

Review of Communicative Approaches to Health Services Delivery in Five Developing Nations

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ABSTRACT

Improved health care to reduce child mortality and improve maternal mortality by year 2015 was targeted by the United Nations at its Millennium Summit of 2000. However, these goals were not fully realized as some member countries, including Nigeria, could not attain the threshold reduction in under five mortality by two-third by 2015, just as she recorded a high rate of maternal mortality in the rural areas. Hence, these two goals were broadened to 'ensure healthy lives and promote well-being for all at all ages' in the Sustainable Development Goals (SDG) plan for 2030. Attainment of the SDG on health requires provision of both preventive and curative education for the citizens about the correct health attitudes and behaviours to adopt. The conventional mass media and the social media are often employed to inform and enlighten the populace on outbreak of diseases and how they should be managed or treated. However, the limitation of these media of communication has been established in literature. Also, the efficacy of relaying health information through the interpersonal channels is withering due to the fact that relating partners or groups seem to be more consumed by socio-economic pursuits to enjoy the luxury of interpersonal touches to relationships. Hence, this paper examines the communicative approaches to healthcare delivery practices in Malaysia, Ethiopia, Ghana, Niger and Nigeria. Findings reveal that Nigeria ranks lowest in the adoption of ICT in health care delivery than the other four countries examined. It therefore, advances an improved health care service delivery by motivating Community Health Workers (CHW). Indeed, research has shown that targeting and involvement of relevant community members in health promotion provide a strategic communication approach to improving maternal and child health in communal societies Hence, the intention of this article is to examine the role of Information and Communication Technology (ICT), especially mobile phones that has become the most basic form of ICT in human interactions, in health care practices in Malaysia, Ethiopia, Ghana, Niger and Nigeria.

Keywords: Health index, developing nations, Community Health Extension Worker, mobile phone, Information Communications Technology (ICT) tools.

Reference Format:

Abdulbaqi, Saudat Salah; Omoloso, Aisha Imam and Udende, Patrick (2020), Review of Communicative Approaches to Health Services Delivery in Five Developing Nations *Afr. J. MIS*, Vol. 2, Issue 4, pp. 56 - 68.

1. INTRODUCTION

Communicating health and health-related issues is paramount to enthrone a healthy society. This circumstance entails communicating well enough through enhancing strategies to promote good health behaviors, prevent acquisition and spread of illnesses as well as to make wealth out of health. In an assessment of Primary Health Care (PHC), facilities' service readiness in Nigeria (Kress, Su & Wang, 2016) indicates that a country that is blessed with healthy people has the potentials to harness developmental initiatives and deliver itself from poverty. In many countries around the world, poverty is more endemic in the rural and semi-urban areas than they are in urban cities. Although there are various parameters to adjudge a settlement as rural or urban, some universal indicators as applicable to Nigeria involves: residents' literacy levels; population; communal existence as against the individualistic living that characterize the urban cities.

Others include, number and nature of houses as well as availability of socio-infrastructure amenities such as schools, hospitals, good road networks, and electricity. All these criteria are expected to promote easy access to, and diffusion of information on the quality of rural healthcare service delivery. However, developing countries seem to be paying lip service to the often chanted aphorism: 'health is wealth' as the conduct of a quantum of the population do not seem to live by this belief. Hence, the abysmal performance of the country's health sector as a measure of development (Kress, Su & Wang, 2016, Enabulele, & Enabulele, 2016)

Researchers (Gambo, 2017, Kress, Su & Wang, 2016, Idowu, 2015, Jimoh, Pate, Lin, & Schuman, 2012), bemoan the poor state of the healthcare system in developing countries which they attribute mainly to excessive concentration on infrastructure development without complimentary communication for optimal utilization of the facilities and proper monitoring. For instance, findings from a general household survey conducted in 2013 revealed that 75% of rural respondents live within two kilometres of a PHC facility, while 95% reside within eight kilometres. Yet, Kress, Su and Wang, (2016), report a low level utilization of maternity care with only about 36% of births occurred in health facilities with 38% assisted by skilled personnel. This development gets one worried about effective communication on available healthcare facilities especially in the rural areas. Over the years, radio stands out as a potent medium

of information dissemination to the rural dwellers (Kolawole, Adeigbe, Zaggi, & Owonibi, 2014). But the effect has weakened with proliferation of radio stations and their tidal-wave of programming that compete for the audiences' limited time and attention. Besides, radio lacks the potential of enforcing compliance with message content if not complemented with personal touches from community members. Hence, the intention of this article is to establish the place of Information and Communication Technology (ICT) tools in improving the performances of Nigeria on health outcomes. It is also aimed at exploring the relevance of Community Health Workers (CHWs) in quality health care delivery at the PHC level.

2. THEORETICAL AND CONCEPTUAL REVIEW

The study adopts Technology Acceptance Theory developed by Fred Davis in 1986. The basic assumption of the theory is that people will be inclined to accept a technology if they consider it to be useful to them and the ease of its use. Therefore, every new technology has to possess overriding attributes over the incumbent ones to spur people to drop already existing ones and key into the new one. Perhaps, this consideration inclined Lai, (2017) to posit that with the advanced dynamic growth of technologies, how fast people are accepting these technologies depend on a number of factors such as availability of technology, convenience, people's need, and security.

