

Title

**ASSESSING CHALLENGES AFFECTING HEALTH SERVICE DELIVERY IN ENEYA AREA
OF NTCHEU DISTRICT, MALAWI**

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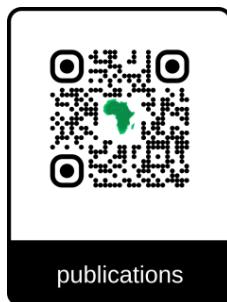
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ABSTRACT

Health service delivery is a critical component of a functional health system and plays a vital role in improving population health outcomes. Despite ongoing efforts to strengthen healthcare systems, many health facilities continued to experience significant challenges that hindered effective service delivery. This study assessed the key challenges affecting health service delivery, with a focus on identifying systemic, institutional, and socio-economic factors that limit access to quality healthcare services. The study adopted a qualitative research approach, using interviews and document review to collect data from health workers and relevant stakeholders.

The findings revealed that inadequate funding, shortage of trained health personnel, insufficient medical supplies and equipment, poor infrastructure, and high patient provider ratios were the major challenges affecting health service delivery. Additionally, administrative inefficiencies and limited community awareness further constrain the effectiveness of health services. The study concluded that addressing these challenges required increased investment in the health sector, strengthening human resource capacity, improving infrastructure, and enhancing management and policy implementation. The findings of this study were expected to inform policymakers and health administrators in developing strategies to improve health service delivery.

Keywords: health service delivery, population growth, health work force, marginalized groups, health infrastructure, Malawi

INTRODUCTION

Health service delivery has been one of the persistent and major challenges that hits developing countries like Malawi. This challenge affected various aspects of nation endeavors and it slowed its progress whereby it also affected individual's daily wellbeing. However, this study was taking place in Eneya area of Ntcheu district where it examined the challenges affecting health service delivery. Therefore, this chapter has gone through the background of the study, explain the research problem statement, come up with the objectives, the research questions, it has also articulated the significance of the study as well as the rundown has been provided at the very end of the chapter.

Health service delivery has been a fundamental component of any health system and played a critical role in improving population health outcomes, reducing morbidity and mortality, and promoting overall socio-economic development. Effective health service delivery ensured that individuals and communities have access to timely, affordable, acceptable, and quality health care services. Globally, governments and development partners committed to strengthening health systems in line with the Sustainable Development Goals (SDGs), particularly Goal 3, which aimed to ensure healthy lives and promote well-being for all at all ages.

Despite these commitments, many countries especially low- and middle-income nations

continued to face significant challenges in delivering quality health services. Health facilities often struggle with inadequate infrastructure, shortages of skilled health personnel, limited medical supplies and equipment, poor financing mechanisms, and weak health information systems. These challenges were further compounded by rapid population growth, increasing disease burden, emerging public health threats, and socio-economic inequalities, all of which place additional pressure on already strained health systems.

In many developing contexts, health service delivery was also affected by poor management practices, inequitable distribution of health facilities, long distances to health centers, and limited community participation in health programs. Rural and hard-to-reach areas are particularly vulnerable, as residents frequently experience delays in receiving care, reduced availability of essential services, and lower quality of treatment compared to urban populations. Such disparities undermine the principle of universal health coverage and contributed to preventable illness and deaths.

Furthermore, external factors such as economic constraints, political instability, and public health emergencies such as disease outbreaks and natural disasters exposed weaknesses in health service delivery systems. These factors disrupt service continuity, divert limited resources, and negatively affected both health care providers and service users. As a result, patient satisfaction and trust in the health system declined, leading to reduced utilization of available services.

Given the importance of effective health service delivery in achieving positive health outcomes, it was essential to systematically assess the challenges affecting the provision

of health services. Understanding these challenges provided valuable insights for policymakers, health managers, and stakeholders to develop evidence-based strategies aimed at improving health service delivery. Therefore, this study aimed to assess the key challenges affecting health service delivery, with the aim of contributing to the improvement of health system performance and the overall quality of health care services. (*Ministry of health and population [MHOP] Malawi, 2001*)

Effective health service delivery was a critical component of any functional health system and also essential for improving population health outcomes, reducing preventable morbidity and mortality, and achieving universal health coverage. Despite ongoing efforts by governments and development partners to strengthen health systems, many communities experienced inadequate access to quality, timely, and affordable health services. These challenges undermined the ability of health facilities to meet the growing health needs of the population and negatively affected overall health outcomes.

