



(REVIEW ARTICLE)



Developing countries' health policy: A critical review and pathway to effective healthcare systems

Jane Osareme Ogugua ¹, Tolulope O Olorunsogo ², Muridzo Muonde ^{3,*}, Chinedu Paschal Maduka ⁴ and Olufunke Omotayo ⁴

¹ Independent Researcher, Abuja, Nigeria.

² Independent Researcher, Nebraska, USA.

³ Independent Researcher, Grootfontein, Namibia.

⁴ Institute of Human Virology, Abuja, Nigeria.

International Journal of Science and Research Archive, 2024, 11(01), 371–382

Publication history: Received on 05 December 2023; revised on 13 January 2024; accepted on 16 January 2024

Article DOI: <https://doi.org/10.30574/ijrsra.2024.11.1.0069>

Abstract

This paper provides a concise overview of a comprehensive review exploring the health policies of developing countries, critically assessing their strengths, weaknesses, and proposing pathways towards building effective healthcare systems. In developing countries, health policies play a pivotal role in determining the accessibility, quality, and equity of healthcare services. This critical review examines the current state of health policies in developing nations, acknowledging both achievements and shortcomings. The analysis encompasses key areas such as infrastructure, workforce capacity, disease prevention, and financial sustainability. The review identifies common challenges faced by developing countries, including limited financial resources, inadequate healthcare infrastructure, and disparities in healthcare access among different socio-economic groups. It also sheds light on successful strategies employed by certain nations, emphasizing the importance of community-based healthcare, technology integration, and innovative financing models. Moreover, the review critically assesses the effectiveness of existing health policies in addressing prevalent health issues, such as infectious diseases, maternal and child health, and the growing burden of non-communicable diseases. It delves into the role of governance, political will, and international collaborations in shaping and implementing health policies. In proposing a pathway to effective healthcare systems, the review emphasizes the need for tailored, context-specific approaches that consider the unique challenges of each developing country. It advocates for increased investment in primary healthcare, capacity-building for healthcare professionals, and the harnessing of digital technologies to enhance healthcare delivery. Ultimately, this critical review aims to inform policymakers, healthcare professionals, and stakeholders in developing countries, providing insights to shape evidence-based health policies that lead to resilient, accessible, and equitable healthcare systems. By learning from both successes and failures, these countries can pave the way for transformative changes in their health policies, ensuring the well-being of their populations and contributing to global health advancement.

Keyword: Health; Policy; Developing Countries; Review; Healthcare

1. Introduction

Healthcare systems in developing countries are at the nexus of multifaceted challenges and opportunities, navigating the intricate landscape of limited resources, diverse health needs, and evolving global health dynamics. The formulation and implementation of effective health policies play a pivotal role in determining the resilience and responsiveness of these systems. This critical review embarks on a comprehensive exploration of health policies in developing countries,

* Corresponding author: Muridzo Muonde

critically assessing their current state, identifying inherent strengths and weaknesses, and proposing a pathway towards the establishment of robust and equitable healthcare systems.

In the context of developing nations, the urgency of addressing health disparities, infectious disease burdens, maternal and child health challenges, and the rising prevalence of non-communicable diseases necessitates a rigorous examination of existing health policies. This critical review seeks to unravel the complexities and nuances inherent in these policies, acknowledging the diversity of contexts across different countries while identifying common threads that weave through the challenges faced (Htay, et. al., 2022, Sanders, 2023, World Health Organization, 2022).

As we delve into this critical review, we will scrutinize the effectiveness of health policies in mitigating prevalent health issues, explore the role of governance and political will in policy implementation, and dissect the impact of international collaborations on shaping healthcare systems. Recognizing the constraints posed by limited financial resources and infrastructure, the review will also spotlight innovative strategies employed by certain developing nations that have demonstrated notable success.

The ultimate goal of this review is to contribute to the discourse surrounding the enhancement of healthcare systems in developing countries. By critically examining current health policies and proposing evidence-based pathways, this endeavor aspires to offer valuable insights for policymakers, healthcare practitioners, and stakeholders. Through a nuanced understanding of the strengths and weaknesses inherent in existing policies, we aim to pave the way for the development and implementation of context-specific, effective health policies that prioritize accessibility, equity, and the overall well-being of populations in developing countries.

1.1. Healthcare and health policies in developing countries

Healthcare in developing countries stands at the intersection of challenges and opportunities, reflecting the complex interplay of limited resources, diverse health needs, and the ever-evolving global health landscape. The formulation and implementation of effective health policies are pivotal in shaping the trajectory of healthcare systems in these nations. This paper critically examines the current state of healthcare and health policies in developing countries, shedding light on challenges, identifying opportunities, and proposing pathways to build robust and equitable healthcare systems (Andrews, Beynon & McDermott, 2019, Buğra, 2020, Weintraub, et. al., 2021).

Developing countries often grapple with constrained budgets for healthcare. The limited availability of financial resources poses a substantial challenge in providing comprehensive and accessible healthcare services. Insufficient funding affects infrastructure development, workforce capacity, and the procurement of essential medical supplies.

The lack of well-established healthcare infrastructure further compounds the challenges. Insufficient hospitals, clinics, and medical facilities hinder the delivery of timely and quality healthcare services. Rural areas, in particular, face infrastructural deficits, leading to disparities in healthcare access between urban and remote regions.

Developing countries often experience shortages in healthcare professionals, including doctors, nurses, and allied health workers. Inadequate workforce capacity not only hampers the delivery of healthcare but also places a strain on the existing healthcare staff, leading to burnout and compromised quality of care. Infectious diseases, maternal and child health issues, and the increasing burden of non-communicable diseases compound the health challenges in developing countries. The prevalence of diseases such as malaria, tuberculosis, and HIV/AIDS places additional burdens on healthcare systems, requiring targeted interventions and effective health policies (Okunade et al., 2023, Maduka et al., 2023).

