

A Mobile Application System for Community Health Workers: A Review

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Citation: Emmanuel G, Emmanuel AWR (2018) A Mobile Application System for Community Health Workers: A Review. Glob J Res Rev Vol.5 No.2:11

Abstract

Community Health workers (CHW) are the foundation of public health services which aimed at bridging the gap between communities, health and social service system, navigating the health and human services system and educating communities on disease prevention unfortunately, the way of sharing and accessing information for delivering the services is often very unreliable, using manual system for reporting which can cause error and falsification. Furthermore, the Staff which performs these duties often they do not have knowledge about disease and health system training or education. To address this need, developing of A Mobile application System for CHWs), which enables community health workers to automatically send report of monthly activities without using any manual input form. Making use of digital device (the smart phone, PDAs, and augmented stability the mobile application will automatically allow submit report, transfer knowledge, sharing information and receiving training by using the user interface which will be have the features like social media. Also the electronic file for entering information. The system will be recording and uploaded to a central server for use by CHWs supervisor and the health manager official.

Keywords: Community health workers; Mobile application system; Social media; Information; CHW services

Received: November 14, 2018; **Accepted:** November 24, 2018; **Published:** December 01, 2018

Introduction

A mobile Application Based on Community Health Workers provides communities health workers, over the last decade, the ownership of mobile phones in low- and middle-income countries (LMICs) has significantly increased and influenced numerous domains. It is estimated that about 95% of the world's population is currently connected to a mobile network [1]. In both urban and rural widely, as the rate of mobile devices increasingly daily, as the indications from the statics showed an estimated of 62.9 percent of the population worldwide already owned mobile phone, and the number of mobile users expect to pass 4.8 billion with over 5 billion (67%) mobile phone penetration in 2019 [2], by 2014 around 38 percent of all mobile users were smart phones and currently situation more than 50 percent use smart phone and 2.7 Billion expected to use smart phones in 2019, meanwhile Sub-Saharan Africa currently 420 million use mobile with a 43% penetration rate. According to the data, there were 731 million

SIM connections in Africa at the end of 2016. This will also rise to nearly 1 billion by 2020 [3]. An annual report released by global digital agencies, reveals that Africa has seen the fastest growth rates in internet penetration, with the number of internet users across the continent increasing by more than 20% compared to 2017. The digital report shows that in 2018 over half of the world's population is now online (4.021 billion) [4], with the latest data showing that nearly a quarter of a billion new users came online for the first time in 2017 and more of 3 billion people around the world use social media, there are dramatically rapid where in Mali shows that in Mali increasing by almost 6 times since January 2014, Rwanda has 3,724,678 Internet users in Dec/2017, 29.8% of the population, according to Rwanda Utilities Regulatory authority (RURA) [5]. This increased availability of mobile phones and their relative ease of use have led to the development of the field of mobile health (mHealth). Beside, CHWs who are frontline providers who shoulder the health service delivery burden [6], and a CHW considered like a key bridge between communities

and the health system [7]. where Community health workers (CHWs) deliver service volunteering because they are unpaid or paid lay health workers, with a varied range of training, experience and scope of practice [8], their program started global in 1950s [1s] where in Rwanda in 1995 after the genocide. With four main objectives of t: (1) strengthen the capacity of decentralized structures to allow community health service delivery; (2) strengthen the participation of community members in community health activities; (3) strengthen CHW motivation through CPBF to improve health service delivery; and strengthen coordination of community health services at the central, district, health centre, and community levels [9], where by now three CHWs defined roles and responsibilities operate approximately 100-150 households. Identifies pregnant women, makes regular follow-ups during and after pregnancy, and ensures deliveries in health facilities where skilled health workers are available. Biomes provide iCCM (assessment, classification, and treatment or referral of diarrhoea, pneumonia, malaria, and malnutrition in children younger than 5 years of age), community-based provision of contraceptives, DOT for TB, prevention of NCDs, and preventive and behaviour change activities. The existing of CHWs in Rwanda 678 doctors save 11.92 million citizens. Those are the statistics in Rwanda. That's one doctor for every 17, 581 people [9]. Even though the number is not enough they manager 98%to give vaccination coverage for seven essential childhood vaccines assist by CHWs, as the number showed the roles of CHWs has an positive impact especially for Rwanda health System, as the static shows that. In terms of coverage of maternal health services, the proportion of institutional deliveries is increasing (69% according to the 2010 DHS; 90% in 2013 according to the national health management information system, while 98% of pregnant women attend antenatal clinics at least once during their pregnancies [1]. The proportion of women who have their first antenatal consultation (ANC) during the first trimester of their pregnancy, though, was only 41 % in 2013, while only 31 % attended ANC at least four times before delivery and Malaria deaths dropped from about 490 in 2016 to 300 in 2017 according to Rwanda Biomedical Centre report [10], however above all the CHWs still faced by challenges in their daily activities because the existing Rwanda health management information system which collects data on service provision from health centres, district hospitals, and referrals Parallel with electronic information systems collect data from a CHW information system (SISCOM) [11], which receive the information collected by CHWs in in community-level service data don't address the their challenges where there are not automatic system mainly for them, still fill the form manual which lead to making errors, Difficulties of submitting weekly report/monthly report to health centre, no link between themselves and supervisor which cause them to attend the training physically instead of sharing the information non online platform, and not having an automated designed for them give them the difficulties to get updates on weights going in, [11] mainly for updates on diseases mostly epidemic ones. In order to solve the mentioned challenges, they are need of A Mobile application System for Community Health Workers to allow automatically send report of monthly