According to World Health Organization many developing countries, health service delivery has constrained by a range of interconnected challenges, including shortages of qualified health personnel, inadequate infrastructure, limited availability of essential medicines and medical equipment, insufficient funding, and weak health system management. Additionally, factors such as rapid population growth, increased disease burden, poor referral systems, and socio-economic barriers further strained already overstretched health facilities. As a result, patients often faced long waiting times, substandard quality of care, and inequitable access to essential health services.

Although various policies and interventions have been implemented to address these issues, persistent gaps in health service delivery continued to exist, suggesting that the underlying challenges were not fully understood or effectively addressed. There was limited empirical evidence that comprehensively examined the specific challenges affecting health service delivery within local contexts, particularly from the perspectives of health workers and service users.

However, in Eneya area there was a need for a systematic assessment of the challenges affecting health service delivery to identify key barriers and their implications for health system performance. Understanding these challenges was essential for informing policy decisions, improving health service planning and management, and developing targeted strategies aimed at enhancing the efficiency, accessibility, and quality of health services. (*Ministry of health annual report 2023*)

To assess challenges affecting health service delivery in the Eneya Area of Ntcheu district, Malawi.

To achieve the main objective, particularly this study was focusing to achieve the following specific objectives:

- To investigate health workforce issues affecting health service delivery.
- To assess how health service delivery challenges affects the marginalized groups.
- To assess the inadequacy of health care infrastructure that are found in the area of Eneya.

- To identify the polices and strategies that are there to in order to adapt the challenge.

The research questions that were guiding this research were as follows:

- How capable is the workforce of public health system in dealing with the challenges in Eneya area?
- What extent are the marginalized groups are affected by the challenges affecting health service delivery?
- How inadequate are the health infrastructure in this area?
- What are the policies and strategies that helps in solving or mitigating the rapid population growth?

The findings of this study were valuable to policy makers and government authorities, as they provided empirical evidence to guide the formulation and revision of health policies, strategies, and resource allocation frameworks. Understanding the specific challenges faced at health facility and community levels enabled policymakers to design targeted interventions that address existing gaps in service delivery.

The study also benefited health managers and administrators, as it highlighted operational and managerial challenges such as staffing shortages, infrastructure limitations, supply chain constraints, and system inefficiencies. Insights from the study improved planning, supervision, and management practices within health facilities, thereby enhancing service delivery performance.

Furthermore, the research was important to health care workers, as it provided a platform for documenting their experiences

and challenges in delivering services. Addressing the identified issues contributed to improved working conditions, increased motivation, and enhanced capacity among health workers, ultimately leading to better quality care for patients.

The study helped communities and health service users by promoting a better understanding of factors that limit access to quality health care. Improved service delivery resulting from the study's recommendations led to reduced waiting times, improved patient satisfaction, and better health outcomes.

Finally, this study will contribute to the academic and research community by adding to existing literature on health service delivery challenges, particularly within resource-constrained settings. It will serve as a reference for future researchers and may stimulate further studies aimed at developing sustainable solutions to health system challenges.

This research report was organized into chapters, each serving a specific purpose. Chapter 1 highlighted on the introduction background of the study, problem statement, the objectives structure significance of the study the report structure and the chapter summary, research questions Chapter 2 reviewed the literature related to health service delivery and the existing challenges that arose due to intense growth in population. Chapter 3 outlined the research methodology, including data collection and analysis. Chapter 4 presented the findings and their interpretation and chapter 5 provided recommendation and conclusions.

This chapter introduced the research by highlighting the challenges affecting health service delivery in Eneya area of Ntcheu district. The background of the study illuminated the context and the problem

statement was grounded in existing evidence. Research objectives and the questions were specified and the significance of the study was emphasized. The chapter also outlined the structure of the report, setting of the subsequent chapters which will delve deeper into the research's various aspects.

