**BINDURA UNIVERSITY OF SCIENCE EDUCATION**

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**FACULTY OF COMMERCE**

**DEPARTMENT OF ECONOMICS**

**EFFECTS OF COVID -19 ON SERVICE DELIVERY IN PUBLIC SECTOR HOSPITALS IN ZIMBABWE. THE CASE OF PARIRENYATWA GROUP OF HOSPITALS.**

**BY**

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# DEDICATION

To my parents, who have always motivated and supported me to pursue my dreams. Their guidance, love, and patience have been invaluable to me and have made this research project possible. I dedicate this work to them with gratitude and appreciation for everything they have done for me.

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# **ABSTRACT**

The purpose of this study is to investigate the effects of COVID-19 on service delivery in public sector hospitals with Parirenyatwa Group of Hospitals as the case study. The objectives of the study were: to assess the impact of COVID-19 on the availability of medication and the doctor-to-patient ratio. The study used a sample comprising of 39 health care workers, 5 patients, and 8 members of the community selected through a probability sampling technique. Data was collected using interviews and questionnaires. Findings of the study indicated that COVID-19 negatively affected service delivery in Zimbabwean public hospitals particularly Parirenyatwa Group of Hospitals. The study indicates that COVID-19 infections caused a significant strain on healthcare system resulting in a substantial increase in doctor to patient ratio. Further findings showed that Zimbabwe imports most of its medication from India and China countries that have been affected by COVID -19 resulting in low supply of medical inputs in public hospitals. The study, therefore, recommends the government to constantly supply protective clothing to health workers to reduce further spreading of COVID-19. The government is further recommended to practice import substitution to strengthen the nation’s capabilities of producing medical supplies through public-private partnerships with organizations like Varichem, CAPS, Natpharm and Availpharm pharmaceutical. The government is also recommended to utilize telemedicine technology to ensure equitable access to quality healthcare during these unprecedented times.

# List of acronyms

WHO- World Health Organization

PPE- Personal Protective Equipment

RDT- Resource Dependence Theory

HCWs- Healthcare professionals

CMs- Community members

MoHCC- Ministry of Health and Child Care

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# **CHAPTER 1**

# **Introduction**

# **1.1 Introduction**

This study focuses on the effects of COVID-19 on service delivery in public sector hospitals in Zimbabwe, primarily taking Parirenyatwa Group of Hospitals as the case study. This chapter looks at the background of the study which provides insight into the study basically laying the foundation and highlighting its significance of study. This is followed by the problem statement, objectives of the research, and research questions. These components provided the guidelines in which the research was carried out. The chapter also focuses on the significance of study, assumptions, limitations, and delimitations of study, definition of key terms and the conclusion.

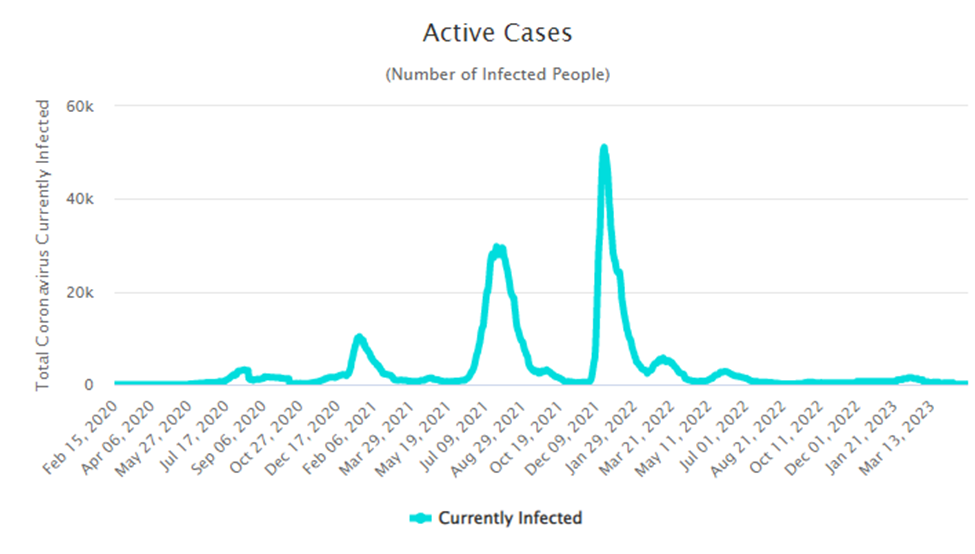
# **1.2 Background to the study**

# **1.2.1Evolution of COVID- 19**

COVID-19 is defined as a highly infectious respiratory illness caused by a novel strain of coronavirus called SARS- COV-2. The disease was first noticed in Wuhan city, Hubel province, China (CDC 2019) and was reported to World Health Organization (WHO) by the Chinese on the 31st of December 2019. In Europe, the first case was reported in France on 24 January 2020 with the infected having a travel history of visiting China (sante publique france, 2020). On the 28th of January 2020, German recorded its first case of someone who had visited china (Bayerisches staatsminesterium fur Geundheit und Pflege, 2020). On the 30th of January 2020, COVID was announced as a global health emergency byWHO (Ramzy and mc Neil 2020).

On February 22, 2020, Italian recorded widespread COVID-19 cases, with Lombardy, Piedmont, and Veneto being the worst-affected regions. In the following weeks, a lot of cases were recorded in Europe, including cases involving tourists from the Italian areas and those with no connections to China, (Ministero dell salute, 2020).

In Africa, the first case was recorded in Egypt on February 2020, while Algeria's ministry of health, population, and hospital reform verified the continent's second COVID-19 case on February 25, 2020 (WHO, 2020). In Zimbabwe the first case of COVID-19 was recorded on 20 March 2020. A 38-year-old resident of Victoria Falls was the subject of the case.In August, there was a sharp increase in reported cases, increasing from 3659 on 1 August 2020 to 5378 on 18 August 2022 (MoHCCC, 2020). On August 18, 2020, 141 people died. Figure 1 depicts COVID -19 active cases from 2020 to 2023 the rate at which COVID- 19 ravaged several Zimbabweans.



#### **Figure 1.1: COVID-19 active cases**

Source MOHCC, 2023

As shown on the diagram above, in 2020, COVID-19 active cases were few but started increasing in 2021 up to 2022. The untimely consequences of increased COVID-19 cases further worsened the poor health service delivery in Zimbabwean state hospitals, which has been deteriorating for the past two decades.

# **1.2.2 Overview of Health Care Service Delivery in Zimbabwean Hospitals**

Hospital service delivery is part of a health care system that ensures that all patients receive the treatment or medication to which they are entitled. The Zimbabwe healthcare system is based on the Zimbabwe Constitution's Section 76, sub-section 1-4, which submits the right to health care services to citizens.

Health care in Zimbabwe has been available to people earning less than Z$150 per month for free since 1980. Thus, during the period of independence, the government allocated more funds to the health sector because of the stability of the economy but decreased significantly because of more sanctions that were imposed on the country. Zimbabwe's health achievements were lauded until 1988, as service delivery deteriorated (Davies, 1988). By the late 1980s, it was clear that the 5% budgeted for health was insufficient to maintain health requirements because 90% were unable to pay for their health care (World Bank, 1992).