But Davis, (1986) limits the number of factors for accepting technology when he argues that essentially, people accept technology due to two specific reasons. These are Perceived Usefulness (PU) and Perceived Ease of Use (PEU). Perceived Usefulness is defined as the potential user's subjective likelihood that the use of a technology will improve his/her action and Perceived Ease of Use refers to the degree to which the potential user expects the target system to be effortless. Accordingly, Venkatesh, and Davis, (2000), further notes that the belief of the person towards a technology may be influenced by other factors referred to as external factors. Stretching this line of thought, Venkatesh, and Davis, (2000) bring in the dimension of perceived usefulness and perceived need construct which means more detail user's mental assessment of the match between important goals at work and the consequences of performing job tasks using the technology serves as basis for forming perceptions regarding the usefulness of the technology. Researchers (Olushola

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& Abiola, 2017, Ma & Liu, 2007), have variously used Technology Acceptance Theory.

Applying Technology Acceptance Theory to this study, it is conceivable that before the advent of Information and Communication Technologies, Nigerian rural women seeking healthcare delivery services relied mainly on interpersonal interaction (by word of mouth) in relating with healthcare givers, and to limited extent, the traditional mass media. The presence of ICT has witnessed a remarkable departure from that practice as patient-practitioner relationship has been greatly enhanced. Women in search of health care services can even access and explore productive information that complements professional advice they get from their healthcare givers online.

Health issues in developing countries are a top development priority (Quagho, Dario, Karapiperis, McCormack, Tomson, et al., 2016). This could be seen in the organization of the hierarchical arrangement of health system to facilitate treatment of patients in these countries. Their healthcare system is classified into primary, secondary and tertiary levels. The Local Government Areas (LGAs) are responsible for funding and monitoring primary healthcare delivery to ensure health for all at the grassroots. The State Governments are responsible for providing secondary care while the Federal Government is responsible for health policy formulation, regulation, oversight functions, provision of tertiary care and medical education (Kress, Su & Wang, 2016; Enabulele, & Enabulele, 2016; Kahn, Yang, & Kahn, (2018). Regrettably, the LGA level, which is the closest to the citizens, does not receive adequate funding, thus; creating a very weak base for the healthcare system (Kress, Su & Wang, 2016).

According to the national health policy document of developing countries, health issues that relate to maternal and child healthcare, including family planning services, are within the purview of the primary healthcare centres (Gambo, 2017). These centres constitute Goals 4 and 5 of the Millennium Development Goals (MDGs) which aimed at reducing child mortality (MDG4), improving maternal health (MDG5) and the attending Goal 3 of the Sustainable Development Goal (SDG): ‘ensure healthy lives and promote well-being for all at all ages’ (Leon, Sanders, Damme, Besada, Daviaud, Oliphant, Berzal, Mason, & Doherty, 2018). This presupposes that developing countries are making deliberate efforts to attain the UN’s Sustainability Development

Goals (SDG) well ahead of the 2030 deadline (see www.un.org/sustainabledevelopment/sustainable-development-goals/). Nigeria did not meet the target of MDG 4 as it could not attain the threshold reduction in under five mortalities by two-third between 1990 and 2015 (Grilli, Ramsay, & Minozzi, 2002).

Report by Grilli, Ramsay and Minozzi, (2002), indicates a high incidence of infant and under-five mortality. A high rate of maternal mortality was recorded in the rural areas than it is in urban areas. Reasons adduced for this included poverty, poor health-seeking behaviour (patients get to critical conditions before seeking health care), lack of access to obstetrics services and poor quality of health services (Allgaier, & Svalastog, 2015). Though furnished with minimal facilities, it fails to measure up to expectations on the health service delivery index, thus, increasing the rate of the country’s mortality and morbidity, especially among the low-income earning citizens. In order to address this problem, much is expended on the training of Community Health Workers (CHWs).

Studies (Kress, Su & Wang, 2016) have confirmed that there are better healthcare facilities and improved healthcare delivery systems at the urban areas than are obtainable at the rural areas. It is affirmed that existence of more private health centres coupled with the solvency of urban dwellers to engage in Out-of-Pocket payment for health services has given them an edge over their rural counterparts. This has continually led to an increase in the existence of more private health centres in the urban areas (Kress, Su & Wang, 2016). However, this noticeable gap can be bridged with a proper utilization of the health facilities in the rural areas and appropriate deployment of human resources. Consequent upon a comparative analysis of the performance of Service Delivery Indicators (SDI) among some African countries of Kenya, Senegal, Tanzania, Uganda and Nigeria, (Kress, Su & Wang, 2016) concluded that Nigeria has underperformed on important health outcomes such as child and maternal mortality. Kress, Su and Wang, (2016), further pointed out that the PHC is underutilized with an average of 2.8 outpatient visits per health worker per day, despite the massive investment in healthcare infrastructure.