Community-based healthcare models have emerged as effective strategies in overcoming infrastructure challenges. By empowering local communities and leveraging community health workers, developing countries can extend healthcare services to remote areas, promoting preventive care and early intervention. The integration of technology offers unprecedented opportunities for healthcare improvement. Telehealth services, mobile health applications, and digital health records enhance accessibility, facilitate remote consultations, and improve healthcare management. Embracing technological advancements can bridge gaps in healthcare delivery (Assan et. al., 2019, Riza et. al., 2020, Schriger, et. al., 2023).

Innovative financing models, such as public-private partnerships and community-based health insurance schemes, present opportunities for sustainable funding. These models leverage resources from both public and private sectors, ensuring a more equitable distribution of financial support for healthcare initiatives.

International collaborations and aid programs play a crucial role in bolstering healthcare capabilities. Partnerships with global health organizations, non-governmental organizations (NGOs), and international donors bring in expertise, resources, and technical support, contributing to the development of effective health policies.

Prioritizing and strengthening primary healthcare services form a cornerstone for healthcare progress. Investing in preventive measures, community health centers, and essential medical services at the grassroots level can significantly improve health outcomes and reduce the burden on tertiary care facilities. Addressing workforce shortages requires strategic capacity-building initiatives. Developing and implementing comprehensive training programs, improving working conditions, and incentivizing healthcare professionals can enhance their skills, improve retention rates, and ensure a sustainable healthcare workforce (Awad, et. al., 2021).

Expanding the integration of digital health solutions can revolutionize healthcare delivery. Governments and healthcare institutions should invest in infrastructure for telehealth services, deploy mobile health applications for remote areas, and implement electronic health records to improve data management and patient care (Dinh-Le, et. al., 2019).

Effective health policies hinge on governance and political will. Implementing policy reforms that prioritize healthcare, allocate sufficient budgets, and establish transparent governance structures are imperative. Governments should ensure that policies are evidence-based, adaptable, and designed to address the unique healthcare challenges of their populations.

In conclusion, healthcare and health policies in developing countries demand a nuanced and comprehensive approach that addresses challenges, seizes opportunities, and charts pathways to progress. It is essential to recognize that health is a fundamental human right, and concerted efforts from governments, international partners, healthcare professionals, and communities are essential for building resilient, accessible, and equitable healthcare systems. By embracing innovative strategies, leveraging technology, and implementing evidence-based policies, developing countries can aspire to achieve significant advancements in healthcare, ultimately ensuring the well-being of their populations.

1.2. Current State of Health Policies in Developing Countries

The current state of health policies in developing countries is a multifaceted tapestry shaped by numerous factors, including the intricacies of healthcare infrastructure, the availability and accessibility of services, the capacity and distribution of healthcare professionals, disease prevention strategies, and the critical aspects of financial sustainability and resource allocation. This paper undertakes a comprehensive examination of these key dimensions to provide a nuanced understanding of the challenges and opportunities inherent in the health policies of developing nations (Sanders, 2023, Ikwuagwu et al., 2020).

Developing countries often grapple with substantial deficits in healthcare infrastructure. Inadequate numbers of hospitals, clinics, and healthcare facilities, particularly in rural areas, contribute to disparities in accessibility. Insufficient infrastructure undermines the delivery of timely and quality healthcare services, exacerbating health inequalities (Buenaventura, Ho & Lapid, 2020, Uddin et al., 2022).

Accessibility challenges are further pronounced in the context of urban-rural divides. While urban areas may have relatively better-equipped healthcare facilities, rural regions face significant gaps. The geographical distribution of healthcare infrastructure influences the ability of populations, especially those in remote areas, to access essential healthcare services.

The scarcity of modern medical equipment and technology poses a considerable challenge. Many developing countries lack access to advanced diagnostic tools, medical devices, and technology that are integral for accurate diagnosis and treatment. The absence of these resources hinders the delivery of comprehensive healthcare services (Iyengar, et. al., 2020, Wang, Zhang & He, 2020).

Developing countries often grapple with shortages in healthcare professionals, including doctors, nurses, and allied health workers. The inadequate healthcare workforce poses a substantial barrier to delivering healthcare services, especially in regions where demand far exceeds the available workforce capacity.

The distribution of healthcare professionals is often skewed, with a concentration in urban centers, leaving rural and remote areas underserved. This maldistribution exacerbates the challenges faced by populations residing in geographically isolated regions, limiting their access to essential healthcare services.

The quality of healthcare education and training programs significantly impacts the capacity and competency of the healthcare workforce. Developing countries face challenges in maintaining high standards of education, leading to variations in the skills and capabilities of healthcare professionals across different regions (Wu, et. al., 2020).

Many developing countries contend with a high prevalence of infectious diseases, necessitating robust disease prevention strategies. Health policies often address immunization programs, sanitation, and hygiene initiatives to curb the spread of diseases such as malaria, tuberculosis, and vaccine-preventable illnesses (Nazeza, et. al., 2020, Mouchou et al., 2021).

Maternal and child health initiatives are critical components of health policies in developing countries. Efforts focus on improving access to prenatal and postnatal care, promoting safe childbirth practices, and reducing maternal and infant mortality rates through comprehensive healthcare interventions (Clements et. al., 2021, Adebukola et al., 2022).

The rising burden of non-communicable diseases (NCDs) poses a growing challenge. Health policies increasingly integrate strategies for NCD prevention, including lifestyle interventions, early detection programs, and awareness campaigns to address risk factors such as unhealthy diets, physical inactivity, and tobacco use (Bigna & Noubiap, 2019, Gyawali, et. al., 2020).

