, the managers of the CHPS compounds augmented the word of mouth strategy with other technological or electronic means of reaching out to participants. To substantiate this, a respondent argued that:

> "For the people we serve, some can read whilst others cannot; some are media or digital literate, others are not. You know that in Ghana now, even some communities we regard as typical villages have telecommunication network penetration as shown by the use of smartphone" [CCR, 1].

All the participants possessed internet-enabled mobile devices that had been installed with some social networking platforms such as WhatsApp, Facebook, Instagram, originally intended for personal use to connect to family, friends, and colleagues. It was, however, established that these digital devices and platforms were increasingly being used by respondents for the dissemination of health information in their operations. As could be found in the account of one respondent,

> "At where I work, I communicate a lot with the key stakeholders of the community such as religious leaders, Assembly and Unit Committee members [local government representatives], family heads. I am often able to share health-related information like audio, video, text – via internet-enabled devices to these contacts for them to also share to their contacts" [CCR, 6].

To another,

> "We have a kind of Community Health Team. It is like a miniature District Health Management Team, with the Assembly member of the area keenly participating. We periodically meet to discuss the various health concerns. We have formed a WhatsApp group where we do discussions of some important issues online. I post health-related information to the group page as timely as possible. So far, WhatsApp is the only social networking platform I use to interact with them. It is effective and supports the face-to-face initiatives that we have" [CCR, 4].

3.2. Policy indifference

Policy indifference also emerged as a broader theme with sub-themes including slow proactivity and untapped opportunity. Regarding the policy position on the use of social media in healthcare operations at CHPS compounds, participants considered the issue as not having generally come to the attention of the Ghana Health Service and other health regulators. Social media has not been formally considered as a resource in healthcare delivery at the CHPS level. Neither has there been any directive baring CHPS managers from utilizing the innovation. However, participants believe that it would not be out of place if proper guidelines were developed to ensure its incorporation into CHPS operations. To a respondent,

> *"The* situation is that Ghana Health Service has not, by policy, developed any guidelines for us to use social media in our operations" [CCR, 6].

Some extol the practical arguments for the incorporation of social media in healthcare delivery at the community level. As explained by a respondent,

> "The 'P' in the CHPS initiative connotes a lot. It is about 'disease PREVENTION' or 'health PROMOTION'. This is about educating the individual to develop and sustain healthy behaviour. Having a direct connection with the people we serve is very necessary. And fortunately, the trends of the times have made it very possible to equally reach out to people, without necessarily meeting them in person, to carry out effective health education" [CCR, 3].

In justifying that the time was ripe to formally promote the use of social media in CHPS operations, another respondent opined that,

> "I believe it should be formalized for us to incorporate social media in our operations. Currently, if you have observed, some hospitals have Facebook, WhatsApp, and Twitter links on their official websites, and this is good. I can assure you that in the communities we serve, there are people who are skilled in the use of these channels of communication. If we should connect with them via social media platforms, we can be extra closer to the community members we serve and through this, disease surveillance could even improve the more" [CCR, 2].

As pointed out by a respondent, the absence of policy guidelines

regulating the use of social media to support healthcare in CHPS operations was a stumbling block in fully utilizing the benefits of this innovation.

> "In creating the health record or profile of our patrons, we do take their contact details. And, even though a lot of them have smartphones with Facebook, WhatsApp and other social media applications installed, the issue is, you cannot just take it [their numbers] and start connecting with them for purposes of health promotion. It frowns upon the right to privacy. However, if it becomes a policy for us to network with our clients for rendering service, we can always seek their consent and do that. I strongly believe that there should be guidelines for us to be able to use this innovation appropriately" [CCR, 5].