This experience could be due to the fatalistic attitude of the rural poor in Nigeria towards issues. As OECD Health Policy Studies (2010), observed in their investigation into the problems that confront the attainment of the Millennium Development

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Goals (MDGs) in Nigeria, religion plays a vital role in determining compliance with health advocacies among adherents of all belief systems in Nigeria; be they Christians, Muslims or Traditionalists. The nonchalance is more pronounced in multigravida (women who have been pregnant for at least a second time) with record of safe deliveries outside of medical facilities. Such women with high self-efficacy repeatedly take the risk of having home deliveries with the assistance of ‘experienced’ elderly mid-wives or Traditional Birth Attendants (TBA). The justification for this practice can be found in the report of (Kress, Su & Wang, 2016), who disclosed that 45% of Nigerians live on less than two dollars per day while 28% live on less than 1.25 dollars per day. Impliedly, the high poverty level has compelled the rural poor to live life as it comes, damning the probable consequences; be they favorable or otherwise. Hence, the high rate of child and maternal mortality in Nigeria, some of which are not captured in the database, can be minimized if CHWs with a similar socio-cultural background are engaged to enlighten the target group.

It is noteworthy that in Nigeria and other developing countries in general, the health care conditions is very poor, and it is a challenging issue mostly in providing health care services to people living in rural areas (Shekar, & Otto, 2014). In order to buttress this, the duo point out that eleven percent of the world’s population is projected to be in Africa with estimated 22% of the global disease burden, and there is need of additional 1.5 million health workers to fill the existing human resource. This assertion lends credence to findings by other studies.

In their investigations to unravel the myth surrounding the poor performance of the health sector in Nigeria, (Kress, Su & Wang, 2016) assessed the healthcare delivery facilities and practices in 12 out of the 36 states of the Federation; selecting two states from each of the six geo-political zones in Nigeria. One of the indicators on which they measured service delivery was Time Spent with Patients and Service Productivity. The investigation revealed that health workers spend an average of 11 minutes with a patient. This situation may not avail the opportunity for a very rigorous patient-health worker interaction as the patient would be conscious of others on the queue, wanting to see the healthcare provider. However, a patient’s interactions with CHWs may yield better results. As indicated, Venkatesh and Davis (2000), such CHWs constitute part of perinatal women’s

(pregnant and nursing mothers) sources of maternal health information who should be strategically engaged for maternal health promotion.

The short duration of interaction between patient and healthcare givers is also reported to have hampered correct management of maternal and neonatal complications. For instance, report by (Kress, Su & Wang, 2016) in Kogi and Niger States (North Central Nigeria), indicates that the percentage of the correctly diagnosed common condition is 50% and 41% respectively while the percentage of correctly managed maternal and neonatal complications are 4% and 16% respectively. In Ekiti and Osun States (South-Western Nigeria), the percentage of the correctly diagnosed common condition was 43% and 57% respectively while the percentage of correctly managed maternal and neonatal complications were 3% and 19% respectively.

The ratio of health worker to citizens is 2.52:/1,000, a figure that is above the continent’s minimum average of 2.3/1000 population set by the WHO. Yet, the nation faces health challenges. This situation is compounded by a large number of trained Community Health Extension Workers (CHWs), who are either unemployed/unengaged or not appropriately deployed to the communities. The acronym “CHWs” refers to health workers, who have received standardized training outside the formal nursing or medical curricula. Countries use various names and training approaches for those cadres. The CHWs in Nigeria are referred to by USAID, (2012), as CHWs when providing services at the community level.

Their dilemma earlier stated suggests non-fulfillment of the objective to which the Nigerian National Council approved the policy to allow CHWs to provide health services including injectable contraceptives to communities and encouraged the Nigerian state Ministries of Health to scale up this practice. USAID, (2012), seems to justify the need for a critical health issue of injectable contraceptives, for example, based on the fact that in spite of keen interest for its use by women, in Nigeria, 32 percent of women with an unmet need and an expressed desire to use contraception in the future said they would prefer to use contraceptives. This article assumes that, if the entire health workforce and the CHWs are productively engaged in Nigeria, the country is likely to attain the goal of health for all the SDG. This happy circumstance requires effective

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communication with the use of appropriate information and communication gadgets.

3. METHODOLOGY AND DATA SOURCES

This study relied principally on published materials sourced through Google scholar and professional data bases such as PubMed, WHO, *OECD Health Policy Studies*, OECD, Paris. *J Public Health Africa*, *J Pharm Bioallied Sci.*, Nigeria Communication Commission and Global Health Action. The review revealed the practices and challenges faced in health delivery at the PHC level as well as those faced by the CHWs or CHWs across Africa and other developing countries. These revelations formed the bases for advancing an argument in support of using ICT tools, specifically, mobile phones on one hand, and fully deploying, engaging and empowering the CHWs to utilize mobile phones, to drive health delivery at the PHC level.

The study also advocates deploying, engaging and empowering the CHWs to utilize mobile phones to enthrone effective communication between them and the health seekers. The literature search was complemented with the observation research method to obtain data on health practices in the rural area. The rest of this work is structured as follows: in section 4, we reviewed the status of health care delivery in rural and urban Nigeria; the relationship between communication, ICT and health care delivery while section 5 assessed the nexus between communication and healthcare delivery among selected countries. The last section (6) housed the discussion, conclusion and recommendations from this study.