Developing countries often grapple with limited financial resources allocated to healthcare. Insufficient budgets constrain the implementation of comprehensive health policies, hindering the development and maintenance of healthcare infrastructure, workforce capacity, and the procurement of essential medical supplies.

The allocation of financial resources is a critical aspect of health policies. Governments must prioritize key areas such as primary healthcare, disease prevention, and workforce development. Striking a balance between addressing immediate healthcare needs and investing in long-term sustainability is essential for effective resource allocation.

Many developing countries depend on external aid and international collaborations to augment their healthcare budgets. Reliance on external sources poses challenges to long-term sustainability, requiring careful navigation to ensure that health policies align with the priorities and needs of the local population (White & Lo, 2020, Sanni et al., 2024 World Health Organization. 2020).

The current state of health policies in developing countries reflects a dynamic landscape marked by both challenges and opportunities. Addressing the deficits in healthcare infrastructure, enhancing workforce capacity and distribution, implementing robust disease prevention initiatives, and navigating the complexities of financial sustainability are imperative for building resilient and equitable healthcare systems. As these nations continue to grapple with evolving health needs, strategic policy formulations, international collaborations, and a commitment to long-term sustainability are essential to pave the way for improved health outcomes and a brighter future for their populations.

1.3. Common Challenges Faced by Developing Countries

Developing countries confront a myriad of challenges in their pursuit of robust and accessible healthcare systems. These challenges are shaped by a complex interplay of factors, including limited financial resources, inadequate healthcare infrastructure, socio-economic disparities in healthcare access, and the burden of global health challenges such as infectious diseases. This paper delves into each of these challenges, providing a comprehensive analysis of the obstacles that impede the development of effective and equitable healthcare in developing nations (Jaca, et. al., 2022, Yusif, Hafeez-Baig & Soar, 2020, Zhan & Santos-Paulino, 2021).

Developing countries often grapple with limited financial resources allocated to healthcare. Scarce budgets hinder the ability to invest in essential components of healthcare, such as infrastructure development, workforce capacity building, and the procurement of medical supplies. The resulting budget constraints restrict the overall effectiveness of healthcare systems.

Limited financial resources force governments to navigate competing priorities. Healthcare must contend with allocations for education, infrastructure, and social welfare, among other sectors. Striking a balance between immediate healthcare needs and long-term investments becomes a daunting task, often leaving healthcare underfunded and inadequately equipped to address complex challenges.

Inadequate numbers of hospitals, clinics, and healthcare facilities contribute to the challenges faced by developing countries. Insufficient infrastructure impedes the delivery of timely and quality healthcare services. Rural areas, in

particular, bear the brunt of these shortages, leading to disparities in healthcare access between urban and remote regions.

The scarcity of modern medical equipment and technology exacerbates healthcare challenges. Many developing nations lack access to advanced diagnostic tools and medical devices crucial for accurate diagnosis and treatment. The absence of these resources hampers the provision of comprehensive healthcare services, limiting the effectiveness of healthcare interventions (Attaran, 2022, Lu, et. al., 2020, Sun, et. al., 2021).

Socio-economic disparities significantly impact healthcare access, particularly in the urban-rural context. Urban areas may have relatively better-equipped healthcare facilities, while rural regions face significant gaps. This urban-rural divide perpetuates inequalities, affecting the health outcomes of populations residing in geographically isolated areas (Cattaneo, et. al., 2022, Samuel, O., Zewotir & North, 2021).

Financial constraints often restrict individuals from accessing healthcare services. Out-of-pocket expenses for medical treatments, transportation costs, and indirect costs associated with seeking healthcare contribute to barriers in accessibility. The inability to afford healthcare services exacerbates health disparities, particularly for economically disadvantaged communities.

Developing countries contend with a high prevalence of infectious diseases, contributing to significant health challenges. Diseases such as malaria, tuberculosis, and HIV/AIDS pose substantial burdens on healthcare systems. The prevalence of these infectious diseases necessitates targeted interventions and comprehensive health policies to control and prevent their spread.

Global health challenges, including the threat of pandemics and epidemics, place additional strains on developing countries. Limited resources hinder preparedness and response capabilities, making it challenging to mount effective responses to emerging health crises. The ongoing COVID-19 pandemic exemplifies the critical importance of robust healthcare systems in the face of global health challenges.

The common challenges faced by developing countries in healthcare underscore the urgency for strategic interventions and collaborative efforts. Limited financial resources, inadequate healthcare infrastructure, socio-economic disparities, and the burden of global health challenges collectively impede the development of effective and equitable healthcare systems. Addressing these challenges requires a multifaceted approach that involves international collaborations, policy reforms, and sustained investments in healthcare infrastructure and workforce capacity. As developing nations navigate these complexities, the goal is to build resilient healthcare systems that can withstand global health challenges while ensuring accessibility and quality of care for all.

1.4. Successes and Strategies in Certain Developing Nations

While developing countries grapple with unique healthcare challenges, certain nations have pioneered successful interventions, offering valuable lessons for global healthcare improvement. This paper delves into the successes and strategies employed by specific developing nations, showcasing case studies, embracing community-based healthcare models, integrating technology, and implementing innovative financing approaches.

Rwanda stands as a notable success story in healthcare transformation. Following the devastating genocide in 1994, Rwanda prioritized health as a central component of its recovery. The country invested in building a robust primary healthcare system, leveraging community health workers (CHWs) to provide preventive and basic curative services (Odland, et. al., 2020, Rosenberg, et. al., 2019, Rudasingwa, et. al., 2022). The result has been remarkable progress in improving maternal and child health outcomes, reducing infectious disease burdens, and achieving significant advancements in life expectancy.

