

# Reflections on Healthcare Leadership in KwaZulu-Natal, South Africa During the COVID-19 Pandemic: Implications for Crisis Leadership Development and Implementation

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**Background:** The COVID-19 pandemic created volatile, uncertain, complex, and ambiguous (VUCA) healthcare environments globally, exposing systemic vulnerabilities in leadership preparedness, interprofessional coordination, and staff psychological support as healthcare leaders faced unfamiliar demands, moral distress, and competing priorities.

**Objective:** To explore the lived experiences of physiotherapy, nursing, and medical leaders during COVID-19 at public sector hospitals in the eThekweni District of KwaZulu-Natal, with particular attention to how they navigated systemic constraints, psychological strain, interprofessional fragmentation, and adaptive leadership demands under crisis conditions.

**Methods:** Using interpretive phenomenology, 10 physiotherapy managers, 8 nurse operational managers, and 9 senior medical consultants from 7 public hospitals (district, regional, and tertiary) participated in focus group discussions. Transcripts were analysed using Otto Scharmer's Theory U as an interpretive analytical framework to examine leadership adaptation and transformation under crisis conditions.

**Results:** Five interrelated themes emerged: (1) crisis leadership unpreparedness revealing educational and systemic gaps; (2) leadership failures in staff support contributing to psychological strain and burnout-related experiences; (3) fragmented interprofessional leadership sidelining allied health professionals; (4) leadership transformation from institutional rigidity to frontline innovation; and (5) personal leadership emergence through crisis. While institutional leadership often failed, frontline leaders demonstrated adaptive, human-centred leadership practices, shifting from authoritative, transactional approaches to collaborative leadership. Individual-level transformation was evident in a subset of participants, while others demonstrated partial progression through adaptive leadership processes shaped by institutional context. The crisis catalysed significant personal leadership transformation, prompting healthcare professionals to reconstruct their professional identities and develop adaptive capabilities through experiential learning under pressure.

**Conclusion:** Resilient leadership for VUCA healthcare environments requires empathetic engagement, interprofessional collaboration, crisis management training, and communication that values staff voices. Leadership development must move beyond transactional models toward human-centred, adaptive approaches that strengthen both systems and the people within them. Strengthening leadership decision-making through evidence-informed management practices, organisational learning, and inclusive governance can enhance crisis responsiveness and operational effectiveness. Evidence-based recommendations address curriculum reform, institutional support systems, interprofessional collaboration, and crisis preparedness for resource-constrained contexts. Leadership programmes must recognise and harness individual transformative capacity emerging during crises, while addressing structural and interprofessional barriers that constrain the long-term institutionalisation of adaptive leadership practices.

**Plain Language Summary:** We spoke with 27 healthcare leaders—physiotherapists, nurses, and doctors—from seven public hospitals in the eThekweni District of KwaZulu-Natal. Through focus group discussions (FGDs), participants shared their leadership experiences during the COVID-19 pandemic, describing what worked, what did not, and how they adapted under extreme pressure.

Five critical patterns emerged. First, health worker education had not prepared leaders for crisis management or for supporting teams experiencing trauma. Second, promised counselling services often did not materialise, leaving staff without adequate

psychological support. Third, traditional hierarchies prevented collaboration—physiotherapists were excluded from key planning meetings despite their critical role in respiratory care and patient recovery. Fourth, while senior administrators often remained constrained by institutional rigidity, frontline leaders created innovative solutions and support systems when institutions failed them. Finally, the crisis transformed some individual leaders, pushing them to develop more collaborative, empathetic approaches that valued every team member.

Healthcare leadership training must include crisis management, psychological support skills, and collaboration across professions. Institutions need functional support systems ready to activate during emergencies, not empty promises. Future preparedness requires moving beyond purely hierarchical models toward human-centred leadership approaches that protect both patients and healthcare workers during crises.

While limited to a single district, this study provides evidence of under-valued leadership capacity among frontline healthcare leaders in public sector hospitals in the eThekweni District, KwaZulu-Natal, which may be relevant to similar healthcare settings elsewhere in South Africa. Systematic development of this capacity, rather than reliance on individual heroism, could strengthen healthcare resilience for future crises.

**Keywords:** healthcare leadership, COVID-19, VUCA, crisis management, interprofessional collaboration, resilience, South Africa

## Introduction

The COVID-19 pandemic served as an unprecedented crucible for healthcare leadership worldwide, creating volatile, uncertain, complex, and ambiguous (VUCA) environments that tested leaders at all organisational levels.<sup>1</sup> Unlike routine healthcare challenges, the pandemic demanded leadership capabilities that extended far beyond technical competence—requiring resilience, adaptability, interprofessional collaboration, and profound empathy.<sup>2,3</sup>

In South Africa, the COVID-19 pandemic placed a severe strain on a public health system already affected by chronic staffing shortages, infrastructure constraints, and uneven distribution of skilled health professionals.<sup>4,5</sup> Infection prevention and control (IPC) capacity varied across public sector facilities, and intensive care and high-dependency unit capacity was limited in many settings, constraining hospitals' ability to respond effectively to surges in COVID-19 cases and necessitating difficult clinical and ethical decisions about resource allocation.<sup>5,6</sup>

These systemic constraints were further exacerbated by limited institutionalised psychological support structures, resulting in heightened exposure to stress, trauma, moral distress, and burnout among healthcare workers and their leaders.<sup>7,8</sup> In KwaZulu-Natal (KZN), one of South Africa's most populous provinces, public sector hospitals operated under sustained high patient loads and escalating operational strain, significantly amplifying leadership complexity and facility-level governance demands.<sup>9</sup>

Under these conditions, gaps in leadership preparedness, particularly in crisis management, interprofessional coordination, and staff psychological support, became increasingly evident, with direct implications for the quality of crisis response and staff wellbeing. The rapid strain of the pandemic highlighted limitations in traditional hierarchical leadership models that were insufficiently adaptive to evolving needs, underscoring the importance of relational, inclusive approaches for effective crisis response.<sup>10,11</sup>

This study focuses on three leadership groups central to frontline crisis response yet unevenly examined in the South African context: physiotherapy managers, nurse operational managers, and senior medical consultants. These groups were purposively selected because they occupied frontline operational leadership roles with direct responsibility for day-to-day clinical coordination, staff management, and real-time crisis decision-making during the pandemic, in contrast to senior executive leaders whose roles were primarily strategic. Together, they represent distinct yet interdependent strata within hospital leadership structures, enabling comparative examination of how authority, scope of practice, and crisis accountability shaped leadership experiences.

