ASSESSING THE IMPACT OF COVID-19 ON MONITORING AND EVALUATION FUNCTIONS OF THE GAUTENG DEPARTMENT OF HEALTH

NQOBILE MINENHLE DLAMINI (2281367)

MASTER'S IN MANAGEMENT PUBLIC AND DEVELOPMENT SECTOR MONITORING AND EVALUATION

WITS SCHOOL OF GOVERNANCE

SUPERVISOR: DR. NEDSON POPHIWA

28 February 2023

DECLARATION

I declare that this thesis report titled 'Assessing the impact of Covid-19 on Monitoring and Evaluation Functions of the Gauteng Department of Health' is my own work, completed with the guidance and support of Dr. Nedson Pophiwa as the academic supervisor. I have acknowledged and referenced all sources that I have used and quoted. I hereby submit it in partial fulfillment of the requirements of the degree of Master of Management in the sector of Public and Development Sector Monitoring and Evaluation in the University of the Witwatersrand, Johannesburg. I have not submitted this report before for any other degree or examination to any other institution.

Nqobile Minenhle Dlamini

Johannesburg

Date: 28 February 2023

_____

ACKNOWLEDGEMENT

The key participants provided me with in-depth information during the process of data collection. I would also like to thank my family and friends for their endless and consistent support throughout this journey. Mostly, Thami Ndlovu, my uncle, and Mandisa Ndlovu, my aunt, thank you for playing a crucial role in my life and upbringing and making sure that this journey becomes a success. To my dear friends Ayanda Phike and Panashe Ketani, thank you so much for your words of encouragement and support. To Musawenkosi Senda and Refiloe Lidaga, thank you for your unwavering support I am glad that our paths crossed. A word of gratitude goes out to my academic supervisor, Dr. Nedson Pophiwa for his endless support, words of wisdom and encouragement, and the knowledge instilled throughout this research development process. My gratitude also goes out to the key participants of the Gauteng Department of Health for their cooperation, and participation and for granting me an opportunity to conduct research within the Department.

I would also like to thank the Lord for granting me with strength throughout this journey.

Proverbs 3:5 - "Trust in the LORD with all your heart and lean not on your own understanding".

DEDICATION

This Thesis report is dedicated to my mother Nomgqibelo Nelisiwe Dlamini (1959 to 2004) and my uncle Sphiwe Ndlovu (1958 to 2021).

ABSTRACT

The Covid-19 pandemic brought unprecedented challenges that required enforced adaptation in all aspects of human life globally. With such an outbreak the government sector was forced to develop mitigation factors and implement precautionary measures useful for curbing the pandemic. Hence, the research focuses on the Gauteng Department of Health as it is at the forefront of the healthcare sector. The main research objective is to understand ways in which the pandemic disrupts the Gauteng Department of Health's Monitoring and Evaluation functions mechanisms adopted to ensure function continuity. Therefore, it was also important to understand the tools and mechanisms that were adopted and how the pandemic changed their implementation. A total of 10 key participants within the department were interviewed and a question guide was used as a data collection tool during the interview process. The participants interviewed were purposively sampled as a form of non-probability sampling. This study is a qualitative case study research design with an exploratory research approach. During the interview process, the majority of the participants indicated that lockdowns, restrictions on travel, isolations, quarantines, and the shutdown of non-essential activities were highly implemented. However, these restrictions impacted how raw data was collected in the field. Remote data collection had to be introduced and it became common because face-to-face data collection was limited due to contracting the virus. The findings of this study revealed that the Monitoring and Evaluation practices in the department were no longer treated as a priority due to the urgent response to the pandemic. The data that has been collected throughout the research indicates that there are ways in which Monitoring and Evaluation can be developed and innovated. The study also highlighted the best possible interventions or recommendations that can be taken into consideration should a pandemic of this nature arise in the future. This becomes a contribution to the knowledge gap concerning the disruption of an unexpected pandemic.

Keywords: Covid-19, Monitoring and Evaluation, Response, Remote Working, Impact, Functions, Resources, Gauteng Department of Health.

TABLE OF CONTENTS

DECLARATION ..... ***i***

ACKNOWLEDGEMENT ..... ***ii***

DEDICATION ..... ***iii***

TABLE OF CONTENTS ..... ***v***

LIST OF FIGURES ..... ***viii***

LIST OF TABLES ..... ***viii***

ABBREVIATIONS ..... ***ix***

1. INTRODUCTION TO THE RESEARCH ***1***

1.1 Introduction 1

1.2 Background 1

1.3 Problem statement 3

1.4 Research questions 4

1.5 Purpose statement 5

1.6 Literature review 5

1.7 Methodology 6

1.8 Thesis layout 6

1.9 Conclusion 6

2 LITERATURE REVIEW ***7***

2.1 Introduction 7

2.2 The global response to the pandemic 7

2.3 The impact of Covid-19 and South Africa's response 9

2.3.1 Building an integrated and coordinated response 12

2.3.2 Law enforcement during the Covid-19 pandemic 15

2.3.3 Impact of the public sector performance due to Covid-19 16

2.4 Gauteng province's response to the Covid-19 pandemic 17

2.5 Digital transformation in the public healthcare 19

2.6 Covid-19's influence on M&E 21

2.7 The significance of Government-Wide Monitoring and Evaluation 27

2.8 Conclusion 27

3 THEORETICAL FRAMEWORK ***29***

3.1 Introduction 29

3.2 Contextualising Organisational Adaptation theory 29

3.3 Complex adaptation theory in other sectors 31

3.4 Practical application of complex adaptive theory 33
3.4.1 Leadership and management 33
3.4.2 Organisational development 33
3.4.3 Workforce development 34
3.4.4 Service delivery 34
3.4.5 Behavior change 34
3.5 Conclusion 35
4 RESEARCH METHODOLOGY 36
4.1 Introduction 36
4.2 Research approach 36
4.3 Research design 37
4.4 Methods 37
4.4.1 Key informant interviews 37
4.5 Data collection tools 38
4.6 Sampling 38
4.6.1 Sample population 38
4.6.2 Sampling technique and sample size 38
4.6.3 Sampling approach 39
4.7 Data analysis method 40
4.8 Limitations of the study 41
4.9 Ethical consideration 41
4.10 Credibility, transferability, and dependability 42
4.11 Conclusion 43
5 PRESENTATION OF RESEARCH FINDINGS 44
5.1 Introduction 44
5.2 Profiles of Participants 45
5.3 Gauteng Department of Health's monitoring and evaluation system 47
5.4 In what ways did the Covid-19 pandemic disrupt the monitoring of interventions and evaluation interventions in the GDOH? 49
5.4.1 Monitoring and Evaluation prior to the Covid-19 pandemic 49
5.4.2 State of preparedness on the eve of the pandemic (resources) 51
5.4.3 Precautionary measures to curb the spread of the pandemic 53
5.4.4 Evaluations commissioned on the eve of the pandemic 54
5.4.5 The pandemic's effect on performance in GDOH's M&E unit 57
5.5 What tools and mechanisms were adopted by the GDOH's M&E to ensure the continuity of their functions 59
5.5.1 Disruption of Monitoring and Evaluation functions and data collection processes 59
5.5.2 Remote Monitoring and Evaluation for Covid-19 response 63
5.5.3 Technological transformation for data collection 65
5.6 How has the Covid-19 pandemic changed the implementation of M&E functions in the GDOH? 65
5.6.1 The protracted pandemic phase and its effect on Monitoring and Evaluation 66
5.6.2 Continuous implementation of Monitoring and Evaluation functions 68
5.6.3 Data collection aspects for Monitoring and Evaluation during the pandemic 70

5.6.4 Data collection aspects for Monitoring and Evaluation during the pandemic....70
5.7 Additional budget for implementation of Monitoring and Evaluation....72
5.7.1 Established workstreams in coordinating the response to the pandemic....73
5.7.2 The best practice lessons learned during the pandemic....74
5.8 Discussion of results....78
5.9 Conclusion....79
6 DISCUSSION OF FINDINGS....80
6.1 Introduction....80
6.2 In what ways did the Covid-19 pandemic disrupt the monitoring of interventions and evaluation of interventions in the Gauteng Department of Health?....80
6.2.1 The status quo on the eve of the pandemic....80
6.2.2 State of preparedness and resource scarcity....81
6.2.3 Precautionary measures to curb the spread of the pandemic....83
6.2.4 Impact of Covid-19 on public sector performance....83
6.2.5 Healthcare workers falling sick due to the pandemic....85
6.2.6 Evaluations commissioned on the eve of the pandemic....86
6.3 What tools and mechanisms were adopted by the DGOH's M&E to ensure the continuity of their functions?....87
6.3.1 Disruption of M&E Functions due to the pandemic....87
6.3.2 Remote monitoring and evaluation for Covid-19 response....88
6.4 How has the Covid-19 pandemic changed the implementation of M&E functions in the GDOH 89
6.4.1 The protracted pandemic phase and its effect on M&E....89
6.4.2 Additional budget for implementation of M&E....90
6.5 Conclusion....91
7 CONCLUSION AND RECOMMENDATIONS....92
7.1 Introduction....92
7.2 Recommendations....93
7.2.1 Recommendation One: Strengthened M&E remote working....93
7.2.2 Recommendation two: Accelerated M&E data collection processes....93
7.2.3 Recommendation two: Re-designed guidelines for the GDOH....94
7.2.4 Recommendation four: Resources allocation for M&E....94
7.2.5 Recommendation five: Strengthened budget for M&E practices....94
7.2.6 Recommendation six: Investing in frontline healthcare personnel....95
7.3 Conclusion....95
REFERENCES....96

LIST OF FIGURES

Figure 1: Stages of South Africa's response to Covid-19……..11

Figure 2: The Governance structure for the Covid-19 response at the national and provincial level……15

Figure 3: The Interconnectedness digital technologies used in the public health response Covid-19……21

Figure 4: Framework for evaluating Covid-19 response……..26

Figure 5: Model of Leadership for Organisational Adaptation……31

Figure 6: M&E Provincial Structure……57

LIST OF TABLES

Table 1: M&E challenges that arose during the Covid-19 pandemic……22

Table 2: Risks and Mitigation Measures for evaluation design during a crisis……24

Table 3: Sample distribution of key informant interviews……39

Table 4: Profiles of the Key Participants……45

ABBREVIATIONS

DHIS	District Health Information System
EVDS	Electronic Vaccination Data System
GDOH	Gauteng Department of Health
GWM&E	Government-Wide Monitoring and Evaluation
M&E	Monitoring and Evaluation
NDOH	National Department of Health
PPE	Personal Protective Equipment

CHAPTER 1

1. INTRODUCTION TO THE RESEARCH

1.1 Introduction

This chapter of the research study seeks to introduce the background of the research, the problem statement, the research questions, and the purpose statement. Subsequently, the literature review explored, the methodology as well as how the thesis will be structured.

1.2 Background

The outbreak of the novel coronavirus known as the Covid-19 virus was first recorded in the city of Wuhan in China, in late 2019. South Africa recorded its first case of Covid-19 on the 5th of March 2020. From then on, as the number of recorded cases escalated, a crisis was anticipated in the public healthcare system (Stiegler & Bouchard, 2020). The pandemic had an immediate impact on the well-being of people as the number of recorded cases swelled up, and increased demand for the use of healthcare facilities across the country. The Department of Health began announcing statistics on daily infections, recoveries, and deaths, which showed that an urgent plan was needed to avert a national disaster. In a short space of time, the government had put in place mechanisms to curb the spread of the virus to allow for a well-coordinated approach. A state of national disaster was declared in line with the Disaster Management Act 57 of 2002.

Since the pandemic was a health crisis, the health sector had to play a critical role in curbing the spread of Covid-19 and mitigating further impact. Among some of the measures introduced were lockdowns, quarantine, travel restrictions, and a shutdown of non-essential economic activities. At the forefront of the health response was the National Department of Health (NDOH), working together with various task teams at national and provincial spheres of government to play a leading and strategic role. Citizens were also the key stakeholders in ensuring adherence to the restrictions on movements by staying at home. This showed the

importance of having the political will and citizens' buy-in to the various restrictions and precautionary measures such as mask-wearing, and later on, vaccine uptake. The Presidency played a key role in encouraging citizen participation and adherence especially when President Cyril Ramaphosa addressed the nation in what became known as 'family meetings', where he reported on the progress the government was making in the fight against the virus. It was also an opportunity to announce the easing of restrictions or in some cases announcing further restrictions depending on the state of new infections.

There is a widely held view that the South African government was proactive in its response to managing the pandemic. Having boldly implemented the National State of Disaster, the South African government's response was relatively swift in comparison with other countries on the continent, especially with the termination of non-essential services (Parker et al., 2020. p3). A commendable effort from the government was the daily updates on Covid-19 infections and deaths, which showed that the government was using evidence in managing the pandemic. The government's response also involved financial support measures such as the introduction of a special grant for unemployed people known as the Social Relief of Distress Grant (SRD Grant). At the macro-level, several stimulus packages for ailing businesses were introduced under the umbrella Economic Reconstruction and Recovery Plan (ERRP) which was aimed at restoring economic performance resulting from the devastation caused by the pandemic (Bhorat & Köhler, 2020).

Whilst the government's efforts at mitigating the impact of the pandemic have been commended, its effect on other aspects such as the operations of the public sector cannot be ignored. Due to its bureaucratic nature, the public sector was heavily disrupted as most departments and entities could not quickly adapt to the new normal work regimes of working remotely. A few studies have explored the extent to which the pandemic disrupted the functions of certain departments and the strategies they adopted to ensure business continuity. Take for instance, a study of the National School of Government (NSG) by Malatji, Poonsamy, and Ngcaweni (2021), which reports that face-to-face training programs of public servants were halted to curb the virus, a decision that required innovation and willingness to move to new ways of conducting work through remote training programs. This is the latter sector that sparked interest in this current study. This study, therefore, assesses the extent

to which the pandemic disrupted the functionality of the Gauteng Department of Health's (GDOH) Monitoring and Evaluation (M&E) Unit. It acknowledges that the GDOH's overall Covid-19 response was well coordinated and led to tangible results as documented in research (Rispel, Marshall, Matiwane, & Tenza, 2021). The study aimed to explain the nature and extent of the pandemic's effects on the M&E functions of the GDOH. This is important to understand, considering that M&E provides essential evidence for decision-making and policy-making, especially in disaster situations such as Covid-19.

1.3 Problem statement

The emergence of the Covid-19 pandemic exposed vulnerabilities of public healthcare systems, especially in Africa. It was feared that the crumbling state of facilities and shortages of critical staff, medicines, and healthcare equipment, would lead to a catastrophic impact. The Covid-19 pandemic emerged unexpectedly with policymakers and other decision-makers have been unprepared to deal with the pandemic. The responses to the pandemic were complex, intricate, and unpredictable. As of early May 2022, South Africa's total Covid-19 cases totaled 3,8 million while 101 000 deaths had been recorded (National Institute of Communicable Diseases, 2022). Despite such alarming statistics, South Africa had a better-coordinated response to the pandemic when compared with other countries.

As mentioned earlier, the public sector was disrupted by the Covid-19 severely. Restrictions on movement meant that most of the departments had to scale down on services. An all-too-common occurrence at departments that offer frontline services like Home Affairs or Driver's License Testing Centres was the closure of offices for fumigation each time a case was detected. Such disruptions led to a backlog in services delivered by the government to the citizens. At the same time, most departments took time to adapt to the new normal as procurement systems took relatively longer to acquire laptops and mobile data to enable public servants to work remotely (Malatjie, Poonsamy, and Ngcwabeni, 2021). Nevertheless, despite these challenges, some public sector departments adapted to remote working to ensure the continuity of government services. One department that adapted quickly to the pandemic was the National School of Government, a government training academy that

works in partnership with both local and international partners to deliver training in the public sector (Malatjie, Poonsamy, and Ngcwabeni, 2021).

In the case of M&E, the Covid-19 pandemic disrupted the completion of M&E projects, particularly those that are field-based. In understanding the extent of the disruption, a Learning Brief by White (2021), shows that the pandemic went through two phases, namely the acute phase and the protracted phase. During the acute phase of the pandemic, "urgent pandemic response action was prioritised over M&E (e.g. only implementation staff were given access to project sites)" (White 2021). White's study also discovered that there was a belief among program implementers that Covid-19 was likely to only require a short-term response, so resultantly M&E was not considered a priority (White, 2021). As the pandemic dragged on for longer, the protracted phase witnessed fatigue among study populations, causing reduced willingness to participate. In some areas, data collectors were treated with suspicion, with populations concerned that they may contribute to the spread of Covid-19 or that divulging information to M&E teams may cause them to have to go into isolation (White, 2021).

These phases indicate that M&E had to be put on hold due to other critical responses that had to be conducted. It is on this basis that this study seeks to understand how the GDOH's M&E unit was affected by the acute and protracted phases of the pandemic in carrying out its mandates. The study will also discuss the various mechanisms that were put in place to ensure the continuity of M&E in the same department.

1.4 Research questions

The main research question is;

In what ways did the Covid-19 pandemic disrupt GDOH's M&E functions and what mechanisms were put in place to ensure their continuity?

The sub-research questions for the study are;

a) In what ways did the Covid-19 pandemic disrupt the monitoring of interventions and evaluation of interventions in the GDOH?

b) What tools and mechanisms were adopted by the DGOH's M&E continuity of their functions?
c) How has the Covid-19 pandemic changed the implementation of M&E functions in GDOH?

1.5 Purpose statement

The purpose of this research is to assess the extent to which the Covid-19 pandemic affected the GDOH's M&E unit in conducting its functions and the strategies used to ensure continuity. The rationale behind this research study is to understand the means developed by the GDOH to ensure that services continued regardless of the pandemic. Therefore, with such an outbreak globally it became significant to contextualise such devastation, especially within the South African healthcare sector. The measures were taken into place to contain the disruption of the pandemic and ways of doing business. In particular, this revolved around restrictions on movements. Such restrictions affected how raw data was collected and face-to-face interactions in the field. Therefore, the main objective of the study was to document the shared experiences of the GDOH and their best practices for managing the pandemic. Therefore, the research study will also make recommendations for future practices and learning.

1.6 Literature review

The literature review of this study aims to analyse the global response to the pandemic as well as the impact of Covid-19 and the response from the South African context. The literature also discusses the Gauteng provinces' response to the pandemic while also looking at Gauteng's M&E system. The literature further looks at the influence of the Covid-19 pandemic on M&E; the impact of the pandemic on public sector performance and the digital transformation in the public healthcare sector. Lastly, the discussion is centered around the significance of Government-Wide Monitoring and Evaluation (GWM&E). Whilst there has been growing scholarly attention to the pandemic, there is a paucity of literature that assesses ways in which the pandemic affected M&E functions within a specific government office. Chapter 2 will review this literature in greater detail.

1.7 Methodology

This research study adopted an exploratory research approach to understanding how the GDOH's M&E functions were affected under the strain of the pandemic. Participants were selected through purposive sampling which involved approaching the officials in the M&E directorate of the GDOH. Key informant interviews were conducted with these officials, most of whom had first had experience in responding to the pandemic. The research methodology of the study will be elaborated further in Chapter 3.

1.8 Thesis layout

This research report has six chapters. Chapter 1 introduces the research, the problem statement, the research questions, and the purpose statement of the research study. Chapter 2 presents the literature review. Chapter 3 outlines the research methodology with a focus on the research approach, research design, sampling, and methods. Chapter 4 outlines the theoretical framework of the research study. Chapter 5 delineates the presentation of the research findings. Lastly, Chapter 6 represents the discussion of findings based on the research study as well as the conclusions and recommendations of the study.

1.9 Conclusion

The discussion of this chapter was based on introducing the research and providing a well-constructed background and the problem statement intended to be addressed by the study. Subsequently, the Literature review supporting the study, the research objectives addressed as well as the applicable methodology.

CHAPTER 2

2 LITERATURE REVIEW

2.1 Introduction

This chapter reviews the literature that is significant for the study. It discusses themes such as Covid-19's impact in South Africa, M&E system for Gauteng provincial health, Covid-19's influence on M&E, global response to the Covid-19 pandemic, South Africa's response to Covid-19, and Gauteng provincial health response to Covid-19.

2.2 The global response to the pandemic

It is important to elaborate on the effects and global impact of the Covid-19 pandemic before mentioning the global response. The response to the pandemic is initiated by the escalating number of cases related to infections and death rates. A pandemic of such a magnitude has led to 6 870 013 deaths with the identified cases 774 933 311 globally. Within the previous 14 days, a total number of +2 133 252 cases between 13-26 February 2023 are identified as being active globally (Google New, 2023). These statistics are an indication of the impact of the pandemic globally. Below is a detailed context of the global response to the pandemic.

On a global scale, the starting point when it came to containing the spread of the pandemic is that many countries imposed lockdowns. The lockdowns encompassed the implementation of social distancing, self-isolation, closure of non-essential services, closure of schools, and travel restrictions. These measures were implemented with the idea of ensuring that cases are managed and do not escalate. However, the global response to the Covid-19 pandemic varied from one country to another depending on what works for the country. Some other countries did well in terms of their prompt response to the global pandemic. For example, New Zealand is one country that implemented an intense lockdown to the point that no cases were detected within a few months after the pandemic emerged. The response from New Zealand is an example of implementing a "go early, go hard" approach and it worked for the country (Baker, Kvalsvig, Verrall, and Wellington, 2020). Taiwan is also another country that had a very good approach when it comes to responding to the Covid-19 pandemic. Taiwan's

prompt response is also because of the infrastructure and resources it possesses (Summers *et al*., 2020). The successful response of both New Zealand and Taiwan can be adopted by other countries in the future to better respond to any pandemic.

As mentioned, the level of response to contain the spread of the pandemic from different countries was diverse. Other countries chose not to implement the lockdown which was seen as an approach to herd immunity. In contrast to other countries, Sweden's public health response approach to the pandemic was less restrictive. Pashakhanlou (2021), mentions the Sweden model that led to a higher level of death, especially among the pension age. As much as the pandemic affected all individuals in Sweden, the pensioners were regarded as the most vulnerable because of their age. Supported by Yarmol-Matusiak, Cipriano, and Stranges (2021), with the emphasis that the death toll caused by the Covid-19 pandemic has exposed the weaknesses of the health system. Therefore, Sweden will remain an example of what happens when countries do not adopt strict regulations during the pandemic.