4. COMMUNICATION, ICT AND HEALTHCARE DELIVERY

Consistent with health promotion approach, communication in this study is defined as the art, technique and process of informing, influencing, and motivating, rural women about important health issues. The communication adopts a participatory approach whose main aim is empowerment through dialogue and mutual learning; the process is important as the outcome (Mahmud, Olander, Eriksen, & Haglund, 2013). Communication is a bridge between service availability and service consumption. Thus, it plays a great role by creating awareness: about what is available; where to obtain

it; and how to utilize it. The function of communication in healthcare delivery is primarily to: promote good health; provide excellent patient care; improve patient satisfaction; prevent illnesses; and clarify health-related issues with a focus at rendering wellness services as against illness services. The process of communicating available health services began with the culture-based communication tools and interpersonal channels albeit with limited reach. Next came the era of the mass media with its strength of spontaneity, heterogeneous nature of the audience but with different information processing habits.

Information and Communication Technology (ICT) tools have taken centre stage in the communications activities of the world in the 21st Century. Literature shows that there are numerous purposes that ICT tools serve in health service delivery. A study by Jimoh, Pate, Lin, and Schuman, (2012) reveals four broad ways ICT tools are considered useful in the healthcare delivery: improvements in traditional health information systems, diagnosis that is computer-aided, treatment monitoring, and dissemination of information to general public on health and healthcare. Nyasulu, and Chawinga, (2018), add that a more promising aspect of ICT applications is concerned mainly with increasing access by communities to health information. This is suggestive that no matter the usefulness of ICT tools, restrictive access will inhibit the hallowed usefulness. This is essentially, what ICT tools have achieved as, even, women from rural settings are briskly accessing the tools for healthcare information.

The world now relies on technology to share views, feelings and thought (Abdulbaqi, & Arikewuyo, 2015). This development gives rise to a tidal wave of information that may prolong information searches and delay prompt decision making that guarantees quality patient-caregiver interaction. To ensure more significant equity in healthcare delivery in line with Goal 3 of the Sustainable Development Goals (SDGs) and as advocated in the reports of researchers (Kress, Su & Wand, 2016); Allgaier & Svalaastog, 2015), the poor performance of Nigeria on the health index requires harnessing the potentials and empowering the underutilized CHWs with appropriate communication tools to boost the health status of the rural poor. Nigeria's health system must measure up to the prescribed standard given her rating in the continent and proximity to other countries such as: Chad; Niger; Republic of Benin etc. Report by OECD Health Policy Studies, (2010) indicates that the proximity

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of Chad with Cameroon, the Central African Republic and Nigeria, where cases of cholera reported regularly, makes the border areas at risk and in need of monitoring and appropriate preparation.

Most of the previous studies (Kress, Su & Wang, 2016; Allgaier, & Svalastog, 2015; WHO, USAID, & FHI, 2011; Nigeria National Health Conference, 2009) that examined the importance of CHW or CHWs to improve health delivery paid little attention to the central role of communication in enthroneing wellness and healthy living, except a few, such as Welcome, (2011), who investigated the effect of mass media interventions on health services utilization and Braun, Catalani, Wimbush and Israelski, (2013) who examined the potentials of mobile health in solving the numerous health challenges in the developing world.

In their review, Braun, Catalani, Wimbush and Israelski, (2013) assessed the operations of mobile health at large geographic areas, at the community and individual levels. They noted the applicable mobile health tools, the health system functions, benefits and risks of each of the measuring parameters. Interestingly, the study attests that application of mobile technology to promoting quality health delivery at the community level creates social networking platforms where health seekers can share experiences. The platforms serve as avenue for peer-to-peer education where providers and patients share locally tailored information to assist and support one another on health care behaviors. Although, this comes with the attendant risk of excessive self-disclosure and misinformation; as was the case with the misleading information about the preventive and curative measures against Ebola Virus infection in Nigeria, the effervescent role of ICT and personal touches of CHWs cannot be wished away in addressing health issues of rural dwellers and the urban poor.

This thought is captured by Ravichandran and Ravindran, (2014).] thus: “This is what makes online social networks, mobile phones communication, and radio, crucial sources of information in the early stages of epidemics. The credibility and assessment of information are also affected by social and personal relations between people” (p.496). The Ebola and the current COVID-19 disease experience validate the assumption that Nigerians exchange health information via mobile phones, and these devices are potent enough to deliver and monitor quality

health services at the PHC. Omoloso, Ahmad and Ramli, (2017, p.64) found that in north central Nigeria, some perinatal women consider CHWs as convenient and credible sources of maternal and child health information. Hence, the incorporation of ICT in delivery of services by CHWs provides a means of harnessing the potentials of communication in improving healthcare delivery.

