Social Determinants of Health: Healthcare managers' COVID-19 experiences of poor governance, poverty and social media on health interventions☆

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ARTICLE INFO

Keywords:
COVID-19
Poor governance
Service delivery
Poverty
Government distrust
Social media
Social determinants of health

ABSTRACT

Objectives: The COVID-19 pandemic has highlighted many barriers to healthcare including structural factors like poverty and governance, and intermediary factors such as service delivery, especially in low and middle-income countries where resources are limited. Social Determinants of Health like poverty, governance and access to basic services significantly affect the effectiveness of health interventions. This study aimed to explore healthcare managers' experiences of delivering health interventions during the COVID-19 pandemic in Gauteng Province, South Africa, using the Social Determinant of Health lens.
Study design: Exploratory qualitative study.
Methods: Online in-depth interviews were conducted with senior healthcare managers at the Gauteng Department of Health, to explore their experiences during COVID-19, using open-ended questions. The data was saturated with 13 respondents and was analyzed thematically and inductively in NVivo 10.
Results: We identified four interrelated themes that adversely impacted health interventions from the manager's COVID-19 experiences: poor governance through non-service delivery, government distrust, poverty within communities and the influence of social media on societal values.
Conclusion: The failure of the government to deliver community services leads to public distrust and in turn has a spill-over effect which constitutes a barrier to healthcare. COVID-19 has reaffirmed that poverty, poor governance and societal values (influenced by social media) are structural Social Determinants of Health that exacerbates the vulnerability of the poor during outbreaks. Poor governance and poverty limit behavioral options, trust and the effectiveness of health interventions. Social support is needed to assist the poor and vulnerable during outbreak. Finally, while social media messages negatively influenced health-seeking behaviors during COVID-19, they are also a potential tool to counter disease infodemics.

1. Introduction

The COVID-19 pandemic has highlighted many barriers to health, especially in low and middle-income countries (LMICs) where resources are most limited. Most of the barriers are factors outside the health sector, known as Social Determinants of Health (SDH), defined as "conditions in which people are born, grow, live, aged and die" [1,2]. The World Health Organization (WHO) suggests that SDH operate at intermediary and structural levels, where the intermediary determinants like access to health services, are influenced by structural issues, such as governance and societal values [1]. The importance of governance in

influencing health policies is highlighted in the WHO SDH framework [3], and moreover, governance/leadership and service delivery are critical pillars of the WHO health system building blocks impacting healthcare [4]. Hence, good governance and leadership underpin adequate service delivery which impacts the health of the population [5]. Likewise, poor governance and leadership undermine service delivery, to the detriment of population health.

Ever since the Coronavirus (herein COVID-19) was declared a global pandemic by the WHO on March 11, 2020 [6], there have been various interventions to stop the spread. The United Nations Development Program (UNDP) had flagged that due to poverty, the COVID-19

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pandemic could disproportionately affect people in LMICs of Africa and Asia more than their counterparts in high-income countries and that poor people needed social protection from the international communities [7]. Indeed, to limit the spread of COVID-19 and the effect of poverty during lockdowns, some countries initiated social support schemes to assist economically vulnerable populations with food and cash [8–11].

Given the novelty, societal values and beliefs about COVID-19 operating at the structural level of SDH, were being shaped in real time. In this context, social media was used to spread misinformation and disinformation about COVID-19 treatment and prevention including vaccination [12]. Misinformation about COVID-19 vaccines has proliferated through social media resulting in hesitancy. The challenge with social media is that many who tweeted or posted presented themselves as "health experts", leading to calls for the regulation of social media to halt the COVID-19 infodemic [12,13].

The prevention or control of diseases like COVID-19 is linked to addressing factors associated with poverty such as overcrowded living conditions and the lack of water and soap for hand washing purposes [4, 5]. Importantly, individuals' task with responding to outbreaks like COVID-19, such as health managers, may not be empowered to address SDH but are still asked to facilitate preventive health behaviors. This study sought to explore health managers' experiences of health interventions during the COVID-19 pandemic in Gauteng Province, South Africa, using a SDH lens to identify factors they identified as being important, but potentially beyond their control.

2. Methods

2.1. Study design and setting

This study employed a qualitative exploratory study design to explore Gauteng Department of Health (GDoH) senior managers' experiences of implementing health interventions during COVID-19. The exploratory design is an interpretative form of inductive and thematic qualitative inquiry to experience-based questions in health [14].

South Africa has the highest income inequality in the world [15] making it a prime location to explore the implications of SDH. This study was conducted in the Gauteng Province, South Africa, in 2022. Gauteng is the most populated province with over 16 million people and the economic hub of South Africa [16], cited as the most unequal province in the country. Gauteng has five health districts, three of which are metropolitan while the other two are smaller and less urbanized. Gauteng has 426 mobile and fixed public healthcare facilities, with prominent academic teaching and specialized hospitals. Hence, the experience of healthcare managers at the GDoH during the COVID-19 pandemic (2020–2022) is dynamic, rich and representative of the country's SDH.

