

# Exploring healthcare system adaptive techniques and challenges in caring for people living with HIV and AIDS during the COVID-19 lockdown period in Harare, Zimbabwe

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## Abstract

The COVID-19 pandemic caused unprecedented challenges for healthcare systems worldwide, affecting the provision of ongoing care for people living with HIV and AIDS (PLWHA). This study aimed to explore the adaptive techniques employed by healthcare systems in providing care for PLWHA during the pandemic and the challenges encountered. An exploratory qualitative study (EQS) methodology was employed, underpinned by the resourcefulness framework. The Silences Framework Analysis Phases were used during data analysis. Fifteen participants were interviewed, and the data were thematically analyzed. The healthcare system employed several adaptive techniques to cater to PLWHA during the pandemic, including developing new standard service protocols, implementing preventative measures to limit COVID-19 infections during hospital visits, and improving communication. The study identified two significant challenges: a lack of health insurance and a shortage of personal protective equipment (PPEs). The findings highlight the need for adapting to changing circumstances and provide ongoing care for PLWHA during the pandemic. The results show that developing new protocols and preventative measures can effectively ensure the continuity of care in pandemic situations. Moreover, the provision of PPEs and health insurance for healthcare staff should be prioritized to create a safe working environment. In conclusion, this study underlined the importance of resourcefulness in developing healthcare resilience to sustain care and support for PLWHA during the COVID-19 pandemic.

## Introduction

Research studies affirm that the COVID-19 virus was first detected in Wuhan City in the Hubei region of China in December 2019<sup>1</sup> and later spread to other parts of the world. From China, the COVID-19 virus initially spread to other parts of Asia, including Japan, South Korea, and Singapore,<sup>2,3</sup> before reaching Europe, North America, South America, and Africa. Italy was one of the first countries to experience a large outbreak in Europe,<sup>2,3</sup> while by January 21, 2020, the first confirmed case was reported in the United States,<sup>4</sup> leading to a major health crisis and the introduction of lockdown measures. The first reported COVID-19 case in Africa was detected in Egypt on February 14, 2020,<sup>5</sup> followed by South Africa on March 5, 2020.<sup>6</sup> By April 2020, the World Health Organization (WHO) had declared COVID-19 a global pandemic, as the virus had spread to more than 100 countries.<sup>3,4</sup>

Amidst the global outbreak trajectory, Zimbabwe detected its first COVID-19 case on March 14, 2020, which was soon followed by an announcement of a 21-day national lockdown on March 30, 2020.<sup>7</sup> Like in other countries, these concomitant measures and accompanying policy pronouncements resulted in restricted movements of people<sup>7-9</sup> limited social engagements and imposed new burdens on already overwhelmed health systems culminating in the disruption of other health services.<sup>9</sup> In the health sector, measures to contain the pandemic also forced hospitals and clinics to revise and restructure existing patient care service protocols.<sup>10</sup> They also exacerbated existing problems of quality and access to health services for patients by altering health system structures by diverting healthcare workers and resources toward COVID-19 management,<sup>9,11,12</sup> leaving gaps in treatment and care of other diseases such as HIV and AIDS. Several studies have observed that COVID-19-related interruptions resulted in negative regular care-seeking people living with HIV and AIDS<sup>11-13</sup> such as reduced levels of HIV testing, treatment, missed appointment, and failure to access ART<sup>14</sup> an unwelcome development in a country with 1,27 million people living with the disease.<sup>15</sup> Hence<sup>16</sup> we concluded that responsive actions to combat the coronavirus pandemic had far-reaching consequences for chronic ailments like HIV and AIDS.