ICT in healthcare services refers to all digital devices that support the electronic capturing, storage, processing, and exchange of information for the promotion of wellness at a lower cost. In Nigeria, the adoption of ICT in the health care sector has transformed the process of health care delivery for both inpatient and outpatients (Gambo, 2017). Giving perspective on ICT, Eng, (2001), identifies four domains through which ICT is relevant to delivery of healthcare services. These are Management Systems, Communication systems, computerized decision support systems and Information systems. Three of these systems - management, computerized decision support and information systems, support healthcare management. Information storage and artificial intelligence, communication system (e-mail, smart phones, telemedicine, etc.) is patient-centred and perform several functions.

These include interaction at human level, improve quality of care and information sharing, educate health professionals and patients. Other functions are enthroneing of a new form of relationship between patients and their health providers, as well as reduce travel time on the part of patients, who go to seek medical care. This structure witnessed transformation in the Nigeria’s health sector which has engendered the reduction of medical errors and the costs of delivering care. Gambo, (2017), adds that it has engendered efficiency for physicians, nurses, radiologists, laboratory scientists, and other healthcare professionals, and has greatly improved the physician-patient relationship.

However, as rightly captured in the report of a study conducted by Moemeka, (2000) on the role of information and communication technologies in improving health sector efficiency, there is the need to re-design healthcare to gain improved outcomes at lower costs and strengthen the weak health system in Nigeria (New Straits Times, 2016). ICT is potent to address the challenges associated with coordination, fragmentation of services, insufficient resources; untended infrastructure, inequity in resource distribution, redundancy of health care

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providers and access to quality care. Jimoh, Pate, Lin, and Schuman, (2012) elucidate these challenges by advancing low education level and awareness of ICT, some ICTs are often forced on end users without an understanding of the nature of solutions required by users, while Omona, and Ikoja-Odongo, (2006) add lack of computer awareness among majority of the rural communities, shortage of skilled and qualified and qualified people to manage the operation and functioning of ICT facilities and computer facilities and damage of information because of viruses and frequent unstable power supply.

Undoubtedly, Nigeria needs to do a lot, especially in the area of ICT to match up to her contemporaries in the global environment as advanced by Haileamlak, (2015). According to him, the magnitude of health challenges, especially in the rural areas, makes it a utopian dream to subject countrywide health surveillance to information system and medical intelligence alone. There is need to also pay due attention to the human touch added by health extension workers. The rationale is to drive adoption of positive and healthy living advocacies from the grassroots as practiced by other developing nations through a technological convergence model. It is criticized as basically being individual based (Neuhauser & Kreps, 2011) and pro-medicine in its approach, thereby lacking in holistic approach to address determinants of health (Ratzan, 2010)

5. COMMUNICATION AND HEALTHCARE SERVICES AMONG SELECTED COUNTRIES

1. Malaysia

The considerable reduction in Maternal Mortality Ratio (MMR) recorded in Malaysia is the success story of evolving community participation in healthcare delivery (WHO, 2021). Through face-to-face contacts and interpersonal communication, the Government trained Traditional Birth Attendants (TBA), community nurses and midwives. The focus of health delivery changed from curative (doctors and illness focused) to preventive (focus on wellness and healthy living) through a strategic conversion of health providers to facilitators and partners with the health consumers in the good-health models (Thomas, Beh, & Nordin, 2011). Strategically, the Malaysian Government established rural health units comprising one health centre, four rural health units and mobile clinics (staffed by health workers that are well familiar with the terrain) for each district. The Government

also provides subsidized or free health services for all. The efficiency of this practice reflects the progressive reduction of doctor to patient ratio. The attainment of one doctor to 454 people in Malaysia has surpassed the prescribed ratio of one doctor 500 people by the WHO (Malay Mail, 2020). To achieve the goal of a reduced Maternal Mortality Ratio, the Malaysian government focused maternal mortality as a key performance index (WHO, 2021) driven by various health delivery strategies such as creation of mobile clinics and adoption of technology to healthcare delivery.

2. Ethiopia

The community health extension program contributed in no mean measure, to bringing quality health closer to the people of Ethiopia. Although the country's rating on Under Five Mortality Rate (U5MR) and Maternal Mortality Rate (MMR) improved through the efforts of the CHWs, especially, in the rural areas, access to skilled birth attendants and postnatal care are still deficient (Zulliger, 2018).

3. Ghana

In an article titled: 'sending health to rural Ghana via travel medics,' by Green, (2017), community health workers (CHWs) were reportedly going around their neighborhoods, combing to ensure that no one harbor illnesses at home under the excuse of poverty. With this practice, many deaths and other untold consequences averted. The credibility enjoyed by the CHWs arising from their knowledge of the area, the trust they enjoy and their resiliency with follow-up visits impacted positively on their goal for participatory health programmes (Green, 2017). Although the CHWs were motivated through remuneration by the Ghanaian Government, the adoption of interpersonal communication through door-to-door visitation may limit their coverage of the rural neighborhood, but there was tremendous progress when the interpersonal efforts complement mobile phone communication.