Nurse operational managers typically hold responsibility for ward-level coordination, staffing, and implementation of institutional directives; senior medical consultants exercise clinical authority in patient management and service organisation. Physiotherapy managers played a critical role in directing respiratory care, rehabilitation, and functional optimisation for patients affected by COVID-19, including airway clearance, ventilator weaning, and post-acute

functional recovery. Physiotherapy and other allied health professions contributed essential clinical expertise across the continuum of COVID-19 care, yet leadership research and senior strategic representation for allied health disciplines remain limited compared with medicine and nursing. Systematic reviews of leadership in allied health show a scarcity of robust research on leadership roles and development among allied health practitioners, indicating that allied health leadership is under-examined and often marginalized in health system decision-making structures.<sup>12</sup>

The selection of these leadership groups allows for comparative examination of how differences in authority, scope of practice, and professional positioning shaped leadership experiences during the pandemic. Importantly, allied health leadership, particularly physiotherapy leadership, remains under-represented in empirical studies of healthcare leadership during COVID-19, despite its substantial contribution to patient care and system functioning. Literature reviews indicate that there are currently a limited number of robust published studies focusing on leadership and leadership development among allied health practitioners, including physiotherapists, compared with other clinical professions, highlighting a gap in research and representation within healthcare leadership studies.

Importantly, although nursing and medical leadership have received greater scholarly attention, comparative analyses across these three frontline leadership strata remain limited in the South African context. Exploring these leadership roles together provides insight into how differentiated authority and professional positioning influenced interprofessional dynamics, collaboration, and fragmentation under crisis conditions.<sup>12,13</sup>

Emerging evidence suggests that leadership gaps during the pandemic had tangible consequences for crisis response quality and staff outcomes, including delayed decision-making, inconsistent infection prevention and control (IPC) practices, fragmented communication, and inadequate psychological support for healthcare workers (eg., organisational communication failures and rapid guideline changes undermining IPC adherence). Frontline healthcare staff reported high levels of psychological distress, with many indicating moderate to extreme stress and expressing the need for clearer, more supportive leadership and communication structures to navigate evolving challenges. Moreover, inconsistent and opaque communication from leadership teams undermined interprofessional collaboration and care coordination, contributing to staff stress and organisational fragmentation during the COVID-19 response.<sup>14-17</sup>

Research also shows that supportive leadership is positively associated with better psychological and social well-being among healthcare workers, underscoring the negative impact when such leadership is absent. These shortcomings during the pandemic not only weakened organisational resilience but also exacerbated burnout, moral distress, and workforce strain, revealing both vulnerabilities in traditional healthcare leadership models and latent opportunities for more adaptive, human-centred approaches.<sup>16,18,19</sup>

Otto Scharmer's Theory U provides a useful conceptual lens for understanding leadership transformation under crisis conditions, emphasising processes of deep sensing, letting go of outdated practices, and enabling the emergence of new ways of leading.<sup>20</sup> Guided by this framework, this study explores the lived experiences of physiotherapy managers, nurse operational managers, and senior medical consultants in public sector hospitals in the eThekweni District of KwaZulu-Natal during the COVID-19 pandemic. By examining how these leaders navigated systemic constraints, psychological strain, interprofessional fragmentation, and adaptive leadership demands, the study aims to generate contextually grounded insights to inform leadership development and crisis preparedness in South African healthcare systems.

The aim of this study was to explore the lived experiences of physiotherapy managers, nurse operational managers, and senior medical consultants in public sector hospitals in the eThekweni District of KwaZulu-Natal, during the COVID-19 pandemic, with particular attention to how they navigated systemic constraints, psychological strain, interprofessional fragmentation, and adaptive leadership demands under volatile, uncertain, complex, and ambiguous (VUCA) conditions.

## Methodology

### Study Design

This study employed an interpretive phenomenological approach to explore the lived experiences of healthcare leaders during the COVID-19 pandemic, drawing on Interpretive Phenomenological Analysis (IPA) as described by,<sup>21</sup> which privileges participants' subjective meaning-making and contextual interpretation of lived experience. This methodological approach was selected to facilitate a deep understanding of leadership competencies, failures, and resilience strategies

in the complex, rapidly changing environment created by the pandemic. Interpretive phenomenology informed both the sampling strategy and the analytic orientation of the study by privileging participants' subjective meanings, reflective sense-making, and contextual interpretations of their leadership experiences.

Interpretive phenomenology allows for the exploration of how individuals make sense of their lived experiences while acknowledging the researcher's interpretive role in understanding them. The phenomenological approach was particularly suited to exploring the transformational aspects of leadership experience as conceptualised through Theory U, enabling depth-oriented questioning and interpretive analysis of how leaders experienced shifts in awareness, meaning, and practice during the crisis.

In this study, transformational change was inferred from participants' narrated experiences of leadership adaptation rather than assumed as a complete or sustained process. Given the retrospective design and defined timeframe, the study does not claim to capture full longitudinal transformation trajectories, but instead examines participants' reflective sense-making and adaptive shifts in awareness, identity, and practice during and shortly after crisis conditions.

## Study Setting and Participants

Data were collected from seven public sector hospitals in the eThekweni District of KwaZulu-Natal, South Africa. The hospitals represented different levels of care: district hospitals ( $n=3$ ), regional hospitals ( $n=2$ ), and tertiary hospitals ( $n=2$ ). Leadership structures, decision-making authority, and operational responsibilities differed across these hospital levels, and this variation informed the stratification strategy to ensure representation across distinct organisational contexts and leadership demands.

Stratified purposive sampling was used to recruit participants representing three key healthcare leadership roles: 10 physiotherapy managers, 8 nurse operational managers, and 9 senior medical consultants ( $n=27$  total). Sampling was informed by phenomenological principles, prioritising participants with direct, sustained leadership experience during the pandemic who could provide rich, reflective accounts of meaning-making under crisis conditions. Inclusion criteria required participants to have held formal leadership positions during the COVID-19 pandemic period (March 2020 - December 2021) and to have been directly involved in pandemic response activities within their respective facilities. The final sample reflected diversity in gender, years of professional experience, and levels of seniority within each professional group. Exclusion criteria included healthcare leaders who were on extended leave during the pandemic period or who had less than 6 months of leadership experience prior to March 2020.

## Sampling Strategy

Stratified purposive sampling, consistent with interpretive phenomenological methodology, was employed to recruit healthcare leaders who held direct, sustained leadership responsibility during the COVID-19 pandemic and could provide rich, reflective accounts of their lived experiences. Sampling prioritised experiential richness, depth of reflection, and variation in leadership context rather than statistical representativeness.

Stratification was informed by hospital level (district, regional, and tertiary), recognising that leadership structures, decision-making authority, and operational responsibilities differ across these settings. Within each stratum, participants were purposively selected across three frontline leadership roles—physiotherapy managers ( $n = 10$ ), nurse operational managers ( $n = 8$ ), and senior medical consultants ( $n = 9$ )—to capture variation in professional positioning, scope of authority, and crisis accountability.