3.3. Propriety and possible misapplication

This double-barreled theme emanated directly from the constituent categories/sub-theme – propriety and possible misapplication. It emerged from the study that innovations in healthcare delivery such as social media come with both prospects and obstacles. A participant orated this to show the opportunities associated with the use of social media to share vital health information:

> "Sharing health information using Facebook, WhatsApp and the rest is very fast. Only a few people may stop by and read a poster or flyer. But the same message could be crafted and translated into many languages in different formats to instantly reach the targeted audience. I readily recall the period when Ebola broke out in some African countries in 2014, social media was relied upon a lot in getting the people informed and educated as to the best preventive measures. The Ghana Health Service developed simple multi-media messages and sent them across. And in no time, almost everyone received it on their phones" [CCR, 1].

The negative effects of social media in health operations were also outlined. As stated by a respondent,

> "To me, attention should be focused on the other issues. Will it not distract our work? Will the people not use it for purposes not ascribed? Won't people be using it to peddle falsehood? Of course, it is true that these days, when it comes to social media, even people at the villages can participate. Especially, teens or the youth use it a lot. So, it will make it so much easier for us to reach out to them, for instance, in discussing or addressing sexual and reproductive health issues. However, we still need to consider the likelihood of misuse" [CCR, 5].

In all, participants believed that notwithstanding the associated drawbacks in the application of social media in CHPS operations, it was still worth considering their incorporation. As summed up by a respondent, "

> It seems to me that the advantages of using social media in the operations of the various CHPS compounds far outweigh the disadvantages. The most important issue is about ensuring strict adherence to the ethics and tenets of the profession" [CCR, 3].

4. Discussion

It could be realized that true to its intent, the CHPS initiative, based on the findings from the study, is meeting the health needs of their catchment communities. This fits into the thinking of the framers of the policy that the people trained to manage the CHPS compounds would meet community health needs through free basic health screening, preventive health education, and minimal interventions such as treatment of minor ailments, immunization, antenatal, childbirth, and postnatal care (Ministry of Health, 2014). Operations at the CHPS compounds, as enumerated by participants, demonstrated a clear focus on preventive care or health promotion, which agrees with the basic principle of community health nursing, as stated by Berman et al. (2012). To them, community health nursing utilizes a population-focused, community-oriented approach aimed at health promotion of an entire population, and prevention of disease, disability, and premature death in a population (Berman et al., 2012).

As noted by Baatiema et al (2016) and Derry (2017), TBAs, volunteer health workers, traditional rulers and family heads were relied upon at one time or another in Ghana's healthcare history to help in community mobilization, health awareness creation, and overall implementation of the country's Primary Healthcare strategy. From the study, managers of the CHPS compound, in providing efficient service, still do rely on these key stakeholders, signifying that the ultimate factor of success in delivering efficient primary health care depends on how these community stakeholders could be brought on board.

Again, practitioners (participants) have come to the notion that different and innovative approaches need to be adopted to reach out to people in promoting primary health care. It was, therefore, not out of place to discover that aside from the word-of-mouth strategy, participants were, on their own, incorporating social media technologies in organizing community stakeholders, disseminating health-related information, and even reaching out to clients. This finding agrees with the position of Casella, Mills and Usher (2014) that health workers are now recognizing the role technology plays and are accordingly using them in some aspects of their operations. Apart from making it practically easier in reaching a larger audience, using technology allows for tailored services to be delivered to individuals with unique health needs.

Participants have, therefore, not been oblivious of the many benefits social media bring to health, especially with their infusion into community healthcare. Like the recognition of Kung and Oh (2014) concerning the use of Twitter in the 2009 pandemic flu, the participants also readily recall how social media platforms were used to send multimedia messages to Ghanaians to help manage the Ebola scare in 2014. Certainly, not only is the use of social media beneficial in addressing health concerns at the larger population level but also, their benefits can trickle down to communities with inequitable healthcare access.

