

INNOVATIVE STRATEGIES FOR DELIVERING HEALTHCARE IN RURAL AND UNDERSERVED COMMUNITIES IN NIGERIA

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Abstract

Access to health care services is critical to good health, yet residents in rural and underserved communities in Nigeria face a lot of access barriers. Rural residents often faced barriers to health care that denied them the care they deserved. Improving delivery and access to health care in such areas is an essential issue in healthcare. This paper therefore examined the innovative strategies for delivering healthcare in rural and underserved communities in Nigeria. Innovative strategies such as telemedicine and mobile health clinics, partnerships with non-governmental organization and the private sector as well as targeted public health campaigns and outreach programme to provide remote consultations, diagnosis, monitoring patients, distant locations and treatment, were discussed to offer basic health services, education and awareness about preventive healthcare measures and encourage early intervention for common health issues prevalent in rural setting. The nature of healthcare delivery in rural and underserved communities and their challenges were also discussed. In conclusion, there is the need to embrace a multi-faceted approach that combines technology, community involvement, partnerships, and education, innovative strategies can be developed to deliver effective health services in rural and underserved communities in Nigeria. Among others, it was recommended that there is need for technology integration, procurement of mobile health clinics and recruitment and training of Community Health Workers (CHEW) in the rural and underserved communities in the country.

Introduction

The healthcare delivery systems in Nigeria are complex and multifaceted, encompassing various providers, facilities and services. The World Health Organization (WHO, 2021), reported that the public healthcare system in Nigeria is tiered and structured into three main levels. Among the level is the Primary Healthcare System (PHC), which is provided by the local government authorities. The PHC focuses on preventive care, maternal and child health, immunization programme, and treatment of common diseases. Their activities are carried out by the Primary Health Centres (PHC), and clinics at the rural areas and communities (Meri, 2021). Residents in rural and underserved communities should conveniently and confidently access services such as primary care, dental care, emergency care, maternal and child care as well as public health services. However, access to healthcare which implies that healthcare services are available and obtainable is grossly not available and adequate in the rural communities. In rural and underserved communities

of Nigeria, there is recognition of the need to expand the scope of health education strategies to address emerging health issues and promotes overall well-being of the populations of these areas, using innovative strategies such as telehealth, telemedicine, communal engagement and participation, as well as the increase health care providers. The healthcare delivery in rural and underserved areas faces unique challenges that significantly impart the accessibility, quality and effectiveness of medical services (Oloruntoba et al, 2024). These regions are characterized by their geographical isolation, limited resources, and socio-economic factors contributing to disparities in health outcomes compared to urban centres.

According to Oloruntoba et al (2024), the scarcity of healthcare providers, inadequate infrastructure, and the high prevalence of chronic conditions in rural and underserved communities further exacerbate the situations, making it imperative to address these healthcare barriers comprehensively, using innovative strategies and approaches. In such areas, innovative strategies can be directed towards tackling disease prevention, hygiene practices and reproductive health issues ravaging them. The current healthcare environment is one of innovation that is rapidly evolving with the introduction of the Health Information Technology for Economic and Clinical Health (HITECH). This innovative strategy ensures that healthcare delivery in rural and underserved areas could be achieved via the social and mass -media channels, as well as the persuasive and informed decision making approaches of health education (Jerry, Amy and Jared, 2020). Healthcare delivery in rural and underserved areas is in deplorable conditions that needs urgent interventions. This paper therefore examines the innovative strategies in healthcare delivery in rural and underserved communities in Nigeria.

Meaning and nature of healthcare delivery system in Nigeria

Healthcare delivery system is an organization that provides resources and treatment that help people irrespective of their location and status, when they are sick or injured, and help them stay healthy through preventive care. It includes all the people, institutions, and services that assist in care coordination, patient flows, diagnosis, disease management, and promotion of health maintenance programmes. The systems covers various service areas such as emergency, primary care, public health, rehabilitation, hospital care, mental health services, and specialized care. According to World Health Organization (2023), service delivery is the part of a health system where patients receive the treatment and supplies they deserve. The healthcare system also provides preventive care to help keep individuals healthy and provide treatment for the care of diseases such as cancer, diabetes, or heart disease; illness such as colds, malaria, injuries and others. The ultimate goal of healthcare delivery system is to provide preventive care in all the facilities where the care is given. The system is defined based on their mission statement, non-profit status, and public or private ownership. The healthcare system is classified as a single service provider, or a complex health system that meets the care requirements of a specific population. The care programmes are facilitated by specialized medical workers that deliver services based on internal codes and ethics regulations (Alison and Zona, 2023). A comprehensive healthcare delivery system can be delivered through the following;