LITERATURE REVIEW

In this chapter initiated a comprehensive assessment of the relevant literature that served as the underpinning for our investigation into the challenges affecting health services delivery, it influenced and solution that can be generated in mitigating the challenge. Our primary geographical emphasis within this research in on Eneya area that was found in central part of Ntcheu district. The chapter also covered the clarification of term; a review aligned with specific objectives, the theoretical framework and concludes with a summary of the chapter.

Service delivery as the way inputs such as human resources, medicines, and infrastructure are organized and managed to ensure effective, safe, and quality services to people. (*World Health Organization WHO, 2010*)

Health is a state of complete physical, mental and social well-being and not merely the absence of diseases or infirmity (*WHO, 1998*).

According to *World Health Organization 2010* report it refers to services dealing with the diagnosis and treatment of diseases or the promotion, maintenance and restoration of health, provided by the health system to individuals or to populations.

Diverse groups that face social, economic, and political exclusion and are thus excluded from society's mainstream comprise marginalized communities. According to *World Health Organization (2002)* annual report, in sub-Saharan African countries there are a variety of marginalized communities who have poor access to resources and suffer from social marginalization. These groups include indigenous peoples, ethnic and racial minorities, the poor, the disabled, and those who experience prejudice due to their gender, sexual orientation, or immigration status. Marginalization acknowledges the structural obstacles and power disparities that restrict marginalized groups' access to opportunities, resources, and rights.

A thorough and varied approach is needed to address healthcare access gaps among marginalized communities. Access to healthcare services can be improved by the implementation of financial protection measures and other policy initiatives. To improve access and guarantee the availability of high-quality care, healthcare infrastructure must be strengthened, especially in underserved areas.

However, there are various solutions that can be generated in order to deal with this challenge such as; reproductive health services like family planning and maternal health with the aim to help control of population growth pressures, outreach programs to connect uninsured population with available services, incentivize medical professionals to work in marginalized communities, train community health workers from with the population since people trust and relate more easily to the providers who understand their language and culture and provide mobile health clinics to reach rural and low income urban neighborhoods. (*Marmot, M 2015*)

With an estimated shortage of more than four million health workers worldwide, the global health workforce crisis is possibly the greatest health system constraint on countries seeking to meet their (2015) Millennium Development Goals (*World Health Organization 2006*). The World Health Organization and global health advocates have called attention to this crisis by monitoring the number of health workers (doctors, nurses, and midwives) per 1,000 populations, an access measure commonly referred to as the health worker density ratio.

The global health community is committed to supporting countries in addressing their health workforce crises; however, planning and policy efforts to improve the health worker density ratio have disproportionately focused on increasing the ratio's numerator (health workers), while paying scant attention to the ratio's denominator (population size). (*Gakidou, E 2010*)

In this technical brief, we discuss the potential impact of population growth on countries' efforts to improve their populations' access to skilled health workers. Careful attention must be given to how population size interplays with health worker production to determine the desired health worker density ratio. An increasing rate of population growth could negate important gains in health worker production, preventing improvements in and possibly worsening the health workforce crisis in many countries. Conversely, countries that have significant declines in their rates of population growth could reach desired health service coverage more quickly than would otherwise be the case. We conclude by highlighting the need to address both health worker production and population growth to mitigate the health workforce crisis. (*WHO Annual report 2006*)

Basically these health workforce problems can be solved by increasing training and education capacity to the professionals for example offering scholarships and incentives to attract more students into health professions, strengthening health workforce planning and management such as using data to forecast needs based on population growth as well as align education outputs with actual health system demands and enhance workforce retention by improving working conditions, salaries and career opportunities and improve workforce distribution by encouraging the workers to serve in underserved or rural areas through incentives such as housing and financial bonuses. (Garenne, M. 2013)

According to *World Health Organization* (2006), Japan achieved its fertility transition while in poverty after WWII through maternal and child health programs, lifestyle improvement movements, and the activities of NGOs. Even aside from the uniqueness of Japan in already having developed the potential foundation for this transition, such as widespread basic education, social and human resources, and organizational competency prior to World War II, Japan's experience can be of use when helping developing countries.