Consequently, to close these emerging health services delivery gaps and maintain health system resilience, healthcare practitioners' attention turned towards devising adaptive strategies to reconcile the compet-

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ing healthcare needs of patients. The pandemic revived discourse on health systems resilience and the importance of resourcefulness in overcoming health delivery challenges emanating from the crisis. In this context, health system resilience refers to health systems' ability and capacity to absorb, effectively respond, and adapt to shocks and structural changes while sustaining day-to-day operations.<sup>17</sup> Other scholars also stressed the health system needed to adopt a combination of absorptive, adaptive, and transformative strategies to match the demands of the ensuing pandemic.<sup>18,19</sup> In line with this view, this study investigated the experiences of Zimbabwean healthcare professionals' experiences in providing care and support to PLWHA during COVID-19. It sought to explore adaptive strategies adopted to sustain support towards PLWHA from the health professional's perspective. Besides gaining insights from a health provider perspective about the functioning of the healthcare systems in caring for PLWHA during COVID-19, this study extends the discourse about the resilience and adaptive capabilities of healthcare systems in resource-strained communities in times of pandemics. This study, therefore, examines the adaptive strategies healthcare professionals developed to mitigate the impact of interrupted healthcare services on people living with HIV and AIDS during COVID-19 in Zimbabwe.

## Materials and Methods

This research utilized an exploratory qualitative study (EQS) approach. As suggested by the name, an EQS is designed to explore the topic under consideration to understand it better rather than provide a final and conclusive solution to the existing problem being investigated.<sup>20</sup> Furthermore, an EQS may also identify possible areas for further investigations or research. As such, EQS is useful in understanding the overview of an existing issue from a new perspective and can provide key information for future interventions.<sup>21</sup>

Semi-structured questions were devised and used to elicit experiences and information from health professionals on adaptive healthcare system techniques used to cater to PLWHA during COVID-19. The literature informed the interview protocol on access to HIV treatment among vulnerable groups from previous primary and secondary research studies. To test the appropriateness of the interview schedule, five professionals working in sexually transmitted infections and HIV units were inter-

viewed as part of a pilot study. After completing the pilot interviews, the healthcare professionals were asked to evaluate the interview schedule. None of the five healthcare professionals suggested any substantial changes to the interview schedule, which was therefore adopted for use in this study. However, where appropriate, their comments were included to shape the final research interview schedule.

## Sample and recruitment

Following approval of the research proposal by the Medical Research Council of Zimbabwe, 15 healthcare professionals were interviewed through contacts from healthcare centers and hospitals in Harare. Table 1 illustrates the profile of the research participants. In the first instance, letters and information sheets were sent to managers of healthcare centers and hospitals, inviting healthcare professionals to participate in the research study. Only those healthcare professionals who agreed to participate in the research study had their names forwarded to the researchers to organize interview dates. The interviews were held at health centers and hospitals where the healthcare professionals normally work. This ensured the research participants were comfortable and free to answer questions in an accustomed environment. The interviews lasted for one hour each.

The inclusion criteria included healthcare professionals working in Harare's healthcare centers and hospitals. The healthcare professionals were supposed to be working in Harare before the advent of the COVID-19 pandemic. Recruiting a heterogeneous sample concerning the cut-off time they started working in Harare was essential to ensure that their experiences during the COVID-19 pandemic were explored under a uniform situation. The interviews were conducted by one researcher, who was a healthcare professional. This was important to enhance openness and sharing of silences among healthcare professionals as opposed to when a non-healthcare researcher was involved. All interviews were tape-recorded, transcribed verbatim, and entered into NVivo for the organization to make analysis easy.<sup>22</sup> For accuracy verification, all transcriptions were returned to the research participants for confirmation. This is deemed necessary as it validates the data collected before analysis.<sup>23</sup> Table 1 illustrates the profile of the research participants. It reveals that the participants are drawn from a cross-section of health care. Following the organization of data by NVivo, the data analysis started with the coding of data into broad categories by the researchers utilizing the 4

phases of data analysis in The Silences Framework (TSF).<sup>24</sup> In phase 1, the researchers thematically analyzed the data with the aid of NVivo. In phase 2 the researchers took the data from phase 1 to the research participants to confirm whether it accurately recorded what they said. The research participants had opportunities to add and subtract the findings from Phase 1. In phase 3 the researchers took the findings from phase 2 to the collective voice group. The collective voice group comprises 10 healthcare professionals who mirrored the research participants but did not participate in the research study. This is meant to confirm the results through a critical associative eye. In phase 4 the draft from phase 3 was thematically analyzed by the researchers to produce the final findings of the research study.