The global response to the Covid-19 pandemic also exposed inequality concerning issuing vaccines to all countries. Vaccine nationalism became a decisive factor when developed countries rolled-out vaccines. Vaccine nationalism refers to a preferential act of supplying vaccines to well-developed countries first while low-income countries remain poorer and affected by the pandemic (Zhou, 2021). Globally, the act of prioritising other populations at the cost of other livelihoods should not have been promoted as it does not acknowledge the rights of humanity. Vanderslott *et al*., (2021), recommend a different approach that can be adopted by countries apart from vaccine nationalism which is 'vaccine internationalism'. Vaccine internationalism means that all vaccines should be distributed equally at an international level based on the dire need. This should be done regardless of the country's wealth status; therefore, promoting equal distribution among all countries.

The quick spread of the Covid-19 pandemic in countries such as Italy, Spain, and Germany was unexpected, especially after the predicted mortality rate in Africa. The prediction was that Africa would experience the Covid-19 pandemic the most because of its fragmented healthcare systems (Rispel *et al*., 2021). The ability of Africa to respond to the pandemic, despite the predictions, is attributed to rapid, well-coordinated response, the experience of

handling diseases, campaigning to combat misinformation, and engaging with communities (Kuehn, 2021). The paradox of Africa's low number of infectious cases was shocking to other countries as no one expected it. This was unexpected due to the fragmented healthcare system, devastation of diseases, lack of resources distribution, and inequality (Rispel *et al*., 2021). However, Kuehn (2021), further indicates that Africans have experienced epidemics before and are now aware of how to respond swiftly to epidemics.

South Africa is among the few countries that were tallying daily statistics on Covid-19 infections, deaths, and recoveries, as compared to other countries with relatively low statistical reporting (Pillay-van Wyk *et al*., 2020). The South African government ensured that information is publicly available, and the public is kept abreast of developing daily cases of the pandemic. The National Institute of Commutable Diseases was the one responsible for providing a high level of information about the outbreak of Covid-19 in South Africa (Marivate & Combrink, 2020). Such information was published on the Department of Health's websites and also communicated on television.

2.3 The impact of Covid-19 and South Africa's response

The pandemic impacted South Africa in several ways. Some of these effects include increases in mortality rate and death, mental health, and substance abuse, increase in cases of gender-based violence, increase in social unrest, closure of schools and universities, and the impact on socio-economic issues (Mbunge 2020, p1810). The Covid-19 pandemic increased the number of death cases, and the death of breadwinners has a negative bearing on families' livelihoods. In addition to this, the loss of breadwinners also leads to a high level of poverty, particularly for families living below the poverty line. This leads to increased vulnerability of those households living below the poverty line.

The Covid-19 pandemic also impacted the mental health of individuals. Mental health becomes a possibility when individuals have to isolate themselves from others due to the symptoms of the virus. Moreover, isolation, quarantine, loss of family members, and issues such as unemployment can cause people to develop mental health conditions (Mbunge 2020, p1811). The prolonged impact of the Covid-19 pandemic also led to an increased number of

gender-based violence against women. The issue of quarantine allowed perpetrators of domestic violence to increase the number of cases since people were home more often. This is evident because more cases of gender-based violence were reported and this also contributes to mental health and substance abuse (Roy, Bukuluki, Casey,... & McGovern, 2022, p2).

Amidst the Covid-19 pandemic, South African healthcare professionals worked tirelessly to keep relatively well-managed case management strategies and practices. Various practices implemented varied from temperature screening, laboratory facilities, medical diagnoses, isolation facilities, and fully equipped hospital facilities for isolation purposes for all the provinces. The isolation facilities were designated for severe and critically ill patients with Covid-19 and acute respirational (Mbunge, 2020). After patients tested positive and were isolated, healthcare professionals would perform contact tracing to identify those who could be impacted and the level of risks involved. The information collected from the patient includes their traveling history, the symptoms, identifying close contacts, and other significant details. In addition, case management and contact tracing are significant measures for slowing down the spread of the Covid-19 pandemic (Peterson et al., 2021).

The Covid-19 pandemic added more strains to South Africa's healthcare system which was already overburdened by HIV/AIDS, Tuberculosis (TB), maternal morbidity, and child mortality. Mbunge (2020), points out that South Africa has made an effort to eradicate the past imbalances within the healthcare sector to ensure equal access to all. Despite such efforts, there exist other challenges that burden the South African healthcare system such as insufficient resources, insufficient budget, restructuring of the healthcare system, lack of service delivery, and no political will and leadership management.

South Africa managed its Covid-19 response in eight stages (Moshabela, Pohl-Albertyn, Sifunda, Begg, Gijsbertsen, Reddy, & Essack, 2021). The figure below represents the pillars of South Africa's response to Covid-19, which indicates that somehow the Department of Health might not have been caught ill-prepared although the Covid-19 cases escalated.

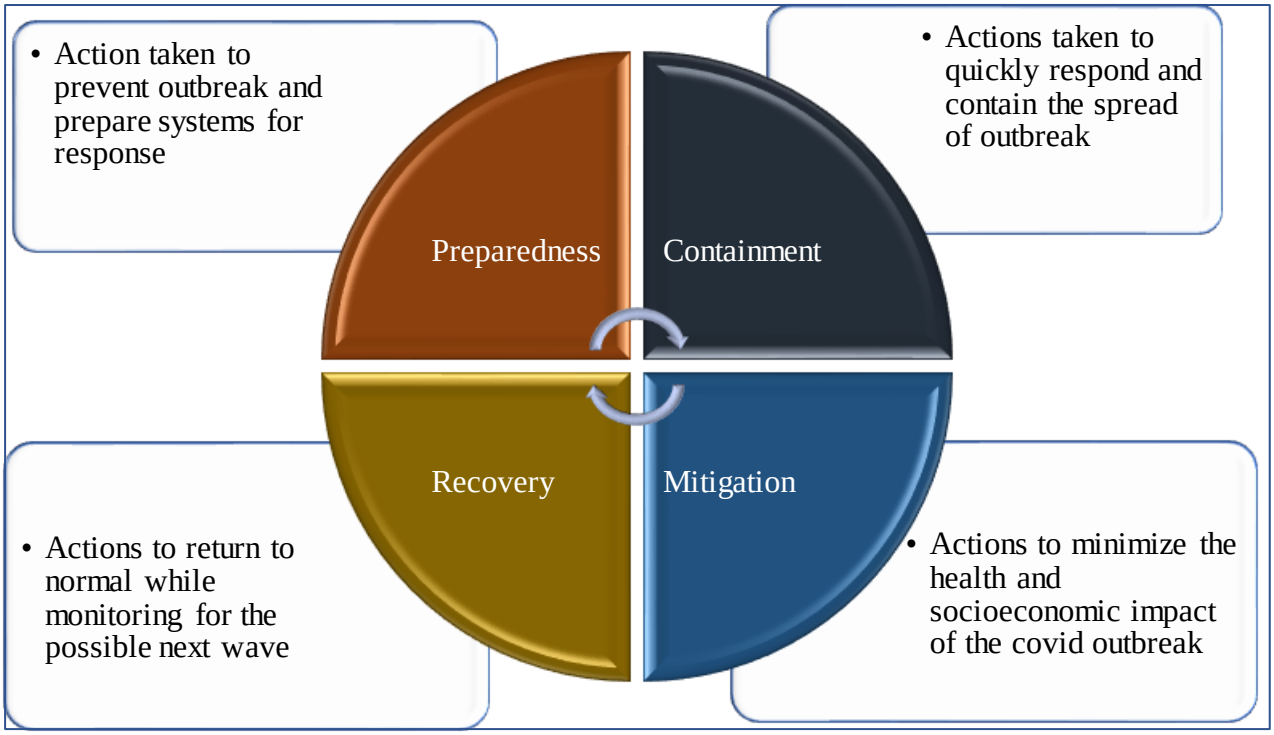

Figure 1: Stages of South Africa's response to Covid-19

Source: Moshabela *et al*., (2021)

As shown in Figure 2 above, the Department of Health implemented measures focusing on four pillars namely preparedness, containment, recovery, and mitigation as the 8 stages of South Africa's response to Covid-19. These stages are discussed further below:

i. Stage 1: involved preparation, community education, capacity building, and surveillance.
ii. Stage 2: analysed primary preventions, and social distancing where the gatherings were minimised, and borders were closed.
iii. Stage 3: the lockdown regulations were introduced and implemented.
iv. Stage 4: ensured monitoring of the surveillance of active cases.
v. Stage 5: identified all hotspots and introduced interventions to monitor the escalation of new cases.
vi. Stage 6: ensures medical care provider required while investments were channelled towards infrastructures such as hospitals and Personal Protective Equipment (PPE)
vii. Stage 7: Focused on the psychological aspects related to managing death, burials, and all mental health challenges and social impact.

viii. Stage 8: was about diligence in monitoring and managing case findings, and immunity levels while addressing the subsequent new waves and cases. The M&E played a crucial role in monitoring antibody levels, administering vaccines, if available, and ongoing surveillance of developed cases (Moshabela *et al,* 2021).

The above eight stages of response to the Covid-19 pandemic were regarded as being comprehensive and a success. The South African government's early response to the pandemic particularly the lockdown restrictions was a good intervention for reducing the spread of the pandemic cases (Moshabela *et al,* 2021). South Africa was also praised for its early response, although the Eastern Cape province with a lack of resources, was affected the most. Supported by Abdool Karim (2020), the ministerial adviser to Covid-19, these early stages implemented by South Africa minimised the impact of the pandemic despite the challenges related to insufficient resources and human resources. South Africa's response to the Covid-19 pandemic was mainly based on the types of capacity and resources at hand.

A high level of false and inaccurate spread of information also escalated around the pandemic. The spread of misinformation was easily circulated through social media platforms compromising the public's response to the pandemic causing fear among people (Chimoyi *et al.,* 2021). The spread of misinformation challenged the implementation of measures such as hygiene, wearing protective clothing, social distancing, and vaccination against the pandemic. This has an influence on people's behaviours, attitudes, and beliefs in a manner that prevents them from taking necessary precautionary measures. As such Greene and Murphy (2021), state that not all information that was published about the Covid-19 pandemic was true. Moreover, false, and fabricated information about the pandemic led to anxiety and unnecessary panic among citizens.

2.3.1 Building an integrated and coordinated response

The outbreak of the pandemic required a well-integrated and well-coordinated response to detect and contain the pandemic. The primary aim of coordination is to ensure a well-put quality emergency response that is encompassed by concrete decision-making. A coordinated

response by Ngoy et al., (2022), incorporates an interaction of different primary healthcare stakeholders and organisations engaged together to come up with an amicable solution. The collective efforts of such stakeholders and organisations lead to the management and containment of the pandemic.

An effective and efficient response to the Covid-19 pandemic, locally and globally also requires strong, decisive leadership and collaboration to contain the pandemic. Strong leadership ensures well-coordinated and well-constructed responses to effectively make decisions. The Gauteng Premier as well as the former Member of the Executive Council for Health played a crucial role in showing strong leadership by keeping all citizens informed of the progress made during the pandemic.

We learn from Ngoy et al., (2022, p17), that there are three distinct types of coordination mechanisms namely strategic coordination, operational coordination, and tactical coordination. The strategic coordination involves two levels: level 1 is headed by the President, the Prime Ministers, or the vice president in the variation of the country, and level 2 is led by the ministerial cabinet elected by the President. The operational coordination is established based on the Covid-19 response and readiness of the Incident Management System which ensures a high level of preparedness in responding to an emergency. The operational coordination mechanism is always fully functional; hence, it involves case management, surveillance, laboratory preparation, logistics, and information management, among others. Lastly, tactical coordination is about the decentralisation of functions at a local or district level. The coordination mechanisms that are put to optimal use minimise the time taken between responding to cases and the outbreaks and peak of diseases.

In terms of South Africa's response, new and pre-existing structures were at the forefront enabling coordination of the pandemic. The structures included Multi-sectoral National Outbreak Response Team that was established in the late 90s to contain and manage various outbreaks. The Multi-sectoral National Outbreak Response Team (Moonasar *et al.,* 2022), has responded to outbreaks such as the Lujo Virus outbreak, the Cholera outbreak, and event-based surveillance during the 2010 World Cup. Furthermore, the president established the National Coronavirus Command Council and a Ministerial Advisory Committee. The National

Coronavirus Command Council was at the centre of responding to the South African Covid-19 emergencies.

The National Coronavirus Command Council was headed by the presidency's office and worked in collaboration with the Ministerial Advisory Committee. The National Coronavirus Command Council in responding to the pandemic was also receiving information from the National Joint Operations and Intelligence Structure (NatJoints). This structure played a crucial role in decisions taken in the presidency office regarding the restrictions and measures to curb the spread of the pandemic (Masiya, Mandiyanike, Molosiwa, and Mazenda, 2021). The involvement of the Covid-19 Incidence Management Team which also played an important role in guarding and responding to the pandemic was also uploaded for their cooperation. These types of task teams, stakeholders, and structures had a well-coordinated response to the pandemic which was incorporated with strategic updates and guidance from the World Health Organisation (Pillay, Leonard, Mayet, and Moonasar, 2022).

The figure below indicates the governance structure that was developed to tattle the Covid-19 response both at the national and provincial levels of government.

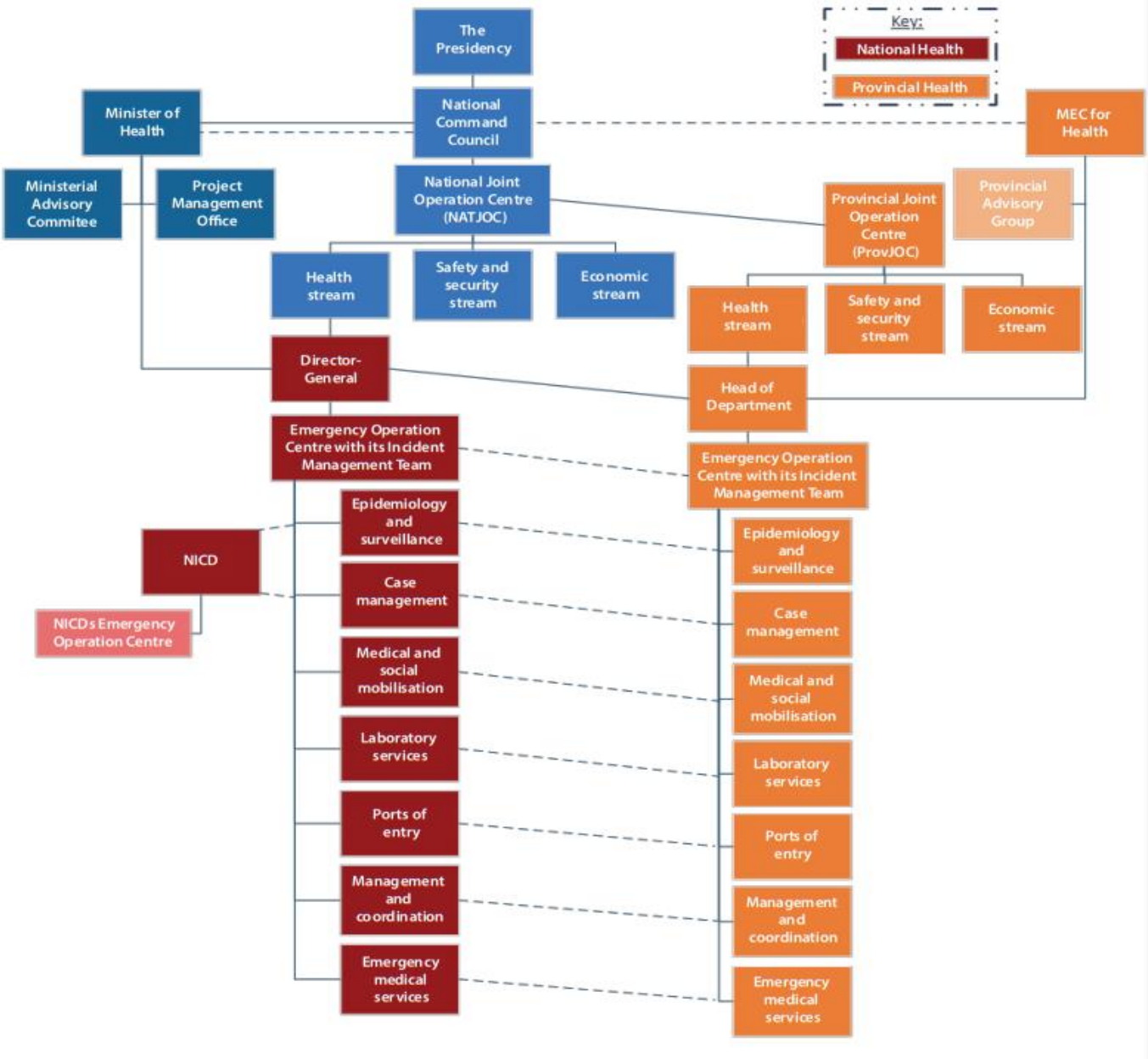

Figure 2: Governance structures for the Covid-19 response at the national and provincial level

Source: Moonasar *et al.,* (2022)

2.3.2 Law enforcement during the Covid-19 pandemic

In his address to the nation, President Cyril Ramaphosa explained in part, why his government declared the national state of disaster;

> The declaration of the National State of Disaster on 15 March 2020 empowered the government to take measures that prevented many more people from becoming severely ill and saved countless lives. These measures were effective in slowing down the rate of infection, easing pressure on our hospitals, and providing the time we needed to develop the infrastructure, resources, and capacity to manage a large number of people who became ill as a result of Covid-19 (The Presidency 2022).

The enforcement of rules and regulations was a prerogative of the army and police working together with local authorities and other key role players. In particular, the South African National Defence Force and the South African Police Service were deployed in the streets of South Africa to ensure that people adhere to the restrictions implemented to curtail the spread of the pandemic (Staunton, Swanepoel, & Labuschaigne, 2020). The idea was that if the restrictions were adhered to, this would reduce the spread of the pandemic among the citizens. However, the transmission of the Covid-19 pandemic was seen to be escalating regardless.

Citizens had to comply with all the restrictions that were put in place, ranging from smaller gatherings to lockdown movements to avoid being apprehended by the rule enforcers. The failure of the citizens to comply or adhere to the regulations led to imprisonment of up to 6 months. This ensured that the citizens who gathered for social events in crowded places were being controlled. As a result, the South African Police Service and South African National Defence ended up using rubber bullets to control the crowd and disperse the crowd from gatherings. Therefore, Covid-19 ended up being treated or seen as a security issue instead of a health issue.

2.3.3 Impact of the public sector performance due to Covid-19

The Covid-19 pandemic pushed the government sector to an unprecedented disruption that no one expected. The devastating impact of the pandemic had the performance of the government tested and negatively affected. This even led to changes in the normal way of working to respond and cater to the needs of an unexpected pandemic. The National State of Disaster affected the performance of the public sector. Moreover, the restrictions on travel

and non-essential work, brought about by the pandemic led to a standstill and required adaptation for some government departments (Malatjie *et al*., 2021).

The commitment of the government to deliver its services to the people was affected by the pandemic. The performance of the public sector is regulated under the 2009 policy document titled "Improving Government Performance: Our Approach" (Malatjie et al., 2021, p565). This policy document defines the expected performance of the public sector as well as the means of measuring performance and the results thereof. Therefore, in such a regard, the performance of the National School of Governance was put to the test due to the pandemic. The pandemic forced the public sector to revise and re-work the performance plans to ensure that the delivery of services continues. Take, for instance, the delivery of services that had to be re-designed from face-to-face to virtual platforms.

The NDOH convened a workshop to address the challenges of performance and bottlenecks thereof. It was prepared with the aim of discussing possible future interventions for handling a pandemic of this nature and also recovering the healthcare system of South Africa. The lessons that were learned in addressing performance under the pandemic involved ensuring strong governance and a political will that will priorities adequate resources for all. Ensuring strengthened surveillance to make decisions based on evidence provided (Pillay et al., 2022, p385). Moreover, it is significant, within the healthcare system to ensure that the needs of those living under the poverty line are prioritised and taken care of. Lastly, the significance of working in collaboration and liaising with external sectors to improve healthcare systems. In this way, the public healthcare sector can strive during the pandemic as well as improve its performance of the public sector regardless of being under the test.

2.4 Gauteng province's response to the Covid-19 pandemic

Rispel *et al*., (2021, p10) discuss the Gauteng Province's response to Covid-19, arguing that there was an innovative and structured approach to respond to Covid-19 within the Gauteng province. The discussion focuses on the five inter-connected themes under which the responses happened. There was an innovative, multi-sectoral, and comprehensive provincial Covid-19 response in the province. This was supported by the Inter-departmental governance

structure, which includes supportive hospital and district managers, frontline workers, and provincial tasks teams. There was also an establishment of the Gauteng Covid-19 Strategic Response, which was adopted looking specifically at-risk assessments and challenges faced by the Gauteng district. The province looked at the following six pillars, namely, the provincial health response; food security and financial support; capability of the state; human resources; economic response; adhering to Covid-19 regulations; and enforcing peace among individuals (Rispel *et al*., 2021, p10). However, some of the responses were centralised from a provincial response level to a national response level to strengthen the province's response.

The second theme by Rispel *et al*., (2021, p13), shows that there was an integration of contestations and contradictions regarding the response to the pandemic, for example, the themes focused on quality information, results of risk modeling, decision-making, and transparency and accountability. These contestations and contradictions were the results of how the frontline workers were treated which involved a top-down approach within the GDOH, a lack of consultation, rigid approaches, and a lack of decision-making. As a result, the GDOH frontline workers ended up performing the same tasks due to unclear allocation of roles and responsibilities. This did not only affect the GDOH but also created a division among spheres of government, namely national; provincial; and local government because of a lack of messaging, and information was not disseminated accordingly. These discrepancies further exacerbated the fragmentation between the two departments which are the NDOH and the GDOH.

The third theme indicated the fragilities, complexity, and vulnerabilities of the healthcare systems. The main focus of this theme was on documenting the challenges centered around the means of responding promptly to the Covid-19 pandemic. The theme detailed plan around surveillance, epidemiology, health infrastructure, case management, emergency responses, and laboratory services. The fragilities and complexities within the Gauteng Province also involve a report on the corruption of PPE, subsequently involving the Special Investigation Unit. The main concern about PPE was ultimately about the protection of frontline workers during the Covid-19 pandemic. Such corruption was an act of unethical conduct that overshadowed the work of frontline workers in responding to the pandemic and such conduct required accountability from the Department (Rispel *et al*., 2021, p16).