The final sample reflected diversity in gender, years of professional experience, and levels of seniority within each professional group. Sampling continued until thematic saturation was achieved, defined as the point at which no new themes or meaningfully distinct insights emerged from successive focus group discussions.

## Data Collection

Data were collected exclusively through focus group discussions (FGDs); individual interviews were not conducted. This methodological decision was informed by the study's aim to explore both individual leadership experiences and interprofessional relational dynamics during the pandemic. Data collection occurred between February and May 2022, providing sufficient temporal distance from the acute pandemic phases of the COVID-19 pandemic while enabling

participants to engage in reflective sense-making about their leadership experiences. This time lag was intentionally adopted to support reflective depth; however, we acknowledge that retrospective qualitative inquiry carries an inherent risk of recall bias and post hoc rationalisation of experiences. In keeping with interpretive phenomenology, participants' accounts were understood as reflective sense-making narratives rather than objective reconstructions of events. This limitation was addressed through multiple trustworthiness strategies, including thick description, triangulation across professional groups, member checking, reflexive journaling, and maintenance of a transparent audit trail.

A semi-structured focus group discussion guide was developed based on VUCA theory principles and Theory U stages, focusing on questions that explored participants' initial crisis responses (co-initiating), emerging awareness of new challenges (co-sensing), deeper reflection on purpose and values (presenting), vision development for new approaches (crystallising), innovation attempts (prototyping), implementation of adapted practices (performing), and embedding of new capabilities (institutionalising). The interview guide was designed to elicit depth, reflection, and interpretation rather than mere factual recounting, consistent with interpretive phenomenological inquiry. The guide was pilot-tested with two healthcare leaders not included in the main study, resulting in minor refinements to the phrasing and sequencing of the questions.

Focus group discussions were conducted to explore participants' reflections on leadership experiences, crisis preparedness, psychological support mechanisms, interprofessional collaboration, and resilience strategies during the pandemic. Three FGDs were conducted in total: two profession-specific FGDs (one comprising physiotherapy managers and one comprising nurse operational managers and senior medical consultants in separate sessions), followed by one mixed interprofessional FGD. Each profession-specific FGD included 8–10 participants and was facilitated using depth-oriented questioning to ensure rich experiential accounts. Profession-specific FGDs explored in-depth leadership experiences within professional boundaries, while the interprofessional FGD focused on relational dynamics, collaboration, and fragmentation across professional groups. Although some professional groups were represented by a single FGD, thematic saturation was assessed iteratively during analysis and confirmed when no new themes or meaningfully distinct insights emerged from the final two discussions.

Although some professional groups were represented by a single FGD, data collection continued until thematic saturation was achieved, defined as the point at which no new themes or meaningfully distinct insights emerged. Saturation was confirmed during analysis of the final two FGDs, providing assurance of data adequacy despite group size variation.

Each focus group session lasted approximately 90–120 minutes and was guided by a semi-structured interview schedule covering key themes identified from the literature and pilot discussions. Data collection continued until thematic saturation was achieved, operationalised as the point at which no new themes or meaningfully distinct insights emerged from the final two focus groups.

All sessions were facilitated by two researchers: a primary facilitator with extensive healthcare leadership experience and a secondary researcher who served as a scribe and observer. Sessions were audio-recorded with participant consent, professionally transcribed verbatim by an independent transcription service, and anonymised using a systematic coding system (P1–P27) to protect participant confidentiality.

## Data Analysis

Data analysis was conducted using Otto Scharmer's Theory U as an analytical framework.<sup>22</sup> The seven-stage Theory U framework provided both a conceptual lens and a practical analytical structure for understanding how leaders experienced transformation and adaptation during the crisis. Theory U was applied as an interpretive framework to analyse participants' narrated leadership experiences rather than as a linear or prescriptive developmental model. The unit of analysis was individual and collective sense-making as expressed in participants' reflective accounts. Transformational change was therefore inferred from descriptions of adaptive shifts in awareness, identity, relational practice, and leadership behaviour, rather than assumed as complete or sustained institutional transformation.

Two researchers (the primary author and a research assistant) independently coded the first three transcripts using an initial coding framework derived from Theory U stages, with disagreements resolved through discussion and consensus. Inter-rater reliability was established at 85% agreement before proceeding with full analysis.

The Theory U framework guided analysis by mapping participant experiences across transformation stages: co-initiating (initial responses to the pandemic crisis and recognition of inadequate preparation), co-sensing (deep listening and observation of emerging challenges in staff needs and system failures), presenting (connecting with deeper sources of knowing and purpose, often involving personal values and professional identity reconstruction), crystallising (developing vision and intention for new approaches to leadership and care delivery), prototyping (testing new leadership practices and strategies in real-time crisis conditions), performing (implementing adapted leadership approaches and sustaining new practices), and institutionalising (embedding new leadership capabilities and advocating for systemic changes).

Thematic analysis was conducted iteratively through six phases: data familiarisation through multiple transcript readings; systematic generation of initial codes; identification of candidate themes; theme review and refinement; theme definition and naming; and production of the analytical report. While Theory U provided an overarching analytical structure, inductive coding was used to ensure that themes emerging from participants' accounts were not constrained by the framework. NVivo 12 software was used to manage data coding and theme development, with a comprehensive audit trail documenting all analytical decisions.

## Trustworthiness

Multiple strategies enhanced the credibility of findings. Prolonged engagement was achieved through multiple contact points with participants and an extended data collection period. Member checking involved sharing preliminary findings with volunteer participants (n=8) and presenting final themes to representatives from each professional group, resulting in minor theme refinements and confirmation of thematic accuracy. Weekly peer debriefing sessions with an external healthcare leadership researcher (not involved in data collection) challenged assumptions and enhanced analytical rigor. In addition, reflexive journaling was maintained throughout data collection and analysis to critically examine how the primary facilitator's extensive healthcare leadership experience may have shaped questioning, interpretation, and theme development. Independent coding by a second analyst was used to minimise interpretive dominance and ensure that findings remained grounded in participants' narratives rather than in the researcher's assumptions.

## Ethics and Consent

Ethical approval was obtained from the University of KwaZulu-Natal Biomedical Research Ethics Committee (BREC) (REF: HSSREC/00004457/2022). Provincial Department of Health approval was secured prior to hospital recruitment, and hospital management approval was obtained from each participating facility. The study was conducted in accordance with the Declaration of Helsinki and relevant institutional and national ethical standards.

All participants provided written informed consent prior to participation, including separate consent for audio recording and for the publication of anonymised responses and direct quotations. Data were stored securely in accordance with institutional data management protocols, with electronic files password-protected and stored on encrypted institutional servers. Hard-copy materials were stored in locked filing cabinets, with access restricted to the research team only.