activities without using any manual input form. Making use of digital device the smart phone, PDAs, and augmented stability the mobile application will automatically allow submit report, transfer knowledge, sharing information and receiving training by using the user interface which will be have the features like social media. Also the electronic file for entering information. The system will be recording and uploaded to a central server for user by CHWs supervisor and the health manager official, the mobile application chosen because of Mobile devices have become common place in health care settings, leading to rapid growth in the development of medical software applications (apps) for these platforms, [12] numerous apps are now available to assist HCPs with many important tasks, such as: information and time management; health record maintenance and access; communications and consulting; reference and information gathering; patient management and monitoring; clinical decision-making; and medical education and training. By using mhealth will benefit economically both CHWs and Supervisors, Health centre office due the fact that. The global digital health market was valued at 80 billion U.S. dollars in 2015 and is expected to increase to over 200 billion U.S. dollars by 2020 [13]. During this time, the mobile health segment of the industry is expected to generate the second largest revenue share, reaching 46 billion U.S. dollars in 2020 [13], And Mobile health is experiencing a growth trend as consumers demand more accessibility to their medical health professionals and transparency in health care becomes more important and more efficient that mHealth applications and services reach on 43 percent of healthcare consumers, believe that application has the ability to reduces one's own health care costs [13].

Community Health Worker

The term "CHW" includes many different job titles and roles, such as lay health worker, community health advocate, and promoters, and also includes titles that involve special training/knowledge in a particular area, such as an asthma educator. Community Health Workers (CHWs) play an Integral role in addressing the barriers to medical care [14]. Despite western medical approaches and treatment availability, the poverty and the geographical distribution of physician's limits health care access, also Community Health Workers or CHWs are often the only link to healthcare for millions of people in the developing world. They contribute by conducting monitoring and evaluation exercises, disease surveillance, and providing point-of-care diagnostic support furthermore the CHWs are well established as major actors in promoting healthy behaviours and extending the reach of health systems in low and middle income countries (LMICs), there are Five evidence-based approaches for CHWs: (1) home-based antenatal care and post-natal care counselling and care coordination; (2) Continuous surveillance of all reproductive age women, pregnancies, and children under age 2 years via a mobile application; (3) Community-Based Integrated Management of New-born and Childhood Illness; (4) Group antenatal and postnatal care; and lastly the Balanced Counselling Strategy to postpartum contraception [15]. Even though are needed WHO estimates that, based on population need, there