4. Niger

The WHO launched the Rapid Access Expansion Programme (RAcE) to complement the activities of Integrated Community Case Management (iCCM) in Niger on 1st July 2013 with the mandate of delivering health services to remote communities located more than 5 km from a health facility through interpersonal and radio advocacies (Welcome, 2011). The program is run by volunteer community health workers, *relais communautaires*. Members of the community supported the program by building clinics, settling the transportation fares

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of the volunteers, and other forms of contributions in cash or in-kind for their services (Welcome, 2011). However, the large area to be covered and the weak infrastructure constitute an impediment to the high success rate. This is similar to China's experience that creates a participatory platform in which community members are trained as paramedical workers to provide health care for members of their communities, aided with ICT to minimize health challenges in rural areas. Adoption of ICT can mitigate this and ease access to quality and timely health services by the inhabitants of more remote areas.

The notable findings from the reviewed literature in this work on the communication approach to health issues, the status of CHWs and the level of involvement of the CHWs in healthcare deliveries across reviewed countries are presented in Table 1.

6. DISCUSSION, CONCLUSION AND RECOMMENDATIONS

The reviews in Table 1 reveal that interpersonal communication is the most popular approach to health delivery in the African nations reviewed while Malaysia complements the interpersonal approach with the use of mobile phones for maximum impact. However, the approach adopted by Nigeria was not captured in the reviewed literature. Although the reviewed literature revealed an adequate number of skilled CHWs in Nigeria, the same literature showed that they (CHWs) are not involved in health care delivery in Nigeria. These findings implied that, CHWs were trained and employed but not appropriately deployed to rural communities where their services are most needed. It also suggests that the CHWs were not adequately motivated to serve the underserved health seekers. One tends to agree, absolutely, with the argument advanced by (Kress, Su & Wang, 2016) that the private hospitals in Nigeria thrive more than their public counterparts because performance is an influential parameter for career advancement in the former while it is not given so much consideration in the latter.

Unlike what obtains in Niger, Ethiopia and Mali [36], CHWs in Nigeria are well trained with two to three years of formal schooling (Kress, Su & Wang, 2016), but underutilized. Health administrators can take advantage of the communal living and interpersonal credibility that forms the hallmark of relationships in rural Nigeria to engage in multi-level information dissemination. The trained

CHWs, when appropriately deployed to every part of community, should establish cordial relationships with the locals and win their confidence as partners in the rightful living and wellness project to enable the exchange of addresses and mobile phone numbers. The next level would now be follow-up interactions over mobile phones. With the established trust and recognition, the CHWs will be able to seek after the well-being of their contacts while the contact can, in turn, call during emergencies such as labor, sudden illnesses or feelings of some discomfort in health behavior. This regular interaction will reduce reliance on unskilled birth attendants and consequently, reduce the incidence of maternal mortality.

This paper examined the communicative approaches to healthcare delivery practices in Malaysia, Ethiopia, Ghana, Niger and Nigeria. It noted that considerable efforts were made by the selected developing countries to achieve the Sustainable Development Goal 3 which targeted healthy lives and promotion of well-being for all at all ages. For instance, the Nigerian government, at the local, state and federal levels, addressed poor performances in the health sector by training health care providers, such as Community Health Workers (CHW) and providing health infrastructures. It equally noted that the trained CHWs, who are imbued with adequate skills to provide health care services at the rural community levels, are not loyal to this calling, as studies have shown that most of them prefer to stay within their comfort zones rather than discharging their duties to the rural health seekers.

The study further established that commitment to work by the CHWs could be enhanced with mobile phones as communication tools. However, findings reveal that Nigeria ranks lowest in the adoption of ICT in health care delivery than the other four countries examined. It therefore, advances an improved health care service delivery in Nigeria by motivating Community Health Workers (CHW) with mobile phones with airtime.

In view of the foregoing, we advance the following suggestions:

1. Provision of health services should involve both health providers and health consumers. Hence, studies need be conducted to identify the communication strategy or strategies and tools; voice calls on mobile phones, short messages etc., that

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will be best suitable for members of individual communities;

2. Based on the findings from the above, CHWs that possess skills that are appropriate to the desires of the individual communities should be deployed there as health care providers. The similarities in their socio-cultural beliefs will facilitate smooth interactions and effective communication between them;
3. The Local Government health units should provide the CHWs with dedicated mobile phones with weekly subscription plans (depending on the volume of calls to be made by individual CHWs) for interaction between them and some identified or nominated representatives from the communities that they superintend over;
4. The mobile call service providers, such as MTN, Glo, Airtel, etc. should provide mobile phone packages with free subscription plans to the nominated representatives as acts of their Corporate Social Responsibility to the communities; and
5. Further empirical studies should be conducted to validate the feasibility of the suggestions advanced in this study.