Costa Rica boasts a comprehensive and inclusive healthcare system that has consistently delivered impressive health outcomes. The nation emphasizes primary healthcare, promoting preventive measures and community engagement. The equitable distribution of healthcare services has contributed to high levels of accessibility, resulting in commendable health indicators comparable to those of developed nations.

Brazil's Family Health Strategy (FHS) is a community-based model that has revolutionized primary healthcare delivery. The FHS employs community health agents to conduct door-to-door visits, focusing on preventive care, health education, and early intervention. This approach has significantly improved healthcare access in both urban and rural areas, particularly benefiting vulnerable populations (Corrêa, et. al., 2019, Massuda, et. a., 2022).

Bangladesh has implemented a network of community clinics designed to bring healthcare closer to the people. These clinics, staffed by trained paramedics and community health workers, provide essential services and serve as hubs for health education and preventive care. The community clinic model has proven effective in reaching remote areas and addressing healthcare disparities.

India has embraced telemedicine to bridge geographical gaps in healthcare access. Telemedicine initiatives connect patients in remote areas with healthcare professionals through virtual consultations. This approach has facilitated timely diagnosis, expanded access to specialized care, and improved overall healthcare delivery in underserved regions.

Kenya has successfully integrated mobile health solutions to enhance healthcare accessibility. Mobile applications and SMS-based services provide health information, appointment reminders, and even support for managing chronic conditions (Bakibinga, et. al., 2020, Nyatuka & de la Harpe, 2019). This innovative use of technology has empowered communities, improved health literacy, and increased the efficiency of healthcare services.

Ghana's NHIS is a pioneering example of an innovative financing model. The NHIS ensures that citizens contribute to a health insurance fund, guaranteeing access to a range of healthcare services. This model promotes financial risk protection and has contributed to increased healthcare utilization, especially among previously underserved populations.

Mexico's Seguro Popular is a comprehensive health insurance program designed to provide coverage for the uninsured population. By pooling financial resources and utilizing public-private partnerships, Mexico has succeeded in expanding healthcare access and reducing out-of-pocket expenses for millions of its citizens.

The successes and strategies employed by certain developing nations offer a beacon of hope and inspiration for global healthcare improvement. Through innovative financing models, community-based healthcare initiatives, integration of technology, and strategic interventions, these nations have demonstrated that transformative changes are achievable. As the global community strives for health equity, these successful examples provide valuable insights and a roadmap for sustainable healthcare systems that prioritize accessibility, preventive care, and community engagement.

1.5. Effectiveness of Health Policies in Addressing Prevalent Health Issues

The effectiveness of health policies plays a pivotal role in shaping the health outcomes of populations, particularly in the context of prevalent health issues. This paper critically examines the impact of health policies on infectious disease control and prevention, maternal and child health outcomes, the response to the rising burden of non-communicable diseases (NCDs), and the role of governance and political will in policy implementation.

Effective health policies have demonstrated substantial success in controlling and preventing infectious diseases through comprehensive vaccination programs. For instance, policies promoting widespread vaccination against diseases such as measles, polio, and influenza have significantly reduced morbidity and mortality, contributing to the overall improvement of public health.

Policies focusing on robust disease surveillance and rapid response mechanisms are crucial in containing infectious disease outbreaks. Timely identification, isolation, and treatment of cases, coupled with effective communication strategies, have proven instrumental in preventing the spread of diseases like Ebola and Zika, showcasing the importance of proactive policy frameworks (Butt, et. al., 2020, Excler, et. al., 2021).

Health policies that prioritize access to prenatal and postnatal care have a profound impact on maternal and child health outcomes. Countries with policies ensuring comprehensive maternal healthcare services, including antenatal check-ups, skilled birth attendance, and postnatal care, have witnessed significant reductions in maternal and infant mortality rates.

Policies advocating for family planning services contribute to positive maternal and child health outcomes. Accessible and comprehensive family planning programs empower individuals to make informed decisions about their reproductive health, leading to reduced maternal mortality, improved child health, and overall enhanced well-being.

Health policies addressing the rising burden of non-communicable diseases, particularly those related to lifestyle factors, include successful tobacco control measures. Policies such as tobacco taxes, smoking bans, and public awareness campaigns have contributed to declines in smoking rates, thereby mitigating the prevalence of diseases like cardiovascular diseases and certain cancers.

Policies promoting healthy dietary habits and physical activity play a critical role in addressing the rising burden of non-communicable diseases. Initiatives that encourage reduced salt intake, sugar taxation, and the provision of nutritional information contribute to preventing conditions such as obesity, diabetes, and hypertension.

Transparent governance structures are integral to the successful implementation of health policies. Policies that foster openness, accountability, and stakeholder engagement create an environment conducive to effective health interventions. Transparent governance ensures that policies are rooted in evidence and responsive to the needs of the population.

The commitment of political leaders to prioritize health as a fundamental aspect of national development is paramount. Policies that receive sustained political will are more likely to be effectively implemented and achieve desired health outcomes. Political commitment ensures adequate resource allocation, infrastructure development, and continuous evaluation of the impact of health policies (Androniceanu, 2021, Reddy, et. al.,2020).

In conclusion, the effectiveness of health policies in addressing prevalent health issues is contingent on strategic interventions and a holistic approach. Policies that successfully control infectious diseases, improve maternal and child health outcomes, tackle non-communicable diseases, and operate within transparent governance structures demonstrate the potential for positive change. As the global community grapples with evolving health challenges, the lessons learned from successful policy implementations underscore the importance of evidence-based decision-making, political commitment, and a collaborative approach to fostering a healthier and more resilient future for populations worldwide.