is a shortage of about 7.2 million healthcare workers. This is expected to rise to about 12.9 million globally by 2035, are well positioned to deliver promote, preventive and some curative health services to communities while working in partnership with other frontline health workers [16]. General CHWs classified into community health educator, volunteer health worker, community health education worker [6], and Frontline health workers (FHWs) are often the first and only point of contact for people who seek healthcare services in the developing world [17]. They normally serve the urban communities to which they be affiliated and work in different field examples include midwives, nurses, pharmacists, doctors and community health workers (CHWs) in order to fill fully their guilt, CHWs also are the bridge households in their communities to skilled healthcare practitioners in clinics and hospitals by example the behaviour toward to serious illnesses or super maternal care and CHWs are best understood through a truly global health paradigm in contrast to a traditional understanding of for global health the impact of CHWs play big role in daily life to middle income countries [18]. CHWs report related and shared by all countries by inscribing the health concerns [18], CHWs can be deployed to create demand for health services; support linkages to facilities and in some instances provide basic health services [19]. Of other family's member in the society or communities and according to the research made shows that the CHWs are the key of attaining the sustainable development goals where they hold great potential in advancing progress toward the health SDG targets by enrolment essential health services toward UHC [20]. As nations build powerful, more flexible principal health care systems to reach more people, the health workers play a particularly important role in reaching isolated and vulnerable populations, also the study made, displays that CHWs have made remarkable contributions to minimizing maternal, child mortality and deaths due to infectious diseases such as HIV/AIDS and tuberculosis [20], by excellent CHWs can carry out a lot of activities to effectively prevent, control, and manage non transmittable diseases, including hypertension and diabetes [21].

Challenges Faced by Communities Health Worker

It is well clear that CHWs make a positive impact on the health and well-being of the communities where they serve communities and bridge communities to health system official, besides that, the CHWS facing with difficulties in their daily activities as Research done from Botswana, China, Mexico and Pakistan gave that there are no importance to invest more in building and operating electronic medical systems and training of human resource due to lack of medical systems and insufficient training for achieving the goal lead to the failure [22], and World Health Organization (WHO) has identified the global chronic shortage of skilled health workers in the World Health Report. This shortfall of available skilled health workers has been estimated to be as high as 4.25 million in Africa and Asia [23]; Forty seven articles indicated various challenges in the CHWs led projects. The common barriers are lack of transportation, lack of official support, poor financial capacity of CHWs, lack of accessing training for CHWs, lack of

motivation for CHWs, Huang et al. Global Health Research and Policy (2018) 3:18 Page 16 of 29 and establishing and maintaining the relationship between CHWs and target population in the community, there a Lack of infrastructure (office space working place) [23], supplies, equipment, Digital devices (smartphone, computers, printers, alternate power), and few or absence of electricity were the two most leading infrastructure barriers in LMICs. Exchanging information challenges due to limited internet services imperfect telecommunication network and no full access to phones [24]. Secondly the CHWs face the problem in organization due the insufficiency training prepared for them to increase skills and their knowledge was cited as the main barrier under this theme followed by lack of trained human. Absence of effectual coordination, management and supervision among organizational, departments and expert pecking order created communication gaps and management issues and the nature also affect the work of CHWs example: the tropical climate of the Pacific region was found to be damaging to equipment, to the lack of controlling dust-free environments brings difficulties were needed for the safety of equipment, where there are not training of staff and healthcare professionals found to be the most essential facilitator under this scenario [24].

Incomplete, faulty, rigid, fragmented and limited functionality of electronic health systems were the main technical barriers in LMICs this lead to the low outcome of CHWs in general. Additionally, overuse of technical and HIS (Health Information Exchange) not meeting the expectations of HMs which in turn had negative consequences on HIE [24], another key technical challenge was that individual patients were often not uniquely identified within the national HIS because data were usually statistical and lacked patient identification. Moreover, limited software have been developed in languages other than English which has been a barrier for low-populated countries, most of underdevelopment countries, Pacific regions, where the locals speak a number of different dialects, lack of mother tongue developed system affect CHWs from mentioned region, due to individual there are unawareness of technology, applications or processes technology and lack of timely reporting of health data and feedback from supervisors were found to be important barriers to health data management in LMICs were the most promising for financial they lack a viable business plan to sustain the HIE and acceptance by providers and patients, privacy/security concerns, usability, lack of technical support or technology gaps, missing data, disruption of workflow, start-up costs from public and private dollars, lack of experience in the concept of HIE, and interference with competition [24]. above all USAID report 2015 mentioned face a variety of challenges in performing responsibilities for CHWs, which can compromise the quality and effectiveness of the health services received by community members including Knowledge and Competency Barriers, Insufficient training leads to poor service quality, Expanding roles and responsibilities require on-going training, Weak internal systems, Lack of necessary supplies and resources [25].