2.2. Participants and data collection

The participants of this study were senior public healthcare managers at the GDoH. The managers were purposefully sampled because they were engaged in the fight against COVID-19 provincially, and had insights into the health system. Through in-depth interviews, the first author asked health managers about their experiences during COVID-19 outreach. The main questions in the interview guide were: what lessons has the Health System in Gauteng Province learned from the COVID-19 pandemic; has COVID-19 created any opportunities for the health system; what was the impact of COVID-19? The first author had no prior relationship with the study participants. He conducted the interviews in English online given the context of COVID-19 and social distancing guidelines and determined data saturation at the after 13 interviews. All interviews were audio recorded and transcribed verbatim. To ensure trustworthiness, the first author played multiple roles including interviewer, transcriber, and lead for data analysis.

2.3. Data analysis

The transcripts were imported into NVivo 10, where they were analyzed thematically. Deductive codes were identified based on the SDH framework and later, the data was extensively explored inductively for emerging codes. All the codes were applied to the text and collapsed to form four themes. The analysis was reviewed by the co-authors, both of whom have academic expertise in qualitative research and SDH. All authors agreed on the themes presented here.

3. Results

Through the in-depth interviews, 13 respondents narrated their outreach experiences during the COVID-19 pandemic in the province. There were eight males and five women who had a wide range of professional experiences extending to over 35 years. The purpose of the outreach by the GDoH was to create public awareness and sensitization on preventive measures for mitigating the spread of the COV ID-19. The findings were organized into four themes (Appendix-Table 1) as discussed below.

3.1. Theme 1: The spill-over effect of poor service delivery

The managers highlighted the effects of poor service delivery by all government sectors. They viewed all services to be interconnected and to affect access to health services or to have a direct effect on disease prevention. As such, the failure to deliver basic services such a clean water, resulted in challenges implementing preventive efforts like handwashing.

"Because health is so integrated with other services delivery, the non-delivery of other services spilt over into the health space. There are huge consequences in health outcomes when it comes to the delivery of services that are related to the service delivery chain". [Respondent 1]

"The failure to deliver in A, B, C, D [area/ward] has an impact when you are dealing with a health crisis. You don't separate health from the other broad services. For example, we were telling people about the correct hand-washing techniques, and they said: what is the essence of teaching us hand-washing techniques when we don't have access to clean water for washing our hands?" [Respondent 3]

3.2. Theme 2: Government distrust

Closely related to the theme of government not delivering services adequately was the sense that distrust of government negatively impacted health interventions. Participants shared their views about how the government failure to deliver adequate basic services, led to breach of trust in political leadership; the public lost faith and hope in the directives or information from the government including regulations to prevent the transmission of COVID-19. The managers pointed out that this was because the source of health information is the same as those who have failed to deliver on previous promises for better infrastructure. The consequence of distrust of government was described by the managers as follows:

"The issue of trust from the messages coming from the government! When you come in with a health message, you will find that maybe the communities were promised certain things, maybe a street will be built or

electricity will be installed, then people will be distracted from hearing the health message because they will be saying, solve these other issues first which are services related". [Respondent 13]

3.3. Theme 3: Poverty

Poverty was viewed to adversely influence how people responded to COVID-19 prevention interventions. Food insecurity emerged as a critical challenge facing communities during the pandemic which led to people being faced with a dilemma of addressing hunger versus implementing COVID-19 prevention measures. One senior manager recalled the interaction with one of the community members during outreach:

"When you say sanitize then they will say, "How do I sanitize when I can't afford bread? I can't buy sanitizer when I have to first buy bread." So that is a major lesson that you can no longer afford to isolate and treat health as an isolated sector". [Respondent 3]

In addition, the managers saw poverty influencing health-seeking or disease prevention behaviors.

3.4. Theme 4: The influence of social media

All of the participants reported that social media had a negative influence on the uptake of COVID-19 treatment and vaccination. People were negatively influenced by celebrities and influencers on social media, including those with a health professional background. Some of the respondents share their experiences encountering people who disregarded advice on vaccination from health professionals but believed in social media misinformation, which delayed treatment or resulted in vaccine hesitancy and ultimately caused deaths.