All health sector owned by governmentfacilities were facing devastating shortages of essential resources, like medications due to economic challenges and bad administration. With many loopholes discovered in the public sector, there was private sector intervention, as indicated in table 1 below. Many stakeholders in the private sector intervened in developing health system blocks that enhanced the country's health sector by filling gaps discovered in the public sector.

### **Table 1.1: Private sector involvement in health care system in Zimbabwe.**

|  |  |  |  |
| --- | --- | --- | --- |
| Building block for the health system | stakeholder's interventions | Impact | Existing gaps |
| Service delivery | Individuals and consortia setting up private hospitals, private clinics and private wards in public hospitals | Improved service provision in most urban and provincial hospitals. | Rural and farming towns continue to have underserved populations. |
| Health workforce | Medical school bursaries by some mobile phone companies and health insurers and health staff retention allowances by bilateral and multilateral donors | Stabilisation of staff numbers, morale and skills levels in some health facilities | Staff retention mainly in urban facilities. There is also unequal burden sharing between health facilities in that government trains and loses staff to private health sub-sector. Underfunded MOHCW unable to absorb all trained nurses. Emigration of junior doctors due to poor emoluments |
| Medical products, vaccines and technologies | Support from mobile phone companies for health information systems, solar energy and internet connectivity at rural hospitals across the country | Specialist NCD centres mainly in major cities Harare and Bulawayo. | Disconnection between diagnosis and treatment, such as the expensive and centralized chemotherapy. |
| Financing | Public and private medical insurance schemes to cover user fee. | Country has 33 medical insurance providers, with diverse and innovative packages that include individual and family packages, which allow access to different categories of health facilities. | Only 10% of the Zimbabwe’s 13million population has medical aid cover; the urban and rural poor cannot access specialist health care unless they can pay for it out-of-pocket. |

Source Mugwagwa (2014)

Against a backdrop of deteriorating service delivery in public sector hospitals, the advent of COVID-19 in Zimbabwe in 2020 is suggested to have led to a further deterioration in service delivery, with many public hospitals not sufficiently able to have critical consumables such as medicine and sundries. As these were imported, while others were temporarily halted due to the lockdown. Reports have been made indicating scarcities of important medications like intravenous fluids and gloves. Authorities have failed to supply appropriate PPE. Thus, healthcare workers were unable to provide care to patients with unknown COVID-19 status which resulted in those without valid test denied treatment.

However, it is less known whether COVID-19 worsened or improved service delivery in public hospitals in Zimbabwe. Different health practitioners, political players and policy makers argued that COVID-19 led to an increase in healthcare funding both by the government and donor community which have had a positive effect on hearth service conditions in Zimbabwe. To clear these mixed views, this study seeks to examine the effects of COVID-19 on service delivery in Zimbabwe’s public hospitals taking Parirenyatwa Group of Hospitals as the case study.

# **1.3 Statement of the problem**

For the past two decade, service delivery in public hospitals in Zimbabwe has been perpetually deteriorating. As the doctor-patient ratio has increased from 2011 it was 1%, and in 2021 it was 0, 04% with a percentage increase of 0, 96%. Prior to this deterioration, some of the personal protective equipment (PPE) that the health professionals were using was strained beyond its capacity; nevertheless, as a result of the pandemic, this problem has worsened as hospital staff was now at risk of infection due to inadequate PPE. Due to this shortage, several of the employees were testing positive for COVID-19. On the other hand, a lot of people were being admitted while doctors and nurses were testing positive, hence they cannot attend to the increased patient volume at the hospital. More so, due to the pandemic, there were disruptions in the supply chain, leading to shortages of some crucial medications, like diazepam, ARV, and morphine, as well as equipment like pulse oximeters and syringe pumps.

However, a lot of studies on the effects of COVID-19 in various sectors of the economy have been done but none have been done on public sector hospitals. Therefore, the study seeks to dig deep into the effects of COVID-19 on service delivery in public sector hospitals, particularly the Parirenyatwa Group of Hospitals.

# **1.4 Objectives of the study**

The main aim of this study is to investigate the effect of COVID-19 on service delivery at the Parirenyatwa Group of Hospitals. Specifically, the study seeks to:

1. The effects of COVID-19 infection on the doctor-to-patient ratio.
2. To assess the impact of COVID-19 on the availability of medication.

# **1.5 Research questions**

1. Does COVID-19 have an effect on the doctor-to-patient ratio?
2. What is the impact of COVID-19 on the availability of medication?

# **1.7 Significance of the study**

# **1.7.1 To the organization**

The study findings from this study would inform policy makers the effects of health pandemics on health service delivery in Zimbabwe. Such information is critical to the organization to develop strategies to deal with similar future pandemics.

# **1.7.2 To the student**

This study can provide insights into the challenges faced by hospitals during the pandemic and strategies they used to adapt and continue providing essential services to patients. This information can be used to develop guidelines to better prepare health care system in the face of future pandemics.

# **1.7.3 To the university**

COVID- 19 crisis is a broad area of study, giving an opportunity for another scholar who might also want to venture into this area of study. The results will be used as a reference for to future researchers studying similar topic. The information can help them understand the importance resilience and adaptability in times of crisis and provide them with skills and knowledge they need to respond to similar situations in the future.

# **1.7.4 To the government**

The government can use findings from this study to formulate evidence based policies and strategies to improve the delivery of health service during COVID -19. Such information is important to ensure that they can prioritize testing and treatment for COVID- 19 and improve supply chains for essential medicines and medical equipment.

# **1.7.5To the World Health Organization (WHO)**

The data can be used by WHO to create international standards and guidelines for the provision of health services during pandemics like COVID-19. The study may also offer insightful information about how resilient health systems are, and it may enhance WHO recommendations on how to strengthen health systems and get ready for pandemics in the future.

# **1.7.6 Donor Community**

The donor community can use the findings to target their funding and support towards areas that are most affected by COVID-19, such as healthcare infrastructure. The study will also uncover disparities in access to health service among different population groups, allowing donors to direct their efforts towards marginalized communities.

# **1.8 Assumptions**

1. The researcher will have access to the necessary data regarding the study.
2. The researcher's ability to gather knowledge would not be hindered by rules or business procedures.
3. The information provided will be accurate and unbiased.

# **1.9 Limitations**

# **1.9.1 Limited resources**

COVID-19 has significantly impacted funding and resources for the research. The researcher encountered financial difficulties. The researcher explored alternative sources of funding such as crowd funding as a way to raise money for the project.

Time factor – because the researcher will have to attend lectures and study at the same time, the researcher time frame is constrained. The researcher avoided procrastination in order to complete everything on time and designed a working schedule within the time allotted to address the time constraint.

# **1.9.2 Restrictions measures**

Due to devastating harm caused by COVID- 19 they have beencontainment measures aimed at preventing spread of the pandemic with lockdown restrictions limiting the researcher to interact with the study participants. However, the researcher used various digital platforms (emails, WhatsApp messaging, and phone calls) to get over this limitation in order to gather data.