Solutions to Challenges Faced by CHWS

As mentioned above, the challenges faced by the CHW is possible

to solve them in order to success achievement of CHWs, in this part, we discuss the solutions and recommendations both technical and theoretical strategies to challenges stated above, according to USAD report 2015 recommend the following actions must put in considerations, CHWs programs should include training for supervisors and other health staff to ensure appropriate support for CHW, [26] Job descriptions for CHWs should be written through an inclusive process involving CHWs and impacted health workers. Guidelines of work and targets should be based on the true expectations and take into account the time required for communicating the information required and for travel, educate community members to facilitate CHW program development early in the process to secure support. In designing CHW programs, care, (give value) should be taken to ensure that appropriate systems and policies are in place to facilitate CHW service delivery objectives, program planning should ensure that supportable and on-going resources are available to provide the supplies necessary for the assigned CHW responsibilities [26], Thoughtful consideration should be given to incentive structures as part of a strategy to retain trained CHWs, Programs should look beyond impacting CHWs to influencing the wider community, finding ways to engage the community around issues of stigma and discrimination [26], they are a need of financial support to facilitator CHWs engagement in healthcare delivery as unpaid workers. Maintaining relationship between CHWs and target population by mobilizing population, insuring long-term commitment to CHWs could greatly be influenced by regulation and continuing education for CHWs. These two factors could help village doctors building long-term perspectives of their career and motivate them to keep learning and practicing in primary health care [26], also to support CHWs there a need of Official support includes the financial and policy supports from government and the understanding from local stakeholders, beside that the training is the main solution to assist CHWs The training received by CHWs was diverse and related to various education levels of CHWs, different learning needs, too many trainees, and the training must focused especially the programs that used technological support [26]. lastly the technology support Overall, ten studies used the website or mobile phone applications to facilitate CHWs-led programs, lastly do not put aside motivate staff by offering incentives for using information in decision Hiring more staff and defining new roles and careers structures for managing HMIS suggested to facilitate health information management and sharing.

Advantage of Using Mobile Health System

To use mobile system there are need of tools designed, to help CHWs collect health data, receive, reminders in the field, facilitate community member [6], as the technologies develop fast where the economically developing countries are in revolution of 4.0 industry, where life today rely on ICT SMART industry, smart factory, according to research analysis give clear definition of Industry 4.0 as a mutual keyword for technologies and approach of benefit to chain organization. Within the modular structured Smart over the lot digit mobile devices (smart phone, ipad),

CPS communicates and work toward the same end with each other and humans in real time [27]. Both internal and cross-organizational services are offered and utilized by participants of the value chain Factories of Industry 4.0, CPS monitor physical processes, create a virtual copy of the physical world and make decentralized decisions. Even the health system should not keep behind, increasingly; new mobile information technologies are being developed, tested, and piloted with CHWs. The use of mobile technology by CHWs to improve healthcare services has intuitive appeal. mHealth tools enable CHWs to provide health services far from the clinical setting, customised control strategies scalability [28] operator interaction, feedback and control [29] wherein remote areas, and among hard to reach communities], In the health sector, research indicates that health professionals view e-health as an opportunity to enhance patient care by facilitating communication, reducing administrative costs, improving efficiency and flexibility as well as a way to market health services and products [29]. Under this decentralized approach to service provision, health care can become more accessible to patients due to reduced time and expense of travel [6] and due to the ability to seek out patients who are the targets of stigma and discrimination [6], and in under developing countries (low and middle-income regions) innovators frequently lack access to low-cost training, adequate technologies, funding initiatives, and multi-sectorial networks that are interested in facilitating and adopting social innovations [30]. The use of mobile technology makes a trusted method of data gathering that needs to be used in future [31], by using mobile phone to send data and receive follow-up request by CHWs [30], and the mobile phone chosen due that it improves outcomes to CHW in their daily activities by assist them to send weekly report and sharing information. And further more mobile tools help community health workers to improve the quality of care provided, efficiency of services, and capacity for program monitoring [32], the mobile phone combining with wireless technology used in implementation of health system for its rapid technical development, falling market prices of the products Increasing network coverage, and fast increase of cell phones user rates all over the world, deep review on eHealth approaches (SMS-based, app-based, VRS-based, and telephony-based) was the objective of the research also [33] better supervision of health workers and accountability for their performance Improved communication between supervisors and workers access to real-time data and reports to support quality improvement. Applications and effectiveness of the use of mobile tools Based on the review of the literature, five key mHealth functions that support communities workers in providing effective care to their communities were identified as follows: data collection and reporting, decision-support tools and training, emergency referrals, alerts and reminders, and supervision, applications and effectiveness of the use of mobile tools by FHWs based on the review of the literature, five key mHealth, functions that support FHWs in providing effective care to their communities were identified as follows: data collection and reporting, decision-support tools and training, emergency referrals, alerts and reminders, and supervision, emergency referrals. Four studies included in this review suggested that