- Fee-for-Service (FOS): People pay for services such as doctors visit, or medical procedure, through their pockets or through insurance
- Health Maintenance Organization (HMO): Patients pay a fixed monthly fee for healthcare access to a network of healthcare providers
- Preferred Provider Organization (PPO): In this type of healthcare delivery system, patients pay less if they use healthcare providers within the PPO network.
- Point of Service (POS): The patients in this type system can choose to receive care from providers within or outside the network.
- Accountable Care Organization (ACO): Healthcare providers coordinate care for patients to improve quality and reduce costs.
- Telemedicine: Patients consults with healthcare providers remotely via technology such as video calls or messaging.
- Integrated Delivery System: The healthcare providers work together to provide coordinated care across different specialist and settings.

The health care delivery system in Nigeria is characterized by a mix of public and private health sectors, with varying degree of accessibility, affordability, and quality of care provided by the health care providers. According to Kolawole (2021), Nigeria has a multiple health care system of public and private health providers, and with both modern and traditional health care systems. The western or orthodox method of health care delivery system is the concurrent responsibility of the three tiers of government. The orthodox type of health care system is based on the scientific principle and is accepted worldwide. This system of health care has its root from Europe, America, China, Japan, and India. More so, Sakiru (2018) reported that the western or orthodox system of health care uses scientific approaches in addressing health challenges using qualitative medication and facilities, which is achieved through advances in science and technology and involved highly trained and qualified medical personnel such as doctors, nurses, physiotherapists and others.

In a related scenario, traditional and alternative health care system is highly practiced in Nigeria. Many people especially in rural areas rely on traditional healers and herbal remedies for their health care needs (Sakiru, 2018). These systems of health care is indigenous to Nigerians and are mostly practiced by the herbalist, traditional birth attendants, oracle men, bone setters among others (Oguchi, 2018). Aside the orthodox and traditional or complimentary alternative system, many Nigerians also practiced the faith healing (belief system) of health care. Ishor and Iorkosu (2022), reported that the practice of spiritual healing in medical diagnosis is used in the prevention and treatment of myriad of health issues believed to be caused by super natural forces. This system of healthcare involves the use of prayer and fasting to seek divine interventions. The priest, pastors, imams and other spiritualists are contacted for spiritual healthy healing (Sakiru, 2018). Due to myriad of issues and challenges, the healthcare structures and facilities in Nigeria are grossly inadequate across different region in the country. The current health care systems in Nigeria are characterized by varying levels of challenges related to accessibility, affordability and quality (FMH, 2019).

Most of the rural health centres are without medical supplies, and there are shortages of healthcare professionals in most of the facilities. Majority of the health care facilities are concentrated in urban centers, making it difficult for the populations at the rural areas to access necessary medical care. More so, affordability of healthcare services constitutes a significant concern for most Nigerians. The private healthcare system comprised of the private owned clinics, hospitals and specialist medical facilities. According to Brennan (2022), in a private healthcare system, the individuals pay heavily for their health. The private healthcare are profit making and tends to be more expensive but, they are often hailed for quality care and facilities. Their facilities include pharmacies, diagnostics centres and dental clinics. The persistently low quality and inadequacy of health services provided in public facilities, has made the private healthcare sector an unavoidable choice for consumer healthcare in Nigeria (Oloruntoba et al, 2024). The third healthcare delivery system in Nigeria is the Traditional Healthcare System (THS). The THS compliments the orthodox or formal healthcare system especially in the rural and underserved areas. Their practices involve indigenous cultural traditions, herbal medicine and spiritual healing. Thus, the traditional healthcare system are practices, approaches, knowledge and beliefs incorporating plant, animal and mineral based medicines, spiritual therapies, manual techniques and exercises applied for the diagnoses, prevention and treatment of illnesses (WHO,2021). All these point to the fact that the health care system in Nigeria is still at its lowest ebb. Efforts are needed by the Nigerian government, privates and non-government organizations to reposition the ailing health care system in the country (Nurudeen, 2022).