# **1.9.3 Delays in responses from participants**

The pandemic has also led to changes in participant’s circumstances and availability, leading to considerable delays in response and data collection which may impact the validity and reliability of the research. To ensure timely responses from participants, the researcher followed up and offered incentives for prompt response.

# **1.10 Delimitations**

Research was carried out in Harare province at the Parirenyatwa Group of Hospitals and will focus on COVID-19 and service delivery.

# **1.11 Definition of key terms**

# **1.11.1 COVID-19**

Refers is a highly infectious respiratory illness caused by novel strain of coronavirus called SARS-cov -2 (WHO 2019).

# **1.11.2 Service delivery**

This refers to the extent to which the services provided by the listed sectors meet or exceed the expectation of the beneﬁciaries Stanford (2020). This can include everything from admitting patients, providing medical treatments and managing medications.

# **1.11.3 Health Care Services**

According to Monaghesh, and Hajizadeh, (2020 health care service can be defined as the range of activities and interventions that are designed to promote, maintain or restore the health of individuals or populations. These services include preventive measures such as health screening COVID 19 testing and treatment for chronic illness.

# **1.11.4 Public Sector Hospitals**

# According to Dube and Danesu (2011), a public sector hospital is one that the government owns and runs on behalf of the general population. Regardless of a person's ability to pay for the service, public sector organizations frequently offer services to the general public or the country's residents.

# **1.12 Conclusion**

This chapter focused on the background of the study which summarized COVID-19 developments Worldwide, in Africa as well as in Zimbabwe and how it affected healthcare service delivery in Zimbabwe and problem statement would focus on how service delivery deteriorated over the past 2 decades at Parirenyatwa leading to the current condition, the objectives of the study, research questions, and the significance of the study, assumptions, limitations, and the definition of key terms. The next chapter would focus on the literature review of the study. Literature review would be categorized into theoretical literature review and empirical literature review. Theoretical literature review would focus on theories underpinning the nexus between COVID-19 and service delivery whereas empirical literature would focus on previous study done in line with the effects of COVID -19 and service delivery.

# **Chapter 2**

# **Literature review**

# **2.0 Introduction**

# The previous chapter looked at the background of the study, the problem statement, and objectives of the study, research questions, and significance of the study, assumptions, limitations, definition of key terms, and the conclusion. This chapter, reviews relevant literature, both theoretically and empirically. The theoretical literature focuses on previous theories underpinning COVID-19 and service delivery. The chapter also presents the conceptual framework for the study as well as empirical evidence of previous studies on the effects of COVID-19 and service delivery and lastly provides the research gap, and the conclusion.

# **2.1 Theoretical Literature Review**

# This section looks at COVID-19 related theories and how it affects service delivery. Thus, supply chain theories would be relevant in trying to understand how the pandemic affects supply chain efficiencies. The theory will help in understanding the effects of COVID-19 and service delivery in public hospitals. The related theories are the Resource Dependence Theory (RDT).

# **2.2 The Resource Dependence Theory**

This theory shows that organizations rely on other players in their environment so as to access the needed resources (Pfeffer and salancik, 1978). The main dependence results in uncertainty given that the flow of inputs from outside suppliers can stop because of the supplier’s deliberate intentions, failure, or both. Typically, companies will respond by adopting strategies and arrangements that will reduce minimize or even get rid of dependence on the external establishment. Essentially, the RDT is applicable to supply chain research in the face of a pandemic. The RDT also emphasize that the efforts of governments to reduce the effects of a pandemic will indirectly facilitate or curtail the flow of resource between companies, thus expanding the already huge shifts in supply and demand. The RDT posits that huge shifts in supply and demand will change power dynamics within the supply chains and power advantages will move upstream (Craighead, Ketchen, and Darby, 2020).

This theory, though not specifically coined to explain COVID-19 and supply chain dynamics is relevant to explain the COVID-19 effects on service delivery. Like any other pandemics COVID-19 also affected the global supply chain. COVID-19 affected the global supply chain due to disruptions in logistics and transportation. Many countries that supply medication and its ingredients experienced lockdowns and temporary closures, which disrupted the supply chain of medication. This led to a shortage of drugs, particularly those for treating COVID-19 patients, due to delays in delivery and increased costs for shipping and logistics.

More so, COVID-19 affected supply chain efficiency as the industry was left ill-prepared and incapacitated to grapple with the hyper-time-sensitive nature of pandemics, especially when the need for transiliency increases (Craighead, Ketchen, and Darby, 2020). The RDT assumes that an industry’s capability to adapt to drastic changes in supply and demandwill be inhibited by external suppliers who will be in control of the resources it needs (Pfeffer and Salancik 1978); thus, with COVID-19, supplies were shutting down and borders closing, leading to inefficiency in the supply chain.

# **2.3 Conceptual framework of Analysis**

COVID-19 affects supply chain in various ways. Looking at the problem statement, objectives of the study, and research questions the researcher developed a conceptual framework in a view to illustrate the concept that was addressed by the study.

COVID 19 outbreak

Government response

Lockdown measures

Reduced working hours

Closing of boarder

Essential service sector exption

Erratic Transportation of drugs

Disruption of supply chain

Shortage of PPE

Increase Doctor to patience ratio

Public hospitals service delivery

Health care service funding Health care service funding

#### **Fig 2.1 Conceptual framework of Analysis**

As shown in fig 2.1 the focus was on COVID 19 and service delivery. In response to the outbreak, the government of Zimbabwe put in place policy interventions aimed toreduce the COVID-19 outbreak. Due to the closure of borders this restriction on air travel and reduced cargo flights, transportation of medications into the country has been challenging leading to pressure on hospital resources such as beds and personal protective clothing.

Overall, the lockdown measures implemented to control COVID 19 affected hospitals services delivery leading to erratic transportation of drugs, shortages of PPE and increase in doctor-to-patient ratio. However as shown on the diagram there was the donor community who also played a crucial role in improving service delivery during COVID- 19 pandemic through various initiatives such as supporting health care systems by providing financial and technical support to strengthen the health care system including the procurement of essential medical supplies , equipment and personal protective clothing . This has helped to ensure that health care workers have the necessary resources to safely and effectively treat patients. Also the donor have also funded extensive research to help combat the pandemic. This includes research into new treatments, vaccines diagnostics tools such efforts improved the service delivery in public hospitals.

The aim of this study is to find out if COVID 19 worsened service delivery or improved it with the help of donors providing health care funding.

# **2.4 Empirical literature review**

Several studies have examined the effects of natural disasters on service delivery on private sector organisations, public sector organisations, Non-Governmental Organisations as well as development partners ((Edward et al 2021), Abraham et a., (2021) Bernacki et al (2021), (Pang et al 2022), Murewanhema and Makurumidze (2020), Ahmadi et al. (2021)) are the existing studies that examined the effects of COVID-19 on service delivery.