The research participants were given an information sheet to read and ask questions before participating. Furthermore, all the research participants had to sign a consent form granting them the right to withdraw from the study without giving reasons.

## Results

After data analysis was performed on the adaptive strategies used to support HIV and AIDS patients under COVID-19, the following themes were identified: standard protocol to deal with patients in a pandemic, transport problems, communication with PLWHA, shortage of medication, lack of health insurance and shortage of Personal Protective Equipment (PPEs).

### Standard protocol

All the research participants agreed that a lot of information was being passed on how to assist people living with HIV and AIDS (PLWHA). At first, it was difficult because standard protocols were not defined well. For example, traveling restrictions have made PLWHA miss appointments and sometimes made it difficult to travel to the health facility to collect their supply because public transport was not allowed to move or take people from point A to point B. When traveling restrictions were put in place, further explanations were to be given to law enforcement agents, transport operators, and everyone in the service industry that patients were allowed to go to clinics for help. A lot of our patients missed their appointments. (Sister-in-charge). At first, gatherings were not allowed at all, but we all know how crowded our HIV clinics get. It was a challenge at first, but pill refill time was amended from 3 months to 6 months to accommodate the

new normal of living in a pandemic. (Hospital pharmacist)

### COVID-19 preventative initiatives

Research participants expressed that they all have a good idea of what COVID-19 restrictions are despite the influx of different COVID-19 strains and misinformation. Healthcare staff implemented initiatives to help and assist patients during the 2019 COVID pandemic.

For patients who are just coming for a routine check-up and pill refill, we have established a system where patients come and sit outside socially distance from each other with masks on as they get in the clinic for a check-up, check-up time was also reduced, then get medicine through the window. (A male nurse)

### Communication during the pandemic

At first communication with PLWHA was difficult a lot of misinformation was going around, and patients were affected. Monitoring and supporting patients was challenging because of the social distancing restrictions implemented. Service providers were also affected because there was no clear protocol to follow.

Health care personnel together with the ministry of health had to do mass media communication to help debunk misinformation that was going around, health care workers were also giving patients health education during their appointments every day. (Matron). At first, it was difficult to communicate and monitor patients, but it all started getting better as good information was spreading, COVID-19 outreach teams helped spread good information, check-ups on patients, and drug refills. Patients are now being monitored and supported at clinics closer to where they stay. (Female nurse)

### Support groups for PLWHA

During the lockdown, a lot was happening, and PLWHA had a difficult time. However, some research participants acknowledged that some PLWHA had formed support groups to help each other.

For you to assist someone, one has to know one's diagnosis, despite HIV no longer being something to be afraid of as before people are not open to sharing their medical history and diagnosis with people that are not close to them. (Female nurse)

Yes, some patients who had developed friendships during regular HIV clinic visits, husbands and wives, started sharing medication during the pandemic while waiting for more information about how to get their pill refilled. (Female nurse)

## Major challenges faced

### Lack of health insurance

Although participants managed to provide care to PLWHA through the pandemic, healthcare professionals were left exposed to a great amount of risk than anyone else, but there was no protection for them in terms of health insurance coverage to help them get medical assistance when need be.

As a nurse, you are supposed to give service unconditionally, and this had put so many health professionals at risk some died. There is no universal medical insurance for medical professionals to help them when they get sick during work or because of work, so you find a lot of these professionals were not going an extra mile to help patients. (Hospital CEO)

### Shortage of personal protective equipment (PPE)

The research participants reported difficulties acquiring PPEs for themselves and organizations at large, as it was sometimes out of stock. They reported improvisation of PPE to protect themselves, but sometimes the improvisation was not fit for purpose.

