

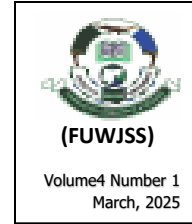
# ASSESSMENT OF COVID-19 PANDEMIC ON HEALTHCARE DELIVERY IN NASARAWA STATE, NIGERIA

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## Abstract

This paper analyzes challenges faced by the Nasarawa State healthcare system amid the global crisis of COVID-19 pandemic. The paper highlights infrastructure and workforce strengths and vulnerabilities within the healthcare delivery system. The paper discusses strains in healthcare infrastructure, emphasizing adaptability and areas requiring sustained investments. The paper engaged the Utilizing David Easton's system theory to explicate the impact of COVID-19 on healthcare delivery system in Nasarawa State. Findings revealed that COVID-19 pandemic posed significant barriers to accessing healthcare services with disruptions in transportation, fear of infections and reduced accessibility in Nasarawa State, Nigeria. Also, there was the challenge of supply of drugs and medical equipment during the COVID-19 pandemic in Nasarawa State. The paper concludes that there is need for critical evaluation of public health interventions, including testing strategies, vaccination campaigns, and preventive measures in Nasarawa State healthcare system. The paper recommends strategic infrastructure investment, workforce support, pandemic preparedness, testing and diagnostics strategies, equitable vaccination distribution, community-centric policies, social support system enhancement, health disparities addressing policies, digital health integration, as long-term resilience plans for Nasarawa State

**Key words:** COVID-19, healthcare, evidence-based policy, public health

## Introduction

The global health crisis stemming from the novel coronavirus SARS-CoV-2, known as the COVID-19 pandemic, has ushered in profound challenges for healthcare systems worldwide. Faced with this unprecedented public health emergency, nations are compelled to navigate a myriad of complexities. In light of this, there is a pressing need for thorough examinations of the specific impacts at regional levels. This paper, titled "An Assessment of the Impact of the COVID-19 Pandemic on Healthcare Delivery in Nasarawa State," seeks to undertake a comprehensive and rigorous evaluation of the consequences of the pandemic on the healthcare system within Nasarawa State.

Nasarawa State, situated in North-Central Nigeria, grapples with distinctive challenges in upholding and improving its healthcare infrastructure and services in the face of the unprecedented demands imposed by the COVID-19 pandemic. This study aims to enrich the existing body of knowledge by examining the multifaceted effects of the pandemic on healthcare delivery in Nasarawa State, encompassing both immediate and enduring consequences. Furthermore, Nasarawa State, characterized by a diverse population with varying socioeconomic backgrounds and geographical disparities, serves as a microcosm reflecting the broader challenges encountered by developing regions in responding to health crises (Layade-Kowo, 2023). The heterogeneous landscape, spanning urban centers to remote rural areas, introduces intricacies in healthcare delivery that necessitate nuanced exploration. This paper endeavors to unveil the differential impact of the pandemic across these diverse settings, acknowledging the significance of tailoring healthcare strategies to the specific needs and vulnerabilities of distinct communities within the state. (Onwujekwe 2021).

Preceding the advent of COVID-19, Nasarawa State's healthcare system exhibited a combination of strengths and vulnerabilities that influenced its ability to provide healthcare services to a diverse population. Noteworthy strengths comprised a network of healthcare facilities extending across urban and rural areas, encompassing hospitals, clinics, and primary healthcare centers that played pivotal roles in delivering primary, secondary, and tertiary healthcare services. The state also boasted a dedicated healthcare workforce, inclusive of doctors, nurses, and allied health professionals, supported by governmental initiatives and budgetary allocations aimed at enhancing infrastructure, personnel training, and public health campaigns. Ongoing health programs targeted various issues, such as maternal and child health, immunization, and disease prevention, with the goal of addressing

prevalent health challenges and fostering community health (Ezeah & Abodunrin, 2019).

Nevertheless, vulnerabilities existed, encompassing infrastructure gaps characterized by insufficient equipment, inconsistent power supply, and difficulties in maintaining facilities, particularly in rural areas. Challenges related to human resources involved the uneven distribution and occasional shortages of skilled professionals, thereby affecting the provision of high-quality healthcare services. Health inequities were discernible, with rural areas encountering obstacles in healthcare access compared to their urban counterparts, influenced by socioeconomic factors. The burden of infectious diseases, such as malaria and tuberculosis, strained already limited resources. Furthermore, the limited integration of technology posed challenges in data management, communication, and telemedicine capabilities, hindering the optimization of healthcare delivery. Hence, a profound understanding of this pre-existing landscape is imperative for contextualizing the subsequent impact of the COVID-19 pandemic on Nasarawa State's healthcare system.