# **2.4.1 Abraham et al., (2021)**

Abraham et al., (2021) examined the effects of COVID-19 pandemic on ART service delivery in Ghana at the Cape Coast Teaching Hospital. In‑depth interviews were conducted and analysed using Braun and Clarke thematic approach. Three patterns were observed in the study when the pandemic affected ART treatment delivery, these patterns were as follows: clients’ clinic attendance was erratic at various stages of the pandemic, irregular resource availability as shortage was reported due to affected last mile delivery as a result of the lockdown in Accra, and, the health worker‑patient interaction became less engaging because of established COVID‑19 protocols. The study claimed that HIV service delivery was disrupted by the COVID-19 epidemic, which also had a psychological impact on healthcare professionals.

However Abraham et al., (2021), study focuses on effects of COVID- 19 and service delivery of ART only. It gives a shallow investigation of the effects of COVID -19 and service delivery in public hospitals. This study therefore seeks to give a depth analysis on how COVID 19 affected the doctor to patient ratio and disruptions of the supply chain here in Zimbabwe.

# **2.4.2 Edward et al., (2021)**

Edward et al, (2021) conducted a research on the Essential health services delivery in South Africa during COVID-19 lockdown period in both the rural and urban areas. Cross sectional exploratory qualitative methodology was employed using semi-structured interviews and focus group discussions with community members (CM) and healthcare workers (HCW) from two South African study sites rural Bushbuckridge and Regions D and F in Johannesburg Metropole. It is clear from the study finding that COVID- 19 affected the following in a negative way service delivery, the use of services, information and communication, medical personnel, medication, and resources, finance, quality of care, This was so because the hospital's emergency readiness for health systems was weak**.**.

Nevertheless, Edward et al.'s study only looked at service delivery experienced from March 2020 to September 2021, when South Africa went into a state of emergency in both the rural and urban areas, so this study was only limited to service delivery and lockdown restrictions, leaving a research gap between this study and the researcher’s study that is going to focus on COVID 19 on service delivery during and after lockdown restrictions in urban hospitals only, not considering the rural area hospitals. Thus, findings from this study and the researcher’s study may be different.

# **2.4.3 Bernacki et al., (2021)**

Bernacki et al., (2021) carried out a study on Impact of COVID-19 on patient and healthcare professional attitudes, beliefs, and behaviours toward the healthcare system in Japan and United States. The research method applied one-on-one interviews and a virtual ethnographic roundtable were conducted among 45 patients, caregivers, and healthcare professionals (HCPs) in 4 therapeutic areas from the United States and Japan It was clear from the study outcome that COVID-19 has had a substantial impact on patient/caregiver and HCP attitudes, interactions, beliefs, and behaviors toward the healthcare system and on the care pathway both short and long-term.

Bernacki et al., (2021) study failed to put attention on how to develop strategies for healthcare stakeholders to deal with the patient care gaps brought on by the pandemic**.** Therefore this study will look deep into how the donors and the government of Zimbabwe can intervene to ensure that pandemic induced gaps are addressed.

# **2.4.4 Pang et al., (2022)**

Pang et al (2022) carried out a study on Changes in Doctor-Patient Relationships in China during COVID-19. The data collected were comments about three areas' worth of Chinese doctors from the internet medical resource Good Doctors online**.** Good Doctors Online, is website where patients may provide comments after seeing a doctor. Doctor–patient relationships (DPRs) in China have been straining. With the emergence of the COVID-19 pandemic, the relationships and interactions between patients and doctors are changing. Findings from the data analysis showed that there was negative change in patients' views of doctors, and the change reflected how much the pandemic had affected the area.

However, this study was conducted in a developed nation where everyone has easy access to the internet and online data gathering was made possible, as opposed to this study, where there will be little to no online data collection and results may differ. The researcher will try to cover this gap because previous research has mostly focused on patient reviews without taking into account other stakeholders like doctors and nurses.

# **2.4.5 Murewanhema and Makurumidze (2020)**

Murewanhema and Makurumidze (2020) carried out a study on Essential health services delivery in Zimbabwe during COVID-19 pandemic. The study applied a comparative audit of maternal and perinatal outcomes at two hospitals in Harare. Findings from the study showed that COVID 19 restrictions caused disruptions in healthcare provision, and movement of people and supply chains. There have been resultant delays in seeking and accessing healthcare by the patients. Additionally, disruption of essential health services in the areas of maternal and child health, sexual and reproductive health services, care for chronic conditions and access to oncological and other specialist services has occurred.

However, even though the author conducted this investigation, in Zimbabwe COVID 19 cases were still growing every day in its early phases. Fewer COVID 19 cases were recorded during the time of the researcher’s investigation, it is possible that this study's findings will differ from those of the researcher.

# **2.4.6Ahmadi et al. (2021)**

Ahmadi et al. (2021) conducted a research on Impact of COVID-19 on Supply Chains in Zimbabwe. Collection of data was done using interviews. The study's findings revealed that despite the Zimbabwean government setting out protocols with international agencies such as WHO, World Health Organization to mount an effective response against COVID-19, the health system has been overstretched with lack of personal protective equipment, shortage of drugs and essential equipment and wanton corruption practices coupled with shortage of staff. Timely delivery of orders is still a challenge due to strict bureaucratic measures when transporting goods and the existing competition between countries. Manufacturers and donors are shifting their focus to their countries leaving the Zimbabwean health service underfunded and under-resourced.

However, even though the study was carried out in Zimbabwe, the findings may differ in that the study looked at Zimbabwe as whole but this study is going to focus only at Parirenyatwa Group of Hospitals. Therefore, findings may differ.

# **2.5 Research gap analysis**

The theoretical literature reviewed above has indicated that COVID-19 does affect service delivery. It is however surprising that majority of the previous studies has focused on the effects of COVID-19 in hospitals without trying to comprehend theultimate effects of the pandemic on health care service delivery. Thus, the effects of COVID-19 on service delivery in public hospitals have been rarely explored. This study is among the first studies to empirically understand the effects of the pandemic on service delivery in public hospitals in Zimbabwe particularly focusing on Parirenyatwa Group of Hospitals.

# **2.6 Chapter Summary**

This chapter looked at the literature review that focused on the theoretical framework that was adopted for the study which is the resource dependence theory and the contingency approach. The chapter also presented the conceptual framework for the study as well as empirical literature on studies that were done on the effects of COVID-19 and service delivery. The study reviewed literature from developed countries, developing countries, African countries including Zimbabwe. The next chapter will focus on the methodology adopted in conductingthe study**.**

# **Chapter 3**

# **Research Methodology**

# **3.1 Introduction**

# The previous chapter reviewed the scholarly work on the effects of COVID-19 on service delivery. The discussion was around the following key issues : Resource Dependence Theory (RDT), the theoretical frame work for the study was adopted and a critique of the theory; the conceptual frame for the study , as well as related empirical evidence and synthesis on COVID-19 and service delivery in both developed and developing countries. A brief description of the research process and approaches in collecting and analyzing data and the reasons for selecting particular methods are presented in this chapter. Therefore, this research design, the population of study and sample, the sampling chapter provides the procedure, the research instruments used, and data collection procedures as well as validity, reliability, ethical considerations, data analysis and presentation techniques, and chapter summary.