## Results

Five major themes emerged from the data analysis, illuminating how healthcare leadership was experienced and enacted during the COVID-19 pandemic in KwaZulu-Natal public hospitals. Across professional groups and hospital levels, participants described convergent patterns of unpreparedness, psychological strain, interprofessional fragmentation, frontline adaptation, and a shift in personal leadership. The themes map across Theory U's transformation process, from initial crisis recognition through adaptive capability development.

### Crisis Leadership Unpreparedness – Educational and Systemic Gaps- Theme I

The onset of the COVID-19 pandemic exposed significant gaps in crisis leadership preparedness across public sector hospitals in KwaZulu-Natal. Participants consistently described entering the pandemic with limited formal preparation for large-scale health emergencies, unclear operational guidance, and insufficient leadership training for managing uncertainty, rapid decision-making, and staff distress. Leadership responses were frequently improvised, shaped by rapidly changing information, inconsistent protocols, and weak institutional coordination. These accounts indicate that unpreparedness was not experienced as an individual

failing, but rather as a systemic deficit rooted in existing educational, organisational, and governance structures. This theme corresponds to the co-initiating phase of Theory U, in which leaders first recognised that existing assumptions, skills, and institutional arrangements were inadequate to the emerging crisis. Participants across all three professional groups described entering the pandemic without structured crisis leadership preparation, with similar accounts emerging from district, regional, and tertiary hospitals.

We were completely unprepared. There were no clear protocols, and everything kept changing. You were expected to lead, but you were also trying to figure things out yourself (nurse operational manager)

There was no disaster plan we could rely on. We were learning on the job, making decisions under pressure without proper guidance or training (Senior medical consultant).

We had clinical skills, but crisis leadership is different. Managing fear, staff anxiety, and uncertainty was something we had never been trained for (Physiotherapy manager)

Similar sentiments were expressed by multiple participants, who described “learning on the job” and relying on informal peer consultation rather than institutional guidance.

## Key Dimensions of Unpreparedness

### Infection Prevention and Control (IPC) Leadership

Medical and physiotherapy leaders reported receiving minimal formal IPC training compared with nursing colleagues. One medical consultant explained:

We were excellent clinicians, but suddenly we were expected to be IPC experts, teaching others about donning and doffing when we’d never had proper training ourselves. (Senior medical consultant)

### Crisis and Psychological Leadership Skills

Formal training in psychological resilience, trauma-informed leadership, palliative care, and end-of-life decision-making was widely reported as absent. A nurse operational manager reflected:

Nothing in my training prepared me to lead a team through trauma while managing my own fear. We learned crisis leadership by trial and error, often making costly mistakes. (Nurse operational manager)

Several participants further noted gaps in foundational clinical preparedness among junior staff, describing uncertainty around basic IPC procedures and a perceived emphasis on procedural completion rather than experiential learning.

### Systemic Curriculum Deficiencies

Participants across professions reported that pre-service and in-service training did not adequately prepare leaders to navigate uncertainty, systemic disruption, or the ethical dimensions of mass illness and mortality. The absence of disaster management training, interprofessional IPC protocols, and adaptive leadership development was repeatedly emphasised. Many participants contrasted a focus on “skills, techniques, and logbooks” with the lack of preparation for holistic patient care, staff emotional well-being, and social determinants of health during crisis conditions.

Taken together, these narratives demonstrate a fundamental leadership deficit at the onset of the pandemic, underscoring the need for health worker education and leadership development models that incorporate disaster preparedness, interprofessional crisis coordination, and adaptive leadership.

## Leadership Failures in Staff Support That Neglected Workers’ Psychological Needs— Theme 2

Participants described profound psychological strain among healthcare staff, including persistent fear, anxiety, guilt, and trauma symptoms. Yet, institutional leadership structures consistently failed to offer meaningful psychological and emotional support. This theme represents the co-sensing phase of Theory U, in which leaders became acutely aware of the deep human needs that traditional institutional approaches overlooked.

Absence of formal support structures: Promised counselling services never materialised; Employee Assistance Programmes (EAPs) remained inaccessible; and staff reported feeling abandoned during their most vulnerable moments. As one participant stated,

The counsellors never came. (Physiotherapy manager, district hospital)

Another leader noted that Employee Assistance Programme (EAP) services were

Either non-existent or unknown to staff at our facility. (Nurse operational manager, regional hospital)

A physiotherapy manager shared:

We were told help was coming, but counsellors never arrived. Staff were breaking down, and we had no resources to help them.

### Dehumanisation by Institutional Leadership

Participants noted that higher-level leaders often adopted a rigid, business-like approach, treating staff as replaceable resources rather than individuals facing unprecedented trauma and stress. One participant explained that leadership saw them as “numbers” rather than prioritising their well-being. The focus on metrics, productivity, and compliance over human welfare left many feeling expendable. Some leaders were praised for insisting that “your mental health had to take priority”. However, others were criticised for treating staff as “numbers” in a business model.

### Tokenistic Recognition

Promised appreciation mechanisms, such as additional leave or recognition programmes, were minimal, delayed, or never delivered. Staff described symbolic gestures, such as being granted “5 days of leave three years later”, as wholly inadequate. The gap between rhetoric about healthcare heroes and the lack of tangible support deepened staff feelings of neglect and abandonment.

Leaders emphasised that this systematic neglect of staff wellbeing eroded morale, trust, and resilience, ultimately weakening both individual and organisational capacity to respond effectively to the crisis. The theme highlights the urgent need for leadership models that place staff wellbeing alongside patient outcomes, ensuring that healthcare workers are valued as people, not merely as resources.

## Fragmented Interprofessional Leadership That Sidelined Allied Health Professionals – Theme 3

Physiotherapists, despite their crucial role in respiratory care and ventilator weaning, described experiences of marginalisation in leadership and decision-making processes during the pandemic response. Accounts of exclusion were reported across multiple hospitals and levels of care, suggesting that this was not an isolated facility-level issue but a structurally patterned experience. This theme also reflects the co-sensing phase, in which leaders recognised that traditional hierarchies were preventing effective collaboration and knowledge integration. Three interrelated sub-themes illustrate this fragmentation.

### Exclusion From Decision-Making

Physiotherapy leaders reported being excluded from joint operations committee meetings and pandemic planning processes.

One participant reflected:

The contingency plan for large disasters was not well known, and it was not clear; people were not clear about their role. (Physiotherapy manager, regional hospital)

Another physiotherapy manager explained:

We were caring for the sickest COVID patients, helping them breathe, but we weren't even included in the meetings about how to manage COVID patients. (Physiotherapy manager, tertiary hospital)

Several participants described having to independently source personal protective equipment (PPE) and develop localised clinical protocols without input into broader organisational strategies. Similar accounts were provided by physiotherapy leaders across district and tertiary facilities, indicating that exclusion from formal decision-making structures was experienced across institutional levels.