1.6. Role of Governance, Political Will, and International Collaborations

The effective governance of healthcare systems is inherently tied to political will and international collaborations, forming a triad that shapes the trajectory of public health on a global scale. This paper delves into the examination of governance structures within healthcare systems, the influence of political will on policy implementation and sustainability, the impact of international collaborations in shaping health policies, and the implications of global health governance for developing countries.

The examination of governance structures in healthcare systems often revolves around the debate between centralized and decentralized models. Centralized structures, where decision-making is concentrated at the national level, provide uniformity but may struggle with responsiveness to local needs. Decentralized models, on the other hand, empower regional authorities but require coordination to ensure cohesive and equitable healthcare delivery.

Governance effectiveness is also linked to stakeholder involvement. Inclusive governance structures that engage healthcare professionals, community representatives, and policymakers foster collaboration and ensure that diverse perspectives are considered in policy formulation and implementation. This inclusivity enhances the adaptability and acceptance of healthcare policies (Sheard, Clydesdale & Maclean, 2019, Van Duijn, Bannink & Ybema, 2022, Zwitter & Hazenberg, 2020).

Political will plays a pivotal role in prioritizing health on national agendas. When leaders demonstrate a commitment to public health, resources are allocated, and policies are implemented more effectively. Policies rooted in political will are more likely to withstand challenges, fostering sustainability and long-term impact.

Political will influences resource allocation and infrastructure development within healthcare systems. Leaders who prioritize health are more inclined to invest in healthcare infrastructure, recruit and retain skilled healthcare professionals, and ensure the availability of essential medical supplies. These investments contribute to the resilience and effectiveness of healthcare systems.

International collaborations serve as conduits for knowledge exchange and the sharing of best practices. Developing countries benefit from the experiences of more advanced healthcare systems, adopting successful policies and strategies. Collaborations facilitate the transfer of expertise, allowing nations to adapt proven approaches to their specific contexts.

Collaborative efforts often involve resource mobilization and technical assistance. Developing countries, through partnerships with international organizations and donor nations, can access funding, expertise, and technological advancements that may otherwise be beyond their reach. These resources contribute to the implementation of impactful health policies.

The World Health Organization (WHO) serves as a cornerstone of global health governance. It facilitates coordination, provides technical guidance, and sets norms and standards for health policies worldwide. Developing countries benefit from the WHO's expertise, which helps align their healthcare strategies with global health priorities.

However, global health governance is not without challenges, particularly in power dynamics between developed and developing nations. Decision-making structures may sometimes favor the interests of wealthier nations, potentially marginalizing the needs of developing countries. Striking a balance that ensures equity and inclusivity remains an ongoing challenge.

The triad of health governance, political will, and international collaborations forms the bedrock of effective healthcare systems globally. Examining governance structures, fostering political will, engaging in international collaborations, and navigating global health governance are integral components of shaping resilient and equitable health policies. The synergy of these elements is essential for addressing health challenges, promoting sustainability, and fostering a collective commitment to global health advancement. As the world grapples with emerging health threats and strives for universal health coverage, the significance of effective governance and collaborative efforts becomes increasingly paramount in securing the well-being of populations worldwide.

1.7. Pathway to Effective Healthcare Systems

The quest for effective healthcare systems is a dynamic journey that necessitates a multifaceted approach. This paper explores a comprehensive pathway, highlighting the importance of tailored and context-specific health policies, increased investment in primary healthcare, capacity-building for healthcare professionals, and the strategic utilization of digital technologies to enhance healthcare delivery.

Tailoring health policies to local contexts requires a deep understanding of the unique socio-cultural, economic, and geographic factors influencing health outcomes. Successful healthcare systems recognize the diversity of their populations and implement policies that address specific health challenges within each context.

Effective health policies actively engage communities in their design and implementation. Community participation ensures that policies resonate with the needs and preferences of the population, fostering a sense of ownership and compliance. Tailored approaches that incorporate local perspectives contribute to the success and sustainability of healthcare interventions.

Primary healthcare serves as the cornerstone of effective healthcare systems. Increased investment in primary healthcare addresses the root causes of health issues, emphasizing preventive care and early intervention. This approach not only reduces the burden on secondary and tertiary care but also promotes overall population health.

Investing in primary healthcare ensures equitable access to essential services, particularly in underserved and remote areas. Well-equipped primary healthcare facilities provide a range of services, including vaccinations, maternal and child health, and basic treatments (Gardiner, et. al., 2020, Gizaw, Astale & Kassie, 2022, Strasser & Strasser, 2020). This accessibility contributes to early detection and management of health conditions, minimizing disparities in healthcare access.

Capacity-building for healthcare professionals is crucial for maintaining a skilled and adaptable workforce. Continuous professional development programs empower healthcare professionals with the latest knowledge, technologies, and best practices. This ongoing learning fosters innovation and ensures that healthcare professionals remain at the forefront of their fields.

Effective healthcare systems address workforce shortages through targeted capacity-building initiatives. Developing and implementing comprehensive training programs, offering incentives for healthcare professionals to work in underserved areas, and exploring international collaborations for knowledge exchange are essential components of addressing workforce challenges.

The utilization of digital technologies, such as telehealth and remote monitoring, enhances healthcare delivery by overcoming geographical barriers. Telehealth enables virtual consultations, reducing the need for physical presence and expanding access to healthcare services, particularly in rural or isolated regions.

Digital technologies like Electronic Health Records (EHRs) and data analytics contribute to improved patient care and population health management. EHRs streamline information sharing among healthcare providers, reducing errors and

enhancing continuity of care. Data analytics provide insights into health trends, enabling proactive interventions and policy adjustments based on real-time information (Badawy & Radovic, 2020, Haleem, et. al., 2021, Omboni, et. al., 2022).