# **3.2 Research Design**

# In this sub-section, the researcher discusses the design that was adopted for the study. According to Creswell (2013), a research design is anything that establishes the framework for the investigation and the phenomena. A researcher's framework for selecting the research methods and procedures used in a study is known as the research design. This is necessary to adequately address the effects of COVID-19 on the following issues: Does COVID-19 have an impact on the doctor-to-patient ratio? What are the consequences of COVID-19 on the availability of medication? As well as achieving the study's goals. As a result of being able to gather sufficient data for the study from a sizable sample, the researcher used a descriptive research design in the form of a survey.

# **3.3 Descriptive research**

According to Breyman, Bell and Harley (2011), descriptive research is a strategy used to systematically gather data that characterize a situation. In this study the characterized situation is service delivery that is deteriorating at the Parirenyatwa Group of Hospitals. More specifically, it helps answer the what, when, where, and how questions regarding the effects of COVID-19 and service delivery in public hospitals, particularly at the Parirenyatwa Group of Hospitals.

# **3.4 Advantages and justification of the descriptive research design**

According to Fink (2019), descriptive design makes use of a variety of data collection techniques, including case study, observational, and survey methodologies. Researchers can select among online, offline, and phone data collection methods. A descriptive research design can be categorized into two groups: qualitative and quantitative. Qualitative research involves observation and analysis. While quantitative research uses statistics and models, this entails the quantification of the studied phenomenon under examination. It provides a descriptive or analytical account of phenomena whose variables are difficult to quantify. Qualitative research was employed in this study, to help ensure the validity of its results.

According to Fink (2019), descriptive research can be quick and affordable because it frequently uses surveys and can quickly and cheaply collect data from a very large sample size. The researcher wanted opinions on the effects of COVID-19 on service delivery at the Parirenyatwa Group of Hospitals, so a descriptive research was the most suitable method for this study.

# **3.5 Disadvantage of a descriptive research design**

Particularly when utilizing surveys, descriptive research depends on participant responses. People might occasionally give fraudulent information, which would undermine the accuracy of the data gathered and the study's conclusions. To get rid of this potential problem, the investigator ran a pilot test to make sure the questions were written without any bias.

# **3.6 Sampling technique**

# **3.6.1 Non-probability**

Non-probability sampling is defined as a sampling technique in which the researcher selects samples based on the subjective judgment of the researcher rather than random selection. It is a less stringent method Andale (2015). Non-probability sampling method mostly involves judgment. Instead of randomization, participants are selected because they are easy to access One of the major shortcomings of the non-probability sampling is that the findings established through this method lack generalizability an example of a nonprobability sampling is Simple Random this method of selecting a sample in which each element and each combination of elements in the population have an equal probability of being selected as a part of the sample thus in this study there is need to purposively select those directly involved in service delivery deterioration thus the researcher choose to use a probability sampling technique.

**3.6.2 Probability sampling was used by the researcher.**

This sampling technic was employed because it enables for the simultaneous calculating of sampling errors and population elements into the sample, whereas under a non-probability, neither calculation is possible (Cozby, 2009).The procurement team, doctors, nurses, patients and the community were chosen because they experienced deterioration of service delivery during the COVID 19 and the researcher purposefully selected them based on their expertise on theconsequences of COVID-19 on service delivery at Parirenyatwa.

According to Saunders et al. (2009), purposive sampling method enables the researcher to directly research their target market and employ a criteria for picking a sample other than the researcher preference. Purposive sampling saves time and enables the researcher to use experts in the field of study, such as doctors who are knowledgeable about how COVID-19 affects the doctor-to-patient ratio and the procurement department team who are knowledgeable about how COVID affected the supply chain and resulting in medication shortages at the hospital. Consequently, questionnaires and interviews were chosen using purposive sampling.

# **3.7 Targeted population**

The researcher target population were medical doctors, registered general nurses, procurement department employees, and matrons at Parirenyatwa Group of Hospitals which consisted of 60 employees**.**

### **Table 3.1 targeted population**

|  |  |
| --- | --- |
| Targeted group | Target population |
| Medical doctors | 10 |
| General registered nurses | 15 |
| Procurement officers | 10 |
| Matrons | 5 |
| Community | 13 |
| Patients | 7 |
| Total population | 60 |

Source: primary data 2023

# **3.7.1 Sample size**

Yamane (1967) offers a simplified formula for determining sample sizes. As stated below, this formula was used to determine the sample size for this study;

N=

The formula is interpreted as follows:

n = sample size,

N =population size of the targeted population,

e =level of precision 5%

1 = probability of the event occurring.

n=

=52

52 healthcare workers was the sample size.

# **3.9 Data collection methods**

In gathering data, both primary and secondary sources were used as sources of informationand for development of the study'sconclusions. Secondary data were acquired from studies, surveys, or experiments that have been conducted by others, as opposed to primary data, which is the collecting of data from the field or other sources for the purpose of the research**.** Hospital records are an example of secondary data. These records give the researchers the opportunity to develop research questions ahead of time and to better understand COVID-19 and service delivery linkages.

# **3.10 Research instruments**

In this subsection, the researcher discusses the research tools that were employedto gather data. These instruments are interviews and questionnaires. Interviews and questionnaires were combined in order to offset each other's shortcomings.

# **3.10.1 Questionnaire**

A questionnaire is a research tool used to collect information from individuals by enquiring them a series of questionsfor analysis of demographic data, views, and interests of the questioned (Kuter and Yilmaz, (2001). Open-ended questions were included in the questionnaire to allow theparticipants to express their opinions freely and unrestrictedly. Questionnaires were crucial for this study as they effectively captured the attitudes and opinions of the target population.

The survey was made in a relatively straightforward way, with structured questions utilizing a 5-point Likert scale.The Likert scale demonstrates how strongly a respondent will agree with a given topic or item (Thomas et al., 2011). A five-point scale was utilized in this study to allow participants to give their judgment or opinion on the effects of COVID-19 on service delivery at the Parirenyatwa Group of Hospitals by giving a high or low score. According to Muijs (2011), the purpose of a 5-point scale is to avoid simple answers in cases of fatigue and sloth.

The scale used in this research study was created as shown below.

### **Table 3.2 Likert scale**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Strongly agree | Agree | Neutral | Disagree | Strongly disagree |
| 5 | 4 | 3 | 2 | 1 |

However, the researcher encountered problems with questionnaires as the other members of the targeted population were busy and could not answer the questionnaires and, in some cases, questionnaires went missing. To curb this problem the researcher self-administered questionnaires in order to increase the response rate.

# **3.10.2 Interviews**

Refers to a conversation between two or more people where one person, usually an interviewer ask question to another person, usually an interviewee, to obtain information or opinions about a certain problemFink (2019).In this study, the problem is decline in service delivery.

Interviews have the benefit of being adaptable, allowing the researcher to change the questions to elicit more information from the respondents. In this study, doctors, patients and the procurement staff experienced service delivery dynamics at Parirenyatwa Group of Hospitals. Interviews further enabled the researcher to obtain original and distinct data from a source based on the study's requirements.