timely collection of patient data and reporting to the health facility facilitated the process of Developing and alert system for emergency referrals of patients [34], alerts and reminders. This theme includes mobile-based work planning through customized patient-specific alerts and reminders about follow-up visits sent to an FHW's mobile phones. Nine reported on the utility of sending appointment and care reminders to FHWs. Once relevant patient data are entered onto a system, regular alerts and reminders can be sent to both the FHW and the patient for follow-up care based on pre-programmed treatment algorithms [35], reported that sending mobile reminders to CHWs resulted in an 85% reduction in average number of days clients were overdue for a visit. A cluster- randomized trial show the tangible positive impact of technologies to health system care one example is Electronic PRO data capture (ePRO) with software packages to administer questionnaires, storing data, and presenting results has facilitated PRO assessment in hospital settings. Compared to conventional paper-pencil versions of PRO instruments, ePRO is more economical with regard to staff resources and time, and allows immediate presentation of results to the medical staff [36], that is reasoned by the powerful combination of four facts; (a) mobile technology has experienced a rapid technical development, (b) falling market prices of the products, (c) increasing network coverage, and (d) an explosive increase of cell phones user rates all over the world. The application of mobile and wireless technology in the health sector has the potential to change the face of global health systems [36].

Use of eHealth and mHEALTH

eHealth is the use of information and communication technologies (ICT) for health as defined by the World Health Organization (WHO) [37], embracing eHealth can indeed facilitate equitable distribution of healthcare to the marginalized areas and vulnerable population groups (Table 1) [38].

Devices social media and mobile apps for healthcare

The world is heading in the age of information, where knowledge and information will be key to reach the industry 4.0, where world economy relay to the technology. We are also entering the age of the customer, in which more than ever the customer is going to determine what they want. My tomorrows is one example of the changing look of business models, in this case, directly connecting customers and pharm, a number of mobile apps which support device handling have emerged, including my Dario and sleep bot among others [14]. The definition of

“social media” is broad and constantly evolving [39], and with social media can hence allow users to generate, share, receive, and comment on social content among multiusers through multi-sensory communication. Many social media tools are available for health care professionals (HCPs), including social networking platforms, blogs, micro blogs, wikis, media-sharing sites, and virtual reality and gaming environments, Social media sites provide a variety of features that serve different purposes for the individual user [39], and due to their daily activities, CHWs are the among health care profession where they need the use of an application similar to social media, which can serve them, because Social media provide HCPs with tools to share information, to debate health care policy and practice issues, to promote health behaviour's, to engage with the public, and to educate and interact with patients, caregivers, students, and colleagues [39], HCPs can use social media to potentially improve health outcomes, develop a professional network, increase personal awareness of news and discoveries, motivate patients, and provide health information to the community [40] to access social media, there a need social networking has to be present, and medically focused professional communities have been established, The non-profit Student Doctor Network is a popular social community site for undergraduate and practicing physicians, dentists, and veterinarians in the U.S. and Canada, not only that but there many social network which can help CWs to gain skills and knowledge like the medical directors Forum (www.medicaldirectorsforum.skipta.com) as social networking site for medical directors that provides a verified, secure, closed-loop environment for peer-to-peer interaction [39]. The resources on this site include a comprehensive library, discussion groups, calendar postings, and alerts. Other physician networking sites include QuantiaMD (www.quantiamd.com), Doctors Hangout (www.doctorshangout.com), and Doc2Doc (doc2doc.bmj.com). Many of these sites require doctors to submit their credentials to a site gatekeeper, recreating the intimacy of a “physicians lounge” in an online environment [40], also the site also provides dedicated group pages for medical directors working in a wide range of sectors, including: hospital, veterans affairs, medicare, group practice, employer, behavioural health, managed care, correctional facility, and long-term care, as CHWs serves public mostly in rural Social media can save them because it have created vast global networks that can quickly spread information and mobilize large numbers of people to facilitate greater progress toward public health goals [41], although the social media has an positive impact also has the negative (dangers). The main limitation of health information found on social media and other online sources is a lack of quality and reliability [39]

Table 1: MeSH term use in PubMed Database Search Table.