The under-investment in the health workforce is the fourth theme focused on insufficient funding, lack of investment in appointments of human resources, and healthcare workers that will respond to the Covid-19 pandemic in Gauteng (Rispel *et al*., (2021, p18). Under-investment to healthcare workers did not only have to focus on financial responses but also the psychological and emotional support of the frontline workers due to the impact caused by the pandemic. This is important for showing support, particularly to the workers who contracted Covid-19.

The last theme speaks of all the missed opportunities in the response of the Gauteng province based on a hostile-based strategy and a ward-based battle plan which was only implemented at a later stage (Rispel *et al*., 2021, p20). Leading to an escalation of the Covid-19 cases provincially. The critics of missed opportunities were based on hospital-centric responses to the pandemic instead of focusing on the primary healthcare systems and the response to vulnerable society. More investments and focus should be based on primary health care as opposed to hospitals as secondary sources. Rispel *et al*., (2021), says "*Covid-19 was a missed opportunity to optimise and focus on PHC".* In conclusion, this article leaves out M&E aspects of the Covid-19 response in the Gauteng Province, which is among some of the reasons behind this research being conducted.

2.5 Digital transformation in the public healthcare

The approaches of public healthcare sectors to contain the spread of the pandemic give a detailed variation of different responses to the pandemic. This has led to the adoption of remote working by various government departments and public healthcare sectors to ensure the continuity of its functions. The use of the Fourth Industrial Revolution (4IR) digital transformation serves as another response to the pandemic (Malatjie et al., 2021). Amidst the Covid-19 pandemic, the 4IR was highly recommended as an innovative and technological way of doing things. The 4IR is defined by Schwab (2015), as an innovative process that is characterised by the Internet of Things, Artificial Intelligence, and cyber-warfare which determines how everything is to be digitalised and controlled by technology. This is a technological revolution that disrupted industries in various countries just like Covid-19

disrupted the world globally. The 4IR is teaching both the public and the private sector that moving away from the traditional way of working and becoming flexible in delivering services is a must.

The use of developed digital transformation and virtual healthcare services which now play a crucial role in the healthcare sector was highly supported during the pandemic outbreak. These developing healthcare technologies involved telemedicine and telehealth, smart health applications, smart wearables, cloud computing, and WhatsApp-based systems. An identification of those innovative technologies is advantageous for scrutinising both communicable and non-communicable diseases. Moreover, surveillance, monitoring diseases, implementing high-level communication, and ensuring the availability of day-to-day medications (Mbunge, Batani, Gaobotse, and Muchemwa, 2022).

During the unprecedented times of the Covid-19 pandemic, the delivery of services through digital healthcare reduces infectious rates and long queues of patients (Mbunge *et al*., 2022). Therefore, there is a dire need to continuously ensure the collaboration of various technologies to improve the healthcare sector. This can only be ensured through the political will, adjustments in costs, and the allocation of the budget that is required.

The figure below shows the interconnectedness of various digital technologies that have been used within the public healthcare to respond to the Covid-19 pandemic. These were regarded as the significant technologies for passing through the communication to relevant parties.

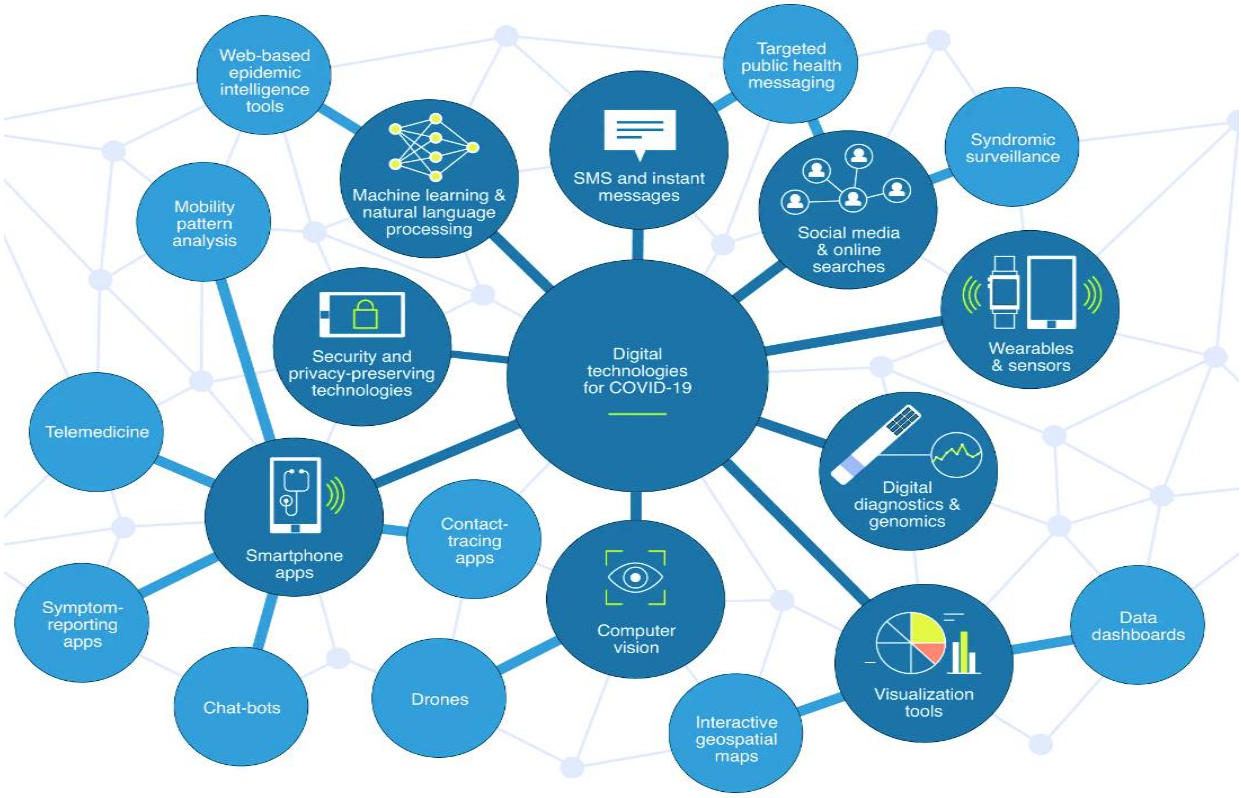

Figure 3: The interconnected digital technologies used in the public health response to Covid-19

Source: Budd *et al*., (2020)

The above flowchart shows various digital technologies that are utilised in the public healthcare sector to respond to the pandemic. These are substantial for fast-tracking the response to the pandemic.

2.6 Covid-19's influence on M&E

The Covid-19 pandemic brought an end to any physical contact-based forms of M&E as a precautionary measure against the spread of the virus. The traditional way of work before especially for M&E functions was often the use of physical data collection methods such as face-to-face interviews with very limited online platforms (Dube, Ncube, Mlotshwa, Matsika, & Maonde, 2021). New tools for remote data collection were developed. An example is the use of KoBoToolbox which is an important online platform for remotely collecting data online,

particularly for M&E functions (War Child Canada and Women's Refugee Commission 2021). This ensures the elimination of physical contact, particularly when data is collected, and it was a priority. The use of KoBoToolbox is a real indication of the influence of Covid-19 on M&E functions and operations. Other technological platforms for use include Microsoft Teams, Zoom, online surveys (e.g. Survey Monkey), and cell phones being effectively used under the pandemic (Dube, Ncube, Mlotshwa, Matsika, & Maonde, 2021).

The resources became one of the challenges that affected remote working, particularly in the context of South Africa, moreover for those with little or no access to technology (Matli, 2020). Equal access to resources in South Africa can improve over time and allow access to remote work for all individuals. Working remotely and utilising technological advancement had a positive impact on organisations however despite such, negatives were still experienced by workers. Matli (2020), indicates that the challenges among workers involved highly added workloads and working under pressure. Leading to frustration, anxiety, and an imbalanced lifestyle for the health workers. These were the daily realities that were often experienced by South African workers.

The table below by White (2021, p2), indicates the M&E challenges experienced amidst data collection and learning during the Covid-19 pandemic. These are categorised as the acute phase and the protracted phase.

Table 1: M&E challenges that arose during the COVID-19 pandemic

ACUTE PHASE	PROTRACTED PHASE
• Urgent pandemic response action was prioritised over M&E (e.g. only implementation staff were given access to project sites). • Difficulties adapting existing M&E frameworks to COVID-19 response due to new types of behaviours, the new settings in which they took place, the new delivery channels that were being used, and the nature of COVID-19 transmission. • A belief among programme implementers that COVID-19 was likely to only require a short-	• With multiple waves of the pandemic, data collection approaches were often delayed or had to be repeatedly adapted. • Decision-making around the resumption of in-person data collection wasn't always systematic or based on epidemiological data. • The design of survey tools didn't always lead to data which could usefully inform programming.

term response, therefore M&E was not considered a priority. • Lack of guidance about the safety measures to consider during data collection. • Concern about whether future data collection would be able to go ahead if restrictions were imposed. • Remote data collection was hampered by unfamiliarity with possible methods, limited access to appropriate technology, and the absence of databases of target population contact details (e.g. phone numbers). • M&E focused on documenting activities and reach rather than measuring acceptability, outputs, or outcomes. • Data related to COVID-19 became politicized and this curtailed what information could be collected and how it could be shared and utilised. • Operational research projects struggled to obtain approvals from ethical boards in a timely manner.	• Programmatic impact was hard to measure due to the high exposure to COVID-19 programmes and reliance on self-reported measures of behaviour and ad-hoc anecdotal programmatic feedback. Most programmes also lacked baseline data on behaviours, making it hard to draw conclusions about changes that may have happened. • Fatigue with M&E approaches started to emerge among populations, causing reduced willingness to participate. • In some areas data collectors were treated with suspicion, with populations concerned that they may contribute to the spread of COVID-19 or that divulging information to M&E teams may cause them to have to go into isolation.

Source: White (2021, p2)

The table above shows that indeed, M&E was disrupted and the manner in which each organisation adopted its practices and approaches toward evaluation is worth studying.

The collection of remote data when conducting projects became a common trend amidst the pandemic, especially for ensuring that M&E activities do not come to a standstill. An article by the International Organisation for Migrants (2020), titled *Continuity of Monitoring and Evaluation Interventions* emphasises that when challenges occur M&E should remain a priority. In the event of the Covid-19 pandemic which overwhelmed several organisations, affected how field data was collected. There is also an emerging need to be aware of the allocation of resources and the budget when conducting effective remote monitoring. Identification of resources and the budget ensures that M&E activities continue operating.

The Covid-19 pandemic did not only pose unforeseen challenges to the monitoring process, but it also had an impact in terms of how evaluations were supposed to be conducted. In the context of conducting the evaluations, the literature from other scholars indicates the types of challenges that were experienced due to the pandemic disruptions. The current implications in conducting evaluations (International Labour Organization, 2020), are based on the restrictions that have been posted on data collectors, stakeholders, evaluation officers, and evaluation activities. While the United Nations Office on Drugs and Crime (2021), explains that the Covid-19 challenges have overburdened the field data collectors with the amount of work because evaluations were not as per their initiated plans. Hence, the restrictions propelled the stakeholders to halt evaluations that were in the process of being undertaken.

The table below by the United Nations Office on Drugs and Crime (2021), is a reflection of the risks and the mitigation measures for conducting evaluations during a crisis anticipated.

Table 2: Risks and Mitigation Measures for evaluation design during the crisis

Potential risks	Potential Mitigation factors
Bias against under-represented groups in the selection of respondents as a result of convenience sampling due to travel restrictions and shifting institutional priorities	• Select respondents in an inclusive manner that takes into account persons who are at a disadvantage due to discrimination, place of residence, socio-economic status, and governance. • Disaggregate data by individual characteristics (sex, age, religion), economic activity, and spatial dimensions (urban and rural). • Adjust data collection planning to ensure that under-represented groups will be included in data collection once travel restrictions are removed.
Data gathered during evaluation is lower both in quantity and quality as certain data collection methods are not feasible due to travel restrictions and lockdown measures	• Rely more on existing monitoring data collected before COVID-19. • Increase the scope of desk-based review of programmatic and administrative data.
Inability to conduct on-site data collection due to lockdown measures	• Consider the use of remote data collection and analysis methods such as online discussions, Skype, Zoom, Microsoft Teams, and WhatsApp.
Limited availability of national evaluators due to growing demand	• Temporary lowering requirements for national evaluators and when needed online training can be provided on remote data collection and analysis techniques.

Health-related risk of exposure to infection and spreading of COVID-19 by staff, evaluators	• Conduct in-person surveys outside and follow local social distancing and hygiene guidelines • Only piggyback on activities and travel that are planned for project implementation to minimize additional exposure through exclusive evaluation-related activities.

Source: United Nations Office on Drugs and Crime (2021)

The above table serves as guidance on how the risks associated with the challenges of conducting evaluations under Covid-19 can be addressed and mitigated. It also guides on the alternative methods that can be put in place to ensure continuity of evaluations because evaluations should not be withdrawn due to the pandemic.

Evaluations are conducted within organisations to determine the impact that has been contributed by a particular project or program. Evaluation processes are also good at determining whether a project or program is progressive or regressive or is yielding results. The Organisation for Economic Cooperation and Development (2022), has identified a framework that is significant for evaluating the Covid-19 response. This framework includes three types of responses that should be incorporated by the government to determine the level of progress that has been made in curbing the pandemic. These three types of policy response involve pandemic preparedness; crisis management; and the response and recovery from the pandemic.

The figure below indicates the sub-responses that correspond with each policy response when managing the pandemic.

Figure 4: Framework for evaluating Covid-19 responses

Source: Organisation for Economic Cooperation and Development (2022).

The above figure is a framework developed for evaluating the response to the pandemic.

An article titled *"The independent high-level evaluation of the ILO's response to the implications of COVID-19 2020–22"* was prepared by evaluation consultants during the pandemic. The article examines the extent of responding to the pandemic while focusing on evaluations. The response to the pandemic as per the literature of the article is classified according to two aspects. The first aspect involves the ability to assess the adaptations of organisations and institutions to ensure continuity of services and deliver the expected results level so that it could continue to deliver its mandate. The second aspects are about measuring how organisations position themselves in order to respond effectively regardless of the pandemic (International Labour Organisations, 2020, p3). It serves as an element of providing evidence-based response and ensuring continuity of working plans irrespective of the crisis

at hand. Therefore, this allowed an adaptive mode for all individuals because of a pressing need to make adjustments for evaluations based on the data that was collected on the ground. Moreover, the adjustments were encompassed by the ability to re-evaluate the type of decisions made.

2.7 The significance of Government-Wide Monitoring and Evaluation

The new dawn of democracy post-1994 when the Mandela administration was elected into power brought about transitions and changes related to race, quality, and equal access to services among others (Engela & Ajam, 2010). The government had to re-direct its prioritise towards ensuring that all citizens have equal access to necessities including water, education, healthcare, and housing. Hence, the 1996 Constitution also established three spheres of government that are dissimilar but interconnected that is the national government, the provincial government, and the local government (consisting of municipalities). This is when the government acknowledges the importance of a GWM&E that will support coordination efforts and promote effective service delivery for all citizens in all spheres of government (Majola, 2014). The GWM&E system continued to play a crucial role in addressing the existing gaps and overlaps within the governance sector.

The continuous efforts to improve an effective and efficient M&E in the public sector lie in the adopted GWM&E that was recognised and realised after 1994 (Majola, 2014). Supported by Cloete (2009), GWM&E was also introduced to oversee M&E policies for the South African government. In the efforts of introducing GWM&E, Goldman et al., (2012), further applauds GWM&E for efforts related to improving the quality of performance of the public sector. Improving governance and enhancing the public sector can only be achieved through implementing M&E mechanisms and being accountable and transparent towards citizens regarding the effective and efficient services provided.

2.8 Conclusion

The literature review has shown the significance of understanding the response to the pandemic from various contexts and the impact associated with M&E functions in the

process. The literature review has also shown familiarity with the current knowledge and theories driving the research study.

CHAPTER 3

3 THEORETICAL FRAMEWORK

3.1 Introduction

This section explains the theoretical framework that is best suited for analysing the research, namely organisational adaptability theory and the adaptive complex system approach. All organisations anticipate the need to go through changes and adaptation processes where required. This requires organisations to develop more proactive and innovative processes and agile systems for adaptation. Therefore, the organisational adaptability theory has been recognised as the best theoretical framework for measuring the ability of an organisation to adapt to unexpected changes and seize the opportunity of introducing new measures. On the other hand, the adaptive complex system approach is another theory that has been common within all organisations. The application of these theories as the theoretical framework is in context with trying to understand how the GDOH adapted to the changes and challenges brought forth by the pandemic in the workplace.

Below is a detailed understanding of the theories that best describe the significance of adapting to challenges and creating safe spaces for adapting to pressures arising.

3.2 Contextualising Organisational Adaptation theory

The impact of the Covid-19 pandemic has the private sector and all the spheres of government operating unexpectedly. The pandemic has affected the normal way of doing things and it presented numerous changes within the world of work. The changes presented by the pandemic required a high level of organisational adaptability to ensure the continuous delivery of services and functions in a crisis. Organisational adaptation theory is the ability to understand unanticipated changes and evolutions while adapting to a dynamic environment. Organisational adaptation often requires workers to undertake decisions based on the changes brought about in an organisation (Sarta, Vergne, & Durand, 2021). The Covid-19 pandemic became one example leading to organisations and the public sector quickly adapting to what is called the new normal. Changes such as social distancing, reduction in

workforce and working remotely, self-isolation, and technological advancement thrived in organisations amidst the Covid-19 pandemic.

The adaptation for the public sector became unavoidable during the pandemic and it ensured that public services and functions do not come to a standstill nor are interrupted. In a continuously complex and changing world adapting to the unexpected should be at the heart of any organisation or institution (Malatjie *et al.,* 2021). The Gauteng City-Region Observatory together with Social Surveys Africa and Human Science Research Council presented an online seminar on adaptation. The online seminar focused on seven aspects of adaptation when it comes to social data collection practices in response to the Covid-19 pandemic (Maree, Gotz, Parker, Moore, Hamann, & ...Katumba, 2022). The main aim of the seminar was to understand adaptation amidst the pandemic and various approaches to be explored and adopted by researchers in the field. This is an opportunity to share knowledge, experiences, and challenges experienced during the Covid-19 pandemic.

The organisational adaptation concept can be applied by leaders in the workspace. In this way, this will lead to satisfactory performance within all organisations even in the future. In the findings of this research article, it is emphasised that leaders also have to develop adaptive spaces within organisations (Schulze & Pinkow, 2020). One of how individuals can be creative is to be given free time to find ways in which they can adapt to current circumstances. Secondly, developing an enabling space where officials can work together physically to share innovative ideas for tackling challenges. Therefore, the organisation and its leaders have to create an adaptive and conducive working environment for all.

There are also three different types of levels in which organisational adaptations can be positioned. That is first, the internal adaptation which focuses on how the organisation responds to challenges based on the alignment of available resources, systems, abilities, and goals of the organisation. Secondly, how the organisation addresses its challenges then. Lastly, ensuring a sufficient budget will enable the officials to respond better. Organisational adaptability is also about ensuring better decision-making for future practices.

Figure 5: Model of Leadership for Organisational Adaptation

Source: Schulze and Pinkow (2020) Cited Uhl-Bien and Arena (2018)

The above model of leadership in the context of organisational adaptability is another form of a working leadership style for organisational leaders. It provides an opportunity for leaders to create a sustainable adaptive space that is conducive for all.

3.3 Complex adaptation theory in other sectors

The complex adaptive system was first coined by John Holland in the 90s as he compares the concept with the immune system which consists of various human system parts which are antibodies. These are constantly in a fight with the immune system and want to be distinctive (Lansing, 2003). So the organisational systems are constantly facing simultaneous challenges that compete with each other and require abrupt interactions. Therefore, it becomes important for organisations to become more agile, and resilient and have the ability to overcome any challenges in difficult times. Within the context of this research study, the GDOH was forced to apply complex adaptations to respond effectively to the Covid-19 pandemic.

The department was able to identify the response, the challenges associated with the pandemic, and the patterns needed to respond better. Almost all organisations required time to adapt to the normal way of working and addressing the pandemic. The advantages of effectively applying the complex adaptive systems approach. The approach challenges the assumptions while interpreting patterns and relationships and it is also applied within various

contexts. It can categorise and examine the present knowledge and provide possible alternatives to ensure that changes are brought forward (Foundation, 2010, p3).

Categorising the organisations as a complex adaptive system means that all the organisations have to see the organisation from the lens of requiring complex thinking. Complexity thinking entails in organisations entails understanding that one event will be connected to the other (Sturmberg, Tsasis, and Hoemeke, 2022, p409). Therefore, the smallest parts of the organisation require high-level thinking to come up with prompt decision-making. The Covid-19 pandemic exposed the weaknesses of organisations and the pandemic required organisations to collaborate through re-designing meaningful systems. The importance of complex thinking starts when organisations acknowledge what needs to be done and work together to come up with amicable solutions. In achieving this, full transparency in operations and designs becomes significant.

Leaders within Institutions and organisations are faced with complex challenges in addressing adaptation. Most of the time, adaptation comes with changes that can not be ignored and such changes are unpredicted and unanticipated. Therefore, scholars have examined the application of complex adaptation and how it is used in other spheres that require a high level of adaptation. Foundation (2010), explains that complex adaptation is used to inform a certain level of thinking concerning leadership and organisational developments even outside the healthcare sector. Apart from healthcare services, complex adaptation can also be used within spheres such as engineering, management, education, economics, environmental scientists, and urban planners, among others. Take for instance, within management, complex adaptation theory is used for identifying leadership styles, the changes within an organisation, and team interactions.

The application of complex adaptation as a theory within public healthcare services reveals the type of leadership and managerial existing within healthcare. The circumstances that cloud the healthcare sector require leaders with the ability to act promptly and be quick in decision-making. Within such a context the pandemic became a complex adaptation theory that required a quick response within a global sphere. The response to the pandemic could not have been reversed, instead, it forced public healthcare officials to adapt quickly. This

shows that the level of adaptation that has been introduced within the organisations due to the Covid-19 pandemic will continuously be implemented. The uncertainties of the future require acting within a split second to address challenges. Therefore, adaptation methods such as moving away from face-to-face approaches to digital transformations can not be reversed and will still be implemented.