"One of the negative impacts of COVID-19 is the influence of social media, the proliferation of fake news and myths. There was a lot of fake information floating around. I had a few family members who were just so adamant that they would only listen to certain YouTube quantifications about COVID-19, and anti-vaxxers, rather than myself as a public health physician telling them to get vaccinated. Unfortunately, I lost a family member because they were so stubborn". [Respondent 6]

While some managers saw a positive role for strategic social media, the negative consequences of misinformation made a strong impression on the managers …

"Many people probably lost their lives as a result of listening to that [COVID-19 misinformation]. I feel that going forward, we should think about our communication strategies and the use of social media. Social media can be beneficial, but it also has another side". [Respondent 11]

4. Discussion

This study aimed to explore healthcare managers' experiences of delivering health interventions during the COVID-19 pandemic in Gauteng Province, South Africa, using the Social Determinant of Health lens. They identified that poor governance, through inadequate service delivery, distrust of government, poverty and social media disinformation as having a synergistic and adverse effect on their prevention efforts. The managers' accounts demonstrated how structural determinants of health such as, poor governance and harmful societal values interacted with poverty to amplify distrust in government regulations and communications. Collectively, these structural factors then impacted on the intermediate determinants of health including access to health services, resulting in preventable deaths from COVID-19.

Overall, our findings suggest that factors outside of the health system influenced health-seeking behaviors, which has implications both for disease transmission and morbidity and mortality. The scenario conveyed by Gauteng health managers is consistent with an American review that investigated the impact of SDH during COVID-19 and found that people living in poverty and underserved communities were disproportionately affected by COVID-19 as compared to their richer counterparts [1]. Likewise, a systematic review of 52 studies suggested that COVID-19 mostly affected African Americans who suffered from poverty and poor housing conditions [17].

Managers in this study related first-hand evidence of how government distrust adversely affected preventive health interventions. Similarly, two studies from Nigeria using mixed and longitudinal methods also found that government distrust negatively impacted preventive healthcare significantly [18,19]. Such distrust from the government and politicians raises doubts and distrust about the effectiveness and side effects of the COVID-19 vaccines which escalated into vaccine hesitancy [18,19]. Another mixed-method online survey conducted in Sweden suggested that public distrust in the government's ability to deal with the health challenges of COVID-19 severely undermined health-seeking behaviors. However, the study also found that the public trusted its government to appropriately deal with the financial challenges of the pandemic and this increased the general well-being of the public [20]. These studies demonstrate that health interventions both in high and LMICs will only be effective if the public trusts the government.

Trust is closely related to a government's ability to deliver basic services. Issues related to the government's inability to supply power and clean water plagued South Africa before the COVID-19 pandemic and continue to the present time, which contributes to distrust and has direct health impacts. For instance, a recent cholera outbreak in Tshwane, in Gauteng Province is linked to contaminated water sources, which were the result of poor maintenance [21]. Similarly, the power (known as load shedding) crisis in South Africa, particularly in heavily industrialized provinces like Gauteng adversely impacts the ability of healthcare facilities to provide services [22,23]. While inadequate service delivery affects all people, the impact is felt more severely by those living in contexts of vulnerability. In the context of COVID-19 in South Africa, for instance, social determinants linked to being Black and having lower socioeconomic status were associated with hospital admissions and death [24].

Our study participants highlighted the extent to which poverty and its many manifestations, such as hunger or food insecurity can lead to devastating health consequences. The dilemma of buying bread or hand sanitizer during a critical outbreak such as COVID-19 was a particularly poignant example of the desperation and vulnerability of some people in LMICs. Not only did people have to contend with new expenses, such as sanitizers; COVID-19 also resulted in greater food insecurity due to job losses and regulations that limited the informal sector [7,25].

Our study supports the application of a SDH lens when targeting how to respond to an outbreak, with particular attention on how to approach poverty-stricken communities. Offering preventive messages and services without addressing more structural social inequities will be less effectual. To its credit, South Africa [26], like many governments, legislated social support grants that helped vulnerable populations. Studies have shown the importance of supporting the poor and the vulnerable during COVID19, by providing them with materials and protective equipment as well as foodstuffs through social support or cohesion [1,8,11,26,27]. During COVID-19 different food and cash schemes were created to support people facing food insecurity or financial challenges [10,11,28]. Different forms of social support such as mutual aid among communities, volunteering, and the use of digital and social media for health promotion have been shown to sustain livelihood and reduce the spread of COVID-19 in the UK and the Netherlands [11]. Studies have signposted the effectiveness of social support, social

cohesion or social capital in reducing inequalities and iniquities during unprecedented times and such solidarity is inversely related to mortality [29,30]. However, despite all of this evidence, managers in our study were clear that basic service provision is a baseline requirement that underpins the social impact between citizens and their government.

An important subtext to this study was the role that outbreak responses take on healthcare workers and managers. The distress of seeing people discount their messages and even losing their family members was evident during the interviews. A quantitative systematic review showed that effective social support interventions for healthcare workers during the COVID-19 pandemic preserved their psychological and mental health which boosted their morale for work as nurses and doctors became resilient [27]. As much as our study points to the importance of social cohesion as an effective means of protecting the poor and vulnerable groups during outbreaks, we are also mindful that health workers or in our case health managers, are also members of communities.