### Limited Interprofessional Communication

Despite caring for the same patients, doctors, nurses, and physiotherapists often operated in parallel rather than in integrated collaborative structures. Participants described fragmented communication pathways, delayed information sharing, and minimal structured interdisciplinary case discussions. Leaders from all three professional groups acknowledged that communication frequently occurred reactively rather than through coordinated planning mechanisms.

This fragmentation undermined both team cohesion and the quality of patient care, with participants describing duplication of efforts, inconsistent clinical messaging, and avoidable tension between professional groups.

### Missed Leadership Opportunities

Institutional leadership did not consistently integrate physiotherapists' specialised expertise in respiratory care, ventilation support, and rehabilitation into formal governance processes. Although physiotherapists initiated multidisciplinary meetings and developed evidence-based protocols at the unit level, these initiatives were not formally embedded into hospital-wide decision-making structures.

One physiotherapy leader noted:

We created our own respiratory protocols because we had to. But those protocols were never formally adopted beyond our unit.  
(Physiotherapy manager, district hospital)

This suggests that while adaptive practices emerged locally, institutional mechanisms for recognising and scaling allied health expertise were limited.

This theme highlights the persistence of traditional healthcare hierarchies and professional silos, even in crisis situations that demanded collective action and integrated approaches. From a Theory U perspective, these patterns reflect constrained co-sensing processes, in which not all professional voices were fully integrated into collective meaning-making and crisis planning.

The marginalisation of allied health professionals may have constrained organisational resilience by limiting the integration of diverse clinical expertise during a rapidly evolving public health emergency.

## Leadership Transformation From Institutional Rigidity to Frontline Innovation: Theme 4

A clear contrast emerged between leadership experiences at institutional/administrative levels and those at the frontline clinical level, revealing differentiated patterns of leadership response during the crisis. This theme spans multiple Theory U phases, particularly presenting (connecting with deeper purpose and values), prototyping, and performing (implementing new approaches), with several frontline leaders describing adaptive shifts in practice while institutional structures were perceived as slower to change. Four interrelated sub-themes were identified.

### Institutional Leadership Constraints

Higher-level institutional leaders were frequently described by participants as demonstrating inconsistent communication, limited foresight, reactive rather than proactive responses, and disconnection from frontline realities.

Participants reported that administrative leadership often prioritised compliance reporting, policy circulation, and reputational management over relational engagement with staff. One nurse operational manager noted:

We would receive circulars late at night with changes for the next morning. There was no space to ask questions or adapt properly.  
(Nurse operational manager, district hospital)

Several participants across professional groups described decision-making processes as top-down and involving limited consultation. However, it is important to note that not all institutional leaders were described negatively; a small number

were recognised for visible presence and attempts to communicate transparently, although these were reported as exceptions rather than the norm.

### Frontline Leadership Adaptability

In contrast, frontline leaders—including consultants, ward managers, and physiotherapy managers—described adopting hands-on, adaptive approaches within their immediate units.

Rather than characterising this as a “remarkable” transformation, participants more commonly framed their responses as necessary improvisation under pressure. As one senior medical consultant explained:

There was no choice. If we waited for direction, patients would suffer. So we made decisions and adjusted as we went. (Senior medical consultant, tertiary hospital)

Frontline leaders described developing local protocols, reorganising ward flows, reallocating staff, and establishing informal communication systems to compensate for perceived institutional gaps. These practices reflect movement toward Theory U’s prototyping and performing phases, where new approaches are tested and implemented in real time.

### Human-Centred Leadership Emergence

Some frontline leaders described a deliberate shift toward relational and human-centred leadership practices, particularly in response to visible staff distress.

Participants reported encouraging rest periods, creating safe spaces for debriefing, and modelling emotional openness. A medical consultant reflected:

When the system failed our people, we had to become the system. We couldn’t change the institution, but we could change how we led our teams. (Senior medical consultant)

From a Theory U perspective, such accounts align with elements of the presenting phase, in which leaders reconnect with deeper professional values and purpose. However, these shifts were not uniform across participants and varied in intensity and sustainability.

### Adaptive Innovation at the Unit Level

Frontline leaders described initiating IPC training sessions, improvising equipment solutions, restructuring workflows, and establishing informal peer-support systems.

One physiotherapy manager stated:

We started our own mini training sessions because we couldn’t wait for formal training. It wasn’t perfect, but it helped. (Physiotherapy manager)

These adaptive practices illustrate real-time experimentation consistent with Theory U’s prototyping and performing stages. Importantly, participants emphasised that many of these innovations occurred without formal institutional endorsement and were often confined to unit-level implementation.

Overall, this theme suggests that adaptive leadership practices emerged most visibly at the frontline level, where leaders had direct relational proximity to staff and patients. Rather than representing comprehensive systemic transformation, these findings indicate differentiated adaptation, with localised innovation occurring within structurally constrained institutional environments.

## Personal Leadership Emergency Through Crisis, Demonstrating Individual Transformation and Adaptive Capacity Under Extreme Pressure – Theme 5

Theme 5 reveals participants’ accounts of meaningful personal shifts in leadership awareness and practice during the COVID-19 pandemic, experiences consistent with multiple stages of the Theory U transformation process at the individual level. For many participants, the pandemic prompted reflection on professional identity, leading them to shift from predominantly hierarchical or directive roles toward more collaborative and relational leadership approaches.

Participants described experiences that aligned with several stages of Theory U, including initial recognition of inadequacy (co-initiating), deep awareness of emerging needs (co-sensing), connection with deeper purpose (presenting), and experimentation with new approaches (prototyping). While some participants described sustained changes in practice (performing), evidence of full institutionalisation at the organisational level was limited and uneven.

The crisis catalysed a shift in mindset for some participants, from viewing healthcare primarily as task-oriented work to understanding it as a relational, responsibility-driven practice. As one participant expressed:

This is not a job. It's a responsibility.

Leaders described becoming “more resilient and more realistic” as they learned to accept clinical limitations and uncertainty. A senior nurse manager reflected that she “had to role model” for her team during unprecedented circumstances, while junior doctors and interns described being “asked to become a leader” out of necessity rather than formal preparation.

Several participants described deliberate movement away from purely authoritative or directive approaches toward more collaborative and relational leadership styles.

These shifts were characterised by leaders positioning themselves as “accessible points of contact for those who were ‘feeling lost,’” emphasising the importance of “listening, understanding staff members’ weaknesses and their positives,” and creating environments where decisions could be made “without fear of retribution.”