3.4 Practical application of complex adaptive theory

The complex adaptive theory has been widely used in the healthcare sector to guide organisational developments, leadership, and service delivery means. Foundation (2010), provides the below practical examples of complex adaptive theory within the context of the public healthcare sector.

3.4.1 Leadership and management

Several scholars have advocated for the importance of complex adaptation theory in the healthcare sector to formalise a certain level of positive influence and changes. Scholars suggest that complex adaptation thinking is significant for understanding the clinical and hospital leadership, and management leadership that is applied in different streams of healthcare. On the other hand, Sturmberg et al., (2022), perceive the role of leaders as focusing extremely on what needs to be done at a particular moment when it comes to solving problems. Therefore, leaders are forced to lead by example and take initiative according to the organisation.

3.4.2 Organisational development

It is significant to understand the changes within the organsation which may lead to complex adaptation that will be applicable in the long-term also. The examination of the healthcare sector through the complex adaptation theory brings insight into the current challenges and changes in the sector (Foundation, 2010, p14). Scholars have advocated for complex adaptive thinking for the main purpose of supporting the changes in the healthcare sector.

3.4.3 Workforce development

The complex adaptive system theory has been in existence to understand and interpret the relationships as we as the roles of healthcare workforces. This is especially focused on the nursing, primary care, and rehabilitation teams (Foundation, 2010, p14). Complex adaptive systems thinking is important for workforce development because the changes within an organisation begin with the staff at a micro level. The members of an organisation can make decisions and provide possible interventions where emerging events are at a particular moment. Take, for instance, the Covid-19 pandemic required people to think and act with an immediate effect.

3.4.4 Service delivery

The application of complex adaptive systems thinking has also been interrogated to understand how the term can contribute positively to the delivery of healthcare services. In other countries, complex adaptive theory ensures the service delivery of the healthcare sector services. Take, for instance, the introduction of electronic medical records in the health sector where each sector has its unpredicted challenges and effects (Foundation, 2010, p15). Therefore, this allows for various approaches to tackling and examining challenges.

3.4.5 Behavior change

The authors suggest the importance of viewing healthcare behavioral changes through the lens of the complex adaptive theory. This is because the changes are always unpredictable and always occur within a context that requires quick adaptation before situations escalated. Foundation (2010), indicates that behavioral changes were exposed after the outbreak of the Covid-19 pandemic. These were the unexpected and highly unprecedented changes that occurred in the process of the pandemic.

Both organisational adaptation and complex adaptive systems are complex systems that are applied in unpredicted situations. In such a context, the GDOH has also shown an element of

adaptation during the pandemic. Take, for instance, Foundation (2010), mentions service delivery, behavioral changes, workforce developments, leadership, and management, amongst others. These are the elements that also came out during the interview process with the key participants of the GDOH. The department had to activate the mode of ensuring that leaders and management take the lead in responding to the pandemic. On the other hand, the GDOH had to make quick decisions in providing possible interventions to respond to the pandemic and this ensured the workforce development process. An act of responding to the pandemic within such a short period accelerates efficiency in organisations.

3.5 Conclusion

In conclusion, both organisational adaptation and complex adaptive systems thinking play a crucial role in addressing the unexpected challenges within the leadership role and healthcare sector. This led to an opportunity to apply systems thinking and collaboration to decision-making, and the Covid-19 pandemic welcomed this opportunity. However, with this research report, organisational adaptation theory became significant in understanding how the GDOH officials pulled through in delivering services despite the emergence of the unexpected pandemic.

CHAPTER 4

4 RESEARCH METHODOLOGY

4.1 Introduction

This chapter discusses the research approaches used in designing this study. It explains the research approach, which in this case is the exploratory research approach, as well as the methods applied. The chapter further details the sampling methods, namely the sample population, sample techniques, and sample size. Lastly, the limitations and delimitations, ethics consideration; reliability, validity, and dependability are also explained.

4.2 Research approach

This research applied an exploratory research approach to investigating and understanding challenges faced by the GDOH officials with M&E. The aim of using the exploratory approach was to understand how the GDOH projects and functions were affected particularly during the pandemic. An exploratory research approach was mostly applied due to the realisation that nothing has been written on the topic interrogated (Creswell, 2014). Therefore, the researcher aimed to examine and understand the experiences of the participants being interviewed. Such a study was significant to be conducted because the GDOH participants had first-hand experience in functioning amidst the Covid-19 pandemic.

A qualitative exploratory study was useful for studying the problem that the researcher has observed, and discovered, to understand and bring about solutions (Swedberg, 2020, p17). For this exploratory research approach, interviews were conducted with key informants as an adopted methodology for collecting data. Research that is not exploratory is likely to become a repetition of what has been conducted before and is not progressive. Using an exploratory research approach produces new knowledge, fills in the knowledge gap, and adds to the literature of research. For the researcher to explore, it was important to develop a theory and generalise it in order to reach a conclusive decision (Stebbins, 2001). Exploration was to be approached in two different ways i.e. flexibility and open-mindedness.

4.3 Research design

Research designed as defined by Bryman (2016), refers to an overall strategy or approach that intends to collect, analyse and gather data and information based on applied research questions. A research design is important for providing a suitable conceptual framework that will seek to answer the research questions brought forward by the researcher. This research study is a qualitative case study research design. A research design (Bryman, 2016), includes the following types, namely, case study, cross-sectional, longitudinal, and experimental design. Therefore, the aim was to explore the response of the GDOH participants amidst the Covid-19 pandemic in a healthcare setting; hence, this research adopted a case study research design. The case study research is also called a method that is significant for detailing the explored events of a particular case.

4.4 Methods

The data collection involved both the desk review of policies, the literature, and the key informant interviews. After having collected data in the form of interviews, the data was processed and analysed to ensure that the proposed research questions were answered.

4.4.1 Key informant interviews

Key informant interviews were selected as the most appropriate methods. The key informant for Patton (2014), involves experts with experience who are knowledgeable of the topic, and also have first-hand information. Patton (2014), and Creswell (2014), identify the strengths of key informant interviews as providing rich and quality data, reliable information, confidential and sensitive information, and highly specialised issues. The key informants' interviews were also important for seeking a high level of information from highly informed individuals. A total of 10 key informants within the department and external participants with knowledge of the GDOH were approached to participate in the research study.

4.5 Data collection tools

An interview guide was developed with a set of questions that participants were asked to respond to. An interview guide is a method of guiding the interviewing process and ensuring that the subject matter is well scrutinised by all participants being interviewed (Patton, 2014). Using an interview guide enables the researcher to source rich data and can probe further into the subject matter. The data collected from each interview with the key informants was recorded after participants gave consent and the interview was between 30 and 45 minutes long.

4.6 Sampling

This section describes the sampling population, sampling techniques, and sample size of the research study.

4.6.1 Sample population

This research interviewed key participants who were M&E specialists and were at the forefront of the healthcare system particularly based on their experience, knowledge, and expertise within M&E. This also included the officials responsible for Chapter 5 of DPME titled *Social and Human Development Responses*. These groups of persons can also recommend or refer other individuals who can participate based on their expertise.

4.6.2 Sampling technique and sample size

A purposive sampling method was utilised as a form of non-probability sampling. It was used to identify key informants based on their experience regarding the response to the Covid-19 pandemic toward the GDOH. Purposive sampling to Bryman (2016), is a non-probability sampling method that refers to the personal researcher's judgment when selecting participants that should form part of the research study. Purposive sampling is also intended to ensure that the officials with several years of experience within their positions as well as a track record in performing the function of M&E in the department are well interviewed. This

was guided by the purpose of the study and ensuring that participants with insightful knowledge are interviewed.

Below is a table that categorises the types of key informant interviews targeted for this research study.

Table 3: Sample distribution of key informant interviews

Key informant description	Number of respondents
M&E experts and specialists from the GDOH	4
Healthcare experts within the GDOH	6

A total number of 10 participants will be interviewed to sufficiently answer the proposed research questions for this study.

4.6.3 Sampling approach

The GDOH was one of the healthcare departments that was at the forefront of responding to the Covid-19 pandemic as the pandemic had health implications. The department had to make high-level decisions on how to respond to the pandemic while also safeguarding the lives of the people. The department also had to ensure the continuity of its operations, especially M&E processes involving the collection of data in various healthcare facilities. This built up a case for purposively sampling the key informants from the GDOH because they had direct involvement with the M&E processes within the GDOH. Therefore, the key participants were purposively sampled because they were relevant to the specific research questions that the research intends to explore and answer. The participants had the required experience and exposure to M&E functions within the department. Moreover, they had first-hand experience concerning operating under the surge of a global Covid-19 pandemic that they never experienced before. They were knowledgeable about the operations of the healthcare facilities they were managing as well as how the pandemic disrupted the normal way of doing business. Bryman (2016), indicates that the findings of the purposive sampling cannot be generalised to the broader populations, hence the decision to focus mainly on the knowledgeable M&E experts in the GDOH.

The GDOH participants were sampled based on the knowledge presented in the above context. The key participants involved officials performing robust M&E functions within the department. Therefore, the sample involved healthcare officials working with clinical staff and monitoring data collected from these facilities. The sampling approach assumed that by sampling the officials with direct involvement in M&E, the data collected would be rich and will answer the research questions addressed in the study. Such data will be empirical for understanding the level of preparedness of the department as well as how they ensure continuity of their functions, amongst others. All the officials who were at the center of responding to the pandemic and performed M&E functions in the GDOH were interviewed.

4.7 Data analysis method

A thematic analysis method was adopted because it is important for interpreting qualitative data and making sense of the data collected. Thematic analysis is also significant for analysing open-ended data. The following are the key significant steps associated with a thematic analysis method, namely, understanding the data, generating code categories or subcategories, developing themes, analysis of themes, and developing or classifying themes (Scharp & Sanders, 2019). The key informant interviews will also be transcribed, and the researcher will read the transcriptions afterward to classify the patterns and themes found in the interview process. The method of thematic analysis is significant for grouping and organising together the big data into small data in order to have feasible data. The thematic analysis process involves identifying similarities and common elements in data trends based on the responses of the key participants.

The aim of conducting a thematic analysis is to have the ability to point out similarities and dissimilarities between the research participants the literature of the study and other scholars. Therefore, a thematic analysis is important for synthesising the interviews of the key participants, the write-up as well as the literature review.

Below are the essential steps taken to analyse the data that was collected for the research: The interviews were conducted with 10 participants, that is four M&E experts and specialists from the GDOH and six healthcare experts within the GDOH. The data analysis process was conducted for the qualitative research after interviews with the key participants from the GDOH. The interviews were analysed by adopting the thematic analysis process due to themes that came out during the interview process. The researcher identified the key themes that emerged from the research, therefore leading to transcribing the data collected. The data collected was transcribed verbatim to ensure the completeness and accuracy of data while noting the themes. In ensuring the anonymity and privacy of the participants, I substituted the names of the participants with specific codes such as Participant 1. After having identified the themes, I combined these themes into a wider thematic analysis that represented the research study. Through the analysis process, I also examined the similarities and variations of the data received from participants. Thereafter, I also made use of the electronic copies transcribed to form an analysis based on the qualitative raw data shared by the key participants.

4.8 Limitations of the study

This is a qualitative study that has a limited sample size leading to an unrepresentative sample of the population. The limitation of this research study also involved challenges concerning widening the scope of the interviews outside the GDOH. The obtained permission to conduct research in one of the hospitals within the Gauteng province did not become a success. Hence, the results and findings of the research cannot be generalised outside the scope of the GDOH. Lastly, the Covid-19 pandemic made it difficult to easily get hold of people because of their vested focus on the response to the pandemic.

4.9 Ethical consideration

Ethical issues when conducting research cannot be ignored as they play a crucial role in promoting and maintaining the integrity of the research conducted. Bryman (2016), emphasises the significance of ethics for various reasons such as making ethical decisions, ensuring that participants are not harmed; attaining informed consent forms; avoiding deception; and avoiding invasion of privacy. The term ethics is significant as is associated with

moral principles which involve guiding actions of doing what is right and acceptable in the process of interviewing (Podems, 2018).

The study ensured that respondents are protected, are not exposed to any harm, and are not deceived when taking part in the study. The names of the respondents will be kept anonymous and confidential. A consent form, outlining both the purpose of the research and the objective of the research, will be utilised for respondents to sign as an agreement to form part of the research study. The participants were also made aware and were also informed that they have the right to quit should they not want to continue in the study and also that their participation is voluntary.

In ensuring anonymity and protecting the privacy of the participants, the researcher substituted the real names of participants with code names, for example, Participant 1. The ethical clearance to conduct the research concerning the approved research topic has been obtained from the Wits School of Governance Human Research Ethics Committee (reference: WSG-2022-30). Another permission to interview the participants within the Gauteng Department of Healthcare facilities has been granted by the Research Committee of Johannesburg Health District (reference: GP_202207_035). The GDOH's office approved interviewing the Head Office officials who were actively involved in responding to the pandemic. Lastly, permission was also granted by the Edenvale Regional Hospital under the same reference number of the GDOH.

4.10 Credibility, transferability, and dependability

The concepts such as credibility, transferability, and dependability as criteria that are critical for evaluating the quality of research conducted. Credibility and validity are concerned with ensuring that the research and the results presented are acceptable, consistent, and not repeatable (Bryman, 2016). To enhance the credibility of this research study will ensure the protection of participants' data, avoiding biases, the validity of research questions, and the appropriateness of the research methodology.

To affirm this study, it will be important to take into consideration the credibility of the data collection instruments utilized for the literature review process. It is also important to further ensure that the research study ensures the credibility of the findings that have been conducted by the researcher. Furthermore, more reliable information will be collected and analysed to benefit this study. To ensure dependability, the research study will be consistent and reliable concerning the findings that will be documented and produced, allowing others to audit, follow, and assess the research process.

4.11 Conclusion

This chapter of the research study focused on addressing the research approaches of the study, that is the exploratory research approach. The focus was also on the research design explored for collecting, analysing, and gathering relevant data. The design explored is a qualitative case study design. Moreover, the chapter detailed the sampling methods, data analysis, limitations and delimitations, ethical consideration, reliability, validity, and dependability of the study.

CHAPTER 5

5 PRESENTATION OF RESEARCH FINDINGS

5.1 Introduction

The findings of this study are based mainly on the responses of the 10 key participants who were interviewed as the officials of the GDOH. All the key participants who were interviewed for this research were in managerial positions.

The following research question for the study was persuaded to achieve the main objectives of the research study:

a. In what ways did the Covid-19 pandemic disrupt GDOH's M&E functions and what mechanisms were put in place to ensure their continuity?
b. In what ways did the Covid-19 pandemic disrupt the monitoring of interventions and evaluation of interventions in the GDOH?
c. What tools and mechanisms were adopted by the GDOH's M&E to ensure the continuity of their functions?
d. How has the Covid-19 pandemic changed the implementation of M&E functions in GDOH?

This chapter of the research study presents the findings after having explored and interrogated the key informants of the GDOH based on the research questions detailed above. Interrogation aimed to understand the challenges that were faced by healthcare officials during the Covid-19 pandemic. Section 5.1 introduces the profiles of the participants. Section 5.2 focuses on the Covid-19 disruption to the M&E interventions in the GDOH. Section 5.3 focuses on the tools and mechanisms that were developed by the GDOH to ensure the continuity of M&E functions. Section 5.4 focuses on the changes brought by the Covid-19 pandemic on the implementation of M&E functions in the GDOH.

5.2 Profiles of Participants

Table 4: Profiles of Participants

Participants	Gender
Participant No. 1	Female
Participant No. 2	Male
Participant No. 3	Male
Participant No. 4	Female
Participant No. 5	Male
Participant No. 6	Male
Participant No. 7	Female
Participant No. 8	Male
Participant No. 9	Female
Participant No. 10	Female

Below is a discussion of the profiles of the key participants that have been categorised in the above table. This discussion details the current roles of the participants as well as their experience and the number of years they have worked in the public healthcare sector or the Department of Health. The participants that were interviewed were directly involved in the coordination of the response to the Covid-19 pandemic. They also formed part of health information management as well as health systems. Below is a short description of each of these key participants.

Participant 1 is responsible for coordinating, facilitating, and supervising EPI programs and communicable disease control, surveillance, and child health. At the sub-districts, I am working hand in hand with the Operational Managers who are responsible for EPI, surveillance, and child health. Moreover, the participant is responsible for immunisation coverage and Integrated Management of Childhood Illness strategies implemented in the

facilities. The participant also facilitates, and coordinates training should there be a need. It has been one year and a couple of months since the participant occupied this position.

Participant 2 is responsible for the implementation of the M&E activities such as statutory reports. These are reports that are legislated and submitted to the DPME, the Office of the Premier, the Auditor General, and other oversight institutions. The participant is also in charge of evaluations for the department this is both commissioned and in-house evaluations.

Participant 3 has been in this position for almost 2 years and is responsible for the whole departmental performance monitoring which involves the compilation of monthly reports, the majority of them being statutory reports, quarterly reports as well as annual reports. The participant is also an epidemiologist by training and the participant indicated that they conducted evaluations during the Covid-19 pandemic.

Participant 4 has been in the department for almost 12 years and is involved in giving direction and leading based on the principles of the District Health Development System. The participant also ensures that they work towards National Health Insurance and make sure that health facilities are ideal and are meeting the standard required by National Health Act so they can be accredited.

Participant 5 is responsible for M&E and Health Information Management for the district and has been in this role since 2010. The participant is responsible for analysing the performance of the district and providing feedback to various managers responsible for programs. The participant makes observations based on the stats submitted from the district and therefore developing guidelines for standards and ensuring that everyone understands the concept of M&E.

Participant 6 was involved in focusing on malaria and convertible diseases and was playing a supporting role under this function and also had an eye on various programs. The participant was responsible for the bulk of the work that focused on the Covid-19 response. The participant was also responsible for managing the Covid-19 response at the National Department of Health.

Participant 7 is responsible for drafting the quarterly and annual reports of the department. The participant and the team were responsible for PowerPoint presentations that are

submitted to the legislature as a portfolio of evidence. They also coordinate the development and implementation of M&E systems for monitoring the health sector performance. This also involved the analysis of data using the information from programme managers and information from the District Health Information System (DHIS) which is an information management system. The participant also identifies and verifies sources of performance information and reports submitted by program managers.

Participant 8 is responsible for Health Information Management although the participant's functions or role is cross-cutting. The participant's role is to provide the required information to establish discussions and report on M&E. The participant also coordination the flow of information in the department and has been in this position for 5 years.

Participant 9 is responsible for the planning, monitoring, and partial evaluations which are normally yearly or every 2 years. The participant is responsible for the alignment of different Health programmes such as HIV and Communicable Diseases from a National and Provincial level. Each program manager has their operational plan, and the role of the participant in these plans is to make sure that whatever is measured is in line with the plans from the Province and National. The participant has been in this role for almost 2 years now and before this position, the participant was conducting M&E at the provincial level but for HIV and AIDS, STI, and TB programs.

Participant 10 has been in the DOH since 1990, long after M&E was done in a different and Intergovernmental way. The participant was conducting quarterly reports and annual performance plans. Previously policy and planning were separated and there was no M&E within the department.

5.3 Gauteng Department of Health's monitoring and evaluation system

This section discusses the development of the M&E system within the GDOH. Such a system is an indication that generally, M&E is a function that has been institutionalised within the department and also globally. The GDOH has a provincial health information management system called the DHIS. The DHIS is good for collecting, monitoring, and evaluating data for all primary healthcare facilities. The features of the DHIS involve the following seven (7) priorities namely, health information coordination, indicators, management of data, data

analysis, and information products, data security, data dissemination, and health information system resources. In the South African context, the focus of the DHIS ensures improved positive health outcomes, health performance, and M&E of primary healthcare (Department of Health, 2011). This system also plays an important role in reporting, data collection, storage, and strengthening the monitoring of data and information. In this regard, an M&E system in the healthcare sector can only be well-functioning with the proper implementation of DHIS.

The data flow within the DHIS was impacted and disrupted by the Covid-19 pandemic. During the pandemic, it was discovered that the imposed lockdown regulations as well as the traveling restrictions impacted the collection of data for reporting (Pillay, Sanne, Carter, Narwal, Chituku, Naidoo,... and Morewane, 2022). Therefore, the pandemic developed fears among people to the point that they ended up not visiting health facilities to collect their medications. Patients with HIV, TB, and other chronic illnesses were reluctant to go to clinics for fear of contracting the pandemic. This did not only affect the patient's medical conditions but also the collection of data for statistical reporting. Similarly, this did not affect South Africa but other international countries as well since the DHIS is recognised globally.

The DHIS is recognised in more than 60 countries globally and is of paramount importance for health decision-making and achieving quality healthcare for all in South Africa (Kanfe, Mengiste, Tilahun, Ahmed, and Endehabtu, 2020). The importance of DHIS goes beyond decision-making but also monitoring the quality of health performance. Supported by Kwao, Millham, and Opanin Gyamfi (2020), the DHIS has been used in countries like Ghana since April 2012 to improve and assess the quality of healthcare. Begum *et al.,* (2020), recognise the importance of strengthening the DHIS globally as it serves as a monitoring tool that tracks the progress thereof. Moreover, the DHIS is significant for producing evidence to ensure an improved healthcare sector.

The GDOH has five significant programmes namely, Administration; Primary Health Care; Communicable and Non-Communicable Diseases; Hospital Systems; and Health System Governance and Human Resources. These programmes play a crucial role in responding promptly to public healthcare emergencies. However, the programme of Health System

Governance and Human Resources programme played a leading role in the Covid-19 pandemic. This programme is significant for maintaining healthcare information, conducting research, and monitoring and evaluating the healthcare sector. Within this programme, a *CovidConnect* digital system was developed as a self-service for the public, particularly for those who tested positive for the virus (National Department of Health, 2020). The *CovidConnect* (Moonasar *et al.,* 2021), served as a digital tracing for those who tested for Covid-19 and are awaiting their laboratory results. Furthermore, the department's response plan involved ensuring that the shortage of PPE is mitigated. Healthcare response indicators were also developed for monitoring the pandemic. Making this an indication that the unit of M&E in the GDOH is centralised.

5.4 In what ways did the Covid-19 pandemic disrupt the monitoring of interventions and evaluation interventions in the GDOH?