Technology User	Community health, worker's, caregiver's, health personnel, emergency medical, services, health personnel, health services, home care services, maternal health services, medical staff, mentors, nursing staff, patient care team, peer group, rural health services
Technology Device	Cellular phone, computers, handheld, internet, medical records, systems, computerized, mobile applications, software, text messaging, user-computer interface
Use of Technology	communication, costs and cost analysis, health behaviour, health communication, health knowledge, patient acceptance of health care, patient compliance, quality of health care, treatment outcome
Outcome	Health behaviour, health communication, health knowledge, cost and cost analysis

it can damage the image of professional by of unprofessional content that can reflect unfavourably on HCPs, students [42], and affiliated institution. On social media there are is many negative repercussions resulting from the breach of patient confidentiality. Such infractions which may expose HCPs and health care entities to liability under federal HIPAA and state privacy laws [39]. Is a mobile application system designed for CHWs as health care professional for digitalized the system used [19]. The Genexus Technology chosen because it used because can generate source code for many programming languages like C#, Java, RPG and Cobol to AS/400, Ruby, Visual FoxPro for Windows, NET Mobile, Objective-C, Java for Android and NET for Windows Phone (**Table 2**). And also can create Data Base Management System using both SQL and oracle, which can support all devices. The outcome of the system is the paper forms replaced by digital forms generated in an extensible mark-up Language (XML) and the upload and updating of information back-end server where there is not loss of the information to develop the system Three the module produced Symbian operating system (developed in JavaJ2ME) android operating system (developed in Java) and the last one focused on multi-platform mobile (developed in GeneXus for Smart Devices).

Rafiki

Mobile and wearable computing devices called Rafiki which assists CHWs in decision making and facilitates collaboration among them [20] the work chosen because is very related to mobile health system by its objective of helps in sharing disease, patient context, and demography related facts by using semantic management of data. While mhealth system for CHWs is aimed on sharing, accessing the data and it facilitates the collaboration between CHWs and healthcare providers for community health-care through cloud based and Peer-to-Peer (P2P) networks which like connecting CHWs to health manager official, and the similarities between Rafiki and Mobile Health System for CHWs both can provide CHWs with a mobile platform for accessing information at point-of-care in underserved areas. The architecture of the system has the following main components,

Table 2: Summary of advantages.

Advantages	Examples	Author
Acceptability	Positive, acceptance, Fuel saving	Surka et al.
Data Quality	Enhanced protocol compliance	Florez-arango et al.
Cost	Decrease in costs, mostly due decrease in expense	Lemay et al.

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knowledge management, collaboration management, and decision support which are likely my desired system.

Future mobile application system are expected to include larger databases as well as CDSS for CHWs daily activities, comparable to features that are already built into the GeneXus smart devices an mobile application system designed for CHWs as health care professional for digitalized the system used Future mobile application system are expected to include larger databases as well as CDSS for CHWs daily activities, comparable to features that are already built into the GeneXus Smart Devices an mobile application system designed for CHWs as health care professional for digitalized the system used, furthermore, I recommend the designer (research) to do deep research on how mhealth can be used by CHWs not only to exchange information but also, to help them for diagnosis and predicting diseases in earlier stage, which will lead to the brightness of health care services worldwide.

Conclusion

The purpose of this paper is to provide both current and aspiring ICTs with a guide to Mobile Health System and the potential areas which are lack. The lack of Mobile Health System detailed in this article indicates that many of the problems (challenges) facing CHW-oriented ventures drive from social and Information Technology issues. Health staff and NGOs looking to use CHWs as the link between communities and health care system issues should have a trough understanding of the technologies (Mobile Health System) and infrastructure barriers that could hinder the accessing and sharing information of technologies I model described in this article. Most of the mobile health system outlined in this paper, with the expectation of data collection, do not fail to the technological solutions imposed by nations already imply use of mobile health system, mostly developed nations, instead these technologies fail to scale beyond a pilot due to ICT infrastructure and social barriers.

These barriers are more difficult to overcome than simply designing technological solutions. Further study is being done on CHW-oriented Mobile Health System models in specific countries, including Uganda, Tanzania, and Zambia. While having a broad of having implemented Technologies Mobile Health System is important, it is vital to begin to apply these concepts to real-world applications in the developing world. With extensive accessibility and useful of these technologies, it is hoped that CHWs and other health related organism in the developing world can begin to create durable, sustainable solutions for addressing the world's health needs.

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