In examining the immediate repercussions, this investigation will scrutinize disturbances in regular healthcare services, the realignment of medical priorities, and the pressure on resources as Nasarawa State shifted its focus to handle and alleviate the virus's spread. Furthermore, emphasis will be placed on the enduring consequences, encompassing the potential transformation of healthcare policies, structural adjustments, and the reassessment of public health priorities in the aftermath of the pandemic.

As we navigate the unprecedented landscape of the COVID-19 era, comprehending the intricate interconnections among health, socioeconomic elements, and governance becomes crucial. This paper aims to shed light on the delicate equilibrium necessary to uphold an efficient healthcare system while addressing the diverse challenges brought about by the pandemic in Nasarawa State. Through this thorough examination, the study seeks not only to enrich academic discussions but also to offer practical insights that can guide the development and implementation of policies, promoting resilience and adaptability in anticipation of future public health challenges.

The emergence of the COVID-19 pandemic in Nasarawa State has given rise to a myriad of challenges that permeate the healthcare delivery system. A study conducted by Afolayan and Ahmed (2021) accentuates the intricate and dynamic scenarios, emphasizing the need for a comprehensive investigation into the specific issues impeding the effective provision of healthcare services within the state. To unravel the complexities of this problem, various key issues are identified.

Firstly, the upsurge in COVID-19 cases has placed substantial pressure on Nasarawa State's healthcare infrastructure. This stress has brought to light

potential inadequacies in the state's capacity, equipment, and logistical capabilities. Consequently, the strain may hinder the state's ability to furnish timely and quality healthcare services, not only for COVID-19 patients but also for individuals requiring medical attention for other conditions. The escalating prevalence of COVID-19 cases in Nasarawa State has significantly strained the existing healthcare infrastructure. This surge in cases has underscored potential inadequacies in the state's overall healthcare capacity, revealing challenges in terms of equipment availability, logistical capabilities, and the general preparedness of the healthcare system (Jones, 2022). The consequential strain raises concerns regarding the state's capacity to provide timely and quality healthcare services, extending beyond the specific realm of COVID-19 care to encompass a broader spectrum of medical needs.

Secondly, healthcare professionals, as the linchpin of any healthcare system, grapple with heightened challenges during the pandemic. The escalation of workload, coupled with psychological stress and potential shortages in skilled personnel, poses a risk to the overall quality of healthcare delivery. This impact extends beyond COVID-19 patients, affecting individuals seeking non-COVID-19-related medical services. The vital role of healthcare professionals becomes particularly pronounced in the face of the COVID-19 pandemic in Nasarawa State. The escalation of COVID-19 cases imposes a considerable burden on these professionals, manifesting in heightened challenges that extend beyond the immediate care of infected individuals. The surge in workload, fueled by the increased demand for COVID-19-related services, has the potential to overwhelm healthcare professionals, jeopardizing the quality of healthcare delivery. The intensification of workload, driven by the influx of COVID-19 patients requiring intricate and resource-intensive care, places healthcare professionals under immense pressure. This pressure is exacerbated by the necessity to adhere to stringent safety protocols, further complicating routine medical procedures and contributing to the overall strain on the workforce. Consequently, the heightened workload not only raises concerns about burnout among healthcare professionals but also poses a tangible risk to the overall quality of healthcare services provided in Nasarawa State (Afolayan and Ahmed, 2021).

Thirdly, the effectiveness of public health interventions, encompassing testing strategies, vaccination campaigns, and other preventive measures, necessitates meticulous evaluation. Understanding the strengths and weaknesses of these measures is crucial for optimizing their impact and adapting strategies to the evolving nature of the pandemic. Moreover, the pandemic has the potential to exacerbate existing health disparities and impede healthcare accessibility, particularly for vulnerable populations.