This section of the research study presents the findings of the key participants interviewed from the GDOH regarding the disruption of M&E functions due to the pandemic. This involves understanding M&E before the pandemic, the state of preparedness on the eve of the pandemic, and the precautionary measures to curb the spread of the pandemic. Lastly, it focuses on the impact of Covid-19 on public sector performance.

5.4.1 Monitoring and Evaluation prior to the Covid-19 pandemic

It was indicated that prior to the pandemic there was statutory reporting, where reports are made every quarter according to the departmental policies and standard operating procedures. The departmental reports were submitted every quarter after the end of the month. One participant mentioned that if the financial year starts in April, May, or June, that would be the first quarter. Therefore, towards the end of July, the first report will be submitted for the first quarter of the month. This means that officials prior to the pandemic were complying with the terms of the submission deadlines, even with the annual performance plans as well. One of the participants emphasised that;

> ...with M&E it is a routine process, whether it is Covid-19 or not, there are still a lot of things that should continue (Interview with Participant 3).

As part of the research, the participants were asked to describe the state of M&E before the pandemic and the major impact that the officials experienced throughout the pandemic. This led to the identification of how broadly the pandemic affected the normal way of working. Themes and sub-themes were developed based on the interviews that were conducted with the participants that formed part of the research study.

Priof to the pandemic, the legislature and oversight bodies within the Department would still require a high level of accountability. This involved reporting on daily tasks such as the number of people that have been enrolled in the AntiRetroviral Treatment treatment and patients treated with HIV/AIDS. Moreover, one participant mentioned that;

> …Prior to the pandemic, we monitored reports, compiling monthly and quarterly as well as annual reports while responding to the Auditor General's queries. We continued to monitor the health information system by conducting regular data quality audits in facilities before Covid-19. We also did an in-depth analysis of data, and evaluations were conducted for various programmes for their analysis and implementations (Interview with Participant 3).

The key participants in the Department were compliant in terms of the submission deadlines, even with the annual reports and annual performance plans as well. Prior to the pandemic, there was a high level of compliance and participants would adhere to the rules and regulations of the Department. The participants were also responsible for providing technical support to the districts because they were based in the Provincial office.

Thus one participant said;

> …We visited districts to assess updates on M&E reporting that required physical presentations and also physical engagement with officials. That was the setup of the work before the Covid-19 pandemic (Interview with Participant 2).

Another participant during the interview process mentioned that;

> …M&E as a profession has remained the same, especially in terms of the reporting processes (Interview with Participant 8).

Such responses from the participants indicate the developments and processes of the M&E before the Covid-19 pandemic presented unprecedented challenges.

5.4.2 State of preparedness on the eve of the pandemic (resources)

The healthcare officials were asked to state if they think they were adequately resourced to respond to such a pandemic. The aim was to understand whether the healthcare sector was adequately prepared for such an unexpected pandemic. This was based on the interviews that were conducted with the key informants who are specialists from the GDOH. In response, the majority of the participants stated that although they were relatively resourced, the pandemic showed that they were not capacitated for such a pandemic. Take, for instance, the majority of the participants indicated the pandemic led to the resources being re-channelled towards managing and responding to the pandemic. Several participants explained that the limited resources they had were "pulled to respond strictly to the Covid-19 pandemic." The resources for M&E and data collection tools were redirected toward fighting the spread of the Covid-19 pandemic. This involved personnel who would normally work in M&E, and the financial resources that had been initially allocated to M&E, were now re-channeled towards fighting the spread of the pandemic. Therefore, affecting the day-to-day operations of the health facilities and the head office of the department.

The key participants who were interviewed indicated their idea of what capacity within any department should look like. The participant's said capacity is about having more people deployed to ensure the continuous functioning of the healthcare and that services do not come to a standstill should there be a pandemic. This involves ensuring that officials are not constantly pulled into different places at once to fill in for being staffed. One of the participants said;

> ...We had to form part of certain Covid-19 special projects, while at the same time, we had to report on M&E quarterly reports. Therefore, we were torn between two things and had to work after hours and over the weekends (Interview with Participant 7).

On the other hand, another participant mentioned the department was not adequately resourced because, when the pandemic came the department was caught off-guard and the challenges of the pandemic were felt.

The shortages of resources within the healthcare sector did not only involve the capacity or the tools of the trade such as laptops and Wi-Fi routers, but also the skills needed by the officials. Some of the participants indicated that they were experiencing a challenge in getting the requisite skills needed for M&E, especially at a district level. To capacitate such a challenge and close the gaps, the Department opted for appointing temporal staff and contractors that were going to focus on data capturing and M&E administrative processes. One participant explained;

> …the human resources that existed before the pandemic could not cope with the pandemic, hence there was a need to employ more staff to respond to the Covid-19 pandemic (Interview with Participant 1).

During the outbreak of the Covid-19 pandemic, not all facilities could cope especially having been presented with an unexpected and unprecedented challenge like the pandemic. Hence, among the interviews conducted one participant said;

> …a normal clinic couldn't cope with responding to the pandemic, hence I am saying I don't think we had enough resources concerning responding to the pandemic properly (Interview with Participant 1).

This did not only impact the clinics but even the hospitals were challenged because they also could not cope with the pandemic. The main challenge that was faced by the hospitals is that

there were no places for quarantine as well as isolation patients for patients. Hence the Department of Health had to look around to identify places that can be used for quarantines and isolations. This was a magnitude of the pandemic that caught the healthcare sector by surprise. The study participants emphasised that;

> …We tried, by all means, to ensure that even with limited staff and resources we tried to provide daily reports that were required for M&E (Interview with Participant 1).

The main focus of the reports detailed how many people have tested either negative or positive for the pandemic. This paved the way for understanding the number of people that contracted the virus and also led to interventions possibly to be determined. Such reports were produced to give daily updates and the progress of tracking the pandemic**.**

5.4.3 Precautionary measures to curb the spread of the pandemic

The precautionary measures became an impediment to collecting monitoring data in order to effectively respond to the pandemic. The implemented precautionary measures that were imposed to curb the pandemic became mandatory for everyone. The healthcare facilities and officials were regarded at the forefront of the pandemic, therefore introducing precautionary measures was mandatory. Measures such as wearing masks, sanitising, and maintaining social distancing became a daily routine for everyone. However, other participants interviewed in the research study emphasised another precautionary measure that was implemented during the pandemic. Although such a precautionary measure has been implemented before, especially in hospital facilities. Several participants said;

> …areas in clinic facilities had to be rearranged and properly re-zoned to respond to the pandemic. This was a precautionary measure that was implemented for main facilities, especially in the acute unit (Interview with Participant 1).

The facilities had several zones that were categorised according to different colours with different meanings. For instance, the yellow zone was for screening and sanitising all the patients before they enter the clinic. Thereafter, they would split the patients into either the orange zone or the blue zone. The patients that were directed to the orange zone had signs and symptoms of Covid-19. Such patients had to be treated in an emergency because of the fear of spreading the pandemic and they were not supposed to stay for long inside the premises of the clinic. The blue zone was meant for patients who are regarded as low risk meaning they did not show any symptoms of the pandemic. Lastly, the red zone was for precautionary measures in areas such as rooms, bathrooms, and disposal and triage or treatment areas. However, the zoning of the areas within the facilities became an approach for strengthening a new way of collecting M&E data by triaging the clinics.

5.4.4 Evaluations commissioned on the eve of the pandemic

The key participants in the research study were allowed to comment based on the evaluations that they were conducting amidst the Covid-19 pandemic. This was based on the evaluations that were conducted from a head office level and at a district level. Based on the evaluations that were conducted, Participants mentioned that;

> …some evaluations were conducted pre and post-pandemic within the healthcare services. In actual fact, more evaluations were conducted during the pandemic as opposed to before the Covid-19 pandemic emerged (Interview with Participant 2 & Participant 3).

The aim of conducting such evaluations was to understand people's perceptions and attitudes toward the pandemic. In actual fact, more evaluations were conducted during the pandemic as opposed to when the Covid-19 pandemic emerged. When explained to the participants, they indicated that these evaluations were conducted to understand people's perceptions and attitudes toward the pandemic. Before the pandemic, there was an evaluation plan that outlined all the evaluations that the department had planned to undertake for the 2020 and 2021 financial years. However, not all evaluations outlined in the plan were undertaken because of the emergency response to the Covid-19 pandemic. Therefore, the entire focus shifted towards prioritising evaluations that were Covid-19 related.

The following evaluations were conducted and commissioned by the head office of the department, namely, the Covid-19 community safety survey; the Covid-19 public health worker survey; and the Covid-19 vaccine acceptance, among others. The Covid-19 community safety survey evaluation aimed to understand if people are getting the correct information about the Covid-19 pandemic and if that information is in an accessible language. This evaluation was conducted around communities in Gauteng (22 townships across Gauteng Province) and the purpose was to understand people's perceptions, knowledge, attitude, and understanding across the Covid-19.

The evaluation of public healthcare workers survey was designed with the main focus on the healthcare workers in hospitals. This involved the M&E unit and the Health Information Directorate, and this evaluation was similar to the one on communities with a slight difference in questions. The evaluation aimed to understand if the health workers were getting support from the department and if that support was sufficient enough to respond to the pandemic. Lastly, the evaluations on the Covid-19 vaccine acceptance survey were conducted to understand people's willingness to take the vaccine and their understanding of what the vaccine is all about. With this type of evaluation, the participants showed that more rapid evaluations were conducted to get answers from the people on the ground and those answers aided the department to respond better.

The ability to conduct these evaluations was affected by the lack of resources, connectivity issues, and the restrictions that were imposed throughout for everyone. Take, for instance, the restrictions in traveling, not being able to fully conduct physical field visits, and having limited staff capacity to collect data. This hampered the ability to fully collect data, only minimal data was being collected because data collectors had to adhere to the pandemic's regulations. Therefore, reaching the key stakeholders that will provide rich and relevant data for evaluations was also challenging. Hence, the potential risks in conducting evaluations were limited access to the field sites, limited access to key stakeholders, and low quality of both qualitative and quantitative data collected. However, with such challenges, it becomes

crucial to acknowledge the importance of conducting evaluations through other methods. This is where technological aspects such as telephonic interviews, online survey, Microsoft Teams interviews, or Skype interviews, among others, becomes very crucial. As mentioned by one of the participants;

> …We conducted interviews using structured electronic questionnaires such as SurveyMonkey as a means for collecting field data (Interview with Participant 2).

The types of evaluations were conducted and commissioned by the head office, however, at a district level, no evaluations were conducted. The majority of the key participants echoed their views in terms of why there were no evaluations that were conducted amongst their facilities.

Take, for instance, one participant said;

> …our clinical facilities had limited capacity and resources to conduct evaluations hence their entire focus was on the pandemic. Another indication is that to monitor things the right way and be able to inform evaluations and make informed decisions, you need to have conducted your monitoring properly (Interview with Participant 5).

The other participants were not even aware of any evaluations that were being conducted within the department in addressing the escalating Covid-19 pandemic. It was only the head office that had the chance and the ability to conduct more evaluations during the Covid-19 pandemic as compared to the clinical facilities. Other key participants indicated that the actual evaluations that were supposed to have been conducted based on M&E had to be put on hold in order to respond to the Covid-19 emergency. This led to the replacement of the actual planned departmental evaluation plans with evaluations that will assist in responding to the pandemic.

The M&E within a healthcare setting is focused mainly on ongoing assessments and ongoing reporting on the progress made in various health projects as well as evaluations. Such ongoing analyses and assessments are important in determining if the set goals and objectives have been fulfilled. These assessments are normally conducted every quarter to determine

progress and measure the levels of the impact made; this was indicated by one of the participants during the interview process.

Other participants indicated that for them;

> …M&E is regarded as a routine process of daily data collection, therefore, M&E continued the same way throughout the pandemic (Interview with Participant 9).

Therefore, this gave an idea that M&E was rather affected in terms of how reporting should be done pre- and post the Covid-19 pandemic.

Below is an M&E Organisational Structure that has been developed by the researcher as an indication of the relationship between various stakeholders in the GDOH.

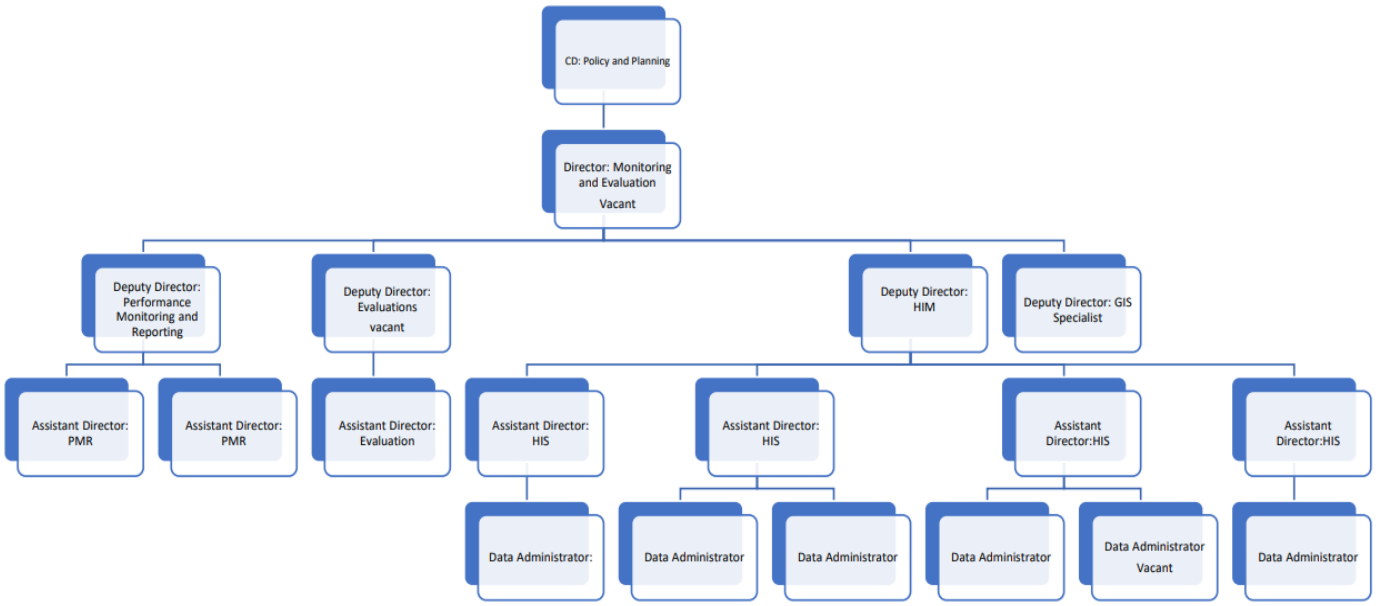

Figure 6: M&E Provincial Structure

Source: GDOH's Key Participant

5.4.5 The pandemic's effect on performance in GDOH's M&E unit

The pandemic affected drastically the performance of the health services, especially during the period of the lockdown and imposed restrictions. One of the Participants remarked that;

> …looking at the performance prior to Covid-19, especially from the M&E perspective there was a difference because there was a lockdown that prevented most patients from visiting health facilities (Interview with Participant 9).

This affected their daily statistics headcounts which are the numbers and the targets that the facilities should be reporting on. Reporting for M&E is very big on numbers hence when the patients do not visit clinics nor come for follow-ups for their treatments it becomes a challenge to measure targets. The numbers that are reported within the DOH have mainly been extracted from the DHIS as well as the Tier.Net system which is common in a health setting. One Participant iterated that;

> …The actual targets put in place within the health setting were not met nor achieved because of the pandemic. For example, the estimated target for people who tested for HIV/AIDS was around 1 million for the 2020/21 financial year (interview with Participant 3).

However, this target was not achieved because the health sector was working under strenuous conditions. Another participant indicated that another reason for not meeting targets was based on the focus being shifted toward the response to Covid-19. With such changes in place, losing focus on other programs such as HIV/AIDS testing, TB testing, screening, and Antenatal Care (ANC) was bound to happen.

The impact of the pandemic on the performance of the health sector continued, as echoed by key participants who formed part of the research. Several participants indicated that there was a drop in Child Health Immunisation Coverage within the health sector. This is because children were not allowed to be on the premises of the clinics due to the high chances of contracting the pandemic. The children that were due for their immunisation ended up not coming back for their follow-up medications. Hence the lack of visitations of the children in clinics contravened the targets that the facilities have set. This also affected the headcounts and the M&E data information that is collected in the healthcare sector.

The South African healthcare system exhibits several challenges and disconnections that affect how the health service is delivered to citizens. The analysis and examination of the data based on the information provided by key respondents indicate that the public healthcare sector still has a long way to go regarding the discrepancies and disconnections in the healthcare setting. This is because the South African healthcare system is already faced with a quadruple burden of diseases such as Tuberculosis, HIV/AIDS, and maternal and child mortality. Therefore, the level of preparedness to respond to a pandemic is challenged by issues of resources, capacity, and political will. Not only is the lack of resources an indication that the department might have been caught napping and unprepared to respond to such a pandemic. It also shows that not much has been done to ensure that there are enough resources to respond to any nature of pandemic that can arise in the future.

5.5 What tools and mechanisms were adopted by the GDOH's M&E to ensure the continuity of their functions

The second theme identified in this research study focuses on the effects of the pandemic on M&E. This theme aims to document the challenges that could have led to M&E being put on hold due to the active response to the pandemic.

5.5.1 Disruption of Monitoring and Evaluation functions and data collection processes

In the acute phase of the pandemic, the participants described the challenges and frustrations that they experienced amidst the Covid-19 pandemic. They indicated that the pandemic heavily affected the M&E functions and the day-to-day operations of public healthcare facilities. These challenges and frustrations presented a novel of changes and disruptions in the traditional way of working. The disruptions affected mostly how the day-to-day operations and functions of any organisation or business were conducted. The trend that has been observed in the public healthcare sector is that other primary healthcare services had to be put on hold. This led to service delivery backlogs because concentration and focus had to be shifted toward an urgent response to the Covid-19 pandemic. Several key informants that were interviewed echoed that the M&E functions had to be put on hold in order to respond to the pandemic.

The disruption of pandemic further disrupted the data collection processes within all the clinical facilities. The majority of all the participants that formed part of the interviews indicated that the patients in the clinic facilities were seen without files and their previous medical information was not analysed. The patients were being attended to at that particular moment with the acute or chronic condition they came for in the clinic. The participants were afraid to take papers from someone else or the patient's files because the paper was regarded to have more transmissions. In the case where papers or files were taken out, they would be placed outside because they cannot be placed back in the facility for at least 24 hours. During the pandemic, it was a belief that after 24 hours the chances of papers being infectious would be minimised.

For instance, one Participant said;

> "We would only pull out the patient's file if there is a dire need for that, so at that particular moment, we would only record the patient's information on paper only if there was a need to write also" (Interview with Participant 1).

Therefore, the use of technology according to the key participants assisted them in avoiding the transmission of the Covid-19 pandemic since it is a paperless and seamless method.

Thus one participant mentioned that;

> So, we would pull out a new paper to write the details of the patient, but only if there is a need to write. The papers would then be placed outside the facility because they can not go back to the facility for at least another 24 hours. We believed that after 24 hours chances of papers being infectious would be minimised. Hence, we had to use tablets and phones mainly. We also used a template that was developed specifically for assessing and treating patients and recorded their history (Interview with Participant 1).

Such a disruption in M&E functions within the health facilities continued to affect the type of data that officials had to collect in healthcare facilities. One of the Participants said;

> "We couldn't go out to do physical monitoring even if you wanted to go and check what was happening in the facilities, even if you received a complaint, you were not able to go there for physical assessment because we were also limited by the scope of the regulations" (Interview with Participant 1).

This shows how the pandemic disrupted entirely the activities that were put in place by health facilities. This prevented the assessment teams who are handling the clinic realisation programs from conducting assessments that were required. The monthly assessment visits from the Offices of Health Standards and Compliance at the National level were no longer undertaken. This is because M&E assessments were performed through Microsoft Teams which also had connectivity challenges. This is how monitoring within health facilities was disrupted and came to a standstill. The unavailability of the staff also led to the inability to monitor the data because people were often working from home.

The local healthcare facilities would also be closed for fumigation and disinfection where contaminated surfaces have been identified in order to avoid further infections. This meant that the citizens would not be able to access the facilities for about a day or two. The more the facilities would close from time to time due to cases the more there was a backlog in work that needed to be performed. Take, for instance, data capturers faced a backlog for capturing through the DHIS and the Tier.Net systems. Therefore, there was a compromise in terms of daily capturing because data would not be captured in the way it was supposed to be. Another frustration that was experienced and could not be prevented was the quarantine of data capturers. They had to be isolated for some time before commencing again with work and this was mandatory for everyone.

One of the participants emphasised that;

> …in the main, our colleagues' roles are around data management and data collection processes. If they become interrupted in their processes of collecting data, this creates backlogs in data (Interview with Participant 5).

Therefore, the challenges of collecting routine data by data collectors also led to reports not being submitted because of the missing data information. This is because the majority of the officials who were affected and infected were part of the field of data management. At a later stage, this revealed how the pandemic has been emotionally taxing for public healthcare workers, also leading to employee burnout and anxiety. The overall effect of the Covid-19 pandemic based on the responses of the key informants is that the pandemic came unanticipated, and it required demanding changes in the lives of the people and workspace.

The daily functions and daily routine processes of the clinic were never the same after the pandemic. Having to keep a distance when assessing a patient is impossible hence it became a challenge to closely monitor patients.

One of the participants who was speaking in the capacity of being an M&E expect as well as on behalf of the doctors and nurses in healthcare facilities said;

> "It was a challenge to even monitor the conditions of the patients due to social distancing and minimal touch. Take for instance, the monitoring of blood pressure, monitoring of sugar levels, and taking drops of blood for patients was not easy and it was not encouraged" (Interview with Participant 1).

In terms of collecting data even further, having to conduct physical monitoring of patients led to the compromise of the significant data. One of the participants mentioned that;

> …assessing a pregnant woman was only about asking the mother if the baby is still kicking and with just that information, we would be happy that at least the baby is still

> fine. This information was enough to conclude the condition of the mother without any extensive examination of the mother (Interview with Participant 1).

This caused high anxiety levels and stress among healthcare practitioners because every day they had to adhere to the regulations and measures that prevented them from doing their work properly.