From a Theory U perspective, these narratives align most clearly with the presenting, prototyping, and performing phases, in which leaders connect with deeper values and enact new practices in real time. However, progression through all stages was not uniform across participants.

The theme illustrates how individual agency emerged through experiential learning under extreme pressure. Participants described colleagues demonstrating “selfless” behaviour and rising “above the fear” through a strong “sense of duty” and ethical commitment. This fostered collaborative problem-solving environments in which “everybody’s opinion counted”, and staff developed increased flexibility and willingness to adjust strategies when initial approaches proved ineffective.

Rather than indicating universal or complete transformation, these accounts suggest differentiated individual-level adaptation, with varying depth and sustainability of leadership change across participants.

## Synthesis

The five themes reveal a complex pattern of leadership adaptation that aligns meaningfully with Theory U’s framework while highlighting the multilevel nature of crisis leadership development. The critical incidents described by participants suggest that traditional healthcare leadership models—based on hierarchy, technical expertise, and individual authority—were often found inadequate in crisis conditions, prompting shifts in leadership awareness and practice.

The adaptation observed involved movement across multiple stages of Theory U, from the recognition of inadequacy (co-initiating) through deep awareness of emerging needs (co-sensing), connection with deeper values and purpose (presenting), and experimentation with new approaches (prototyping) to the implementation of adapted practices (performing). While some participants described sustained changes in practice, evidence of consistent institutionalisation across organisational levels was limited.

This process unfolded unevenly across levels of the healthcare system. While institutional leadership structures were often described as remaining constrained within earlier Theory U phases (co-initiating and co-sensing), some individual leaders narrated experiences consistent with progression across multiple stages of the framework. These leaders described developing adaptive capabilities that helped sustain service delivery despite systemic limitations.

Rather than indicating uniform or system-wide transformation, the findings suggest differentiated shifts in leadership orientation. Participants described movement from predominantly individual expertise toward greater collective problem-solving; from hierarchical authority toward more collaborative engagement; from purely technical focus toward increased attention to relational and human-centred care; and from reactive responses toward more adaptive practices. However, these shifts were not consistently embedded at the institutional level.

Crucially, the most clearly articulated changes occurred at the individual level, where several healthcare professionals described reconstructing aspects of their professional identity and leadership approach in response to crisis pressures. These narratives illustrate the potential for leadership learning and adaptive development under extreme conditions, even in the absence of robust organisational support structures.

Taken together, the findings suggest that leadership development in crisis-prone healthcare systems must address both systemic constraints and the conditions that enable individual adaptive growth. Rather than assuming automatic institutional transformation, sustained reform requires deliberate structural, educational, and governance-level change beyond the emergence of individual leadership.

## Discussion

This study explored the lived experiences of physiotherapy managers, nurse operational managers, and senior medical consultants during the COVID-19 pandemic in public sector hospitals in the eThekweni District of KwaZulu-Natal. By examining how these leaders navigated systemic constraints, psychological strain, interprofessional fragmentation, and adaptive leadership demands under VUCA conditions, the study provides contextually grounded insight into crisis leadership in resource-constrained healthcare systems.

The study makes three key contributions to the healthcare leadership literature. First, it provides one of the few empirical examinations of allied health leadership—particularly physiotherapy leadership—during COVID-19 in the South African public health context. Second, by comparatively analysing physiotherapy managers, nurse operational managers, and senior medical consultants, it demonstrates how differentiated authority and professional positioning shaped crisis leadership experiences across interdependent frontline strata. Third, applying Theory U as an interpretive framework provides a contextually grounded lens for understanding the emergence of adaptive leadership in crisis-prone healthcare systems.

This study illuminates the challenges and adaptive leadership responses that emerged during the COVID-19 crisis in KwaZulu-Natal's public hospitals. Using Theory U as an interpretive analytical framework, the findings illustrate processes of recognising systemic inadequacy (Theme 1), sensing emerging staff and system needs (Themes 2 and 3), reconnecting leadership practice to deeper values (Theme 5), and experimenting with adaptive approaches at the frontline level (Theme 4). While individual-level transformation was evident among several participants, institutional embedding of these capabilities was more limited and uneven across organisational levels. The findings, therefore, reflect a differentiated pattern of adaptation, in which frontline leaders demonstrated resilience and adaptive capacity despite constrained institutional environments.

These results contribute to the growing body of literature on crisis leadership in volatile, uncertain, complex, and ambiguous (VUCA) healthcare environments, where inclusive and relational leadership approaches have been identified as critical for maintaining effective healthcare delivery under stress.<sup>23,24</sup> Consistent with Theme 1, the educational and systemic gaps identified in this study align with international findings on healthcare leadership preparedness during COVID-19.

The systematic unpreparedness revealed in Theme 1 reflects what Theory U identifies as the consequences of operating from outdated mental models and institutional patterns that are inadequate for emerging realities. In Ghana, for example, low perceived preparedness among healthcare workers was significantly associated with higher stress and burnout.<sup>25</sup> Similarly, a survey in Ghana and Kenya reported high burnout ( $\approx 70\%$ ), low perceived preparedness, and dissatisfaction with support structures among providers.<sup>26</sup> In South Africa, a knowledge-attitudes-practices study found that only around half of health workers had received sufficient IPC training and many did *not* feel adequately prepared to manage COVID-19 patients.<sup>6</sup> Participants in the present study described comparable experiences of uncertainty, role strain, and improvised leadership, suggesting that local leadership failures reflected broader systemic patterns rather than isolated institutional shortcomings. These findings highlight the need for healthcare leadership education that incorporates Theory U principles of adaptive learning, uncertainty navigation, and transformative capacity development rather than relying solely on technical competency models that proved inadequate during the crisis.<sup>27,28</sup>

The systematic failure to support staff psychological needs, identified in Theme 2, represents what Theory U characterises as leadership operating from outdated paradigms that treat people as resources rather than recognising

their full humanity and potential. The COVID-19 pandemic exposed significant deficiencies in healthcare leadership, particularly in the psychological and emotional support of frontline staff, with profound implications for both individual well-being and organisational resilience.<sup>28,29</sup>

In South Africa, a study of frontline doctors in Tshwane public hospitals revealed that 58.9% experienced clinical burnout, with 19.6% reporting extreme burnout.<sup>30</sup> Participants in this study reported persistent fear, emotional exhaustion, guilt, and moral distress, demonstrating convergence between national epidemiological evidence and local leadership narratives. The dehumanisation of staff—treating them as mere numbers rather than individuals facing unprecedented trauma—reflects what Theory U identifies as leadership operating from ego-system awareness rather than eco-system awareness that recognises interconnection and mutual responsibility.<sup>20</sup>