Regarding the lack of policy direction in the use of social media in community healthcare operations in smaller communities and villages, the situation may not be strange. As noted, in most health regimes, regulations or guidelines on how technologies such as social or new media could be incorporated into health operations seldom exist at health facilities (Hao & Gao, 2017; Tuckett & Turner, 2016). As managers of CHPS compounds, participants believed that if the CHPS initiative is truly hinged on preventive care or health promotion, then social media platforms are a trustworthy ally. This supports the call by Spector and Kappel (2012) that social media are appropriate platforms for delivering healthcare, but their usefulness can never be fully realized until they are backed by appropriate guidelines. However, the recognition and subsequent call for regulations are because health operations occur in very delicate environments, and social media could be a source of distraction as pointed out in literature (Antheunis et al., 2013; Brady et al., 2017; Ventola, 2014). Moreover, when a message is sent in error or is fake, it could cause greater damages long before it could be realized and reversed.

It is believed that existing social media platforms, when utilized appropriately can be a powerful communication tool that can rapidly reach audiences across the globe, with many healthcare institutions and practitioners beginning to integrate social media features in their operations. In the view of Kung and Oh (2014), social media have revolutionized how people communicate and share information, with about 83% of healthcare professionals using Facebook. Likewise, Hao and Gao (2017) posited that social media can connect healthcare practitioners in Low- and Middle-Income countries with specialists from advanced economies, especially in the exchange of ideas about treatment options.

In a similar recognition, Ventola (2014) pointed out that some physicians are beginning to communicate directly with patients through social media to augment clinical care. Again, social media provide an opportunity for patients to share their experiences, receive medical alerts and healthcare education (Hao & Gao, 2017). These platforms also afford healthcare professionals to collaborate, share information, promote healthy behaviour, and interact with patients, caregivers, colleagues among others (Hao & Gao, 2017; Lau, 2011; Ventola, 2014). Consequently, health information is delivered to a large population efficiently to improve well-being. For instance, as earlier pointed out in Kung and Oh's (2014) observation about Twitter and the pandemic flu, the social media platform was used effectively during the pandemic flu to predict and track disease outbreaks by analyzing message contents. It is the belief of Ventola (2014) that healthcare professionals can use social media to improve health outcomes, develop a professional network, increase personal awareness of news and discoveries, motivate patients as well as provide health information to the community. To Casella, Mills and Usher (2014), nurses have brought some balance to work systems by the adoption of technology in their work even though there are still some untapped opportunities.

5. Limitations

The study must be understood within the context of its limitations. First, since this is a qualitative case study research design which engaged a very small sample, the findings cannot be generalized. However, rigorous processes were duly followed to collect detailed data including the sharing of the transcribed data with respondents for confirmation. Again, there was an effort to reduce bias during analysis through inter-coder reliability made possible by the rich background experience of the researchers in the field of enquiry and the methods applied. As such, the study can be replicated with a greater level of transferability despite the outlined shortcomings. Another drawback of the study is the absence of the views from other stakeholders. However, whereas conceding that the policy dimension could have been further understood had other stakeholders in the health sector (such as district/regional/national health administrators) been interviewed, the absence of this will not impact the study's outcome. This is because the study's main objective was to understand the situation as pertains at the natural micro level and from the direct actors (community health nurses) within this space. Hence, the current data source was enough to meet this objective.

6. Conclusions and recommendations

From the foregoing, it could be concluded that the inclusion of social media in healthcare delivery at the basic level is practically possible and highly beneficial. As it stands now, the technology is employed at the discretion of managers of some CHPS compounds in certain aspects of healthcare delivery despite the absence of formal guidelines. There is no doubt that using social media in healthcare delivery would be very resourceful in community mobilization and health education or health information dissemination. However, the absence of formal guidelines appears to have limited the confidence of nurses working in remote areas and further scares them from using social media in healthcare delivery as it is unclear if doing so goes outside of their mandate.

It must be noted though, that just like any other technology, social media technologies and platforms bring with them both opportunities and challenges. It is, therefore, recommended that key health policy actors such as the government, through the Ministry of Health, provide guidelines for the application of social media in the CHPS concept to provide a standardized approach for all practitioners to follow. Subsequently, it will be prudent to take another look at the training of healthcare professionals in a bid to incorporate social media into healthcare operations at the basic level. In the interim, all stakeholders of the 'Community Health Team' must be appropriately trained to harness the benefits of social media in health practices. Above all, there is a need for the regulatory authorities (Ministry of Health and Ghana Health Service) to develop the appropriate monitoring mechanisms to ensure that the technology is not abused but used within the scope as enshrined in the policy framework.