The post-war approach in Japan can be roughly divided into two categories: a top-down government-led approach and a bottom-up civic approach. In the government-led approach, as part of its thorough democratization policy, a top-down chain of command was established from the central Ministry of Health and Welfare to the prefectures, cities, towns, and villages. At the same time, the system was further decentralized and the rural health administration was strengthened.

In addition, public health centers were established and services were diversified in

order to strengthen services to those rural areas that had few medical institutions. With these public health centers as a base, maternal and child health services were developed and public health nurses and independent midwife practitioners played an important role. The completion of a healthcare service network that stretched from the top to the grassroots level was the first essential step of the process. (Bloom, D.E. 2011)

By establishing family planning and reproductive health services policy the challenge can be mitigated, according to Cleland (2006) improving access to family planning, contraception and reproductive health education can slow population growth. Also, policies that promote female education and empowerment are linked to lower fertility rates (World Bank, 2019)

Presence of health infrastructure in terms of having medical facilities is a key to have a good health status of the people. Many researchers have tried to explore the existing health care system pattern and the health status of the people so far. In Indian context some recent studies on health care system and utilization pattern of health care service include those by (Gangolli, Duggal, and Shukla (2005), Datar, Mukherji and Sood (2007), Shariff and Gumber (2008), Gill (2009), Saikia and Das (2012), Goswami and Dutta (2012). Gangolli, Duggal and Shukla (2005) in their recent edited book Review of Healthcare in India brought together a broad array of issues and possess a certain ideological clarity.

This book has come out as an input to support the activities of the Peoples Health Movement in India (*Jan Swasthya Abhiyan-JSA*). The articles in this volume try to analyze and reinterpret the health situation and health statistics from people's perspective and with a view to strengthen

the emerging movement demanding a people's health policy in India. The work by (Datar, Mukherji and Sood (2007) examined the role of health infrastructure and community health workers in expanding immunization coverage in rural India.

The study is based on NFHS data but is constrained to rural India only. They have found that the availability of health infrastructure had only a modest effect on immunization coverage and the presence of community health workers in the village was not associated with increased immunization coverage. The study by *Shariff and Gumber (2008)* concentrated on Health Care Services in rural India and its implications for Reproductive Health.

The objective of the paper is to examine health care utilization pattern across gender, especially seeking inpatient and outpatient services at public and private facilities. Discussing the pattern of health care utilization, the authors find that the incidence of morbidity for women in the reproductive age group is higher than those for men. Scheduled Castes and Scheduled Tribes reported lower levels of hospitalization, which is largely due to their inaccessibility to health care facilities. A recent evaluation study to assess the service delivery under the National Rural Health Mission (NRHM) by *Gill (2009)* in states of Andhra Pradesh, Uttar Pradesh, Bihar and Rajasthan has highlighted the quantity and quality of service delivery in rural public health facilities under NRHM. Very recently, *Saikia and Das (2012)* tries to review the progress in health infrastructure and health care facilities, the status of manpower and the quality of health care services in the rural areas 3 across the north-eastern States.

The theoretical framework for this study dwelled on the Health belief model. This

model was developed by *Rosenstock (1974)*, it helped to explain how individuals perceived and responded to health risks and service availability. as population increases it led to congestion, longer waiting times and declining quality care, individual's perception of service effectiveness and accessibility might deteriorate. This could result in reduced utilization of preventive and primary health services, further exacerbating health challenges. The Health Belief Model highlights the importance of perceived barriers and benefits in shaping health seeking behaviors which were directly influenced by the pressures of rapid population growth on service delivery.

In the context of rapid population growth, the Health belief model provides a valuable lens to examine how increased population density, resources strained and overcrowding influenced individuals' perceptions of health risks, accessibility of services and likelihood of preventive health behaviors. It posited that people were more likely to engage in health promoting behaviors if they perceived a threat to their health and believed that specific actions were reduced this threat.

This chapter served an insightful exploration of the literature review with the aim to address specific and crucial objectives of the study. First it explored how it affected the marginalized groups un the community, the health workforce issues affecting health service delivery, policies and strategies in mitigating the challenges affecting health service delivery and its impact on health infrastructure. In summation, literature review served as a critical foundation of the upcoming research.