Economic challenges, combined with disruptions in routine healthcare services, may contribute to heightened health inequities within Nasarawa State. Beyond the immediate impact of COVID-19, the interplay between the pandemic and existing health issues such as malaria, tuberculosis, and maternal health requires thorough examination. This intersectionality demands an understanding of how these concurrent health challenges interact and influence overall healthcare outcomes in Nasarawa State (Adewole, 2020).

Lastly, as the pandemic continues to unfold, assessing the state's long-term resilience and adaptability in the face of evolving healthcare demands becomes crucial. Identifying areas for improvement and strategies for sustained preparedness will contribute to building a robust and adaptable healthcare system in Nasarawa State. As the pandemic unfolds, it is crucial to engage in a comprehensive evaluation of the state's healthcare infrastructure, policies, and response mechanisms. This evaluation extends beyond immediate crisis management to identify enduring challenges and potential vulnerabilities that may persist in the aftermath of the acute phase of the pandemic. By gaining insights into these persistent challenges, decision-makers can formulate targeted interventions to strengthen the healthcare system over the long term. Identifying areas for improvement is a pivotal aspect of this assessment. This involves scrutinizing the existing healthcare infrastructure, resource allocation, and personnel capabilities. By pinpointing specific weaknesses or gaps in the system, stakeholders can prioritize investments and initiatives that address these deficiencies, thereby enhancing the overall capacity and effectiveness of the healthcare system in Nasarawa State.

In seeking to address these multifaceted challenges, this study aims to provide a nuanced understanding of the problems impeding healthcare delivery in Nasarawa State during the COVID-19 pandemic. Through a comprehensive exploration of these issues, the research endeavors to contribute actionable insights that can inform policy decisions and interventions, ultimately enhancing the state's healthcare preparedness and response capabilities.

### **Healthcare Delivery System in Nigeria**

Nadeem (2020) identified covid-19 pandemic as devastating fast spreading hazard and human existence. It concurred with the submission of other scholars who have argued that Wuhan in China was where coronavirus originated, The author argues that with rapidity by which the epidemic was going transversely around the globe, the human existence is threatened. Ozili (2020) asserts that corona virus is a group of virus belonging to the family of corona viridae, which affect both animals and humans. Human corona

virus can cause mild disease similar to a common cold, while others cause more severe disease (such as MERS-middle east Respiratory syndrome and SARS- severe acute Respiratory syndrome). A new corona virus that previously has not been identified in humans emerged in wuhan, china in December 2019.

Ozili (2020) further argues that signs and symptoms include respiratory symptoms and include fever, cough and cough and shortness of breath. In more severe cases, infection can cause pneumonia, severe acute respiratory syndrome and sometimes death. Standard recommendations to prevent the spread of covid-19 include frequent cleaning of hands using alcohol-based hand rub or soap and water, covering the nose and mouth with a flexed elbow or disposable tissue when coughing and sneezing; and avoiding close contact with anyone that has a fever and cough.

Health care delivery or system is an organisation of people, institutions and resources that delivers services to meet the health needs of target populations. According to Ademuluyi & Aluko-Arowolo (2009) and Iyalomhe (2012) the evolution of healthcare centres brought into effect various specialties to advance medical technology, the discovery of new illness/disease and shaky belief system in the new development. Hence, the prevalence of diseases was noticeable in the urban areas all because of the conglomeration of people with a different background working in the factory. Invariably, healthcare delivery has been practiced in a lot of ways from the pre-colonial, through the post-colonial time. For clarity reason, it is imperative to discuss the practices of healthcare delivery in a chronological order. Prior to independence, Nigerians had their designated way of healthcare delivery and services- child birth, disease control which is culturally inclined salvaging them before the arrival of colonial masters alternative. The traditional way of life, marriage, education, family, religion and health was the order of the prior independence. According to Scott-Emuakpor (2010). The traditional form of healing and medicine was the main system of healthcare delivery in pre-colonial times in Nigeria. The service providers in pre-western time included divine healer, herbalist, midwives, soothsayers, spiritualists, mental health therapists, bone setters and even surgeons.

Nwoke, Emmanuel, Ofomala, Amadi, Jibuaku (2020) wrote on the impact of the COVID-19 Pandemic on consumer's access to essential medicine in Nigeria . A cross-sectional survey using electronic questionnaire was conducted on study participants across the 36 states of Nigeria. They were assessed on sociodemographic, health characteristics and challenges in accessing essential, medicines during the COVID-19 pandemic. Data obtained were analysed using the statistical packages for the social sciences (SPSS Version 20, IBM, Armok, NY) with overall impact of the pandemic

operationalised as 60% access to essential medicines by respondents as maximal and minimal impact respectively. The challenges identified were poor availability of means of transportation reduced income and high cost of medicine as fear of contracting the virus. However, the study has no connection with the impact of COVID-19 pandemic on healthcare delivery in Nasarawa State.