Apart from the closure of facilities, there was also a challenge regarding the fact that the response to the Covid-19 pandemic became a top priority. This is how the M&E functions of other facilities as we as other services had to be halted for some time. In many instances, M&E had to be put on hold in order to prioritise the urgent response to the pandemic, for example, only safety and precautionary measures to the pandemic were implemented. This means that the data that was collected concerning the Covid-19 pandemic was documented more than the reporting that was required for M&E functions. The officials within the healthcare facilities also emphasised that they had to completely shift towards a reactive mode instead of being proactive, therefore no one had monitoring in mind at that time. This means that all the healthcare officials had to instantly react to the emergency response of the Covid-19 pandemic before it became a crisis. The ability to be proactive concerning planning and foreseeing challenges for the future was mainly put aside. The challenges of Covid-19 then were very unpredictable and therefore, officials were not able to identify what to monitor and what to evaluate.

An indication from one of the participants is that;

> all the activities and projects that used to be a priority were no longer treated as a priority (Interview with Participant 1).

5.5.2 Remote Monitoring and Evaluation for Covid-19 response

As part of the research study, the participants were asked to indicate the types of remote working tools that they utilized the most to ensure a continuous M&E practice. One of the

key respondents indicated that guidelines were developed to respond to the pandemic. In addition to that, the participants indicated that they were using cell phones more especially the environmental health and the Roving Teams which were provided with cell phones, gadgets, and tablets to capture cases. After the capturing of the cases, the information was automatically loaded into the system and it would be accessed automatically from the system by all the officials that were involved. They were also provided with cars because they needed transport in the case of conducting physical visits although such visits were minimal.

Every day the officials had to familiarise themselves with the normal way of working which involved more technology. The use of technology allowed an opportunity for every official to work remotely while keeping in touch with other colleagues. The common challenge that almost all the participants indicated was that they were not provided with data for connectivity. The participants had to utilise their data, and this hampered the daily collection of data because officials who did not have connectivity were unable to collect data nor report on their functions.

It became a priority for all the officials in the healthcare sector to familiarise themselves with technological gadgets since remote working was implemented with the use of Microsoft Teams, Zoom, WhatsApp, and other gadgets. These were the technological platforms for meetings and also a point for discussing issues and challenges. Every day the official had to adapt to the normal way of working, which was more technological than before. The use of technology allowed an opportunity for every official to work remotely while keeping in touch with other colleagues. The common challenge that almost all the participants indicated was that they were not provided with data for connectivity. The participants had to utilise their data, and this hampered the daily collection of data because those officials who did not have connectivity were unable to collect data nor report on their functions.

The majority of the participants indicated that they played a crucial role in ensuring a well-coordinated response to the Covid-19 pandemic although this shifted the focus from M&E activities. The public healthcare officials came on board and worked in collaboration with each other as well as other stakeholders to drive the response to the pandemic. For instance,

the provincial level was in communication with the national level concerning circulating Covid-19-related data and reporting processes.

In coordinating the response to the pandemic, one of the participants said;

> "Our Annual Performance Plan had to change completely to accommodate the response to the pandemic and incorporate the indicators for Covid-19" (Interview with Participant 7).

5.5.3 Technological transformation for data collection

As part of the research study, the participants were asked to explain their experiences in terms of the role technology had during the Covid-19 pandemic. During the process of interviews with the key participants, the majority of the participants indicated that without the use of technology various activities and operational functions would not have been continuous in the health facilities. One participant mentioned that;

On the other hand, other Participants said;

> …the technological platforms allowed people to be in the same place at the same time but without meeting face-to-face. Such a platform allowed people to have discussions over a certain topic without overcrowding in the same space (Interview with Participant 7 and Participant 9).

Therefore, the use of paper submissions was integrated with technology. However, the participants in this research study advocated for the advancement of technology especially within public healthcare facilities because the current system in facilities is still behind.

5.6 How has the Covid-19 pandemic changed the implementation of M&E functions in the GDOH?

This section will discuss the impact of the pandemic and how the pandemic changes the implementation of the M&E functions within the GDOH.

5.6.1 The protracted pandemic phase and its effect on Monitoring and Evaluation

The protracted phase of the pandemic unpacks the ease of the pandemic, the plans to ensure continuous M&E implementation, the data collection aspects utilised, and the additional budget that was required for the pandemic. It also looked at the types of committees that were established to respond to the pandemic and lastly, the best practice lessons learned by the participants amidst the pandemic.

As part of the research study, the participants were asked to indicate how the Department was affected as the regulations of the Covid-19 pandemic began to ease. The responses from the majority of the participants gave an idea of the fatigue that people were experiencing and the reluctance to come back to work.

Take, for instance, one Participant said;

> "People are now relaxed and are no longer providing the information that is needed, initially when Covid started people were easily accessible and readily available, even the attendance of meetings has dropped it is no longer a priority" (Interview with Participant 8).

During the pandemic, the momentum for M&E reporting went in a manner that officials were no longer submitting the reports that were required and fatigue and anxiety were the cause for such non-compliance. Based on the findings from this research study, this indicates a culture that was setting in due to the Covid-19 pandemic.

The pandemic introduced several changes and disruptions which caused people to see that hybrid work works better than being confined in an office space. Hence, as restrictions were gradually becoming at ease, there was an emphasis on 100% return to work.

This statement is confirmed by one participant who mentioned that;

> …It was so difficult for people to come back, especially for those who worked remotely, to the point that the city Mayor had to write a memo to say people should have at least alternative days for working in order to ensure full capacity in the workplace (Interview with Participant 4).

The officials were becoming more reluctant and were no longer willing to adapt to the working space because they worked from home. Therefore, coming to the office almost every day after the pandemic became a little bit of a challenge for people.

Thus, one participant mentioned that;

> …There was also an emphasis that the department developed a policy for hybrid work after the repeals and other departments were exempted. However, in developing such a hybrid policy, not all the officials benefited because the majority of the officials were essential workers (Interview with Participant 4).

Several participants indicated a high level of dissatisfaction concerning how other officials conducted themselves after the pandemic;

> …There is now less interaction unlike before when people were readily available with information that was needed at a particular moment. Now things have gone back to the culture of taking time to respond and the struggle to get the information that is needed (Interview with Participant 4).

Participants said the attendance of meetings was badly affected and it was no longer a priority. This even led to a drop in the momentum that had existed for M&E during the pandemic. Take, for instance, one Participant who mentioned that;

> "People became more reluctant, and they were no longer willing to adapt to the working space as they were working from home" (Interview with Participant 9).

This showed the level of comfort that people created for themselves when working from home. On top of that, the Covid-19 pandemic taught people as well as organisations that the traditional way of working can be changed for the better.

Contrary to what other participants have indicated especially with the challenges and the changes that were brought into place by the pandemic, other participants experienced positive changes after the ease of the pandemic.

> "As the regulations began to ease, they started seeing things going back to normal and they were receiving daily reports as and when needed from the officials" (Interview with Participant 3).

There was a huge improvement in the M&E reporting functions because people began to deal with the backlog in terms of reporting and conducting physical visits to facilities.

5.6.2 Continuous implementation of Monitoring and Evaluation functions

As part of the research study, the key informants were asked to describe the innovations and adjustments that were brought in place to ensure the continuous implementation of the M&E functions during the pandemic. This is because most of the time rigorous M&E functions tend to be neglected when some constraints or challenges are experienced. Such experiences can be confirmed by the disruptions brought by the pandemic amongst the M&E functions. The operational projects, programs implemented, M&E, and other activities that were conducted by various organisations and the department were not spared by the pandemic. Therefore, ensuring a continuous M&E implementation, timely reporting, and high-quality data should have remained a priority. The healthcare officials had to work on a rotational basis in order to ensure continuous M&E functions. This assisted in avoiding congestion in the workplace and abiding by the rules and restrictions of the Covid-19 pandemic.

However, as positive as this could sound, it had an impact on the reporting processes.

> "the amount of work and reporting that needed to be done got affected due to the rotational bases of work and mainly reporting and responding to the pandemic" (Interview with Participant 7).

Working on a rotational basis required data for connectivity purposes, however, not much was done to assist employees with enabling internet connectivity even when working from home.

The pandemic brought in a lot of teamwork and team efforts among officials, and issues and challenges were shared in one platform. Participants indicated that they were getting advice from other stakeholders as well so they had a team effort and unity among managers and everyone. The pandemic brought a positive aspect to the culture of work. The work was now collaborative as opposed to working in silos. The pandemic was a platform for M&E specialists, the Health Information Management unit specialists, and managers to be involved and be easily accessible for projects.

One of the participants indicated that;

> …During the Covid-19 pandemic, there was no opportunity to sit down and give feedback after having conducted monitoring. The work had to continue, hence when the officials came back to the office, they continued with the work of the day (Interview with Participant 4).

However, other participants indicated that there was no guideline provided in terms of how to adjust because they thought the Covid-19 pandemic was going to be a once-off phase, but they realised that Covid-19 had come to stay. It was, therefore, important for everyone to ensure that they knew what was expected of them in terms of reporting and trying by all means to meet the required targets. Other key participants indicated that the Covid-19 pandemic gave them the ability to think and act immediately on everything. This is because during the pandemic there was no time to sit down and plan things, everything required an emergency response and an immediate intervention.

5.6.3 Data collection aspects for Monitoring and Evaluation during the pandemic

The pandemic brought in a lot of teamwork and team efforts among officials, and issues and challenges were shared in one platform. The Department was being advised by various stakeholders and they had a team effort and unity among managers and everyone in the Department.

The key participants forming part of the research study were asked crucial questions related to the M&E data collection aspects that were utilised the most during the pandemic. The responses from the participants varied depending on the availability of resources they had as well as the setting of their facilities. The availability of the resources from a head office perspective and at a clinical level differs. Several key informants indicated that data systems such as DATCov, Tier.Net, and the DHIS were used the most during the pandemic by the health facilities to capture data that is received from various clinics for consolidation purposes.

The DHIS and Tier.Net are systems used for reporting HIV and AIDS, STIs and TB programs, and other indicators related to mother-to-child transmissions. The DHIS is also used for data collection and reporting purposes. As part of the discussion with the participants, it came out that;

> …this information management system (DHIS) only reports on the data available on the system and not the aggregated data that has been collected (Interview with Participant 5).

5.6.4 Data collection aspects for Monitoring and Evaluation during the pandemic

The key participants interviewed for the research study were asked crucial questions related to the M&E data collection aspects that were utilised the most during the pandemic. The responses varied as were dependent on the availability of resources they had as well as the set structure of the facilities. The availability of the resources from a head office perspective and at a clinical level differs. Several key informants indicated that data systems such as

DATCov, Tier.Net, and the DHIS were used the most during the pandemic by the health facilities to capture data that is received from various clinics for consolidation purposes.

The DHIS and Tier.Net are systems used for reporting HIV and AIDS, STIs and TB programs, and other indicators related to mother-to-child transmissions. The District Health Information System is also used for data collection and reporting purposes. As part of the discussion with the participants, it came out that;

> …this system, DHIS, only reports on the data available on the system and not the aggregated data that has been collected (Interview with Participant 5).

The DATCov system on the other hand was introduced to report the number of deaths. The information that was reported daily was real-time data that was shared with all citizens using the Real Time System. The Real-Time System reported information that was coming across from all the provinces. This system ensures that the importance of health data is emphasised and made public to everyone.

The data collection for M&E during the Covid-19 pandemic varied across all the health facilities depending on the resourcing and technology at that moment. In discovering the data collection aspects for M&E functions during the pandemic, one participant stated that;

> "it took a while to get the whole Covid-19 thing as paperless as possible. This is because people were not capturing directly on the tablets so that generated a lot of papers." This means that for M&E data to be collected, the officials had to continue using the traditional way of reporting (Interview with Participant 5).

Another M&E data collection aspect that was utilised the most is the Electronic Vaccination Data System (EVDS). This EVDS was the main tool that was used to collect data electronically and this assisted in the process of reporting data to the National Department of Health for

proper M&E processes. The NDOH developed EVDS to support the Covid-19 vaccination rollout in South Africa. One participant said;

> …The EVDS has been used to capture digitally the Covid-19 vaccination events and also to provide data to the National Department of Health analytics platform to monitor and report on (Interview with Participant 4 and Participant 5).

Such a system was not easily accessible to everyone because all the analytics were done at a National and Provincial level. Therefore, the information would then be shared with the district level for further packaging and presentation to the district. This would include the number of people infected, their gender, and other variables that were assessed.

5.7 Additional budget for implementation of Monitoring and Evaluation

As part of the research, the participants were asked to indicate any additional budget requirements for public healthcare facilities to ensure continuous implementation of M&E functions amidst the pandemic. Several participants also indicated that there was a need for more PPE equipment like masks. The allocation of budget at the national level, provincial level, and district levels was allocated based on demand plans. The demand plan as explained by the key participant is an allocation of the budget based on the needs of the three spheres of government in coordinating the response to the pandemic. Several key participants indicated that there was an additional budget that was allocated for hiring new staff that would assist in various areas that required capacity to respond to the pandemic.

The additional budget was also allocated for the recruitment of data capturers, data collectors, health promoters, researchers in health facilities, contact tracers, administrative staff as well as frontline workers. The budget was shifted to sourcing movable tents and marquees for different facilities to enable their operations. As much as there were funds allocated for the Covid-19 pandemic, there had to be a readjustment of the budget within the department. The readjustment of the budget requirements within the Department focused on the allocation of additional expertise to fulfill operational functions.

One participant emphasised that;

> …the World Health Organisation would be sending a team of experts in various fields including healthcare promoters. Within the M&E operations as well, there was a team of epidemiologists allocated and in clinical facilities, there was also a team of experts allocated. There was also an additional budget designated for PPE in health facilities, although there was still a need for more PPE (Interview with Participant 3).

Moreover, it becomes significant to ensure that there is value for money in all that has been done as this leads to accountability and governance. The budget is important because when the officials have the budget it becomes easy to track and monitor responses.

Properly responding to a pandemic of such a magnitude requires sufficient funds and reprioritising the public spending of those funds.

5.7.1 Established workstreams in coordinating the response to the pandemic

In response to the Covid-19 pandemic, different types of committees were established to ensure a well-coordinated response. As part of the research study, key participants were allowed to state the types of committees they worked with amidst the pandemic. Several participants reported that several committees, as well as work streams, were available to respond collaboratively to the pandemic.

In regard to, establishing a well-coordinated response, the key participants remained positive concerning the leadership of the committees that were set up to respond to the pandemic. There was a series of different indicators that were supposed to be tracked regularly. These were based on both the process indicators and impact indicators from different workstreams. The critical indicators from these streams involved surveillance workstream which focused on tracking incidence numbers on a daily basis. The second indicator that was also monitored was based on the daily tracking of the mortality data. The third indicator focused more on the number of hospitalisations and the number of people who recovered from the pandemic. The

fourth indicator looked at procuring Personal Protective Equipment, while the infrastructure stream ensured the availability of tents in clinical facilities. These streams did wonders in terms of collaborating and coming together to make decisions regarding the pandemic.

One of the participants echoed the following concerning establishing a well-coordinated approach to the pandemic;

> ''I can tell you now with confidence the reason why we had regular and daily meetings is that we were tracking indicators and those critical indicators that I mentioned to you earlier on, the cases, the deaths, the hospital infections, the healthcare worker infections, all of that was scrutinised on regular bases'' (Interview with Participant 6).

This ensured that the officials within the Department took responsibility for their roles in responding to the pandemic. Different types of workstreams were on par with and abreast with what was expected.

5.7.2 The best practice lessons learned during the pandemic

The key participants shared their perspectives and the lessons that they experienced during the Covid-19 pandemic. They gave several best practices that can be adopted or drawn from conducting M&E under the age of COVID-19 going into the future. This was based on one of the questions asked as part of the interview process with the key informants. A number of the participants shared their feelings and thoughts toward the implementation of M&E in the public sector at large.

One of the participants mentioned that;

> "The pandemic taught us that M&E in the government sector is a fairly new phenomenon and a new discourse. It has been a few years since it has been in existence, and I don't think it has gone beyond 15 years". Therefore, M&E is slowly

being accepted in government; and people are now realising that M&E is a very important phenomenon in government'' (Interview with Participant 2).

M&E in the government sector is very important because it is a continuous management function that gives an idea of whether government departments are moving forward or backward, progressive or rather regressing. Other participants advocated for the strengthening of the capacity as well as the resources within the government sector to be prepared to respond to a pandemic of any nature. One participant stated that;

> "We must be ready in terms of our tools of the trade, i.e Human Resources, capacity building, the gadgets such as computers, cell phones, and data to ensure the continuity of M&E activities regardless of the pandemic" (Interview with Participant 10 and Participant 2).

Some of the participants highlighted the importance of strengthening the reporting system within the government sector because reporting is based on data that is available.

> …Reporting data tells us a story and it informs decision-making. Take for instance, if more people test positive in Alexandra and it has a budget of 30 million and fewer people test positive in Soweto and Soweto has a budget of 100 million, this tells us where we need to focus our attention in terms of resources (Interview with Participant 2).

This is what is called repurposing and sharing resources in terms of the response to the pandemic.

During the Covid-19 pandemic, another major frustration that the participants experienced was that there was no technological advancement in data collection within the public healthcare sector. The pandemic prompted the healthcare sector to incorporate the use of technology in various activities, especially within clinical facilities. Thus they mentioned;

> ...We need technology in the public sector because we are still paper-based and most of the things are still done through Excel spreadsheets at healthcare facility levels it is still worse because everything is still paper-based (Interview with Participant 5).

The use of technology could come in handy for information circulation and reporting from different zones within healthcare clinics.

> "I have learned to say even when you are in an orange zone you can communicate with someone who is in a yellow zone in order to monitor the movement of the patient up until exit, which is something we never did before. Without the use of paper, a nurse or a doctor can present electronic information for the patient to get their medication, and after the patient can exit the healthcare facility" (Interview with Participant 1)

Other participants indicated that with technology you receive the information you need right away. Even with the sharing of data, you receive information based on how many people have tested, the number of people that tested positive or negative. Immediately after receiving such information, it will be sent to the environmental team which conducts contact tracing.

The practice lessons learned during the Covid-19 pandemic were the importance of acting right away and developing interventions required for curbing the pandemic. Thus mentioned below by one of the participants;

> "when there is an emergent pandemic, it is important to note the following; one, having a case definition of what you are talking about, i.e the pandemic. Two it is important to look at the different roles and responsibilities of the different workstreams, all the streams should each have identified indicators to track. Three is about having a very solid information system so you can be able to collect data. Fourth is the ability to have human resource capacity that will be able to collect the data. Five, train the people to be able to collect the data and what data and the type of data they

will be collecting. The sixth important thing is to have good legislative processes in place so that when people do not want to provide the data, you can have the authority to hold them accountable based on the policies. Seven, once you have the information on M&E systems there must be an ability to analyse that collected data. The eighth important thing is to be able to interpret that data and most importantly communicate that data. Lastly, it is about deciding on what decisions are going to be taken after that data has been communicated" (Interview with Participant 6).

More participants echoed their ideas in terms of the best practices that can be taken into consideration in the future, should a pandemic of the same nature occurs.

One participant said;

> "The best advice I can give based on conducting monitoring under the age of Covid-19 in the future is to ensure the importance of analytical skills. As mentioned, skills and capacity are crucial, as also learning to quickly gather data within a certain period because under the pandemic there's no room for errors, one must always be accurate in data gathering and reporting'' (Interview with Participant 5).

Another lesson that participants can adopt is learning to practice the importance of timelines or timeliness in terms of reporting this ensures that no compromises exist. In the workplace, it is also important to acknowledge other people's capabilities. Identifying people's capabilities and ensuring that the department does not limit other officials in terms of their performance and other additional skills they possess becomes a significant aspect to acknowledge.

Thus it was pointed out that;

> ...Officials should not be limited because people were all-rounders during the pandemic and they provided the technical support they did not know they were capable of. Recognition became high for employees who performed tasks that were outside their scope of work (Interview with Participant 8).

A positive outcome of working during the pandemic is that the key was afforded an opportunity to develop new skills that they thought never existed. Several health facility participants said, that during the Covid-19 pandemic we were compelled to think and act in a fast-paced environment. This allowed the participants to make decisions and rely on their intuitions to immediately act and respond to the pandemic. Another key participant mentioned that the majority of the officials did not even know how to develop templates and they had to come up with templates for data capturing.

The importance of collaboration in responding to the Covid-19 pandemic differed from other participants' responses. Other participants were of the view that it is not all the time that individuals should be involved in the process.

Take, for instance, other participants who said;

> "The Covid-19 pandemic taught us that we can do without people especially when we look at the unnecessary expenditures incurred during the pandemic" (Interview with Participant 4).

This also involves the several meetings that were conducted, which shows that you can continue with the business of the day using digital platforms.

> "The pandemic taught us that we do not have to be in contact with people daily because organisations should move away from manual operations. This saves a lot of time, petrol, and traveling because you utilise your teams and Zoom meetings which accommodate a large number of people as compared to physical training rooms. Our facilities do not even accommodate a large group of gatherings due to the capacity limitations that should be adhered to" (Interview with Participant 4).

5.8 Discussion of results

The purpose of this discussion is to provide an interpretation and description of the significance of the findings of the research study. Based on the above discussion on the

presentation of findings, it is evident that the Covid-19 pandemic came and disrupted the normal way of conducting business within the GDOH. The department had to priorities the response to the pandemic which led to M&E processes not being prioritised as before. Although other participants indicate that the disruption could strengthen the resources required to respond to the pandemic. The pandemic did not only disrupt the processes, but it invoked fears from both the frontline officials and users of public health facilities. The healthcare users were no longer utilising the public services due to the fear of the pandemic. However, the healthcare workers continued to respond to the pandemic based on the availability of the resources. Although the M&E processes had to be put on hold to respond to the pandemic.

5.9 Conclusion

This chapter's main aim was to present the research findings after having engaged with the key informant participants of the GDOH. The chapter provided a clear indication of the challenges faced by the GDOH participants with regard to operating under the Covid-19 pandemic. This was an opportunity to understand the M&E processes prior to and after the pandemic as well as the level of preparedness to respond to the pandemic. Thus, understanding the precautionary measures taken and the types of evaluations commissioned to address the pandemic. Lastly, the tools and mechanisms, the changes brought by the pandemic as well as the budget that was required to address the pandemic.

CHAPTER 6

6 DISCUSSION OF FINDINGS

This section presents the discussion of the findings based on the findings echoed by the key participants.