Much like earlier studies, our study suggests that social media misinformation about COVID-19 negatively influenced health-seeking behaviors and trust in government. YouTube, Facebook, Twitter, and Instagram are common platforms where non-scientific claims, conspiracy theories and the proliferation of fake information from "online-self-trained and uncertified medics" and some religious leaders propagated vaccine hesitancy. Similarly, multiple studies have highlighted the proliferation of fake information on COVID-19 on social media, which led to vaccine hesitancy [12]. However, our study also suggests that digital and social media are potential tools for public awareness to counter the COVID-19 infodemic. We are not the first to note the prospects that social media could be used positively to counter COVID-19 infodemics and vaccine hesitancy and create a scientific network for research collaboration [13].

4.1. Limitations

The main limitation of this study is that due to the exploratory nature of the interviews, once themes related to SDH began to take shape in the analysis, we could not return to the early interviews to probe further. Secondly, this study did not include patients or community members to directly share their experiences, which would have enabled triangulation. However, this was beyond the scope of the current study. In addition, the managers are themselves community members. Despite the limitations, results from other studies support the current findings, pointing to the external validity of our study.

5. Conclusion

The limitations of the government to deliver community services leads to public distrust and in turn a spill-over effect which constitutes a barrier to healthcare. COVID-19 has demonstrated and affirmed that indeed, poverty, poor governance, societal values, and health seeking behaviors influenced by social media are Social Determinants of Health that exacerbated the vulnerability of the poor. Weak governance and poverty limit access to health, trust in health messages and the effectiveness of health interventions. Social cohesion is needed to assist the poor and vulnerable during outbreaks. While social media negatively influenced health-seeking behaviors during COVID-19, it is a potential tool for public awareness and health promotion to counter disease infodemics if used strategically.

5.1. Recommendations

To address poverty, during outbreaks, social support should be established for the poor and economically vulnerable people and communities, particularly in LMICs. Social support schemes should comprise personal protective equipment, disinfectants, and access to quality water for hygiene purposes, to limit exposure and disease transmission. Health systems should take advantage of social media as a communication platform to proactively counter misinformation and provide reliable information. Governments should also explore how to sanction those who contribute to misinformation to discourage future infodemics.

Ethics approval

This study was approved by the University of the Witwatersrand Human Research Ethics Committee (HERC) Ref No: M220149. And the South African National Health Research Department Ref No: NHRD-GP_202,203_031. The information sheet was shared and discussed with all the participants, and they gave written informed consent prior to enrollment in the study. The findings have been reported anonymously. There was no clinical, behavioral, psychological or any risk to the participants.

Data availability

The transcripts for this study are not publicly available. Nonetheless, the author can provide them anonymously upon a reasonable request.

Declaration of competing interest

The authors declared no conflict of interest.

Appendix

Table 1
Themes, codes and quotations from an in-depth interview with GDoH Managers

Themes	Codes	Quotations
The spill-over effect of poor service delivery.	Failure of service delivery	*"Because health is so integrated with other services delivery, the non-delivery of other services spill-over into the health space. There are huge consequences in health outcomes when it comes to the delivery of services that are related to the service delivery value chain". (Respondent 1)* *"The failure to deliver in A, B, C, D [area/ward] has an impact when you are dealing with a health crisis, you don't separate health from the other broad services. For example, we were telling people about the correct hand-washing techniques, and they said: what is the essence of teaching us hand-washing techniques when we don't have access to clean water for washing our hands?" (Respondent 3)*
The impact of government distrust.	Distrust, false promises	*"The issue of trust from the messages coming from the government! When you come in with a health message, you will find that maybe the communities were promised certain things, maybe a street will be built or electricity will be installed, then people will be distracted from hearing the health message because they will be saying solve these other issues first which are services related". (Respondent 13)* *"Certain lapses in the [service] delivery program of the government have a huge impact on how people receive health interventions". (Respondent 1)*
The effect of poverty	Poverty, can't afford, food	*"When you say sanitize then they will say how do I sanitize when I can't afford bread? I can't buy sanitizer when I have to first buy bread. So that is a major lesson that you can no longer afford to isolate and treat health as an isolated sector". (Respondent 3)*
The influence of social media	Social media, YouTube, Facebook	*"One of the negative impacts of Covid-19 is the influence of social media, the proliferation of fake news and myths. There was a lot of fake information floating around. I had a few family members who were just so adamant that they would only listen to certain YouTube quantifications about Covid-19, and anti-vaxxers, rather than myself as a public health physician telling them to get vaccinated. Unfortunately, I lost a family member because they were so stubborn". Respondent 6* *"Many people probably lost their lives as a result of listening to that. I feel that going forward, we think about our communication strategies and the use of social media. Social media can be beneficial, but it also has another side". [Respondent 11]*

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