Nega, Ali, Wang, Michelle, Elana and Buno (2021) conducted a research on the “Reported barriers to healthcare access and service disruptions caused by COVID-19 in Burkina Faso, Ethiopia and Nigeria”. A telephone survey in Burkina Faso, Ethiopia, and Nigeria was conducted to access the effects of the pandemic on healthcare services from the perspective of healthcare providers (HCPs) and community members. A total of 900 HCPs (300 from each country) and 1,797 adult community members (approximately 600 from each country) participated in the study. Adjusted risk ratios (ARRs) and 95% confidence intervals (Cis) were computed using modified poisson regression. According to the HCPs more than half of essential health services were affected. Child health services and HIV/surgical/other services had a slightly higher percentage of interruption (53%) compared with maternal health services (31%). A total of 21.8%, 19.3% and 7.7% of the community members and themselves had difficulty accessing healthcare services, maternal health and health services respectively. The study recommended that health Authorities should work with multiple stakeholders to ensure routine health services and identify novel and adaptive approaches to recover referral services, medical care, maternal and child health, family planning, immunization and health promotion and prevention during COVID-19 era. However, the study did not explain the impact of COVID-19 on healthcare delivery in Nasarawa state which is the main objective of the study.

### **Theoretical Framework**

The study adopted system theory propounded Easton (1953). The political system is conceived by Easton as a system of behavior, or a set of interrelated activities, whereby values are authoritatively allocated for a society. The term allocation covers both distribution of scarce values and the choice between mutually incompatible values. It is when such allocation are made authoritatively (as opposed to freely or voluntarily, as in the case of economic exchange) that the process of allocation acquires a political character ; allocations are authoritative whenever the persons in relation to whom they are made consider themselves to be bound to accept them. In the process of allocating societal values, Easton opine that there is environment, feedback, input, output and the political system itself. The theory conceives

of political activities as the essentially involving the environment, the political system and output.

The environment consists of the objective condition and forces that generate demand and support inputs. Support consist the adherence to law or positive orientations, which promote the political system such as loyalty and patriotism. Demand are the articulated needs, problems and aspirations which are authoritative allocations or outputs are the public policies. Public policies are therefore the reaction of the political system to environmental elemental demands and pressures (Ikelegbe 1996:3,20).

System theory gives us a way to understand how organisations might navigate rules and norms of the system in order to appear legitimate and survive. Another word for system is institutional environment. When organizations try to make their actions consistent with the expectations of the institutional environment, they work toward something called institutional isomorphism. The system theory appears particularly germane to the study of health care sector in the covid-19 environment. The covid-19 situation has created strong inertial pressures on institutions to conform to laws, regulations and decrees imposed by the local and state governments, often at very short notice. However, based upon appraisal of traditional and emerging system theory approach, the study advance the position that health sector in Nigeria can respond to pandemic by adopting tinkering and theorizing strategies as opined by the exponents of system theory approach that engender innovation and differentiation, which sticking to institutional demands. Furthermore, by appraising the literature on pandemics and accidents, it is clear that system should be used even if they are costly.

The COVID-19 pandemic placed unprecedented strains on Nasarawa State's healthcare system, impacting critical resources such as financial funding, healthcare professionals, medical equipment, policies, and public health campaigns. Challenges like limited funding, healthcare workforce shortages, and disparities in resource distribution heightened the difficulties faced by the system. For example, insufficient funding exacerbated pre-existing challenges, impeding the procurement of essential medical resources. Healthcare professionals faced increased workloads, leading to shortages in the workforce and impacting the system's responsiveness. Disparities in resource distribution further widened, particularly affecting the equitable provision of healthcare services in already resource-limited rural areas.