CRediT authorship contribution statement

Ebenezer Martin-Yeboah: Conceptualization, Writing – original draft, Investigation, Writing – review & editing. **Sebastian Gyamfi:** Methodology, Data curation, Writing – review & editing. **Joseph Adu:** Writing – review & editing. **Mark Fordjour Owusu:** Supervision, Writing – review & editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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References

Agarwal, S., Lasway, C., L'Engle, K., Homan, R., Layer, E., Ollis, S., et al. (2016). Family planning counseling in your pocket: A mobile job aid for community health workers in Tanzania. *Global Health: Science and Practice, 4*(2), 300–310. https://doi.org/10.9745/ghsp-d-15-00393

Akanferi, A.A., Aziale, L.K., & Asampana, I. (2014). An empirical study on mobile phone usage among young adults in Ghana: From the viewpoint of university students. International Journal of Computer Applications, 98(5). Accessed from: https://pdfs.semanticscholar.org/65a0/b7924d9c95dddcb8170a1185e9af69d93e06. Pdf.

Antheunis, M. L., Tates, K., & Nieboer, T. E. (2013). Patients' and health professionals' use of social media in health care: Motives, barriers and expectations. *Patient Education and Counseling, 92*(3), 426–431.

Baatiema, L., Sumah, A. M., Tang, P. N., & Ganle, J. K. (2016). Community health workers in Ghana: The need for greater policy attention. Retrieved from: *BMJ Global Health, 1*(4) Https://www.ncbi.nlm.nih.gov/pubmed/28588981.

Berman, A., Kozier, B., & Erb, G. L. (2012). *Kozier and Erb's fundamentals of Nursing.* Frenchs Fores, Australia: Pearson.

Bovbjerg, R. R., & Ormond, B. A. (2013). *The evolution, expansion, and effectiveness of community health workers.* Washington, DC: Urban Institute.

Casella, E., Mills, J., & Usher, K. (2014). Social media and nursing practice: Changing the balance between the social and technical aspects of work. *The Australian Journal of Nursing Practice, Scholarship and Research, 21*(2), 121–126.

Chilvers, J. (2011). Implementation of a Facebook page by school nurses. *Community Practitioner, 84*, 33–43.

Cotlear, D., Somil, N. I, Owen, S., Ajay, T., & Rafael, C. (2015). *Going universal: How 24 developing countries are implementing universal health coverage reforms from the bottom up.* Washington, DC: World Bank. 10.1596/978-1-4648-0610-0. License: Creative Commons Attribution CC BY 3.0 IGO.

Derry, D. (2017). Exploration of community health nurses' experiences on primary health care delivery in Nkoranza South Municipality, Brong Ahafo Region, Ghana. MPhil Thesis submitted to the University of Ghana, Legon. Retrieved from: http://ugspace.ug.edu.gh.

Fàbregues, S., & Fetters, M. D. (2019). Fundamentals of case study research in family medicine and community health. *Fam Med Com Health, 7* (e000074), 1-8. 10.1136/fmch-2018- 000074.

Ghana Health Service. (2005). *The National Strategic Plan for Community-Based Health Planning Services (CHPS).* Accra: Ghana Health Services.

Hao, J., & Gao, B. (2017). Advantages and Disadvantages for Nurses of Using Social Media. *Journal of Primary Health Care and General Practice, 1*(1).

Kung, Y. M., & Oh, S. (2014). Characteristics of nurses who use Social Media. *CIN: Computers, Informatics, Nursing, 32*(2), 64–72.