REFERENCES

- [1] Abdulbaqi, S. S., & Arikewuyo, A. O. (2015). "ICT as Vehicles for Interaction Among Muslim Women in Ilorin: An Appraisal of Social Media for Islamic Propagation", In Z. I. Oseni, A. G. A. S. Oladosu, B. O. Yusuf and M. A. Adedimeji (eds.) *Ilorin as a Beacon of Learning and Culture in West Africa*. Ilorin: Centre for Ilorin Studies, pp. 149 – 166.
- [2] Allgaier, J., & Svalastog, A. L. (2015). "The communication aspects of the Ebola virus disease outbreak in Western Africa – do we need to counter one, two, or many epidemics?", *Croatian Medical Journal*: 56(5), pp. 496–499. doi: 10.3325/cmj.2015.56.496 [Accessed on 12th January 2018].
- [3] Braun, R, Catalani ,C, Wimbush, J, Israelski, D. (2013) Community Health Workers and Mobile Technology: A Systematic Review of the Literature. *PLoS ONE* 8(6): e65772. <https://doi.org/10.1371/journal.pone.0065772> [Accessed on 4th June, 2018].
- [4] Davis, F.D. (1986). "A technology acceptance model for empirical testing new end-user information systems: Theory and results", Massachusetts, United States: Sloan School of Management, Massachusetts Institute of Technology.
- [5] Enabulele, O.& Enabulele, O. E. (2016). "Nigeria's national health act: An assessment of health professional's knowledge and perception", *Nigerian Medical Journal*, 57(5), 260-265
- [6]. Eng, T. (2001). *The e-health landscape: a terrain map of emerging information and communication technologies in health and health care*. Princeton, NJ: The Robert Wood Johnson Foundation.
- [7] Gambo , I. (2017). "ICT implementation in the Nigerian healthcare system". *IT Professional*: 19(2), 12 – 15; IEEE Computers Society. Doi: 10.1109/MITP.2017.21.
- [8] Green, A. (2017). Sending Health to Rural Ghana via Traveling Medics - *The New York Times*. (Accessed on 17th January, 2018).
- [9] Grilli, R., Ramsay, C., & Minozzi, S. (2002). "Mass media interventions: effect on health services utilization", *International online resources centre on disability and inclusion*, <http://www.mrw.interscience.wiley.com/cochrane/clsysrev/articles> [Accessed on 12th January, 2018].
- [10] Haileamlak, A. (2015). "Ethiopia Successfully Attaining the Millennium Development Goals", *Ethiopia J. Health Sci*. Apr 25(2), pp. 109–110.
- [11] Idowu, P.A. (2015) Information and Communication Technology: A Tool for Health Care Delivery in Nigeria. In: Gamatié, A. (eds) *Computing in Research and Development in Africa*. Springer, Cham. https://doi.org/10.1007/978-3-319-08239-4_4 DOI: 10.1007/978-3-319-08239-4_4.
- [12] Jimoh, L; Pate, M.A; Lin, L; & Schuman, K.A. (2012). "A model for the adoption of ICT by health workers in Africa", *International Journal of Medical Informatics*, 81(11), 773-781.

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<https://afrijmis.net>

- [13] Kahn, J. G., Yang, J. S. & Kahn, J. S. (2018). "Mobile Health Needs and Opportunities in Developing Countries", *Health Affairs: 29(2)*, pp. 254–261, 2010 [accessed on 15th January,].
- [14] Kolawole, K. T., Adeigbe, Y. K., Zaggi, Y. H. & Owonibi, E. (2014). "Millennium development goals (MDGs) in Nigeria: Issues and problems", *Global Journal of Human-Social Science, Sociology and Culture: 14(5)*, pp. 43 – 53,
- [15] Kress, D. H, Su, Y. and Wang, H. (2016). "Assessment of Primary Health Care System Performance in Nigeria: Using the Primary Health Care Performance Indicator Conceptual Framework", *Journal of Health Systems & Reform 2(4)*, (Special Issue on the Nigerian Health Systems).
- [16] Lai, P.C. (2017). "The literature review of technology adoption models and theories for the novelty technology", *Journal of Information Systems and Technology Management, 14(1)*, 21-38, DOI: 10.4301/s1807-17752017000100602.
- [17] Leon, N., Sanders, D., Damme, W. V., Besada, D., Daviaud, E., Oliphant, N. P., Berzal, R. Mason, J., & Doherty, T. (2018) "The role of 'hidden' community volunteers in community-based health service delivery platforms: examples from sub-Saharan Africa", *Glob Health Action. 2015; 8: 10.3402, 2015* [assessed on 16th January,].
- [18] Ma, Q. & Liu, L. (2007). "The technology acceptance model: A meta-analysis of empirical findings", *Journal of Organisational and End User Computing, 16(2)*, 59-72, DOI: 10.4018/9781591404743ch006.ch000.
- [19] Mahmud, A. J., Olander, E., Eriksen, S., & Haglund, B.J.A. (2013). "Health communication in primary healthcare: A case study of ICT development for health promotion." *BMC Informatics and Decision Making, 13(1)*, 17 DOI: 10.1186/1472-6947-13-17.
- [20] Malay Mail (2020). "Malaysia's doctor-population ratio surpasses WHO recommendation" <http://www.malaymail.com/news/malaysia/2020>. [Accessed on 29th March, 2021].
- [21] Moemeka, A. A. (2000). Development, Social Change and Development Communication, *Development Communication in Action: building Understanding and Creating Participation*, University Press of America.
- [22] New Straits Times. "There are never too many doctors", (2016). <https://www.nst.com.my/news/2016/03/130577/there-are-never-too-many-doctors> [assessed on 17th January, 2018].
- [23] Neuhauser, L., & Kreps, G.L. (2011) "Participatory design and artificial intelligence: Strategies to improve health communication for diverse audiences." Stanford, California, USA: AAI.
- [24] Nigeria National Health Conference 2009 Communique. Abuja, Nigeria. Available from: <http://www.ngnhc.org> [Accessed on 15th January, 2018].
- [25] Nyasulu, C. & Chawinga, W.D., 2018, 'The role of information and communication technologies in the delivery of health services in rural communities: Experiences from Malawi', *South African Journal of Information Management 20(1)*, a888. <https://doi.org/10.4102/sajim>
- [26] OECD Health Policy Studies. *Improving Health Sector Efficiency: The Role of Information and Communication Technologies*. OECD: Paris, 2010. [Accessed on 15th January, 2018].
- [27] Olushola., T. & Abiola, J.O. (2017). "The Efficacy of Technology Acceptance Model: A Review of Applicable Theoretical Models in Information Technology Researches", *Journal of Research in Business and Management Volume, 4, 11: 70-83*.
- [28] Omoloso, A. I., Ahmad, M. K., & Ramli, R. (2017). Culturally sensitive maternal health promotion messages. *University of Nigeria Interdisciplinary Journal of communication Studies, 21(2)*.
- [29] Omoloso, A. I., Ahmad, M. K., & Ramli, R. (2018). Message Adaptation Strategies for Culturally Sensitive Maternal Health Communication. *Symposium Proceedings SMMTC Postgraduate Symposium 2018: Advancing Research in Communication, Media and Multimedia: Theory, Methodology and*