In conclusion, the pathway to effective healthcare systems involves a strategic combination of tailored health policies, increased investment in primary healthcare, capacity-building for healthcare professionals, and the judicious utilization of digital technologies. The synergy of these elements addresses the unique needs of diverse populations, promotes preventive care, ensures equitable access, builds a skilled healthcare workforce, and harnesses the transformative potential of technology.

As nations navigate the complexities of modern healthcare challenges, a commitment to these foundational principles can pave the way for resilient and responsive healthcare systems. By embracing context-specific approaches, prioritizing primary healthcare, investing in the professional development of healthcare workers, and leveraging digital innovations, the global community can strive towards achieving the vision of accessible, equitable, and effective healthcare for all.

Recommendation and Conclusion

Developing countries should prioritize the development of health policies that are tailored to their specific contexts. This involves conducting thorough assessments of local health needs, socio-cultural dynamics, and economic factors. Engaging communities and stakeholders in the policymaking process ensures that interventions are culturally sensitive, relevant, and accepted by the populations they aim to serve. Governments and international stakeholders should significantly increase investment in primary healthcare as a fundamental component of their health policy. Strengthening primary healthcare infrastructure, ensuring access to essential services, and implementing preventive measures can alleviate the burden on higher levels of care. This approach promotes health equity and addresses health issues at their roots.

Developing countries should focus on capacity-building for healthcare professionals. This includes continuous training programs, skill enhancement initiatives, and creating conducive working environments. Incentives to attract and retain healthcare professionals, especially in underserved areas, should be prioritized to address workforce shortages and improve overall healthcare delivery. Embracing digital health technologies is critical for effective healthcare systems in developing countries. Governments should invest in the implementation of electronic health records (EHRs), telemedicine, and other digital solutions to enhance service delivery, improve data management, and overcome geographical barriers. These technologies can revolutionize healthcare accessibility and quality.

Developing countries should actively engage in international collaborations for knowledge exchange and resource mobilization. Partnerships with more advanced healthcare systems, international organizations, and donor nations can provide valuable insights, financial support, and technical assistance. These collaborations enhance the capacity of developing nations to implement evidence-based and sustainable health policies.

2. Conclusion

In conclusion, the journey towards effective healthcare systems in developing countries demands a comprehensive and collaborative approach. By implementing the recommendations outlined above, nations can forge a pathway that addresses the unique challenges they face, fosters resilience, and advances the well-being of their populations.

It is imperative for policymakers, healthcare professionals, and international stakeholders to work hand-in-hand, recognizing the interconnectedness of health with social, economic, and cultural factors. As these recommendations are integrated into health policy frameworks, developing countries can progress towards achieving the overarching goal of accessible, equitable, and high-quality healthcare for all. The commitment to continuous improvement, innovation, and collaboration will be key in shaping the future of healthcare in the developing world.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

References

- [1] Adebukola, A. A., Navya, A. N., Jordan, F. J., Jenifer, N. J., & Begley, R. D. (2022). Cyber Security as a Threat to Health Care. *Journal of Technology and Systems*, 4(1), 32-64.
- [2] Andrews, R., Beynon, M. J., & McDermott, A. (2019). Configurations of New Public Management reforms and the efficiency, effectiveness and equity of public healthcare systems: a fuzzy-set Qualitative Comparative Analysis. *Public management review*, 21(8), 1236-1260.
- [3] Androniceanu, A. (2021). Transparency in public administration as a challenge for a good democratic governance. *Revista» Administratie si Management Public «(RAMP)*, (36), 149-164.
- [4] Assan, A., Takian, A., Aikins, M., & Akbarisari, A. (2019). Challenges to achieving universal health coverage through community-based health planning and services delivery approach: a qualitative study in Ghana. *BMJ open*, 9(2), e024845.
- [5] Attaran, M. (2022). Blockchain technology in healthcare: Challenges and opportunities. *International Journal of Healthcare Management*, 15(1), 70-83.
- [6] Awad, A., Trenfield, S. J., Pollard, T. D., Ong, J. J., Elbadawi, M., McCoubrey, L. E., ... & Basit, A. W. (2021). Connected healthcare: Improving patient care using digital health technologies. *Advanced Drug Delivery Reviews*, 178, 113958.
- [7] Badawy, S. M., & Radovic, A. (2020). Digital approaches to remote pediatric health care delivery during the COVID-19 pandemic: existing evidence and a call for further research. *JMIR pediatrics and parenting*, 3(1), e20049.
- [8] Bakibinga, P., Kamande, E., Kisia, L., Omuya, M., Matanda, D. J., & Kyobutungi, C. (2020). Challenges and prospects for implementation of community health volunteers' digital health solutions in Kenya: a qualitative study. *BMC health services research*, 20(1), 1-12.
- [9] Bigna, J. J., & Noubiap, J. J. (2019). The rising burden of non-communicable diseases in sub-Saharan Africa. *The Lancet Global Health*, 7(10), e1295-e1296.
- [10] Buenaventura, R. D., Ho, J. B., & Lapid, M. I. (2020). COVID-19 and mental health of older adults in the Philippines: a perspective from a developing country. *International psychogeriatrics*, 32(10), 1129-1133.
- [11] Buğra, A. (2020). Politics of social policy in a late industrializing country: The case of Turkey. *Development and Change*, 51(2), 442-462.
- [12] Butt, M., Mohammed, R., Butt, E., Butt, S., & Xiang, J. (2020). Why have immunization efforts in Pakistan failed to achieve global standards of vaccination uptake and infectious disease control?. *Risk management and healthcare policy*, 111-124.
- [13] Cattaneo, A., Adukia, A., Brown, D. L., Christiaensen, L., Evans, D. K., Haakenstad, A., ... & Weiss, D. J. (2022). Economic and social development along the urban-rural continuum: New opportunities to inform policy. *World Development*, 157, 105941.
- [14] Clements, J. M., Burke, J., Nally, D., Rabie, M., Kane, E., Barlow, E., ... & Rintoul-Hoad, S. (2021). COVID-19 impact on Surgical Training and Recovery Planning (COVID-STAR)-A cross-sectional observational study. *International Journal of Surgery*, 88, 105903.
- [15] Corrêa, D. S. R. C., Moura, A. G. D. O. M., Quito, M. V., Souza, H. M. D., Versiani, L. M., Leuzzi, S., ... & Macinko, J. (2019). Reform movements in the Federal District Health Care System: conversion of the Primary Health Care assistance model. *Ciência & Saúde Coletiva*, 24, 2031-2041.
- [16] Dinh-Le, C., Chuang, R., Chokshi, S., & Mann, D. (2019). Wearable health technology and electronic health record integration: scoping review and future directions. *JMIR mHealth and uHealth*, 7(9), e12861.
- [17] Excler, J. L., Saville, M., Berkley, S., & Kim, J. H. (2021). Vaccine development for emerging infectious diseases. *Nature medicine*, 27(4), 591-600.
- [18] Gardiner, F. W., Bishop, L., de Graaff, B., Campbell, J. A., Gale, L., & Quinlan, F. (2020). Equitable patient access to primary healthcare in Australia. *Canberra, Australia: The Royal Flying Doctor Service of Australia*.
- [19] Gizaw, Z., Astale, T., & Kassie, G. M. (2022). What improves access to primary healthcare services in rural communities? A systematic review. *BMC Primary Care*, 23(1), 1-16.