The COVID-19 pandemic exposed inefficiencies within healthcare processes in Nasarawa State, evidenced by overwhelmed infrastructure, extended waiting times, and administrative hurdles hindering effective care delivery. The pandemic exacerbated issues of corruption and mismanagement, amplifying pre-existing challenges. Nasarawa State's



healthcare processes faced revealed inefficiencies during the COVID-19 pandemic, exemplified by overwhelmed infrastructure, prolonged waiting times, and administrative obstacles hindering the prompt delivery of care. The surge in cases stressed healthcare facilities, exposing capacity issues and resource constraints that affected the efficiency and quality of healthcare services. Additionally, the pandemic intensified systemic challenges, including corruption and mismanagement, exacerbating pre-existing issues within healthcare processes and underscoring the necessity for comprehensive reforms to enhance efficiency and transparency.

Healthcare outcomes during the pandemic depicted a nuanced reality. While certain areas, like the implementation of vaccination campaigns, showed improvement, significant challenges persisted. The heightened strain on the healthcare system contributed to increased mortality rates, particularly notable in rural areas, underscoring the imperative for enhanced performance. The results of healthcare delivery in Nasarawa State during the pandemic portrayed a mixed picture. Positive advancements were noticeable in specific areas, such as successful vaccination campaigns. However, substantial challenges remained prevalent. The increased strain on the healthcare system contributed to elevated mortality rates, especially pronounced in rural areas. This emphasizes the urgent need for improved performance, highlighting the necessity to fortify healthcare resources and strategies to address both immediate and systemic challenges and enhance overall healthcare outcomes.

In Nasarawa State, healthcare providers, insurance companies, and government agencies act as gatekeepers to healthcare services. The pandemic exacerbated limited access to healthcare, particularly affecting those in the informal sector or rural areas. Challenges in enrolling and accessing services through existing schemes like the National Health Insurance Scheme (NHIS) became more pronounced. Healthcare providers, insurance companies, and government agencies in Nasarawa State serve as gatekeepers to healthcare services. The pandemic intensified challenges related to access, especially impacting individuals in the informal sector and rural areas. Difficulties in enrolling in and accessing services through established schemes like the National Health Insurance Scheme (NHIS) were accentuated, highlighting disparities in healthcare access and emphasizing the urgent need for reforms to ensure more equitable and inclusive healthcare services.

Nasarawa State's healthcare system faced challenges in establishing effective feedback mechanisms during the pandemic. Insufficient data collection and analysis hindered the system's ability to evaluate performance, identify improvement areas, and make informed policy decisions. The strain extended to patient feedback systems, making it more

challenging to assess patient experiences and incorporate valuable insights for enhancing healthcare services. Addressing these feedback loop challenges is crucial for building a more responsive and adaptive healthcare system.

External factors, including socio-economic disparities, cultural beliefs, political instability, and security challenges, significantly influenced the healthcare environment in Nasarawa State during the pandemic. Political instability disrupted the supply chain for medical resources, affecting the timely availability of essential supplies. Cultural beliefs influenced healthcare-seeking behavior, impacting adherence to preventive measures and treatment protocols. The pandemic exacerbated these challenges, highlighting the interconnectedness of external factors with healthcare outcomes and emphasizing the need for a holistic approach that considers the broader socio-economic and cultural context in healthcare planning and delivery.

In summary, the application of David Easton's System Theory to Nasarawa State's healthcare system during the COVID-19 pandemic reveals a structured framework for understanding the complex interactions within the system. While the theory provides valuable insights, it is crucial to recognize the multifaceted nature of the healthcare context, considering additional sociopolitical and cultural factors that play pivotal roles in shaping healthcare outcomes and access. A holistic approach, acknowledging both the strengths and limitations of the theory, is imperative for a comprehensive understanding and effective response to healthcare challenges in Nasarawa State.

### **Research Methodology**

The research design adopted in this study is descriptive research design because of the type of data required in the study. The use of descriptive research design in this study involved data collection and data analysis on the strategies applied by the government to mitigate effects of covid-19 pandemic on Nigeria's healthcare delivery. The study population for this study comprises the staff of Nigerian center for Diseases control (NCDC), General Hospital Keffi, General Hospital Akwanga, General Hospital Lafia, Nasarawa state ministry of Health Lafia and Nasarawa state primary healthcare development Agency Lafia. The forgoing organizations are selected because the population units are directly involved in issue relating to the impact of covid-19 pandemic on healthcare delivery in Nasarawa state. Therefore, the target population of this study stand at one thousand, five hundred and thirty-eight (1,538) persons. The sample size was determined using Rakesh (1970) statistical formula to arrive at 400.