METHODOLOGY

This chapter outlined the research methodology to be employed in investigating challenges affecting health service delivery. The chapter discussed the research design, setting, population, sampling methods, sample size, data collection instruments, data collection procedure, pilot study, data analysis techniques, ethical considerations, and provided a summary of the chapter.

According to *kerlinger (1986)*, research design refers to the plan structure and strategy of investigation conceived to obtain answers to research question and to control variance whereby research methodology according to *Creswell (2014)* refers to the philosophical assumptions that underlie the research process and the procedure used in the study.

However, the research design chosen for this study represented a well-thought-out and strategically crafted using qualitative methodology. This method has been thoughtfully selected to ensure a holistic exploration of the strategies and policies that were enacted by the stakeholders (government) with the purposes of mitigating the problems that arose due to the intense increase in population on public health services in the area of Eneya.

When engaging in a qualitative examination on the impacts of rapid population growth on health services in this area, the research employed qualitative research techniques, specifically utilizing in-depth interviews for data collection. This approach offered a platform for an unrestrained exploration of various subjects, allowing participants to articulate their thoughts and experiences using their own expressions and language. This method aimed to delve deeply into the intricacies of the interactions between the researchers and the participants, in order to provide definite data.

The research project was set to take place in the Eneya Area, which is situated in the Ntcheu District, Malawi.

According to *National Statistical Office 2021* annual report, Ntcheu district has the population of 659,608 people and the area of Eneya according to the village headman has 83 households. The study included two groups namely; the health professionals e.g. the doctors, midwives, the pharmacists and the health service users (community)

This study used qualitative method and the interviews and purposive sampling was applied to select participants who could provide detailed information that helped to identify the impacts of the challenge, and also simple random method was used to the actual number that was concerned with the problem in the area.

The study used qualitative method, however approximate number of 50 individuals was targeted which gave insights and helped to identify the impacts of rapid population growth in Eneya area.

The data collection process in this research utilized interview guide and interviews and these interviews facilitated a deeper exploration of participants' perspectives, experiences, and unique insights. The semi-structured format allowed for flexibility, enabling the interviewer to probe further into responses and encouraging participants to express their thoughts and feelings in their own words. Through semi-structured interviews, the research aimed to reveal the personal narratives, challenges, and aspirations of the participants, offering a holistic understanding of their experiences and needs. With the use of qualitative data collection method, this research focused on providing a comprehensive and multifaceted view of the subject matter, ensuring a well-rounded analysis that could inform policy

recommendations and support initiatives effectively. (Reutenberg N. 1991)

Data was collected through face-to-face interviews and interview guide. The interview guide was administered to participants who provided responses in person.

Before the main data collection, a pilot study was conducted involving 5-6 individuals of Eneya Area. This helped in refining the interview guide.

Data analysis refers to the systematic process of organizing, interpreting, and drawing meaningful conclusions from the information collected during the study. In this research project data analyzed using qualitative techniques, however the study was primarily relied on an interview guide as the data collection instrument. And a thematic coding approach was also employed. I made sure that the ideas as well as the responses of the participants were closely related to research objective themes such as health workforce challenges affecting health service delivery, the effects of health service delivery challenges on marginalized groups, inadequacy of available health infrastructure and existing policies and strategies addressing the challenges.

The ethical framework of this study is underpinned by a steadfast commitment to the principles of ethical research conduct. At the very core of this commitment lies the paramount importance of safeguarding the rights and well-being of all participants involved and below are the principles that will be followed when conducting the research;

First and foremost, as a researcher I diligently adhered to the practice of obtaining informed consent from every participant. This means that all individuals

who took part in this research were provided with comprehensive and understandable information about the study's purpose, procedures, potential risks, and benefits.

I made sure that the participants were given the opportunity to ask questions and clarify any concerns they might possessed. Their voluntary and informed agreement to participate was documented, ensuring that they were actively and willingly engaging in the research.

This unwavering dedication to ethical conduct not only upheld the integrity of the research but also reinforced the trust and respect for the rights and well-being of the participants. It was an essential foundation upon which the study could ethically and responsibly contributed to the body of knowledge in its field while upholding the principles of respect, beneficence, and justice in research.