- [20] Gyawali, B., Khanal, P., Mishra, S. R., van Teijlingen, E., & Wolf Meyrowitsch, D. (2020). Building strong primary health care to tackle the growing burden of non-communicable diseases in Nepal. *Global Health Action*, 13(1), 1788262.
- [21] Haleem, A., Javaid, M., Singh, R. P., & Suman, R. (2021). Telemedicine for healthcare: Capabilities, features, barriers, and applications. *Sensors international*, 2, 100117.
- [22] Htay, T. T., Saw, Y. M., Levinson, J., Kadri, S. M., Brady, A. H., Acquin, C. S., & Htet, A. S. (2022). Health policy in developing countries. *Oxford Textbook of Global Public Health*, 301.
- [23] Ikwuagwu, C.V., Ajahb, S.A., Uchennab, N., Uzomab, N., Anutaa, U.J., Sa, O.C. and Emmanuela, O., 2020. Development of an Arduino-Controlled Convective Heat Dryer. In *UNN International Conference: Technological Innovation for Holistic Sustainable Development (TECHISD2020)* (pp. 180-95).
- [24] Iyengar, K., Bahl, S., Vaishya, R., & Vaish, A. (2020). Challenges and solutions in meeting up the urgent requirement of ventilators for COVID-19 patients. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews*, 14(4), 499-501.
- [25] Jaca, A., Malinga, T., Iwu-Jaja, C. J., Nnaji, C. A., Okeibunor, J. C., Kamuya, D., & Wiysonge, C. S. (2022). Strengthening the health system as a strategy to achieving a universal health coverage in underprivileged communities in Africa: a scoping review. *International journal of environmental research and public health*, 19(1), 587.
- [26] Lu, L., Zhang, J., Xie, Y., Gao, F., Xu, S., Wu, X., & Ye, Z. (2020). Wearable health devices in health care: narrative systematic review. *JMIR mHealth and uHealth*, 8(11), e18907.
- [27] Maduka, C. P., Adegoke, A. A., Okongwu, C. C., Enahoro, A., Osunlaja, O., & Ajogwu, A. E. (2023). Review Of Laboratory Diagnostics Evolution In Nigeria's Response To COVID-19. *International Medical Science Research Journal*, 3(1), 1-23.
- [28] Massuda, A. D. R. I. A. N. O., Malik, A. M., Lotta, G., Siqueira, M., Tasca, R., & Rocha, R. (2022). Brazil's primary health care financing: case study. *Lancet Global Health Commission on Financing Primary Health Care*.
- [29] Mouchou, R., Laseinde, T., Jen, T.C. and Ukoba, K., 2021. Developments in the Application of Nano Materials for Photovoltaic Solar Cell Design, Based on Industry 4.0 Integration Scheme. In *Advances in Artificial Intelligence, Software and Systems Engineering: Proceedings of the AHFE 2021 Virtual Conferences on Human Factors in Software and Systems Engineering, Artificial Intelligence and Social Computing, and Energy, July 25-29, 2021, USA* (pp. 510-521). Springer International Publishing.
- [30] Nazeha, N., Pavagadhi, D., Kyaw, B. M., Car, J., Jimenez, G., & Tudor Car, L. (2020). A digitally competent health workforce: scoping review of educational frameworks. *Journal of medical Internet research*, 22(11), e22706.
- [31] Nyatuka, D. R., & de la Harpe, R. (2019, May). Evaluating mHealth interventions in an underserved context using service design strategy: A case of Kenya. In *Proceedings of the 3rd International Conference on Medical and Health Informatics* (pp. 153-160).
- [32] Odland, M. L., Whitaker, J., Nepogodiev, D., Aling', C. A., Bagahirwa, I., Dushime, T., ... & Davies, J. (2020). Identifying, prioritizing and visually mapping barriers to injury care in Rwanda: a multi-disciplinary stakeholder exercise. *World journal of surgery*, 44, 2903-2918.
- [33] Okunade, B. A., Adediran, F. E., Maduka, C. P., & Adegoke, A. A. (2023). Community-based mental health interventions in africa: a review and its implications for us healthcare practices. *International Medical Science Research Journal*, 3(3), 68-91.
- [34] Omboni, S., Padwal, R. S., Alessa, T., Benczúr, B., Green, B. B., Hubbard, I., ... & Wang, J. (2022). The worldwide impact of telemedicine during COVID-19: current evidence and recommendations for the future. *Connected health*, 1, 7.
- [35] Reddy, S., Allan, S., Coghlan, S., & Cooper, P. (2020). A governance model for the application of AI in health care. *Journal of the American Medical Informatics Association*, 27(3), 491-497.
- [36] Riza, E., Kalkman, S., Coritsidis, A., Koubaridas, S., Vassiliu, S., Lazarou, D., ... & Linos, A. (2020, April). Community-based healthcare for migrants and refugees: a scoping literature review of best practices. In *Healthcare* (Vol. 8, No. 2, p. 115). MDPI.
- [37] Rosenberg, A., Ntirenganya, F., Bagahirwa, I., Mbanjumucyo, G., Rutayisire, L., Muneza, S., ... & Jayaraman, S. (2020). First Rwanda national trauma symposium 2019: challenges and priorities. *Journal of Global Health*, 10(1).
- [38] Rudasingwa, M., Jahn, A., Uwitonze, A. M., & Hennig, L. (2022). Increasing health system synergies in low-income settings: Lessons learned from a qualitative case study of Rwanda. *Global Public Health*, 17(12), 3303-3321.