The fragmentation identified in Theme 3 exemplifies the institutional patterns that Otto Scharmer's Theory U describes as inhibiting effective co-sensing and collective intelligence. The exclusion of physiotherapy leaders from Joint Operations Committee meetings, despite their central role in respiratory rehabilitation, illustrates how entrenched professional hierarchies can undermine the effectiveness of crisis response. Evidence consistently shows that strong interprofessional collaboration and collective leadership are associated with improved staff wellbeing and reduced psychological strain.<sup>31,32</sup> Participants' accounts of parallel working, limited communication, and exclusion from decision-making structures suggest that interprofessional fragmentation not only constrained care coordination but also amplified psychological strain and leadership burden during the crisis. This finding aligns with broader evidence linking hierarchical organisational cultures to reduced system resilience and diminished adaptive capacity during emergencies.<sup>32,33</sup>

Theory U's emphasis on inclusive sense-making and relational leadership provides a useful explanatory lens for understanding why such fragmentation persisted despite clear clinical interdependence.<sup>22</sup>

Themes 4 and 5 most clearly demonstrate Theory U's transformative leadership principles in action. The contrast between institutional rigidity and frontline innovation reveals how transformation can occur at individual and unit levels even when broader systems remain stuck in outdated patterns. While not all participants progressed through every stage of Theory U, a substantial proportion described experiences consistent with movement through multiple stages of the framework, particularly from co-initiating and co-sensing toward presenting, prototyping, and performing. Several frontline leaders described experiences consistent with movement across multiple stages of the Theory U framework.

Notably, many of these adaptive leadership capabilities emerged in the absence of formal organisational support or structured leadership development. Participants described learning to lead through emotional attunement to staff distress, reflective sense-making in the face of uncertainty, and values-driven decision-making, rather than through prior technical or managerial training. This finding echoes international critiques of transactional leadership models during COVID-19<sup>27,28</sup> and suggests that traditional transactional leadership training models, which focus primarily on procedural knowledge, compliance, and technical competence, are insufficient for preparing leaders to navigate VUCA healthcare environments.

The findings demonstrate that adaptive leadership capability often emerged in the absence of formal organisational support, suggesting that traditional transactional leadership training focused primarily on procedural knowledge, compliance, and technical competence is insufficient for crisis-prone healthcare environments. Leadership development must therefore extend beyond managerial skill acquisition to deliberately cultivate the affective and reflective capacities emphasised in Theory U. These include deep sensing of relational and systemic dynamics, connecting leadership practice to personal and professional purpose, and engaging empathetically with staff experiencing moral distress and burnout. Embedding these capabilities within leadership training programmes may better prepare healthcare leaders to respond adaptively when institutional structures and formal supports are constrained or absent.

The personal leadership emergence documented in Theme 5 provides compelling evidence of Theory U's potential for individual-level transformation under crisis conditions. Analysis of participants' narratives (n=27) revealed three distinct transformation patterns: (1) Full-cycle transformation (n=9, 33%): participants articulated experiences across all seven Theory U stages, including identity redefinition, sustained changes in leadership practice, and ongoing commitment to relational and collaborative leadership beyond the acute crisis phase; (2) Partial transformation (n=15, 56%): participants demonstrated movement through co-sensing, presencing, and prototyping stages but had not yet reached full institutionalization within the study timeframe; and (3) Arrested transformation (n=3, 11%): participants whose adaptive processes stalled at early stages (co-

initiating/co-sensing) due to sustained resource constraints, burnout, or organizational barriers. These findings suggest that while crisis conditions can catalyse leadership emergence, the institutional environment plays a critical role in enabling or constraining longer-term institutionalisation of new capabilities. These findings caution against over-claiming systemic transformation while underscoring the importance of creating organisational conditions that support and embed emergent leadership capacities.

Importantly, while several participants described sustained changes in their individual leadership practice, evidence of formal organisational embedding of these adaptive capabilities was limited. Innovations introduced during the prototyping and performing stages were often localised at the unit level rather than systematically integrated into hospital governance structures, policy frameworks, or formal leadership development systems. Institutionalisation, therefore, should be understood as partial and uneven rather than fully realised at the systemic level.

Taken together, the lived experiences of healthcare leaders during COVID-19 reveal critical leadership gaps requiring immediate action. Strengthening leadership decision-making through evidence-informed management practices—supported by high-quality data, organisational learning mechanisms, and visible leadership commitment—has the potential to significantly enhance crisis responsiveness and operational effectiveness.<sup>34</sup> The study's recommendations are therefore grounded not only in participant narratives but also in converging national and international evidence on leadership, burnout, and system resilience.

Overall, these findings position Theory U as a valuable interpretive framework for understanding the emergence of adaptive leadership in crisis-prone healthcare systems. However, the uneven institutionalisation observed in this study suggests that its institutionalising phase requires contextual sensitivity when applied to structurally rigid systems. Leadership transformation at the individual level does not automatically translate into systemic reform without deliberate structural and governance change.

## Recommendations for Practice and Implementation

The lived experiences of healthcare leaders during COVID-19 reveal critical gaps requiring immediate action. Based on our findings, we propose evidence-based recommendations for healthcare institutions, educational bodies, and policymakers.

### Curriculum Reform

Healthcare education must integrate crisis leadership competencies, including mandatory IPC training across all disciplines, disaster management, adaptive leadership in uncertain contexts, and interprofessional collaboration. Curricula should shift from purely technical skills to holistic models that incorporate emotional intelligence, psychological resilience, and ethical decision-making under resource constraints.

### Leadership Development

Institutions should implement Theory U-informed programmes providing psychological first aid training, trauma-informed leadership skills, and simulation-based crisis learning. Programmes must move beyond hierarchical models toward collaborative, human-centred approaches that recognise staff as whole persons.

### Institutional Support

Facilities must establish functional Employee Assistance Programmes with guaranteed immediate counselling, formal peer support networks, and structured debriefing protocols. Recognition programmes should provide meaningful, timely support, including adequate leave and psychological services, not tokenistic gestures.

### Interprofessional Collaboration

Mandate allied health representation in all crisis planning committees, establish regular interprofessional forums before crises occur, and develop integrated care pathways that formally recognize all healthcare professionals' expertise.

## Crisis Preparedness

Develop comprehensive disaster plans with clear roles, regularly updated protocols, surge capacity strategies, and pre-established psychological support infrastructure. Conduct regular simulation drills testing leadership structures, communication systems, and staff support mechanisms.

## Supporting Frontline Innovation

Create rapid-cycle innovation funds enabling unit leaders to pilot new approaches, establish knowledge-sharing platforms for frontline innovations, and provide protected space for experimentation with tolerance for trial-and-error learning.

## Policy Implications

Mandate crisis leadership competencies for leadership positions, establish minimum standards for staff psychological support, require regular crisis preparedness audits, and formally integrate allied health professionals into clinical governance structures.