6.1 Introduction

This Chapter of the research presents the discussion of findings, conclusions, and recommendations concerning the research questions and the feedback from the key participants. The discussion of the findings will also be presented based on the linkage to the literature review of this research study. These findings will be categorised according to the research questions of the study. Section 6.1 outlines the disruption to the monitoring of interventions and evaluations in the GDOH. Section 6.2 focuses on the tools and mechanisms that were developed by the GDOH to ensure the continuity of M&E functions. Section 6.3 reflects the changes brought by the implementation of M&E functions in the GDOH.

Chapter five of this research discussed the findings extrapolated from the key participants of the GDOH and linked the findings with the literature.

6.2 In what ways did the Covid-19 pandemic disrupt the monitoring of interventions and evaluation of interventions in the Gauteng Department of Health?

The below section is a discussion of how the Covid-19 pandemic disrupted the monitoring interventions and evaluation interventions in the GDOH.

6.2.1 The status quo on the eve of the pandemic

In interviews with various employees of the GDOH, they expressed various ways in which M&E practice was disrupted in the workspace. Participants agreed that the pandemic changed M&E practices in the department. Prior, their practices of M&E processes were

characterised by conducting face-to-face site visits, collecting raw data, verifying data, and conducting evaluations in healthcare sectors. Moreover, workshops and training in healthcare facilities were part of their regular practices to monitor the progress made in various projects and programs. However, due to Covid-19, all these practices had to change. The respondents echoed similar sentiments that they had been so comfortable with paper-based data collection that when they were introduced to technology, they had to adapt quickly.

Based on what the key participants mentioned during the in-depth interviews, it became evident that their responses collate with the literature of this study. Take for instance, the literature indicated that organisations had to adapt to technology, especially for collecting data using various software and apps (Mbunge, 2020). This also involved working from home and collecting field data remotely. This brings a broader picture in terms of the changes that were experienced due to the pandemic. These findings resonate with White (2021), as the article indicates that there was fatigue around collecting data for M&E. This caused disengagements and unwillingness for data collectors to go out in the field to engage with participants. In the case of GDOH, the findings show also that M&E during the pandemic, was not treated as a priority instead, the shift was towards responding to the operational needs of fighting the pandemic.

6.2.2 State of preparedness and resource scarcity

An aspect that also emerged from the key findings is that the public healthcare sector had inadequate resources to respond to an unexpected pandemic. The inadequate resources involved a shortage in isolation and quarantine facilities, the M&E skills, the capacity, and the lack of human resources with the required skills. The healthcare workers ended up working extra hours without being compensated because there was limited capacity to carry out the work. Therefore, this brings out a correlation between what scholars have written in line with this study and the findings from the key participants. The correlation and alignment are that there were not enough resources to respond to the pandemic and resources were the first major challenge in developing prompt responses. This ranged from issues with the tools of the trades of working, the capacity within the healthcare sector as well as the required M&E

skills. Therefore, responding to the pandemic meant that there must be the availability of resources that are readily available to be channelled towards the pandemic. In their study, McMahon, Peters, Ivers, and Freeman (2020), confirm that even countries that were deemed fit to respond to the pandemic had a shortage of resources such as PPE and ventilation during the Covid-19 pandemic. For instance, countries such as Russia, Germany, Kenya, Taiwan, and Thailand had to prevent exporting PPEs in order to secure PPE for their countries. This shows that PPE and respiratory devices in countries have never been enough particularly for low-income countries. This confirmed what had been echoed by the key participants in this research study.

Alavinejad et al., (2022), acknowledge that during the Covid-19 pandemic, there was a high demand in terms of the general ward, ICU beds, and ventilators. That same demand also required manpower to deliver health care to patients whose lives needed saving. In turn, this demand meant that the priority became that of redirecting hospital personnel and other department officials from district or provincial offices to assist with direct support towards managing the crisis. The direct effect of this diversion of personnel from their normal work tasks was that the skills that were required to drive M&E functions became incapacitated to carry out their work. Without enough officials who had the means to conduct the M&E functions from beginning to end, the collection and analysis of data were restricted.

This research study also revealed another expectation that is related to limited capacity and resources within the government, which is the work overload and working under pressure experienced by healthcare workers. The healthcare workers ended up working extra hours without being compensated because there was limited capacity to carry out the work.

As mentioned, the responses that have been echoed by the key participants are aligned with the literature review of this research study. It also serves as evidence of the areas that require further improvement from the health perspective. Therefore, these challenges are an indication that there is a need to strengthen further the demand to ensure the availability of the required resources within the healthcare sector. Another element that was brought in by the key participants is that the resources had to be re-channeled from what it was intended for to the response to the pandemic. This finding was echoed by the participants and the

literature from scholars confirms it. The healthcare workers were not coping with the pandemic because they were faced with their daily duties and the loss of their loved ones. The literature from

6.2.3 Precautionary measures to curb the spread of the pandemic

The findings of the research also discovered that there were precautionary and safety measures that were put in place to curb the spread of the Covid-19 pandemic within healthcare. The majority of the key participants emphasised that there was a need to implement precautionary measures to ensure the containment of the pandemic. One main measure was safety zoning in all the health facilities into different colours that represented each station within the clinic. This is a triage that has been implemented in various hospitals to identify patients that require the most attention. The literature review from several scholars advocated for the zoning of different areas in health facilities. Take, for instance, Oliu-Barton and Pradelski (2021), who indicate that the zoning of health facilities became a common thing that was done to avoid transmissions of the pandemic. This assisted in curbing the spread of the pandemic, even for countries that implemented the measure at a later stage.

The zoning of facilities made it easy to understand and categorise which zone represents what. The zones did not only protect the patients that were visiting the clinic facilities, but they also protected the transmission of the medical staff and frontline workers from the infection of Covid-19. France and Spain are the two global countries that introduced the importance of zoning health facilities. These measures were subsequently adopted by other countries and followed by the European Commission which also supported the implementation. The acceptability and enforcement of zoning by different countries across the globe have proven to be a success in containing a pandemic of such a magnitude.

6.2.4 Impact of Covid-19 on public sector performance

The aim of exploring this question was to identify the extent of disruption that the government experienced during the pandemic. This is because the negative impact of Covid-

19 did not only affect the M&E operation but also the performance of the government sector at large. Malatjie et al., (2021), on the impact of the Covid-19 pandemic on public sector performance, confirm the major impact government was faced with in the case of the National School of Government which had to develop other means of operating to ensure continuity of services i.e, introducing remote working and issues of social distancing. Therefore, the findings of this research align with the experiences of other scholars who have published. The findings from the key participants also echoed the experiences and challenges that came with the Covid-19 challenges.

Based on the research findings, the main challenge that affected the public sector performance during the pandemic was the decline in the number of headcounts in health facilities. Amidst the pandemic, several patients defaulted in returning for their normal treatment visits were identified. This is because one would find that during the different levels and stages of the pandemic that is where people would not come for their normal visits to the clinics. After all, people feared for their lives and were not prepared to visit healthcare facilities. People were no longer, making their way to visit clinics because of the fear of contracting the pandemic. Such a decline was discovered in the DHIS and the Tier.Net system.

Several key participants emphasised that during the pandemic it was difficult to follow up on people as they were reluctant to visit the clinics unless there was a dire need. The different levels of the pandemic interfered with the mindsets of the patients who attended clinics regularly. The decline in healthcare facility visits, especially for emergency departments, became noticeable between the period of February and March 2021. This decline was perpetuated further into the period of 2022. This is because patients did not want to be exposed to the Covid-19 pandemic, let alone be in packed facilities (Gottlieb et al., 2023). A result of this was that it potentially skewed data that was being collected for monitoring purposes.

Another headcount decline that was experienced was in child health immunisation coverage because the children were not allowed to visit clinics unless there was a demanding need. An article by the WHO stated that child health immunisation coverage in 2021 declined with 25 million infants not taking their vaccinations and this threatened the health of the children.

The findings from SeyedAlinaghi *et al.*, (2022), indicate that there was a major decline in the use of antenatal care as well as children's immunisation from April 2020 to May 2020. The majority of the parents were unable to visit public healthcare facilities to vaccinate their children and this is because most of them were challenged with lockdown restrictions and logistics. Other parents were living under fear of contracting the pandemic, hence no follow-ups were conducted for the children.

Pillay *et al.,* (2022), study aligns with the research objectives of this study as it also explains how the public sector was affected. This compromised the ability of the primary health workers to reach their targets based on the headcount of the patients on a daily basis. Therefore, ever since the lockdown started, there has been a decline in the following streams: Antenatal Care, HIV check-ups, and TB numbers. Such declines were not only based in one or two provinces, but they affected all the government departments that collect data and utilise it for reporting through the DHIS and Tier.Net systems. The findings from the key participants have aligned with the findings of other studies. Take for instance, between the period of April and September 2020, there was a decline in child immunisation, antenatal visits as well as measles doses (Thsehla *et al.,* 2023).

6.2.5 Healthcare workers falling sick due to the pandemic

The status quo of the pandemic also revealed that healthcare workers were falling ill due to the pandemic that affected almost everyone. Therefore, the disruption of the pandemic did not only affect the M&E operation sides, it also impacted the lives of the healthcare workers as they were the frontline workers. They had a mandate of actively responding to the pandemic while ensuring that they cope with the challenges brought by the pandemic in their lives and the workplace. Their mental conditions were affected the most as the essential workers in a healthcare setting. The healthcare workers found themselves exhausted, anxious, burned out, frustrated, and fatigued with high-stress levels. A theme identified by Rispel's *et al*., (2021, p16) confirms the fragilities and complexities that healthcare workers experience. Such fragilities involved the corruption scandals around the PPE, lack of transparency in processes and not taking accountability. Therefore, this prevented a successful response to the pandemic. The response to the pandemic also led to fatigue and

burnout in healthcare due to high-level response to the pandemic. The main focus of this theme was about documenting the challenges centered around the means of responding promptly to the pandemic.

The mental conditions of the healthcare workers were supposed to have been a priority to ensure that they were coping with the pandemic. The healthcare workers were the most vulnerable group because they also contracted the pandemic and they witnessed so many more deaths than usual. Therefore Robertson, Maposa, Somaroo, & Johnson, (2020, p1010) argued that *"protecting the mental health and well-being of HCWs (Healthcare Workers) is therefore of paramount importance during an infectious disease outbreak".* The conditions they were working under strained them as they were at the center of the pandemic and were the most vulnerable group.

6.2.6 Evaluations commissioned on the eve of the pandemic

The majority of the key participants in primary healthcare facilities mentioned that evaluations were not conducted due to resources not being available and capacity constraints. While the head office mentioned that they conducted more evaluations during the pandemic. Although the Covid-19 pandemic changed their work plans and Annual Performance Plans that were put in place for conducting evaluations. The fact that the Head Office conducted more evaluations as compared to the primary facilities was due to the fact the primary health facilities did not have enough capacity to undertake evaluations due in part, to staff shortages. While the Head Office could undertake evaluations, they were still not capacitated enough in terms of required resources. The unexpected response to the Covid-19 pandemic forced an overstretch in terms of limited resources and personnel in the workplace (Impouma *et al.,* 2021). Therefore, the key participants had to work based on what was available at a given time.

The United Nations Office of Drugs and Crime (2021), developed a guiding document on planning to ensure the continuity of the evaluations during a crisis such as the Covid-19 pandemic. The literature on this document guideline aligns with the literature review of this research study as well as the statements echoed by the participants of the study. Take, for

instance, one participant who mentioned that they had to make plans that would accommodate the continuity of evaluations to understand the perceptions and opinions of the people about the pandemic. On the other hand, the literature of this study speaks about the impact of Covid-19 on evaluations and means of ensuring continuity regardless of the pandemic. Therefore, this proves that during a crisis there must be alternative ways that will be developed.

6.3 What tools and mechanisms were adopted by the DGOH's M&E to ensure the continuity of their functions?

The following context will revolve around the tools and mechanisms that were developed by the GDOH's M&E to ensure the continuity of their functions. This ensured that the M&E functions of the department continued regardless of the unexpected pandemic.

6.3.1 Disruption of M&E Functions due to the pandemic

The participants echoed their experiences based on how the M&E functions were disrupted by the Covid-19 pandemic. The experiences of the key participants described the type of challenges that the health sector had to undergo. Moreover, the experiences echoed by the participants answered the research questions that the researcher intended to explore. Take, for instance, the Covid-19 pandemic led to M&E functions being halted to actively respond to the pandemic. This also affected the day-to-day operations of the health facilities because the M&E reports that were required were also put on hold in other facilities. However, such challenges did not affect the public healthcare sector but also other government departments. Malatjie *et al*., (2021), indicated the challenges that the National School of Government had to undergo through. That is incorporating the Fourth Industrial Revolution and online learning to ensure the continuity of the services.

The World Health Organisation developed a Covid-19 Monitoring and Evaluation Framework intending to assess performance and monitor the progress against the pandemic. This framework was tailored based on the strategic response to the pandemic across several countries. This framework has shed light on the challenges of the M&E and the lack of capacity thereof in other countries. The M&E framework ensured three strategies that are deemed

significant for the preparedness and the response to the pandemic. These involved, support and coordination of the pandemic; strengthening the response teams and operations; and search innovations. Therefore, the development of the M&E framework served as a guiding document for countries that needed to design and develop their response and preparedness abilities.

Impouma et al., (2021), developed an M&E guide that was implemented across 47 countries to prioritise the M&E functions and activities to meet the expected timelines and objectives. Such a guiding document serves as guidance for countries with the absence of dedicated M&E officials for responding to an emergent pandemic. A well-applied guiding document ensures accurate data reporting across the globe.

6.3.2 Remote monitoring and evaluation for Covid-19 response

This research study established that the remote M&E practices within the organisation and the government sector became a priority due to the imposed restrictions and regulations of the pandemic. The ability to collect physical data was limited based on the movements declared by the government since the pandemic was declared a National Disaster. Most of the participants in the research study also indicated that social distancing and the restrictions on movements were an alternative to collecting data and ensuring that M&E does not come to a standstill. This has challenged the traditional way of working and the programs that are currently operating in institutions. Often people had to work from home, and they often had challenges with connectivity and unsupervised working hours.

The GDOH ministry had to also ensure the adoption of remote working using technological advancements such as Microsoft Teams meetings, Zoom, online surveys, and cell phones. These were the most popular platforms amongst the participants because they ensured that the interaction and sharing of information among the participants continued. However, based on the literature, a data collection tool called KoBoToolbox was also identified as a means of collecting data. However, none of the GDOH participants utilised such a tool for their department. The use of remote M&E is significant for the elimination of traveling costs while ensuring the collection of rich data. The data that is often collected becomes available within

a short period which is regarded as an advantage. A suggestion is that the remote M&E technique and remote working policies are still going to remain in many organisations (Mbunge, 2020 & Dube *et al.,* 2021).

6.4 How has the Covid-19 pandemic changed the implementation of M&E functions in the GDOH

The purpose of this question was to understand the operations of departments and organisations as restrictions began to ease.

6.4.1 The protracted pandemic phase and its effect on M&E

The majority of the participants explained that, due to the disruption of work under Covid-19, a culture was setting in, whereby personnel was becoming too relaxed, not reporting their performance, and the ability to take responsibility. Other than that, the energy levels as indicated by the key participants were no longer there. People were exhausted and fatigued because of what they were dealing with during the high levels of the pandemic. This made it even more difficult for them to return to work on a 100% policy that was implemented after the ease of the pandemic. During the pandemic, people worked closely together and were sharing discussions about the topics around curbing the spread of the pandemic.

However, with the ease of the pandemic, people were now reluctant and not willing to cooperate on the work done in collaboration. Through the ease of the pandemic, managers had to deal with fatigued employees, had anxiety, and were no longer looking forward to going back to work. This affected their productivity and delivery of the expected work within the expected time frames. Another challenge that was flagged was remote working where officials became comfortable with working from home and it became a challenge to detect how employees operated (Minbaeva & Navrbjerg, 2023).

With the ease of the pandemic, people were no longer attending meetings as often as they would. Following the relaxation of the pandemic, 54% of the people who were surveyed iterated that they would quit their jobs if they were not provided with flexibility after the Covid-19 pandemic (Ernst & Young, 2021). With the ease of the pandemic, the majority of the

employees preferred working from home and they believed that it improves productivity. This trend was an indication of the attitude and the culture that was being introduced in the workplace by the employees due to the strenuous Covid-19 pandemic.

Contrary to what other participants have indicated especially with the challenges and the changes that were brought into place by the pandemic, other participants experienced positive changes after the ease of the pandemic. As the regulations began to ease, they started seeing things going back to normal and they were receiving daily reports as and when needed from the officials. There was a huge improvement in the M&E reporting functions because people began to deal with the backlog in terms of reporting and conducting physical visits to facilities.

6.4.2 Additional budget for implementation of M&E

The response to the pandemic could not have been continuous without a dedicated flexible budget that will be channelled to the response. An additional budget according to the key participants and the literature of this research study was required for additional placement of the staff that will respond to the pandemic. For instance, there was a need for additional data capturers, administrators, temporal healthcare workers, contact tracers, and general workers. Such findings that have been developed have been confirmed by the literature review of other articles by scholars.

Within the healthcare sector, the budget was also shifted for setting up mobile tents and mobile clinics. It was discovered that the South African government had to undergo budget revisions and allocate more funds for Covid-19 relief packages. This ensured a quicker response to the pandemic by the government. The International Labour Organisation (2020) supports this by indicating that an agile response to the pandemic included budget assessments and revisions. The additional budget was also allocated for the recruitment of data captures, data collectors, health promoters, researchers in health facilities, contact tracers, administrative staff as well as frontline workers. The budget was shifted to sourcing movable tents and marquees for different facilities in order to enable their operations. The

lesson learned is that it is important to ensure a dedicated budget and funds specifically for responding to the Covid-19 pandemic or a crisis.

6.5 Conclusion

The main aim of the discussion of findings chapter was to discuss the main findings of the GDOH key participants. The findings focussed on analysing the status core of the pandemic, the level of preparedness, and the impact of the pandemic. Moreover, the state health of the healthcare workers and tools and mechanisms adopted for the pandemic. Furthermore, the remote M&E for the pandemic and the protracted phase of the pandemic and its effects on M&E.

CHAPTER 7

7 CONCLUSION AND RECOMMENDATIONS

7.1 Introduction

This chapter of the research study provides the conclusions and recommendations that are significant for the study. In conclusion, the findings of this study present empirical evidence based on the research questions developed. This is with regards to outlining the disruption to the monitoring of interventions and evaluations in the GDOH; the tools and mechanisms developed by the GDOH to ensure the continuity of M&E functions and lastly the changes brought by the pandemic on the implementation of M&E functions in the department. This study established the changes and the evolvement that M&E had undergone during the Covid-19 pandemic. Take, for instance, the M&E practices changed from a traditional way, which is face-to-face data collection, to a virtual platform where technology was at the center. The findings established that the data collectors had to adapt to the new way of collecting data. The Covid-19 pandemic required limited interactions to ensure that the pandemic does not easily spread. Therefore, officials had to learn how to utilise online platforms such as Teams Meeting, Zoom, Telephones, Whatsapp, and KoBoToolbox, among others. These were the most crucial and successful technological platforms that ensured that data was continuously collected regardless of the pandemic.

Apart from remote data collection, the findings further indicated other changes that evolved for M&E practices during the Covid-19 pandemic. For instance, the pandemic was an indication of the importance of moving away from the traditional way of conducting work and further adopting remote working approaches. The adoption of remote working ensured that organisations and departments could reach their project goals as well as program results. However, the limited resources, especially within the healthcare facilities, became an impediment to fulfilling remote working processes. The allocation of sufficient resources and budgeting becomes the most commonly experienced challenge when it comes to remote working platforms.

To a certain extent, the findings of the research established that the GDOH prioritised the response to the Covid-19 pandemic as opposed to the continuous implementation of the M&E interventions. However, the response to the pandemic could not be put on hold as it was a public healthcare crisis.

The implementation or introduction of the lockdown restrictions was to ensure limited movement among individuals. However, this became a challenge to contain because people had to move around to perform essential services. Moreover, the prediction around the pandemic was that African countries would experience more devastation. This is because Africa is known for its fragilities in the healthcare system, the scarcity of resources, and the vulnerability to infectious diseases. However, Africa was seen to have excelled in the response to the pandemic and in containing the spread of the pandemic. Nonetheless, South Africa was recognised globally as a country that implemented a prompt response to the pandemic as compared to other countries. This began with the implementation of the lockdown regulations and restrictions on traveling especially for non-essential services.

7.2 Recommendations

This section of the research study will document actionable recommendations based on the researcher's observation and possible interventions to the challenges of performing M&E functions under the Covid-19 pandemic:

7.2.1 Recommendation One: Strengthened M&E remote working

The GDOH has to strengthen the M&E processes by introducing remote working which allows a flexible working environment. Investing in M&E within healthcare facilities becomes a priority to ensure that regardless of the pandemic, M&E functions continue as expected. Organisations and departments should have a readily available M&E that will oversee future implementations.

7.2.2 Recommendation two: Accelerated M&E data collection processes

The GDOH was still paper-based during the pandemic, this focused on the traditional way of doing things. Therefore, the department has to implement electronic ways of collecting data

and do away with being paper-based and also collect data virtually. Platforms such as MS Teams, Telephones, and KobotoolBox were among some of the platforms that can be used for collecting data. The collection of data through digital platforms became a norm, hence ensuring investment in M&E virtual platforms should not be reversed. Consequently, the GDOH has to embrace the importance of remote data collection accelerations.

7.2.3 Recommendation two: Re-designed guidelines for the GDOH

There is a need for re-designing and developing possible guidelines for future evaluations under the unexpected outbreaks. One of the key important aspects introduced under the pandemic is the importance of strengthening evaluations under the Covid-19 pandemic. The evaluations are significant for documenting the results and ensuring feasible outcomes that provide solutions for the future. Due to the pandemic, most of the evaluations had to be put on hold or rather minimised to a certain number to ensure reliable results. This was a result of the lockdown regulations and restrictions on travel.

7.2.4 Recommendation four: Resources allocation for M&E

The GDOH should strengthen the allocation of the resources within the public healthcare facilities, especially for M&E processes as they are significant for data collection and data presentation. The capacity to perform M&E related functions during the pandemic was highly needed and a gap was identified. The Covid-19 pandemic required extensive resource allocation to respond to the pandemic. The government also has to ensure that they invest in capacity development such as having enough task teams in place for responding to an unexpected pandemic. This is beneficial for developing a well-coordinated response to the pandemic.