With the fear of infection and standard restriction imposed, every health professional at work needed high-quality PPE *i.e.*, N-95 masks, biohazard suits, and gloves, but it was not available for most health care staff, most ended up using masks that are not up to standard... Honestly, we needed constant help with PPE supply. (Clinic matron)

Patients also need PPE for them to be able to visit the clinics. At one point, there was a shortage of PPE, and people started to wear cloth masks, some cloth masks were not up to standard, and for those who managed to get PPEs, it was so overpriced, it was expensive. (Clinic doctor)

## Discussion

Globally, pandemics destabilize existing health systems, especially in, fragile under-resourced, and developing countries like Zimbabwe.<sup>19</sup> Like other pandemics, COVID-19 proved disruptive and drove healthcare systems beyond their limits.<sup>25</sup> In Zimbabwe, the sudden surge of patients needing hospitalization and treatment after being infected by the COVID-19 virus demanded urgent measures to adapt the health system to accommodate all treatment needs resulting in disrupted services for lifelong diseases like HIV and AIDS. Such disruptions in caring for other diseases during the pandemic were more significant among lower-income countries, thus calling for redesigning traditional service delivery methods to meet present demands.<sup>26</sup> Nonetheless, based on the research evidence reviewed, even with these disruptions, health delivery centers in Zimbabwe continued to treat patients suffering from different ailments and PLWHA, albeit at reduced levels than in the pre-COVID-19 periods.<sup>12</sup> In light of this realization, this study explored healthcare system adaptive techniques and challenges experienced while catering to PLWHA amid the COVID-19 pandemic in Harare from healthcare professionals' perspectives.

Our study confirms the resilience of the Zimbabwean health system during COVID-19 despite its obvious resource limitations. Findings from the research participants indicated that an aggressive communication strategy foregrounded the health delivery standard protocols put in place to sustain treating PLWHA and other diseases. Such communication also targeted various stakeholders in the health delivery system, for example, Centres for Disease Control and Prevention (CDC) Zimbabwe, to complement government efforts in treating dis-

**Table 1. Profile of participants ( health care professionals).**

Participant	Number
Sister-In-Charge	2
Hospital Pharmacist	2
Male Nurse	2
Female Nurse	3
Matron	2
Hospital CEO	1
Clinic Matron	1
Clinic Doctor	2
Total	15

eases such as HIV and AIDS during the pandemic. Earlier studies also reported that the government engaged in an aggressive national COVID-19 mass media campaign to spread information about the pandemic to all citizens and also mobilized support from other health agencies like the CDC.<sup>9</sup> Nonetheless, our study participants noted that in the immediate aftermath of the COVID-19 outbreak, it was challenging to assist PLWHA neither accurate information was available, nor due processes were well defined to assist patients. As a result, some PLWHA missed their clinic appointments, and some failed to collect treatment supplies. Such mishaps arose partly because of a lack of clarity about patient travel protocols, as public transport was not allowed to move or take people from point A to point B during the pandemic.<sup>27</sup> However, things improved over time as exceptions were given to patients to travel to health centers. Health centers altered their medication pill refill times from 3 to 6 months to accommodate the new normal of living in a pandemic. In context, these difficulties of developing and implementing new health protocols during a pandemic are not new, particularly given the novelties and scale of effect that accompanied the COVID-19 pandemic. These developments underscore the need for a resilient health system able to adapt protocols to continue treating patients suffering from other diseases.

Our study similarly found that healthcare centers adopted new COVID-19 preventative measures with an overriding goal of protecting healthcare staff and patients visiting the healthcare centers from contracting COVID-19. Healthcare workers were generally wary of the risks of COVID-19 infection and infecting others while treating patients during the pandemic.<sup>28</sup> Thus they developed new methods that promoted non-contact health care practices, minimizing time spent at the health care center, adhering to COVID-19 social distancing protocols, and mask-wearing for all patients. They also started to dispense medicine through the windows and decentralize patient care to local and nearest clinics for those who came from distant places. However, it was observed that patients recommended to local clinics sometimes experienced difficulties in getting supplies at those health facilities where they were not registered, resulting in involuntary ART defaulting.<sup>27</sup>