RESULTS

The aim of this chapter was to present the findings of the study which was undertaken to assess the challenges affecting health service delivery in Eneya area, Ntcheu district. The data was collected utilizing in-depth interviews however this qualitative data was analyzed manually by sorting and tallying interview responses (thematic system). The respondents were asked questions using interview guide based on the aim of the research.

This study targeted a total sample of 50 respondents drawn from health workers, community members. Out of the distributed 50 interviews guides, 45 were successfully completed and returned, representing a response rate of 90%.

A total of 45 respondents participated in the study out of the targeted 50, representing a 90% response rate. Of these, 25 (55.6%) were males and 20 (44.4%) were females, indicating a relatively balanced gender representation.

Regarding age distribution, the findings show that the largest age groups were 20–25 years and 31–35 years, each contributing 33.3% of the respondents. The age group 26–30 years comprised 22.2%, while only 11.1% of the respondents were aged 36 years and above.

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	25	55.6
	Female	20	44.4
Age Group	20–25 years	15	33.3
	26–30 years	10	22.2
	31–35 years	15	33.3
	36 years and above	5	11.1

This section presents the key findings of the study based on the data collected from respondents within the study area. The results are organized according to the research objectives, with each subsection summarizing the main patterns, trends, and perceptions observed.

Some few nurses that were interviewed explained that “the number of health workers was insufficient to meet the increasing health demands of the community.” They also reported long waiting times, inadequate consultation time,

and overstretched staff who struggle to manage heavy workloads.

Some other health practitioners themselves acknowledged that “they were experiencing burnout, stress, and limited opportunities for continuous professional training.” The shortage of specialized personnel such as midwives, clinicians, and laboratory technicians were particularly highlighted.

According to village civil protection committee chairperson articulated that “the marginalized groups such as women, people with disabilities, the elderly, and low-income households are disproportionately affected by the consequences of health service delivery. And also, these groups face reduced access to essential health services, including maternal care, chronic disease management, and emergency services.”

Overcrowded facilities were said to worsen inequalities, as marginalized individuals often fail to compete for limited resources such as hospital beds, medications, and health worker attention. In addition, transportation challenges, limited financial resources, and social barriers further prevent vulnerable groups from receiving timely and adequate care.

The results demonstrate that health care infrastructure in the study area is increasingly inadequate to cope with the rising population. Respondents noted shortages of essential medical equipment, limited hospital space, insufficient maternity wings, and poor sanitation facilities. Many health centers lack modern diagnostic equipment, leading to delays in diagnosis and treatment.

Furthermore, according to some health practitioners that were interviewed they said “drug shortages remain a persistent concern, with facilities often running out of essential medicines due to increased patient load.

Transportation and ambulance services were also reported as inadequate, affecting emergency response capacity.”

The study identified several policies and institutional strategies aimed at addressing health services delivery challenges. Respondents mentioned government initiatives such as the Health Sector Strategic Plan (HSSP), recruitment of additional health workers, expansion of community health programs, and construction of new health posts in hard-to-reach areas.

However, the health workers that were interviewed suggested that “while these policies exist, their implementation is inconsistent due to financial constraints, limited human resources, and weak coordination among stakeholders.” Some respondents believed that policy efforts have not matched the speed of population growth, resulting in slow progress in improving infrastructure, workforce distribution, and service delivery systems.

DISCUSSION

This response rate is considered adequate for the purposes of analysis and interpretation of results, as it exceeds the commonly accepted minimum threshold of 60% for social science research.

Several factors contributed to this satisfactory response rate. First, follow-ups were made through reminders and additional visits to health facilities and community areas, which encouraged respondents to participate. Second, the study topic assessing the challenges affecting health service delivery was relevant to many participants, particularly health workers, which increased their willingness to contribute. A small proportion of non-

responses resulted from participants’ busy schedules, lack of availability, or incomplete submissions.

Overall, the achieved response rate provided a reliable basis for analyzing the findings and drawing meaningful conclusions regarding challenges affecting health service delivery affects the availability, accessibility, and quality of health services in this study area.

The findings are further discussed in relation to existing literature and the broader implications for the health system.

The study revealed that health service delivery challenges has placed considerable pressure on the health workforce within public health facilities. These findings suggest that human resources for health have not expanded proportionally to population growth, resulting in declining service quality and reduced efficiency within the public health system.