7.2.5 Recommendation five: Strengthened budget for M&E practices

The allocation of the budget for M&E becomes the center of ensuring that the M&E practices continue as expected. Practices such as remote data collection, online and telephonic surveys, and virtual pieces of training can not be undertaken without the consideration of the costs involved. With a sufficient budget in place, it will enable the officials in organisations to better respond to the pandemic. Having the budget available within such an outbreak also ensures

that there is sufficient personnel and capacity designated to focus on the response. It has been evident that the pandemic required additional PPE and vehicles to transport officials. As a result, the shifts in budget allocations had to be conducted to adhere to the pandemic's restrictions and this became an increased expense towards the Covid-19 response.

7.2.6 Recommendation six: Investing in frontline healthcare personnel

The pandemic also required that attention be given to the healthcare sector personnel as they played a crucial role in ensuring a prompt response to the pandemic. The majority of the frontline workers contracted the pandemic and some even lost their lives. The frontline staff had to undergo challenges of mental health and they required extensive support from the government. Therefore, it becomes a necessity for the health department to ensure that they address the fatigue and burnout experienced by the frontline workers.

7.3 Conclusion

This chapter of the research provides a summary concluding the research as well as the relevant and significant recommendations for the research. The following recommendations were proposed for the research study; improved M&E remote working, digital acceleration for M&E data collection, accelerating evaluations under the Covid-19, allocation of the resources, strengthened budget for M&E as well as investing in frontline healthcare personnel.

REFERENCES

Abdool Karim, S. S. (2020). The South African response to the pandemic. *New England Journal of Medicine*, *382*(24), e95(1)-e95(3). https://doi.org/DOI: 10.1056/NEJMc2014960

Alavinejad, M., Mellado, B., Asgary, A., Mbada, M., Mathaha, T., ... Orbinski, J. (2022). Management of Healthcare Resources in the Gauteng Province, South Africa, During the COVID-19 Pandemic. Retreived from https://ssrn.com/abstract=4049177

Baker, M. G., Kvalsvig, A., Verrall, A. J., & Wellington, N. (2020). New Zealand's COVID-19 elimination strategy. *The Medical Journal of Australia*, *213*(5), 198–200. https://doi.org/10.5694/mja2.50735

Balogun, J. A. (2020). Commentary: Lessons from the USA delayed response to the COVID-19 pandemic. *African Journal of Reproductive Health*, *24*(1), 14–21. https://doi.org/10.29063/ajrh2020/v24i1.2

Begum, T., Khan, S. M., Adamou, B., Ferdous, J., Parvez, M. M., Islam, M. S., Kumkum, F. A., Rahman, A., & Anwar, I. (2020). Perceptions and experiences with district health information system software to collect and utilize health data in Bangladesh: A qualitative exploratory study. *BMC Health Services Research*, *20*(1), 1–13. doi:10.1186/s12913-020-05322-2

Bhorat, H., & Köhler, T. (2020). *Social Assistance during South Africa's National Lockdown: Examining the COVID-19 Grant, Changes to the Child Support Grant, and Post-October Policy Options*. Retrieved November 15, 2022 from https://ideas.repec.org/p/ctw/wpaper/202009.html

Bryman, A. (2016). *Social research methods* (5th Ed.). Oxford: Oxford University Press.

Budd, J., Miller, B. S., Manning, E. M., Lampos, V., Zhuang, M., Edelstein, M., Rees, G., Emery, V. C., Stevens, M. M., & Keegan, N. (2020). Digital technologies in the public-health response to COVID-19. *Nature Medicine*, *26*(8), 1183–1192. https://doi.org/10.1038/s41591-020-1011-4

Chimoyi, L., Mabuto, T., Dube, T., Ntombela, N., Nchachi, T., Tshisebe, D., Chetty-Makkan, C. M., & Setswe, G. K. (2021). The geography of COVID-19 misinformation: using geospatial maps for targeted messaging to combat misinformation on COVID-19, South Africa. *BMC Research Notes*, *14*(1), 1–6. https://doi.org/https://doi.org/10.1186/s13104-021-05886-0

Cloete, F. (2009). Evidence-based policy analysis in South Africa: Critical assessment of the emerging government-wide monitoring and evaluation system. *Journal of Public Administration*, *44*(2), 293–311. https://hdl.handle.net/10520/EJC51711

Creswell, J. W. (2014). *Qualitative, quantitative and mixed methods approaches* (4th ed.). Sage Publications. Retrieved November 15, 2021 from http://www.drbrambedkarcollege.ac.in/sites/default/files/E Book Research Design Cressweell 2014.pdf

Dube, T., Ncube, S. B., Mlotshwa, S., Matsika, G. N., & Maonde, N. (2021). The changing face of monitoring and evaluation in the age of COVID-19: practitioners' field experiences from Zimbabwe. *Heliyon*, *7*(6), 1–8. https://doi.org/https://doi.org/10.1016/j.heliyon.2021.e07386

Engela, R., & Ajam, T. (2010). *Implementing a government-wide monitoring and evaluation system in South Africa*. World Bank, Washington, DC. Retrieved December 01, 2021 from http://hdl.handle.net/10986/27574

Ernst & Young. (2021). *More than half of employees globally would quit their jobs if not provided post-pandemic flexibility, EY survey finds*. Press Release. Retrieved February 07, 2021 from https://www.ey.com/en_gl/news/2021/05/more-than-half-of-employees-globally-would-quit-their-jobs-if-not-provided-post-pandemic-flexibility-ey-survey-finds

Foundation, H. (2010). Evidence scan: Complex adaptive systems. *London*. Retrieved February 16, 2023 from https://www.health.org.uk/sites/default/files/ComplexAdaptiveSystems.pdf

Goldman, I., Engela, R., Akhalwaya, I., Gasa, N., Leon, B., Mohamed, H., & Phillips, S. (2012). Establishing a national M&E system in South Africa. *Prem Notes*, 1–11. Retrieved October 14, 2021 from http://hdl.handle.net/10986/17084

Google New. (2023). Coronavirus (Covid-19) worldwide. Retrieved February 26, 2023 from https://news.google.com/covid19/map?hl=en-ZA&mid=%2Fm%2F02j71&gl=ZA&ceid=ZA%3Aen

Gottlieb, M., Schipfer, R., Shah, S., McKinney, D., Casey, P., Stein, B., & Thompson, D. (2023). Cross-sectional analysis of avoidable emergency department visits before and during the COVID-19 pandemic. *American Journal of Emergency Medicine, 66*(2003) 111-117. doi:10.1016/j.ajem.2023.01.044

Greene, C. M., & Murphy, G. (2021). Quantifying the effects of fake news on behavior: Evidence from a study of COVID-19 misinformation. *Journal of Experimental Psychology: Applied*, *27*(4), 773–784. https://doi.org/10.1037/xap0000371

Hunduma, F., & Leulseged, B. (2021). Public health surveillance system evaluation: case of rabies surveillance in Burayu Town, Oromiya, Ethiopia, 2019. *PAMJ-One Health*, *4*(5), 1–13. https://doi.org/10.11604/pamj-oh.2021.4.5.22048

International Labour Organisation. (2020). Covid-19 and the world of work. Retrieved December 15, 2022 from https://www.ilo.org/global/topics/coronavirus/lang–en/index.htm

International Organisation for Migrants. (2020). *Continuity of Monitoring and Evaluation Interventions.* Retrieved 07 September, 2022 from https://www.iom.int/sites/g/files/tmzbdl486/files/about-iom/evaluation/me-continuity-in-covid-08-april-20-version1.pdf

Impouma, B., Wolfe, C. M., Mboussou, F., Farham, B., Saturday, T., ... Moussana, F. (2021). Monitoring and Evaluation of COVID-19 response in the WHO African Region: Challenges and lessons learned. *Epidemiology & Infection*, *149*(e98), 1–5. https://doi.org/10.1017/S0950268821000807

Kanfe, S. G., Mengiste, N. D., Tilahun, B., Ahmed, M. H., & Endehabtu, B. F. (2020). Level of Commitment and associated factors to Use District Health Information System (DHIS2) for decision making among health providers in a resource limited settings: Cross-sectional survey. *BMJ Journal*, *4*(9), e23951. doi: 10.2196/23951

Kuehn, B. M. (2021). Africa succeeded against COVID-19's first wave, but the second wave brings new challenges. *Jama*, *325*(4), 327–328. doi:10.1001/jama.2020.24288

Kwao, L., Millham, R., & Opanin Gyamfi, E. (2020). An integrated Success model for adopting biometric authentication technique for district health information management system 2, Ghana. *International Journal of Computer Applications*, *177*(40), 1–16. https://doi.org/10.5120/ijca2020919686

Lansing, J. S. (2003). Complex adaptive systems. *Annual Review of Anthropology*, *32*(1), 183–204. https://doi.org/doi: 10.1146/annurev.anthro.32.061002.093440

Majola, M. (2014). *The implementation of the government-wide monitoring and evaluation system in South Africa: a provincial case study of the KwaZulu-Natal Department of Economic Development and Tourism.* Doctoral dissertation, University of KwaZulu-Natal. http://hdl.handle.net/10413/11012

Malatjie, I., Poonsamy, D., & Ngcaweni, B. (2021). The Impact of Covid-19 on Public Sector Performance: The Case of the National School of Government. *Journal of Public Administration*, *56*(3), 562–575. https://hdl.handle.net/10520/ejc-jpad_v56_n3_a12

Maree, M., Gotz, M., Parker, A., Moore, R., Hamann, C., ... Katumba, S. (2022). Responding to the COVID-19 pandemic in Gauteng. Gauteng City-Region Observatory. Retrieved July 23, 2022 from https://www.gcro.ac.za/research/project/detail/responding-covid-19-pandemic-gauteng/

Marivate, V., & Combrink, H. M. (2020). Use of available data to inform the COVID-19 outbreak in South Africa: a case study. *Data Science Journal*, *19*(19), 1–7. https://doi.org/https://doi.org/10.5334/dsj-2020-019

Masiya, T., Mandiyanike, D., Molosiwa, D., & Mazenda, A. (2021). Southern African responses to the COVID-19 pandemic: A study of Botswana and South Africa. *Africa's Public Service Delivery & Performance Review*, *9*(1), 1–11. https://doi.org/https://doi.org/10.4102/apsdpr.v9i1.497

Matli, W. (2020). The changing work landscape as a result of the Covid-19 pandemic: insights from remote workers life situations in South Africa. *International Journal of Sociology and Social Policy*, *40*(9/10), 1237–1256. https://doi.org/10.1108/IJSSP-08-2020-0386

Mbunge, E. (2020). Effects of COVID-19 in South African health system and society: An explanatory study. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews*, *14*(6), 1809–1814. https://doi.org/10.1016/j.dsx.2020.09.016

Mbunge, E., Batani, J., Gaobotse, G., & Muchemwa, B. (2022). Virtual healthcare services and digital health technologies deployed during coronavirus disease 2019 (COVID-19) pandemic in South Africa: a systematic review. *Global Health Journal*, *6*(2022) 102–113. https://doi.org/https://doi.org/10.1016/j.glohj.2022.03.001

McMahon, D. E., Peters, G. A., Ivers, L. C., & Freeman, E. E. (2020). Global resource shortages during COVID-19: Bad news for low-income countries. *PLoS Neglected Tropical Diseases*, *14*(7), e0008412. https://doi.org/10.1371/journal.pntd.0008412

Minbaeva, D. B., & Navrbjerg, S. E. (2023). Strategic human resource management in the context of environmental crises: A COVID-19 test. *Human Resource Management*, 1–3. https://doi.org/DOI: 10.1002/hrm.22162

Moonasar, D., Leonard, E., Naidoo, R., Pillay, Y., Govender, N., ... & Pillay, A. (2022). Governing a pandemic: A case study of South Africa's coordination and management structures used to respond to the COVID-19 pandemic. *South African Medical Journal*, *112*(5b), 356.https://doi.org/10.7196/SAMJ.2022.v112i5b.16063

Moonasar, D., Pillay, A., Leonard, E., Naidoo, R., Mngemane, S., Ramkrishna, W., ... & Pillay, Y. (2021). COVID-19: lessons and experiences from South Africa's first surge. *BMJ Global Health*, *6*(2), 1–5. doi:10.1136/ bmjgh-2020-004393

Moshabela, M., Pohl-Albertyn, C., Sifunda, S., Begg, K., Gijsbertsen, B., Reddy, P. & Essack, S., 2021. Chapter 5.1. Health sector [First edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation), Pretoria: June

National Institute of Communicable Diseases. (2022). Search results for: Updates. Retrieved July 15, 2022 from https://www.nicd.ac.za/?s=updates

Ngoy, N., Oyugi, B., Ouma, P. O., Conteh, I. N., Woldetsadik, S. F., Nanyunja, M., Okeibunor, J. C., Yoti, Z., & Gueye, A. S. (2022). Coordination mechanisms for COVID-19 in the WHO Regional office for Africa. *BMC Health Services Research*, *22*(1), 1–17. https://doi.org/10.1186/s12913-022-08035-w

Oliu-Barton, M., & Pradelski, B. S. R. (2021). Green zoning: An effective policy tool to tackle the Covid-19 pandemic. *Health Policy*, *125*(8), 981–986. https://doi.org/10.1016/j.healthpol.2021.06.001

Organisation for Economic Cooperation and Development. (2020). Building a resilient recovery: Ermeging stronger from the Covid-19 pandemic. Retrieved 02 November, 2022 from https://www.oecd.org/coronavirus/en/policy-responses

Parker, A., Karamchand, S., Schrueder, N., Lahri, S., Rabie, H., ... Cotton, M. F. (2020). Leadership and early strategic response to the SARS-CoV-2 pandemic at a COVID-19 designated hospital in South Africa. *SAMJ: South African Medical Journal*, *110*(6), 1–3. https://doi.org/https://doi.org/10.7196/SAMJ.2020.v110i6.14809

Pashakhanlou, A. H. (2021). Sweden's coronavirus strategy: The Public Health Agency and the sites of controversy. *World Med. & Health Policy*, 1–21. https://doi.org/https://doi.org/10.1002/wmh3.449

Patton, M. Q. (2014). *Qualitative research & evaluation methods: Integrating theory and practice* (4th ed.). United Kingdom: Sage publications

Peterson, K. S., Lewis, J., Patterson, O. V, Chapman, A. B., Denhalter, D. W., Lye, P. A., Stevens, V. W., Gamage, S. D., Roselle, G. A., & Wallace, K. S. (2021). Automated Travel History Extraction From Clinical Notes for Informing the Detection of Emergent Infectious Disease Events: Algorithm Development and Validation. *JMIR Public Health and Surveillance*, *7*(3), e26719. https://doi.org/doi: 10.2196/26719

Pillay-van Wyk, V., Bradshaw, D., Groenewald, P., Seocharan, I., Manda, S., ... Buthelezi, S. S. (2020). COVID-19 deaths in South Africa: 99 days since South Africa's first death. *SAMJ: South African Medical Journal*, *110*(11), 1093–1099. doi:10.7196/SAMJ.2020.v110i11.15249

Pillay, Y., Leonard, E., Mayet, N., & Moonasar, D. (2022). Foreword: Preparedness and response to SARS-CoV-2 in South Africa. *South African Medical Journal*, *112*(5b), 354–355. https://doi.org/https://doi.org/10.7196/SAMJ.2022.v112i5b.16083

Pillay, Y., Sanne, I., Carter, T., Narwal, R., Chituku, P., ... Morewane, R. (2022). Recovery and transforming the South African health system. *South African Medical Journal*, *112*(5b), 384–387. http://dx.doi.org/10.7196/SAMJ.2022.v112i5b.16055

Podems, D. R. (2018). *Being an evaluator: Your practical guide to evaluation*. London: Guilford Publications

Rispel, L. C., Marshall, C., Matiwane, B., & Tenza, I. S. (2021). Innovations, contestations and fragilities of the health system response to COVID-19 in the Gauteng Province of South Africa. *PloS One*, *16*(12), 1–28. https://doi.org/https://doi.org/10.1371/journal.pone.0261339

Robertson, L. J., Maposa, I., Somaroo, H., & Johnson, O. (2020). Mental health of healthcare workers during the COVID-19 outbreak: A rapid scoping review to inform provincial guidelines in South Africa. *South African Medical Journal*, *110*(10), 1010–1019. doi: 10.7196/SAMJ.2020.v110i10.15022

Roy, C. M., Bukuluki, P., Casey, S. E., Jagun, M. O., John, N. A., Mabhena, N., ... & McGovern, T. (2022). Impact of COVID-19 on gender-based violence prevention and response

services in Kenya, Uganda, Nigeria, and South Africa: a cross-sectional survey. *Frontiers in global women's health*, *2*, 780771

Sarta, A., Durand, R., & Vergne, J. P. (2021). Organizational Adaptation. *Journal of Management*, *47*(1), 43–75. https://doi.org/10.1177/0149206320929088

Scharp, K. M., & Sanders, M. L. (2019). What is a theme? Teaching thematic analysis in qualitative communication research methods. *Communication Teacher*, *33*(2), 117–121. https://doi.org/10.1080/17404622.2018.1536794

Schulze, J. H., & Pinkow, F. (2020). *Leadership for organisational adaptability: how enabling leaders create adaptive space. Administrative Sciences, 10 (3), 37*. https://doi.org/doi: 10.3390/admsci10030037

Schwab, K. (2015). Th e Fourth Industrial Revolution: What It Means and How to Respond? *Foreign Aff Airs*, 1–3. Retrieved May 31, 2022 from https://www.jef.or.jp/journal/pdf/208th_Cover_01.pdf

SeyedAlinaghi, S., Karimi, A., Mojdeganlou, H., Alilou, S., Mirghaderi, S. P., ... Mohammadi, P. (2022). Impact of COVID-19 pandemic on routine vaccination coverage of children and adolescents: A systematic review. *Health Science Reports*, *5*(2), e00516. doi: 10.1002/hsr2.516

Staunton, C., Swanepoel, C., & Labuschaigne, M. (2020). Between a rock and a hard place: COVID-19 and South Africa's response. *Journal of Law and the Biosciences*, *7*(1), 1–12. https://doi.org/https://doi.org/10.1093/jlb/lsaa052

Stebbins, R. A. (2001). *Exploratory research in the social sciences* (Vol. 48). London: Sage Publication

Stiegler, Nancy, and Jean-Pierre Bouchard. "South Africa: Challenges and successes of the COVID-19 lockdown." *Annales Médico-psychologiques, revue psychiatrique*. *178*(7) 695-698. doi: 10.1016/j.amp.2020.05.006

Sturmberg, J. P., Tsasis, P., & Hoemeke, L. (2022). COVID-19–an opportunity to redesign health policy thinking. *International Journal of Health Policy and Management*, *11*(4), 409–413. https://doi.org/doi 10.34172/IJHPM.2020.132

Summers, D. J., Cheng, D. H. Y., Lin, P. H. H., Barnard, D. L. T., Kvalsvig, D. A., ... Baker, P. M. G. (2020). Potential lessons from the Taiwan and New Zealand health responses to the COVID-19 pandemic. *The Lancet Regional Health - Western Pacific*, *4* (2020), 100044. https://doi.org/10.1016/J.LANWPC.2020.100044

Swedberg, R. (2020). Exploratory research. In J. M. Colin Elman, John Gerring (Ed.), *The production of knowledge: Enhancing progress in social science*. Cambridge: University Press Cambridge. https://doi.org/ doi: 10.1017/9781108762519

The Presidency. (2022). The Presidency Press Statements. Retrieved February 25, 2023 from https://www.thepresidency.gov.za/

The World Bank. (2022). *The World Bank Group's Response to the COVID-19 (coronavirus) Pandemic*. Retrieved February 14, 2023 from https://www.worldbank.org/en/news/factsheet/2020/02/11/how-the-world-bank-group-is-helping-countries-with-covid-19-coronavirus

Thsehla, E., Balusik, A., Boachie, M. K., Tombe-Mdewa, W., Kabudula, C., ... Goldstein, S. (2023). Indirect effects of COVID-19 on maternal and child health in South Africa. *Global Health Action*, *16*(1), 2153442. https://doi.org/10.1080/16549716.2022.2153442

United Nations Office on Drug & Crime. (2021). Coronavirus disease (COVID-19) - UNODC updates. Retrieved November 18, 2022 from https://www.unodc.org/unodc/en/covid-19.html

Vanderslott, S., Emary, K., Te, R., Naude, W., English, M., ... Pollard, A. J. (2021). Vaccine nationalism and internationalism: perspectives of COVID-19 vaccine trial participants in the United Kingdom. *BMJ Global Health*, *6*(10), 1–11. https://doi.org/10.1136/bmjgh-2021-006305War Child Canada and Women's Refugee Commission. (2021). *Guidance on Establishing Remote Monitoring and Management of GBV Programming in the Context of COVID-19*. Retrieved March 19, 2022 from https://reliefweb.int/sites/reliefweb.int/files/resources/Guidance on establishing remote monitoring and management of GBV programming in the context of the COVID-19 pandemic.pdf

War Child Canada and Women's Refugee Commission. (2021). *Guidance on Establishing Remote Monitoring and Management of GBV Programming in the Context of COVID-19*. Retrieved August 20, 2022 from https://reliefweb.int/sites/reliefweb.int/files/resources/Guidance on establishing remote monitoring and management of GBV programming in the context of the COVID-19 pandemic.pdf

Weber, I. (2007). *Evaluation of the notifiable disease surveillance system in Gauteng Province, South Africa.* Doctoral dissertation, University of Pretoria. https://doi.org/http://hdl.handle.net/2263/26850

White, S. (2021). Learning brief: Strengthening the monitoring and evaluation of COVID-19 prevention programmes. *Learning Brief: Strengthening the Monitoring and Evaluation of COVID-19 Prevention Programmes*. https://doi.org/10.17037/PUBS.04664737

Yarmol-Matusiak, E. A., Cipriano, L. E., & Stranges, S. (2021). A comparison of COVID-19 epidemiological indicators in Sweden, Norway, Denmark, and Finland. *Scandinavian Journal of Public Health*, *49*(1), 69–78. https://doi.org/https://doi.org/10.1177/1403494820980264

Zhou, Y. R. (2021). Vaccine nationalism: contested relationships between COVID-19 and globalization. *Globalizations*, *19*(3), 450–465. https://doi.org/https://doi.org/10.1080/14747731.2021.1963202