Results further indicate that PLWHA formed support groups to counsel each other. In some cases, friends and couples resorted to sharing medication to avoid a lapse in treatment adherence while waiting for more information about how to refill

their pills. These findings suggest that COVID-19 demands resourcefulness from healthcare providers and PLWHA. Yet practices such as sharing pills (ART) among patients are discouraged and expose PLWHA to medical risks considering that HIV and AIDS diagnosis and treatment regimes differ from patient to patient. However, the problem of sharing ART among friends and family appears not exclusive to the COVID-19 era. Various other studies in different contexts<sup>29,30</sup> similarly reported that PLWHA often shared medication with friends, family members, and spouses, arguably making it difficult to attribute this development strictly as a direct consequence of the pandemic. Other researchers underscored the motivation to express solidarity among friends, family members, and spouses as a key factor in inciting sharing of ART, which may also underline the feelings among PLWHA in times of the pandemic.<sup>30</sup> Collectively these developments also demonstrated the resilience initiatives and capabilities of the Zimbabwean health system during the pandemic without necessarily qualifying compromises in the quality of service to patients. Regarding the challenges faced while providing care to PLWHA, our respondents reported exposure to risk as they worked with no health insurance cover to help them get medical assistance when necessary and did not have reliable access to PPEs. Out-of-stock situations for PPEs and related supplies such as N-95 masks, biohazard suits, and gloves were a common occurrence which forced them to improvise. Still, sometimes the improvisation was not fit for purpose. In the same vein<sup>31</sup> we noted that resource scarcity stimulates improvisation as healthcare professionals try to maintain services in circumstances where providing normal standards of care is impossible. However, they emphasize that such improvisations should be done to mitigate risks to healthcare workers and patients. Our respondents reported that some healthcare staff used sub-standard cloth masks, which were not fit for medical settings and left them at risk of contracting COVID-19. Largely, while the problem of inadequate access to PPEs for health professionals during the pandemic was a global issue, Zimbabwe remained acute, emanating from the perennial financial and resource constraints that continue to weaken the health system.<sup>8,32</sup> It can therefore be argued that the emergence of the COVID-19 pandemic found Zimbabwean healthcare staff already better skilled and equipped to tap into their resourcefulness and resilient capabilities, considering the daily struggles they encounter at work.

## Implications for practice

There is a need to develop flexible health delivery protocols for resource-constrained contexts to maintain overall health systems functionality amid pandemic situations. Providing work resources such as PPEs, health insurance, and skills training to health care professionals is crucial in building resourcefulness and motivation when performing their tasks. The study further implies that, while pandemics take precedents when they break out, serious policy and practical initiatives should be implemented to limit the disruption for life-long ailments such as HIV and AIDS. Moreover, policies that outline patient travel protocols and transportation arrangements to ensure that PLWHA can reach their clinic appointments and access necessary treatment supplies are required in pandemic situations. These strategies can be complemented by investment in enhancing telehealth services that enable health centers to provide remote consultations, prescription refills, and medication delivery options. These initiatives ensure continuity of care for PLWHA and reduce the risk of missed appointments or treatment interruptions. Regarding improved communication systems initiatives, the existing communication strategy requires investment toward adopting diverse communication channels, such as dedicated hotlines, websites, or mobile applications, that can help ensure that accurate information reaches PLWHA on time. The study further suggests the need to strengthen community support networks. During public health emergencies, enhancing community support networks for PLWHA is crucial. This can involve establishing community-based organizations, support groups, or helplines that provide assistance, information, and resources to PLWHA, who may face challenges accessing healthcare services.

## Limitations of the study

The study was limited only to Harare, thus lacking an overall analysis of the adaptive techniques and challenges in the healthcare system during the pandemic. However, the geographical area of study possesses better healthcare facilities than other areas in the country. This suggests that areas outside Harare might have experienced acute challenges in developing adaptive techniques to assist PLWHA during the pandemic. Another limitation is that exploratory studies rarely gather sufficient data to validate policy recommendations. Thus, while this study provides insights into the problem investigated, there may be a need for a more diagnostic study to validate policy and practice recommendations.

## Conclusions

Resourcefulness during crises may contribute to the sustainability of existing health systems, as evident during the COVID-19 pandemic. This study revealed that healthcare professionals in Zimbabwe adopted various adaptive initiatives to sustain the treatment of PLWHA amidst the COVID-19 pandemic. The results underscore the importance of human resource capabilities in building healthcare system resilience in resource-constrained countries. They further highlight how structural forces, such as COVID-19 regulations and their concomitant influences on stakeholders connected to the health systems, undermined access to health services for PLWHA.

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