However, the interviews had drawbacks, including the fact that some survey participants wereunwilling to impart information, particularly the doctors who did not want to be interviewed. To address this challenge, the researcher made it apparent that the study's goal was academic. Also, it took a lot of time, and the sessions varied in length because health care workers reported for duty in various shifts. To solve this problem, the researcher booked interviews on different days.

# **3.11 Data collection Methods**

The method used to collect both primary and secondary data is referred to as the data collectionprocedure, according to Brown (2006). Health records, medical records, and articles all provided secondary data. Based on the study's research question, the researcher created a questionnaire. The questionnaire was personally distributed by the researcher, and the respondents had three weeks to complete it. This amount of time allowed each respondent to carefully analyze each question, which increased the reliability of the results. The researcher physically scheduled meetings with respondents for interviews.

# **3.12 Reliability**

When a measurement is said to be reliable, it means that it can be repeated under the same circumstances and yet yield the same results and conclusions as the original study (Salkind, 2012). In this study, the researcher designed the questionnaire in a way that encourages responses consistent with the study's goals. The supervisor's scrutiny of the research tools was used by the researcher as a means of ensuring reliability.

# **3.13 Validity**

Saunders et al (2009) provides that data is valid if it provides a true picture of what is being studied. Pilot testing was used to assess the accuracy with which the information sought was elicited by the questions asked, ensuring content validity.

# **3.14 Ethical consideration**

The researcher has an obligation to make sure that researchsubject and everyone else involved in the study will not suffer any harm. In order to uphold research ethics, the researcher informed participants in person about the study's objectives and clearly stated on the questionnaire that the study is being conducted for academic purposes. Furthermore, the researcher did not ask for the respondents' names. As a precaution to prevent the researcher from spreading COVID-19 to the respondents, the researcher went for data collection wearing a face mask and using hand sanitizer.

# **3.15 Data Presentation and Analysis Technique**

Classifying the data and determining statistical significance allowed for the prioritization of the presentation and analysis of the data. Diagrammatic techniques are used in visual or graphical methods to illustrate statistics. To address all study questions, qualitative information was organized into themes that complemented the interpretation of quantitative data using microsoft excel. In connection to the study's goals, the data was both subjective to qualitative and quantitative examination. To present the findings, the researcher made use of tables, graphs, and pie charts.

# **3.16 Chapter Summary**

This chapter focused on research design, population of study and sample, sampling procedure, research instruments used, data collection procedures as well asvalidity, reliability, ethical considerations, and data analysis and presentation techniques. Data presentation, analysis, and discussion will be covered in more detail in the following chapter. In order to address the objectives of the study, the gathered data would be presented using tables, graphs, and pie charts as well as being examined and discussed.

# **Chapter 4**

# **DATA PRESENTATION, INTERPRETATION AND DISCUSSION**

# **4.1 Introduction**

The previous chapter looked at research design, population of study and sample, samplingprocedure, research instruments used, data collection procedures as well as validity, reliability, ethical considerations, and data analysis and presentation techniques, this established the foundation for the collecting of data aimed at resolving research questions. Therefore this chapter present findings and provides qualitative data analysis that was obtained through questioner and interviews data collected was anylsed using excel packages.

# **4.2 Response rate**

There were 50 questionnaires in totalreceived from the 52 questioner that were distributed to the targeted respondents.

Response rate = 50/52= 96, 15%

Groves (2008) states that 64% is the minimum acceptable answer rate for self-administered questions. Based on this benchmark, the study's determined response rate of 96, 15%, was declared suitable.

### **Table 4.1 summary of the response rate**

|  |  |  |  |
| --- | --- | --- | --- |
| Respondents | Sample | Response | Response rate % |
| Medical doctors | 10 | 10 | 100 |
| General registered nurses | 14 | 14 | 100 |
| Procurement department | 10 | 10 | 100 |
| Matrons | 5 | 5 | 100 |
| Community members | 8 | 6 | 75 |
| Patients | 5 | 5 | 100 |
| Total | 52 | 50 | 96,15 |

Source primary data 2023

The above table4.1 shows that 52 questionnaires which were distributed to individuals inclusive of medical doctors, nurses, matrons, procurement department, community members and patients from these participants only 2 were not returned from the 52 questionnaires therefore obtaining a response rate of 96,15% this falls under the bracket of excellence according to Groves (2008).

# **4.3 Demographic characteristics of respondents**

Respondent of various types were surveyed by the questionnaire. To obtain the exact aims of the research on the effects of COVID -19 and service delivery at Parirenyatwa Group of Hospital it was vital to acquire information about survey respondents' gender, working experience, education level and position of respondent this information was necessary to add on the reliability and validity of data.

**Source primary data 2023**

#### **Fig 4.1 Gender of respondents**

On the diagram, it is depicted that 44% of the respondents were men and 56% were women. This shows an unbalanced gender distribution of employees at Parirenyatwa Group of Hospitals. This can be explained by the fact that the majority of workers in the health sector are women. According to OECD (2018), women make up about 70% of all healthcare workers worldwide.

# **4.3.1 Working experience**

From the diagram below most of the respondents have work experience of 6-11 yrs with 38% while 0-5 yrs and 12-20 have 10% the number of employers respondents with a high experience have a hand in providing true information to the problem under study since they have experience in the area. Also there are those participant who are not directly involved in working but are affected directly by the outcome of poor service delivery these group had a percentage of 22%.

Source primary data 2023

#### **Fig4.2 working experience**

### **Table 4.2 Demographic data of respondent on educational level and position of respondents**

|  |  |  |
| --- | --- | --- |
| **Position of respondents** | **Percentage %** |  |
| Medical doctors | 20 |  |
| Matrons | 10 |  |
| Registered general nurse | 28 |  |
| Procurement department | 20 |  |
| Community members | 12 |  |
| Patience | 10 |  |
| **Level of education** | **Percentage %** |  |
| Degree and above | 40 |  |
| Diploma | 28 |  |
| Certificate | 18 |  |
| Other | 14 |  |

**Primary data 2023**

# **4.3.2 Position of respondents**

The table shows that medical doctor and the procurement occupy 40% of the respondent whilst matrons and patients occupy 20%. The large population of the respondent is occupied by registered general nurses 28% and lastly community members occupy 12% of the total respondent. This indicates that respondent hold position that can provide information useful on the deterioration of service delivery at Parirenyatwa.

# **4.3.3 Level of education**

The majority of the respondent 40% are holders of degree and above. 28% of the respondent holds a diploma, whereas 18% hold certificate and 14% hold other qualifications not listed by the researcher on the questionnaire. This findings implies that majority of the population were in a position to understand the effects of C0VID-19 on service deliver.

# **4.5 Presentation of findings**

**4.5.1 The effects of COVID-19 infection on the doctor-to-patient ratio.**

In this section of the guide the questionnaire was structured to give a basis structure for highlighting the effects of COVID-19 infection on the doctor to patient ratio at Parirenyatwa Group of Hospitals. This section helped the researcher to respond to the study questions; Does COVID-19 have an effect on the doctor-to-patient ratio.