$$n = \frac{PS}{1 + PS(PE)^2}$$

Where  $n$ =sample

$N$ =Total population size

1 is constant

PE= the assume error margin or tolerable error which is taken as 5% (0.05)

$n = \frac{P}{1 + PS(PE)^2} = \frac{1,538}{1 + 1538(0.05)^2} = \frac{1538}{3.8475} = 399.7400$

Approximately 400 (sample size)

The study adopted purposive sampling technique for interview. The technique allowed the researcher to choose the sample on the basis of some predetermined characteristics such as deep knowledge of the issue under study, while for the distribution of questionnaire, simple random technique was employed. The research explores data from both primary and secondary sources and these include the use of questionnaire, interview, daily news paper and journals to elicit information relevant to the study. The study used 5-point likert scale questionnaire for its investigation making provisions to tick options that are relevant to their opinion. These options are strongly agree, Agree, Strongly Disagree, Disagree and undecided. This questionnaire technique allowed respondents to express his/her opinion on issues in relation to the research problem. Interview method of data collection has many variants but the study adopted in-depth interview method because it permits the researcher in generating data from only those with experts knowledge on issues relating to impact of covid-19 pandemic on healthcare delivery in Nasarawa state.

Data from copies of questionnaire was analyzed using the statistical package for social science (SPSS) version 23.0. As a descriptive statistical tool, it was used to analyse the socio-demographic factors of respondents and responses on the research questions. Data from in-depth interview was analyzed base on content analysis. Four hundred (400) copies of questionnaire were distributed to the respondents of which three hundred and eighty-one (381) copies of questionnaire were duly completed and returned.

**Data Analysis**

Options	Frequency	Percentage
Number of people affected by the covid-19	77	20
Number of people who died as a result of covid-19	89	23
Number of people survived during covid-19	48	13
Adequacy of infrastructure in health sector	<b>87</b>	<b>23</b>
Efficiency of covid-19 drugs	<b>80</b>	21
<b>Total</b>	<b>381</b>	<b>100</b>

Source: Field Survey (January, 2024)

Table 1 above shows the distribution of respondents based on their opinion on the impact of covid-19 pandemic on healthcare delivery in Nasarawa state; 89 respondents who are the majority accounting for 23% attested the number of workers who were infected by covid-19 thereby affecting healthcare system negatively. This followed by 87 respondents representing 23% indicating that inadequacy of infrastructure in the health sector has impacted on healthcare system during covid 19 pandemic while 80 respondent representing 21% indicated that drugs administered on patients during covid 19 were inefficient and 77 respondents representing 20% indicated that the impact of covid-19 pandemic can be seen in the number of people who lost their lives during the period while the number of people who survived the pandemic is 13%. However, the responses above prove that covid-19 pandemic has impacted negatively on healthcare delivery in Nasarawa state.

This is further confirmed by interview response by an official of Nasarawa state ministry of Health where he exposed that:

“Healthcare workers consists of all paid and unpaid persons serving in healthcare settings who have the potential for direct or indirect exposure to patients or their infectious secretions and materials. (E.g doctors, nurses, medical laboratory scientists, maintenances staff, clinical trainees etc) these are the armies in the frontline of the fight against the corona virus disease and their safety should be an urgent focus in the both the country and world at large. At the moment covid-19 is not only zoonotic in nature, it has become both community and hospital acquired infection. The impact of exposure to covid-19 is generally higher for healthcare workers than other members of the society because of the nature of their work”.

**Conclusion and Recommendations**

This paper provides a comprehensive and in-depth analysis of the impact of covid 19 on healthcare delivery in Nasarawa State, North-Central Nigeria. The examination encompasses various dimensions, including the strain on healthcare infrastructure, challenges faced by healthcare personnel,

evaluation of public health interventions, and exploration of socioeconomic impacts on healthcare accessibility and affordability. Before the pandemic, Nasarawa State's healthcare system exhibited strengths in infrastructure and workforce but faced vulnerabilities such as disparities and limited technological integration. The impact assessment delves into the strain experienced by hospitals, clinics, and testing facilities, highlighting both adaptability and areas for improvement. It scrutinizes the challenges faced by healthcare professionals, emphasizing increased workload, psychological stress, and resource adequacy. The evaluation of public health interventions focuses on testing strategies, vaccination campaigns, and preventive measures, offering insights into the state's response effectiveness. Lastly, the exploration of socioeconomic impacts investigates the pandemic's repercussions on vulnerable populations and existing health disparities, emphasizing the interconnectedness of economic challenges and healthcare access. The findings of this paper contribute valuable insights for policymakers and stakeholders, facilitating evidence-based strategies to enhance the resilience and preparedness of Nasarawa State's healthcare system in the face of ongoing and future health challenges.