Healthcare access in rural and underserved communities

Access to healthcare services is critical to good health, yet rural and underserved communities face a lot of access barriers. Public health researchers, Practitioners and Policy-makers often use rural and underserved areas or communities interchangeably, when referring to areas or communities with low population density (Mathew et al, 2013). However, rural areas refer to health professional shortage area (HPSA), while underserved areas or communities refers to the areas with medically underserved areas (MUA). Thus, both areas and communities are characterized by their geographical isolation, limited resources and poor socio-economic factors, comprises of rural elderly, low literacy and poor populations (Oloruntoba et al, 2024). Accesses to healthcare in these areas are important for overall physical, social, and mental status, disease prevention, detection, diagnosis and treatment of illness, quality of life, avoidance of preventable deaths, and life expectancy. Rural and underserved residents often faced barriers to healthcare that denied them their capacity to get the care they deserved. Despite the above characteristics of these areas, Rural Health Information Hub (RHIM) (2024), reported that residents of rural and underserved areas should conveniently and confidently have access services such as primary care, dental care, behavioural care, emergency care, maternal and child care, and public health services. Access to healthcare implies that healthcare services are available and obtainable as at when due. According to RHIM, several factors collectively hinder access to rural and underserved areas, and such factors include financial means to pay, means to reach and use the services such as distance and transport costs, confidence in

their ability to communicate with healthcare providers (language barriers), and fear of getting quality healthcare services. Other factors include shortages of workforce, health insurance coverage, poor health literacy, insecurity, and massive corruption.

Rural and underserved communities have significantly less access to healthcare services than their urban counterparts. According to Tulane University (2023), access to healthcare can prevent disease by early detection and treatment as well as offer a higher quality of life. However, when compared to urban communities, rural communities experience higher rates of chronic illness and poverty, and are more likely not to get health insurance and quality healthcare services due to shortage of healthcare providers.

The importance of primary care, emergency and public health care for rural residents and dwellers cannot be overemphasized. Primary care is essential healthcare services that cut across wide spectrum of health and medical issues for rural people. A primary care practice serves as the patients' first point of entry into the healthcare system and focal point for all. Such practices provide health promotion, disease prevention, health maintenance, counseling, patient education, diagnosis and treatment of both acute and chronic illnesses at the rural areas (RHIHub, 2024).

Goals and components of healthcare delivery system

The main objectives of the healthcare system are to ensure the availability of quality, accessible, and functional health care services to all individuals. According to WHO (2023), the primary goal of healthcare delivery system is the provision of quality healthcare services, resource generation, financing and coordination of the healthcare system. Healthcare services are aimed at providing quality care to individuals through; Improving health outcomes: That is ensuring that the patients receive safe and effective care, enhancing patient experience, by providing a positive and satisfactory experience for patients, reducing healthcare costs, and promoting public healthcare services. Similarly, the major components of healthcare services encompass a wide range of care provided by the healthcare providers. Nadar et al (2023), enumerate the components of healthcare services to include:

1. **Primary Care:** This is the foundation of healthcare services, including preventive care, routine check-ups, and initial treatment of common preventable illnesses.
2. **Specialty Care:** They are specialized medical services provided by healthcare professionals, with expertise in specific fields, such as cardiology, oncology, or neurology.
3. **Emergency Care:** This is immediate medical attention for urgent health issues, provided in hospital emergency departments.
4. **Mental Health Services:** They are support and treatment for individuals experiencing mental health conditions, including therapy, counseling and medication management
5. **Rehabilitative Services:** They are therapeutic interventions to help individuals recover from injuries, surgeries, or chronic conditions and improve their quality of life

6. **Diagnostic Services:** They are tests and procedures to diagnose medical conditions, such as laboratory tests, imaging studies and genetic testing. The overall and components of the healthcare services work together to ensure that individuals receive comprehensive, high quality care that addresses their medical needs and promotes their well-being.

Challenges of healthcare delivery in rural and underserved communities

The challenges facing the healthcare delivery system in rural and underserved communities in Nigeria are enormous. According to Mike (2023), rural inhabitants encounter access challenges, including workforce shortages, transportation and distance issues, language barriers, and stigma. In most developing nations, rural and underserved communities lack health care facilities, equipment, supplies and workforce to tackle communicable and non-communicable health issues and problems. Similarly, Oloruntobal et al (2024), observed that the absence of healthcare personnel and facilities in such communities significantly impart the accessibility, quality and effectiveness of medical services in those communities. A significant number of the rural and underserved populace faces several illnesses and diseases alien to their knowledge (Akinmayowa et al, 2019).