# **4.5.2 Doctor to patient ratio before COVID-19**

### **Table 4.3 Perceived estimates of doctor to patient ratio before COVID-19**

|  |  |
| --- | --- |
| Ratio | Number of response % |
| Low | 90% |
| High | 10% |

**Primary data 2023**

90% of the respondents showed that the doctor-to-patient ratio was low before COVID-19, but 10% of the respondents when interviewed stated that even though the doctor-to-patient ratio was low before COVID-19, it was still not at the recommended ratio recommended by the World Health Organization, which is 1:100. This was so because, before COVID-19, many doctors were leaving positions at Parirenyatwa due to low pay and unfavorable working conditions.

**Source primary data 2023**

**Figure 4.2 Factors influencing doctor to patient ratio.**

 As shown from fig 4.2 60% of respondent strongly disagreed that, death of patients increased doctor to patients ratio with the participant indicating that the death rate of patients has made patients more hesitant to seek medical care, resulting in a decrease in the doctor to patient ratio due to a lower demand for medical care as patients were afraid of the high death rate at the Hospital. This was in line with a study that was done by Pang et al (2022) carried out a study on Changes in Doctor-Patient Relationships in China during COVID-19 the results Findings from the data analysis showed that there was negative change in patients' views of doctors, and the change reflected how much the pandemic had affected the area . Also in conformation 24% of the respondent disagree that death of patient increased doctor to patient ratio. Whilst 16% of the respondent were neutral as some indicated that death of patients resulted in an increase in doctor to patient ratio due to shortages of doctors willing to work in a high risk environment.

In terms of death of doctors 60% strongly agree that death of doctors increased the doctor to patient ratio pointing out that the death of doctors due to COVID 19 has significantly increased as death of doctors have led to an increase burden of surviving doctors who are making longer hours to manage the needs of the patients. Whereas 16% were neutral and 24% disagree with the augment- that death of doctors decreased doctor to patient ratio stating that many healthcare workers have come out of retirement to lend a helping hand, which has offset the loss of doctors to some extent.

The study's findings indicate that 50%of the respondent strongly agree that due to lack of adequate PPE infections were high with many doctors and healthcare professionals forced to quarantine or isolate themselves, leading to a shortage of medical personnel. This has put a strain on the healthcare system and increased the doctor to patient ratio. 40% agrees that COVID-19 infection increase doctor to patient ratio stating out that due to increased infections this led to a shift in healthcare priorities, focusing almost solely on treating COVID-19 infected patients these led to a decrease in resources and medication staff for treating other conditions this resulted in an increase doctor to patient ratio, 10 % were neutral.

# **4.5.3 Impact of COVID-19 on the quality of care**

Health care workers (HCWs) noted many ways in which the quality of care they delivered was impacted. The high patient load and fragmentation of services into COVID-19 and non-COVID-19, meant that holistic patient care was compromised, with a (HCW) pointing that, “it didn't allow us to manage patients holistically because if now the workload is too much you wouldn't do everything because now you are having 100 patients waiting for you, so you end up doing half the job. We would just issue medication and the patient leaves… whatever else that could be wrong was not the concern.” This shortcoming was noted by CMs also, who felt at times that not all their needs were addressed, claiming, “the doctors were also afraid to speak to us, to interact with us, to check us, they only just gave us medication,” (HCM). This was in line with a study done by Bernacki et al., (2021) carried out a study on Impact of COVID-19 on patient and healthcare the results showed that COVID-19 significantly impacted the patient and caregiver and health care professional attitudes, interactions, convictions, and actions in relation to the medical system and the care pathway.

# **4.5.4 To assess the impact of COVID-19 on the availability of medication.**

This section of the interview guide and questionnaire was designed to act as a foundationfor highlighting the impact of COVID-19 on the availability of medication at Parirenyatwa Group of Hospitals. This section helped the researcher respond to the question: What is the impact of COVID-19 on the availability of medication?

# 4**.5.5 Effects of lockdown measures on importation of medication**

**Source primary data 2023**

#### **Fig 4.3 COVID-19 lockdown measures on availability of medication**

Nearly half 48% of the respondent strongly disagree that availability of medication was affected by COVID-19 as they pointed out that the health sector was exempted from lockdown restriction so there was no disruption in transportation. Also the respondent reviewed that donors stepped in to support the sourcing and transportation of essential drugs by providing funding to ensure that shipments could be airlifted and transported to Zimbabwe quickly by passing some of the delays at ports and boarders. This study posits with (Pfeffer and salancik, 1978), Resource Dependence Theory that shows that organizations rely on other players in their environment so as to access the needed resources

52% of the population strongly agreed that COVID-19 restriction measures did affect the availability of medication as the exporting countries of these drugs were also affected by the pandemic and had their own lockdown restrictions for example India and China major suppliers of medication to Zimbabwe were the countries hit hard by COVID-19 so reduced their exportation so as to meet their increase demand this led to massive shortage of medication at Parirenyatwa Group of Hospitals. This study was in line witha study done by Ahmadi et al. (2021) conducted a research on Impact of COVID-19 on Supply Chains in Zimbabwe results from the study showed that donors and manufactures were shifting to own nations, leaving the health system in Zimbabwe with inadequate funding and resources.

# **4.6 Chapter summary**

This chapter focused on the presentation, analysis and interpretation of data. Data was presented using tables, charts and direct quotes from respondents. The essence of this study was to analyse how covid-19 affected service delivery at Parirenyatwa Group of Hospitals. The major outcomes of this studyshowed that COVID -19 affected negatively service delivery at Parirenyatwa Group of Hospital. The next chapter will look at conclusions, findings and recommendations.

# **Chapter 5**

# **Summary, Conclusions and Recommendations**

# **5.1 Introduction**

The previous chapter was a presentation of the analysis and interpretation of the findings of the study on effects of COVID-19 on service delivery at Parirenyatwa Group of Hospitals. The interpretation and analysis of results specifically focused on two aspects effects of COVID 19 on doctor to patient ratio and effects of COVID -19 on the availability of medication. In this chapter the researcher presents summary of study, the conclusion, recommendations based on findings and for further studies.

# **5.2 Conclusions**

In this section findings presented in chapter four and how they relate to the previous research presented as relevant literature as well as the given questions. The discussion identified how COVID-19 pandemic affected doctor to patient ratio and availability of medication.

# **5.2.1 The effects of COVID-19 infection on the doctor-to-patient ratio**

The research found out that COVID- 19 affected the doctor to patient ratio negatively with the findings showing that COVID-19 infections caused a significant strain on healthcare system resulting in a substantial increase in the doctor to patient ratio. The increase has led to various challenges, including long waiting times for patients, decreased quality of care and increased workload and stress for the health care professionals.