The study therefore widens existing health disparities and threatens equitable service delivery. These infrastructural gaps indicate that investment in health facilities has not kept pace with demographic growth, compromising the quality and availability of health services.

This indicates a need for stronger policy enforcement, improved resource allocation, and long-term planning to effectively manage the challenges.

Overall, the chapter concluded that the challenges were negatively affecting health service delivery through staff shortages, overburdened infrastructure, reduced access for vulnerable groups, and weak implementation of health policies. The findings underscored the need for stronger investments in health infrastructure, expansion of the health workforce, and

targeted strategies to protect marginalized populations.

CONCLUSION

This study set out to examine how health service delivery challenges affected the delivery, accessibility, and overall quality of health services. The findings revealed that population growth continues to exert significant pressure on the health system, leading to multiple challenges across workforce capacity, health infrastructure, service delivery, and policy implementation.

However, the overall findings indicate that health service delivery challenges significantly strain the health sector, affecting the availability, accessibility, and quality of health services. Strengthening workforce capacity, improving infrastructure, enhancing support for vulnerable groups, and reinforcing policy implementation are therefore essential to improving the resilience of the health system.

The study concludes that health workforce shortages remain one of the most critical challenges facing public health facilities. As the population continues to grow, the number of health workers has not increased proportionately, leading to work overload, long waiting times, reduced quality of care, and burnout among staff. This imbalance highlights the need for strategic investments in recruitment, training, and retention of health personnel.

The study reveals that marginalized groups including the elderly, people with disabilities, women, and low-income households are disproportionately affected by the strain on health services. Population growth increases competition for limited resources, making it even more difficult for

vulnerable groups to access timely and adequate care. This finding underscored the importance of adopting inclusive health strategies that prioritize equity in service provision.

The research concludes that health care infrastructure in many facilities is inadequate and not expanding at the same pace as the population. Issues such as insufficient medical equipment, limited bed space, inadequate drug supplies, and poorly maintained buildings were found to hinder the effective delivery of services. Without significant investments in infrastructure expansion and modernization, the health system will continue to struggle to meet the demands of the growing population.

While policies and strategies aimed at improving health service delivery do exist, the study concludes that their implementation remains weak and inconsistent. Gaps in monitoring, coordination, funding, and community awareness reduce the effectiveness of these interventions. Strengthening policy enforcement and ensuring that strategies respond to population dynamics is essential for sustainable health service improvement.

Based on the findings of the study, the following recommendations are proposed to improve the capacity and effectiveness of health services in areas experiencing rapid population growth:

The government and health authorities should increase the recruitment, training and retention of health workers to address staff shortages. Continuous professional development and incentive packages such as housing allowances, rural hardship allowances, and career progression should be introduced to motivate and retain skilled personnel. Health facilities should adopt

task-shifting approaches where appropriate to enhance service delivery efficiency.

There is a need to construct additional health facilities and expand existing ones to reduce congestion and long waiting times. Investment should be directed towards improving essential infrastructure, including maternity wings, laboratories, outpatient departments, and specialized units. Regular maintenance of buildings, equipment, water systems, and electricity supply

Policymakers should update and enforce policies aimed at family planning, reproductive health, and population control to reduce pressure on health services. Community-based programs should be intensified to raise awareness of family planning, maternal health, and disease prevention. Government should integrate population growth projections into national and district health planning. Targeted interventions should be introduced to ensure that marginalized groups including the poor, rural populations, persons with disabilities, and women receive equitable access to health services. Mobile health clinics, outreach programs, and community health workers should be used to reach underserved areas.

Although this study has provided valuable insights into how health service delivery challenges affected health service delivery, several gaps remain that future researchers can explore to deepen understanding and strengthen policy responses. The following areas are recommended for further investigation:

The impact of population growth may vary significantly across geographical settings. Conducting comparative studies between urban and rural health systems would help identify location-specific challenges and resource disparities.

Further studies could investigate how financial resources, medical supplies, and budget allocations are distributed in regions experiencing high population growth, and how this affects overall service delivery.

While this study assessed general service delivery, additional research can explore more specific issues such as waiting times, quality of treatment, patient satisfaction, and staff burnout.

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