- [39] Samuel, O., Zewotir, T., & North, D. (2021). Decomposing the urban–rural inequalities in the utilisation of maternal health care services: evidence from 27 selected countries in Sub-Saharan Africa. *Reproductive Health, 18*(1), 1-12.
- [40] Sanders, D. (2023). *The struggle for health: medicine and the politics of underdevelopment*. Oxford University Press.
- [41] Sanders, D. (2023). *The struggle for health: medicine and the politics of underdevelopment*. Oxford University Press.
- [42] Sanni, O., Adeleke, O., Ukoba, K., Ren, J. and Jen, T.C., 2024. Prediction of inhibition performance of agro-waste extract in simulated acidizing media via machine learning. *Fuel, 356*, p.129527.
- [43] Schriger, S. H., Boroshok, A. L., Khan, A. N., Wang, L., & Becker-Haimes, E. M. (2023). A case example of community-based supervision to overcome barriers and support the implementation of exposure therapy. *Psychological Services, 20*(2), 343.
- [44] Sheard, D. J., Clydesdale, G., & Maclean, G. (2019). Governance structure and public health provision. *Journal of Health Organization and Management, 33*(4), 426-442.
- [45] Strasser, R., & Strasser, S. (2020). Reimagining primary health care workforce in rural and underserved settings.
- [46] Sun, S., Xie, Z., Yu, K., Jiang, B., Zheng, S., & Pan, X. (2021). COVID-19 and healthcare system in China: challenges and progression for a sustainable future. *Globalization and Health, 17*(1), 1-8.
- [47] Uddin, S.U., Chidolue, O., Azeez, A. and Iqbal, T., 2022, June. Design and Analysis of a Solar Powered Water Filtration System for a Community in Black Tickle-Domino. In *2022 IEEE International IOT, Electronics and Mechatronics Conference (IEMTRONICS)* (pp. 1-6). IEEE.
- [48] Van Duijn, S., Bannink, D., & Ybema, S. (2022). Working toward network governance: local actors’ strategies for navigating tensions in localized health care governance. *Administration & Society, 54*(4), 660-689.
- [49] Wang, X., Zhang, X., & He, J. (2020). Challenges to the system of reserve medical supplies for public health emergencies: reflections on the outbreak of the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) epidemic in China. *Bioscience trends, 14*(1), 3-8.
- [50] Weintraub, R. L., Subramanian, L., Karlage, A., Ahmad, I., & Rosenberg, J. (2021). COVID-19 Vaccine To Vaccination: Why Leaders Must Invest In Delivery Strategies Now: Analysis describe lessons learned from past pandemics and vaccine campaigns about the path to successful vaccine delivery for COVID-19. *Health Affairs, 40*(1), 33-41.
- [51] White, D. B., & Lo, B. (2020). A framework for rationing ventilators and critical care beds during the COVID-19 pandemic. *Jama, 323*(18), 1773-1774.
- [52] World Health Organization. (2020). Health policy and system support to optimize community health worker programmes for HIV, TB and malaria services: an evidence guide.
- [53] World Health Organization. (2022). Global evidence review on health and migration: continuum of care for noncommunicable disease management during migration cycles.
- [54] Wu, X. V., Chi, Y., Panneer Selvam, U., Devi, M. K., Wang, W., Chan, Y. S., ... & Ang, N. K. E. (2020). A clinical teaching blended learning program to enhance registered nurse preceptors’ teaching competencies: Pretest and posttest study. *Journal of medical Internet research, 22*(4), e18604.
- [55] Yusif, S., Hafeez-Baig, A., & Soar, J. (2020). An exploratory study of the readiness of public healthcare facilities in developing countries to adopt health information technology (HIT)/e-Health: the case of Ghana. *Journal of Healthcare Informatics Research, 4*, 189-214.
- [56] Zhan, J. X., & Santos-Paulino, A. U. (2021). Investing in the Sustainable Development Goals: Mobilization, channeling, and impact. *Journal of International Business Policy, 4*(1), 166-183.
- [57] Zwitter, A., & Hazenberg, J. (2020). Decentralized network governance: blockchain technology and the future of regulation. *Frontiers in Blockchain, 3*, 12.