In conclusion, this paper, "An Assessment of the Impact of the COVID-19 Pandemic on Healthcare Delivery in Nasarawa State," provides a thorough examination of the challenges and implications of the global health crisis within the specific regional context. Nasarawa State's healthcare system, with its pre-existing strengths and vulnerabilities, faced unprecedented challenges during the pandemic. The strain on healthcare infrastructure revealed both adaptability and the need for sustained investments to fortify resilience. Healthcare professionals confronted heightened challenges, emphasizing the importance of addressing increased workload, psychological stress, and resource adequacy to ensure the continuity of quality care. The critical evaluation of public health interventions, including testing strategies, vaccination campaigns, and preventive measures, offers insights into the effectiveness of the state's response. Understanding the socioeconomic impacts on healthcare accessibility and affordability underscores the broader implications on vulnerable populations and existing health disparities. The interconnectedness of economic challenges and healthcare access highlights the need for targeted interventions to address these disparities and foster a more equitable healthcare landscape. As Nasarawa State navigates the ongoing and future health challenges, the findings of this assessment provide a foundation for evidence-based decision-making. Policymakers and stakeholders can draw upon these insights to formulate strategies that enhance the resilience, adaptability, and equity of the healthcare system. The lessons learned from the impact of the COVID-19 pandemic in Nasarawa

State offer valuable guidance for shaping a healthcare system that is not only responsive to immediate crises but also capable of withstanding and mitigating the broader health challenges that may arise in the future. Ultimately, the knowledge gained from this assessment contributes to the ongoing dialogue on optimizing healthcare delivery, fostering public health preparedness, and building a more resilient healthcare infrastructure in Nasarawa State.

Improving healthcare service delivery in Nasarawa requires a multi-pronged approach. There is need to develop and implement a comprehensive healthcare infrastructure investment policy that allocates resources for the expansion, modernization, and maintenance of healthcare facilities. Prioritize the procurement of state-of-the-art equipment, reliable power supply, and technology integration to enhance the overall capacity of the healthcare system.

Formulate and implement a healthcare workforce resilience policy that addresses the challenges faced by healthcare professionals. This should include initiatives for mental health support, ongoing training programs, and incentives to attract and retain skilled personnel. Develop a flexible staffing model to efficiently respond to increased workloads during health crises. Establish a comprehensive pandemic preparedness and response framework that outlines clear roles, responsibilities, and coordination mechanisms among healthcare facilities, public health authorities, and other relevant stakeholders. Regularly update and test the framework to ensure its effectiveness in addressing emerging health threats.

Develop a robust testing and diagnostics strategy that ensures widespread and timely access to testing during health crises. Implement measures to diversify and secure the supply chain for testing materials, enhance testing capacities, and establish efficient data management systems for real-time monitoring and response. Implement a vaccination distribution equity policy to ensure fair and equitable access to vaccines across all communities. Prioritize vulnerable populations and implement targeted communication campaigns to address vaccine hesitancy. Strengthen the cold chain infrastructure to support effective vaccine distribution.

Formulate a community-centric preventive healthcare policy that emphasizes community engagement, public awareness, and adherence to preventive measures. Utilize community leaders, social influencers, and local media to disseminate accurate information and foster a sense of shared responsibility for public health. Enhance social support systems for vulnerable populations by developing and implementing policies that provide financial assistance, access to essential services, and community outreach program ms. Prioritize the creation of safety nets for low-income

earners, informal sector workers, and marginalized communities to mitigate the socioeconomic impact of health crises.

Implementing these evidence-based policy recommendations will contribute to the enhancement of Nasarawa State's healthcare system's resilience, ensuring its preparedness to effectively respond to future pandemics and health crises. These policies aim to address immediate challenges while fostering a sustainable and adaptive healthcare infrastructure.

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