More so, despite series of interventions by the government to limit the healthcare challenges been experienced by rural communities in the country, a lot of other factors are responsible for continual existence of poor healthcare services in such communities. Factors such as government attitudes to rural communities development, insecurity, corruption of government officials, funding problems, road network to rural communities, non-availability of social amenities in rural communities to woo medical and health workers and poor remuneration of health workers (RHIHub, 2024). Rural communities lack healthcare facilities and health professionals, making it difficult for people access medical services (Shantanu, 2023).

Innovative strategies for healthcare delivery in rural and underserved communities

Delivery healthcare services in rural and underserved communities can be challenging due to limited facilities and healthcare personnel. However, there are several innovative strategies that can help to improve delivery in such communities. Shantanu (2023) reported that telehealth allows healthcare providers to connect with patients remotely using video conferencing, messaging and other technologies to provide patients with access to care from their homes. Community organization and partnerships models can also improve care to health in rural and underserved communities. More so, Isaac (2022) reported that improvement in technology and approaches in organizing healthcare delivery are occurring quickly. According to him, Information and Communication Technologies (ICTs) are now integrated into facilities to stimulate development and enhance service delivery. However, the opinion of Tulane University (2023) on innovative health education strategies for effective healthcare in rural communities can be summarized as follows:

1. **Telemedicine:** This involves utilizing telemedicine technologies to provide remote healthcare services. This can help to overcome the barriers of distance and improve access to medical care for rural and underserved communities.

2. Mobile health clinics: This involves setting up mobile health clinics that can travel to different rural communities to provide basic healthcare services and screenings that can help to reach underserved populations.
3. Training community health workers: Training and employing health workers that are familiar with the local culture and language can help bridge the gap between healthcare providers and rural residents
4. Collaboration with local organizations: This has to do with partnering with local community organizations, mosque, churches, or schools can help increase awareness of healthcare services and promote preventive care in rural areas.
5. Health education and outreach programmes: Conducting health education seminars, workshops, and outreach programmes can help raise awareness about common health issues and the importance of seeking medical care early.
6. Leveraging technology: Using drones to deliver medical supplies to remote communities, implementing electronic health records systems and utilizing health monitoring devices can help improve healthcare delivery in rural communities. By implementing these innovative strategies, healthcare providers can help ensure that rural and underserved communities and their residents will have access to high quality medical care and improve health outcomes in these underserved areas.

Conclusion

Delivery healthcare services in rural and underserved communities pose unique challenges; however, innovative health education strategies can significantly improve outcomes. Healthcare services in these areas can be drastically improved through the implementation of innovative strategies, such as leverage technology, community resources, and adaptable healthcare models to address the specific challenges of rural healthcare, such as limited access, workforce shortages, and infrastructural deficiencies. By integrating telehealth, mobile clinics, and community-based health education, rural communities can receive more timely, efficient and comprehensive care. There is need for telehealth expansion to accommodate other rural communities. This can done through investing telehealth structure and training healthcare providers that can help to improve access care, reduce travels time, and costs for patients and mitigates provider shortages.

1. There is need for procurement of mobile health clinics with health units equipped with necessary medical technology and staffed by multidisciplinary teams. This would bring healthcare services directly to remote areas and communities, addressing access barriers and providing preventive care services
2. Need for recruitment and training of Health educators, community health workers (CHEWS), such training will provide basic health education, support chronic disease management, and facilitates connections with formal healthcare systems. This would help to build trust within the communities, enhances health literacy and provides ongoing and personalized care.
3. There is need for partnerships and collaborations with local institutions, non-profits, and governmental agencies to build a robust support network for rural healthcare initiatives.

4. Need for monitoring technology devices for chronic disease management and emergency alerts. This will enable continuous monitoring and evaluation of patient's health status, early intervention, and reduce hospital readmissions.
5. There need to utilize data analytics information system to identify health trends, allocate resources efficiently and measure the effectiveness of healthcare programmes. This will lead to evidence-based decision-making and enhances the strategic planning of health services.
6. There is need for continual health education and outreach programmes to raise awareness about preventive care, nutrition and chronic diseases. This will help to empower communities with knowledge, promotes healthy lifestyles, and reduces the incidences of preventable diseases.

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