# **5.2.3 To assess the impact of COVID-19 on the availability of medication**

Even though some positivity from COVID -19 were acknowledged the health sector was expted from lockdown restriction and donors funded hospital requirements The research found out that availability of medication at Parirenyatwa was significantly disrupted by COVID-19. It was found that donors and major suppliers in the field of medication like India and China have been affected by COVID -19 hampering their activity to manufacture and also they had to shift their focus to meet increased local demand. It was also found out that as a result of shortage healthcare providers have been forced to make difficult decision such as delaying treatment for patients.

# **5.3 Summary**

# The purpose of this study is to investigate the effects of COVID-19 on service delivery in public sector hospitals with Parirenyatwa Group of Hospitals as the case study. The objectives of the study were: to assess the impact of COVID-19 on the availability of medication and the doctor-to-patient ratio. The study used a sample comprising of 39 health care workers, 5 patients, and 8 members of the community selected through a probability sampling technique. Data was collected using interviews and questionnaires. Findings of the study indicated that COVID-19 negatively affected service delivery in Zimbabwean public hospitals particularly Parirenyatwa Group of Hospitals. The study indicates that COVID-19 infections caused a significant strain on healthcare system resulting in a substantial increase in doctor to patient ratio. Further findings showed that Zimbabwe imports most of its medication from India and China countries that have been affected by COVID -19 resulting in low supply of medical inputs in public hospitals.

# **5.4 Recommendations**

In view of the challenges incurred in the medical supply chain, it raises concern on the health sector of Zimbabwe not to dependent on foreign medical supplies. The study, therefore, recommends the government to constantly supply protective clothing to health workers to reduce further spreading of COVID-19. The government is further recommended to practice import substitution to strengthen the nation’s capabilities of producing medical supplies through public-private partnerships with organizations like Varichem, CAPS, Natpharm and Availpharm pharmaceutical. The government is also recommended to utilize telemedicine technology to ensure equitable access to quality healthcare during these unprecedented times.

# **5.5 Further recommendation**

This study focus was at Parirenyatwa group of hospital a public sector hospital. The researcher recommend further studies in non-government funded hospitals like the mission and private sector hospitals since the pandemic is hampering effects on service delivery in every health care sector so there is need to find out also what is happening in these sectors.

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# **Appendix 1 questionnaire**

**QUESTIONNAIRE**

****

My name is BRIAN D RANGUNA REG NUMBER B191152B final year student studying towards a degree in Purchasing and Supply Chain management at Bindura University of Science Education. Am requesting your participationin a research study that seeks to examine: **THE EFFECTS OF COVID 19 on SERVICE DELIVERY IN PUBLIC SECTOR HOSPITALS THE CASE OF PARIRENYATWA GROUP of Hospitals**. Your participation is voluntary and your response will remain confidential and anonymous.

For any clarifications feel free to conduct me on 0776134951 or [dudzairanguna@gmail.com](mailto:dudzairanguna@gmail.com)

Pleaseassist by placing a tick in the box provided or providing relevant information in the space provided.

Section A

**Kindly indicate your gender**

|  |  |
| --- | --- |
| Male |  |
| Female |  |

**Working experience**

|  |  |
| --- | --- |
| 0-5yrs |  |
| 6-11yrs |  |
| 12-20yrs |  |
| 21 and above |  |

**Level of education**

|  |  |
| --- | --- |
| Degree and above |  |
| Diploma |  |
| Certificate |  |
| Other |  |

**POSITION OF RESPONDENTS**

|  |  |
| --- | --- |
| Medical doctors |  |
| Matron |  |
| Registered general nurse |  |
| Procurement |  |
| Community members |  |
| Patience |  |

**SECTION B; The effects of COVID-19 infection on the doctor-to-patient ratio.**

1. Before COVID 19 what was the estimated doctor to patient ratio at the hospital

**Low High**

1. How did the following affected doctor to patient ratio? Lickert scale denotes.

**Key**: Strongly Agree [SA], Agree [A], Neutral [N], Disagree [D] and Strongly Disagree [SD]

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Factors influencing doctor to patient ratio | SA | A | N | D | SD |
| DEATH OF PATIENTS |  |  |  |  |  |
| DEATH OF DOCTORS |  |  |  |  |  |
| COVID 19 INFECTIONS |  |  |  |  |  |

Question 3: State how COVID- 19 affected the quality of care.

**………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………............**

**SECTION C:**

**To assess the impact of COVID-19 on the availability of medication.**

1. With the government response to COVID 19 how do you agree to the extent to which lockdown measures disrupted supply chain of medication?

**Strongly Agree [ ] Strongly Disagree [ ]**

**APPENDIX 2 INTERVIEW GUIDE:**

The interview introduces himself, purpose of the interview and institution he is doing his studies

**SECTION A: Demographic information**

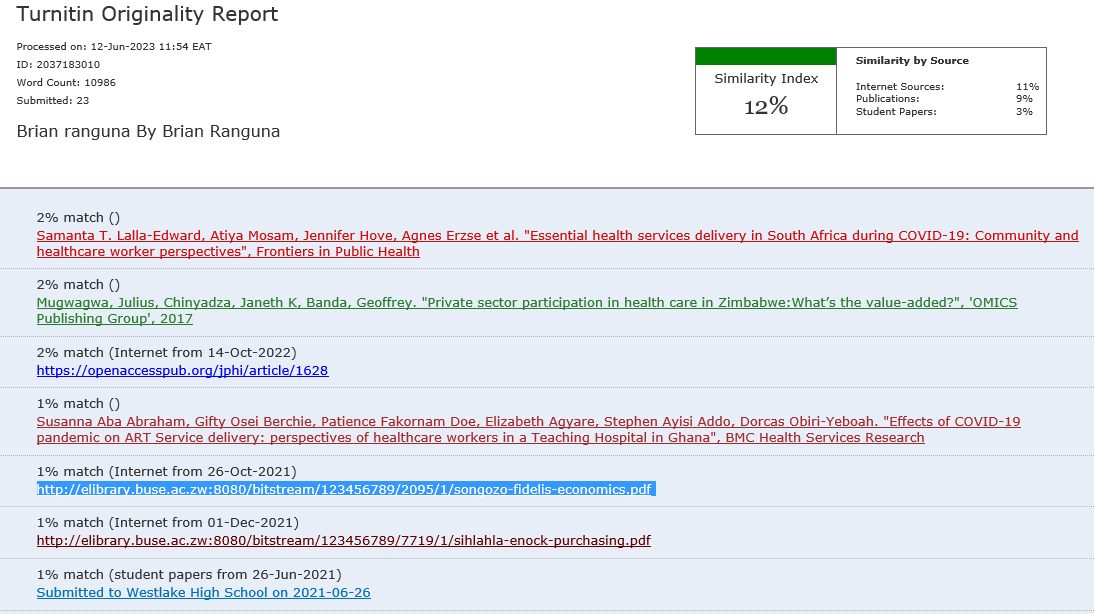
What are your qualification?

How long have you been employed at Parirenyatwa Group of Hospitals?

**SECTION B:**

1. Does COVID-19 have an effect on the doctor-to-patient ratio?
2. What is the impact of COVID-19 on the availability of medication?

**THANK YOU FOR YOUR PARTICIPATION**

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