## Implications for Healthcare Leadership Development

These findings reveal that traditional healthcare leadership models—emphasizing hierarchy, technical expertise, and individual authority—proved inadequate for crisis conditions, necessitating profound transformation in leadership approaches.

## From Technical to Adaptive

Leadership development must shift from knowledge transmission toward experiential learning, building adaptive capacity through simulation, reflection, and guided practice in uncertain environments. Theory U's framework offers valuable guidance, emphasizing deep listening, willingness to abandon outdated approaches, and capacity to co-create responses aligned with evolving needs.

## Individual Transformation

The profound personal leadership emergence documented in Theme 5 reveals a remarkable capacity for transformation that healthcare professionals demonstrated during the crisis. Leadership development must create structured pathways to recognize and accelerate this transformation through mentorship, reflective practice frameworks, and peer learning communities, rather than leaving it to chance.

## Integrating Levels

Individual transformation and systemic change must occur simultaneously. While frontline leaders demonstrated adaptive capacity, their innovations often occurred despite institutional support, creating unsustainable burdens. Theory U emphasizes aligned movement across individual awareness, collective practices, and institutional structures—requiring coordinated efforts across educational institutions, healthcare facilities, and policy bodies.

In the South African context, leadership development must build on existing frontline capacity rather than assume a deficiency. This includes recognizing indigenous problem-solving, validating resource-constrained adaptations, and addressing the historical hierarchies that persist from apartheid-era structures. Theory U's emphasis on deep listening and inclusive co-creation offers relevant guidance for transforming these inequities.

Future VUCA preparedness: COVID-19 represents one manifestation of VUCA conditions that health workers will increasingly face. Leadership development must prepare for persistent uncertainty through continuous learning processes, communities of practice engaging in scenario planning, and futures thinking methodologies rather than episodic training interventions.

## Limitations and Future Research Directions

The study's focus on a single district limits generalisability. Future research should examine how Theory U-informed leadership development interventions might strengthen healthcare crisis preparedness and response. Longitudinal studies tracking individual transformation over time would provide valuable insights into sustainable approaches to adaptive leadership development.

## Conclusion

This study explored the lived experiences of physiotherapy managers, nurse operational managers, and senior medical consultants during the COVID-19 pandemic in public sector hospitals in the eThekweni District of KwaZulu-Natal. The findings demonstrate that healthcare leadership during crises can involve adaptive and, in some cases, transformative processes that partially align with Otto Scharmer's Theory U framework.

While institutional leadership structures often remained constrained, many frontline leaders described meaningful adaptive shifts in leadership practice, offering insight into how crisis conditions can catalyse leadership learning and development. Shifts from authoritative toward more relational and human-centred leadership practices were evident among some frontline leaders, reflecting elements consistent with Theory U's emphasis on awareness-based leadership.

However, realising the full potential of such approaches requires deliberate organisational and educational reforms that support rather than constrain leadership development. The findings indicate that while adaptive leadership capabilities were developed and enacted at the individual and unit levels, their institutional embedding was uneven and limited. Institutionalisation was therefore not a completed systemic transformation but a localised and partial process, with many adaptive practices remaining confined to unit-level implementation rather than being formally integrated into organisational policy, governance structures, or leadership development pathways.

Innovations introduced during crisis conditions frequently remained localised, with limited evidence of sustained formal integration into institutional policies or leadership systems once the acute crisis subsided. This interpretation must be considered in light of the study's retrospective qualitative design and limited temporal scope, which constrain conclusions regarding the durability of leadership change beyond the crisis period.

Nevertheless, this pattern highlights a critical disjuncture between individual-level leadership emergence and system-level reform in crisis-prone healthcare settings characterised by entrenched hierarchies and organisational rigidity.

A critical finding requiring further emphasis is the role of interprofessional fragmentation (Theme 3) in constraining long-term leadership development. The exclusion of physiotherapy leaders from Joint Operations Committee meetings, parallel working across professional groups, and limited cross-disciplinary communication not only undermined crisis coordination but also inhibited the collective sense-making and collaborative learning that Theory U identifies as essential for sustained transformation. Interprofessional fragmentation functioned as both a symptom and a perpetuator of outdated hierarchical structures, limiting opportunities for allied health leaders to develop strategic leadership competencies, contribute to system-level decision-making, or participate in formal leadership networks. This fragmentation has enduring implications: when leadership development pathways remain siloed and professional hierarchies persist unchallenged, the adaptive capabilities developed during crises risk remaining profession-specific rather than becoming integrated into collaborative leadership models. Long-term leadership development in resource-constrained healthcare systems must therefore actively dismantle professional silos through deliberate interprofessional education, inclusive governance reforms, and formal recognition of allied health leadership contributions within institutional structures. Without such structural change, interprofessional fragmentation will continue to constrain both crisis responsiveness and the cultivation of system-wide leadership capacity.

Future healthcare systems should deliberately nurture adaptive and relational leadership capabilities at all organisational levels, with mechanisms to translate frontline learning into organisational change, including inclusive governance structures, feedback loops, and leadership development pathways that value interprofessional collaboration beyond crisis moments.

From a theoretical perspective, while Theory U offers a valuable framework for understanding the emergence of individual and collective leadership, its institutionalisation phase should not be assumed to be an automatic outcome of individual transformation. Institutionalisation is better understood as a contested, uneven, and multi-level process requiring sustained organisational, political, and cultural commitment beyond acute crises.

## Data Sharing Statement

Data will be available at reasonable request from the author.

## Acknowledgments

The author gratefully acknowledges the financial support of the South African Medical Research Council (SAMRC). The author also thanks the public hospitals in the eThekweni District and the University of KwaZulu-Natal College of Health Sciences for facilitating this research. Special thanks are extended to the physiotherapy managers, nurse operational managers, and senior medical consultants who generously shared their leadership experiences during the COVID-19 pandemic. In addition, gratitude is extended to the research assistants who supported the study from its inception through to its completion. An earlier version of this work was presented at the 8th AFREhealth Annual, 22 – 24 September 2025, in Dakar, Senegal. The conference details are available at <https://events.afrehealth.org/event/details/8th-annual-symposium>.

## Author Contributions

The sole author made substantial contributions to the conception and design of the work, the acquisition, analysis, and interpretation of data; drafted and critically revised the manuscript for important intellectual content; approved the final version to be published; agreed to the journal to which the manuscript has been submitted; and agrees to be accountable for all aspects of the work.

## Funding

This work was supported by the South African Medical Research Council (SAMRC) under the Self-Initiated Research (SIR) program, focusing on Pandemic Preparedness. No grant number was assigned to this funding. The funder had no role in the study design, data collection and analysis, decision to publish, or preparation of the manuscript.

## Disclosure

The author reports no conflicts of interest in this work.

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