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<https://afrijmis.net>

Applications, Mohammed, B., Omoloso, A. I., Adetunji, R. R., Memon, S. & Harun, H. (eds.) 288. Retrieved from <https://28536699376730838878981982.preview.editmysite.com>...PDFSMMTC POSTGRADUATE SYMPOSIUM 2018> | 1

[30] Omona, W., & Ikoja-Odongo, R. (2006). "Application of information and communication technology (ICT) in health information access and dissemination in Uganda", <https://doi.org/10.1177/0961000606060959> [Accessed on 3rd July, 2018].

[31] Quagho, G., Dario, C., Karapiperis, L., McCormack, S., Tomson, G., Micheletti G., Bonnardot L., Putoto G., Zanaboni P. (2016). "Information and communication technologies in low and middle-income countries: Survey results on economic development and health." *Health Policy and Technology*, 5(4), 318-329, <https://doi.org/10.1016/hlpt.2016.07.003>.

[32] Ratzan, S.C. (2010). "Moving from EC to HC – the time is now." *Journal of Health Communication: international Perspectives*, 15(7), 691-694.

[33] Ravichandran, J., & Ravindran, J. (2014). "Lessons from the confidential enquiry into maternal deaths, Malaysia", *International Journal of Obstetrics & Gynaecology*, 121(4): pp.47–52.

[34] sShekar, M.N., & Otto, K., (2014). "ICTs for health in Africa." <https://siteresources.worldbank.org/EXTNFORMATIONCOMMUNICATION...> [accessed on 5th June 2018].

[35] Thomas, S. I., Beh, L., & Nordin, R. B. (2011). "Health care delivery in Malaysia: changes, challenges and champions", *Journal of Public Health Africa*: 2(2), e23. <https://doi.org/10.4081/jphia.2011.e23>

[36] USAID, (2012). "New policy allows community health extension workers to provide injectable contraceptives in communities." Abuja: USAID/Nigeria Federal Ministry of Health and FHI360.

[37] Venkatesh, V. & Davis, F.D. (2000). "A theoretical extension of the technology acceptance model: Four longitudinal field studies." *Management Science*, 46(2), 186-204.

[38]. Welcome, M. O. (2011). "The Nigerian health care system: Need for integrating adequate medical intelligence and surveillance systems", *Journal of Pharmacy and Bioallied Sciences* 3(4), pp. 470–478'

[39]. WHO, USAID. & FHI, (2010). "Community-based health workers can safely and effectively administer injectable contraceptives: Conclusions from a technical consultation." Research Triangle Park, NC: FHI,

[40] WHO | Malaysia's experience with maternal deaths (2021). [Accessed on 29th March, 2021)

[41] Zulliger, R. (2018). "Ethiopian Community Health Worker Programs". <http://chwcentral.org>. (Accessed on 29th March, 2021)

Table 1: Adoption of ICT in health delivery and assessment of CHWs across countries

Country	Communication Approach	Status of CHWs (skilled/unskilled)	Level of Involvement	Adequacy of CHWs (in sufficient number)
Malaysia	Interpersonal and use of mobile phones	Skilled	Highly involved	Very adequate
Ethiopia	Interpersonal	Unskilled	Highly involved	Inadequate
Ghana	Interpersonal	Skilled	Highly involved	Inadequate
Niger	Interpersonal	Unskilled	Highly involved	Inadequate
Nigeria	Interpersonal	Skilled	Not involved	Very adequate

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