Kweku, M., Amu, H., Awolu, A., Adjuik, M., Ayanore, M. A., Manu, E., et al. (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, 15*(1), Article e0226808. https://doi.org/10.1371/journal.pone.0226808

Lau, A. S. M. (2011). Hospital-based nurses' perceptions of the adoption of Web 2.0 tools for knowledge sharing, learning, social interaction and the production of collective intelligence. *Journal of Medical Internet Research, 13*, Article e92.

McCay-Peet, L. & Quan-Haase, A. (2016). What is Social Media and What Questions Can Social Media Research Help Us Answer? In S. Luke & A. Quan-Haase (Eds.) (2016). The SAGE Handbook of Social Media Research Methods. Thousand Oaks, CA: SAGE Publishing.

Ministry of Health. (2016). National Community-based Health Planning Services (CHPS) Policy. Accessed from: http://www.moh.gov.gh/wp-content/uploads uploads/2016/02/CHPS-policy-final-working-draft-for-validation.pdf.

Mona, M. (2016). Key elements of primary health care (PHC). http://nursingexercise.com/primary-healthcare-elements-principles/.

National Communication Authority. (2017). Second Quarter Bulletin. Quarterly Statistical Bulletin on Communications in Ghana, 2(1). Accessed from: https://www.nca.org.gh/assets/Uploads/Stats-bulletin-Q2-2018.pdf.

The Population Council International & Ministry of Health. (2009). *Tutor's Guide for Community Health Nursing Training Schools: Community-Based Health Planning and Services (CHPS)*. Kumasi: National Health Learning Materials Centre. Accessed from: https://www.popcouncil.org/uploads/pdfs/2009CHPS_TrainingTutorsV1.pdf.

Rouleau, G., Gagnon, M. P., & Côté, J. (2015). Impacts of information and communication technologies on nursing care: An overview of systematic reviews (protocol). *Systematic Reviews, 4*, 75. https://doi.org/10.1186/s13643-015-0062-y

Spector, N., & Kappel, D. (2012). Guidelines for using electronic and social media: The regulatory perspective. *Online Journal of Issues in Nursing, 17*(3).

Sulley, A. M. (2018). Investigating the use of m-health for learning and clinical training by medical students in Ghana. *Electronic Thesis and Dissertation Repository., 5970*. https://ir.lib.uwo.ca/etd/5970.

Swanborn, P. (2010). *Case study research: What, why, and how?* Thousand Oaks, CA: Sage.

Ventola, L. A. (2014). Social media and healthcare professionals: Benefits, risks, and best practices. *Pharmacy and Therapeutics, 39*(7), 491–499.

World Health Organization. (1981). *Global strategy for health for all by the year 2000*. Geneva: Author. Retrieved from: http://iris.wpro.who.int/bitstream/handle/10665.1/6967/WPR_RC032_GlobalStrategy_19 81_ en.pdf.

World Health Organization. (2010). *A framework for community health nursing education*. New Delhi: Author.

World Bank. (2013). *Monitoring progress towards universal health coverage at country and global levels: A framework*. Joint WHO/World Bank group discussion paper. WHO & the World Bank Retrieved from: http://www.who.int/healthinfo/country_monitoring_evaluation/UHC_WBG_Discussion Paper_Dec2013.pdf.

World Health Organisation (WHO). (2018). Primary health care. Retrieved from http://www.wpro.who.int/topics/primary_health_care/en/.

World Health Organization. (2019). *WHO developing guidelines for recommendations on digital health interventions for RMNCAH and health systems strengthening.* Accessed from: https://who.int/reproductivehealth/topics/mhealth/digital-health-interventions/en/?.

Yeboah, B.K., Letsa, T., Mensah, E.A., & Odame-Ankrah, E. (2019). Progress of community- based health planning and services in Ghana. *GSJ, 7*(12). Retrieved online from: https://www.globalscientificjournal.com/researchpaper/PROGRESS_OF_COMMUNITY _BASED_HEALTH_PLANNING_AND_SERVICES_IN_GHANA.pdf.

Yin, R. (2014). *Case study research: Design and methods* (5th ed., p. 2014). Thousand Oaks, CA: Sage.