

HOW LEADERSHIP COMMUNICATION SHAPES THE WELL-BEING OF AUSTRALIAN HEALTHCARE WORKERS IN NON-LINEAR SYSTEMS

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ABSTRACT

Workplace dynamics within the Australian public healthcare sector influences the well-being and psychosocial safety of healthcare workers, which subsequently impacts occupational commitment and operational stability. This study examines the influence of leadership communication on healthcare worker well-being— a relationship that remains under-examined within the Australian context. Drawing on 16 in-depth interviews with frontline staff and healthcare sector leaders, data were analysed through the theoretical lenses of Complex Adaptive Systems and Dissipative Structures theories to account for the healthcare sectors characteristic unpredictability. The analysis identified repetitive behavioural and emotional patterns of interaction, shaped by leadership communication, which influenced healthcare workers' responses to systemic turbulence. Healthcare workers' adverse well-being outcomes and perceived organisational instability were closely coupled with restrictive and inaccessible leadership communication practices. These attractor-like states triggered novel behavioural adaptations, underscoring the critical role of leadership in modulating systemic resilience. The study was weighted toward regional nursing perspectives with broader relevance across the healthcare sector, and provides actionable insights for healthcare managers and leaders, highlighting the necessity of adaptive communication strategies to mitigate psychosocial risks and prevent cascading organisational instability.

KEYWORDS

public healthcare sector; Australia; leader communication; workforce well-being; complex adaptive systems; sustainability; system resilience

INTRODUCTION

Globally, healthcare sectors (HCS) are entrusted with the continuous provision of health and well-being services to the public. Achieving these outcomes, places substantial demands on both HCS organisations and healthcare workers (HCWs). In the Australian public HCS, barriers to consistent care are increasing driven by the multifaceted challenges such as workforce shortages [1], sociodemographic factors including population health disparities, and the country's vast geographic expanse [2].

Gomersall [3] describes the HCS as a complex adaptive system (CAS), defined as an interconnected, nested, and networked structure of diverse agents and stakeholders. For the HCS to deliver care, meet organisational objectives, and

facilitate system transformation, continuous exchanges of communication and resources are required [4]. During these exchanges, interactions generate multidirectional feedback between individuals, teams, and across the nested subsystems [5]. Importantly, communication, signals, and resources are forms of social energy that are exchanged and accumulate within an organisation. Subsequently, the effective dissipation of this energy is essential for maintaining functional system states and preventing the escalation of systemic energy into states of disorder [4].

In social CAS, attractor states refer to recurring patterns of behaviour, interpretation, meaning, or interaction toward which individuals, teams or a system tends to move over time [6]. These dynamic interactions, feedback processes and information flows are inextricably entangled with system feedback rather than through cause-and-effect mechanisms [7]. Attractor states can represent a 'gravitational pull' – that is, the behaviour patterns or emotional states towards which an individual's or system's trajectory evolves. While these patterns emerge from local interactions, they eventually become the default states that govern the system's future trajectory [7]. In social CAS, attractor states represent a set of conditions individuals are drawn towards to assist in sense-making amidst disorder [8]. Since leaders exert influence over these conditions, evaluating leadership communication – through a lens of attractor states – offers a novel interpretation of how local interactions can manifest as systemic outcomes [9]. While Mackenzie [10] asserts that applying theories of attractor states in social CAS can illuminate organisational social dynamics, empirical examination within healthcare settings remains limited.

Globally, HCWs experience disproportionately high levels of occupational stress, adverse well-being, and poor mental health outcomes [11]. According to recent Australian data, anxiety affects 59.8% of HCWs, with emotional exhaustion and burnout are recorded at a significantly higher prevalence of 70.9%. Similarly, rates of post-traumatic stress disorder (PTSD) and depression were at 29% and 57%, respectively [12]. Salari, Khazaie [13] argue that HCWs are uniquely susceptible to psychological strain arising from the inherent intensity of clinical work and interpersonal conflicts. During the COVID-19 pandemic, these outcomes were exacerbated, and leadership communication was identified as a primary driver of increased anxiety [14], diminished motivation [15], and psychological strain [16]. However, the specific mechanisms through which leadership communication shapes the HCWs' experiences of well-being remain underexplored. This highlights a critical gap in the literature, particularly within the Australian public healthcare context.

METHODS

The study adopted an interpretivist qualitative approach and used reflexive thematic analysis to identify recurrent patterns across participant accounts [17]. The interviews explored participants lived experiences of leadership communication, workforce pressure, and system strain. Complex Adaptive Systems [18] was the primary interpretive lens for examining feedback, emergence, adaptation, and self-organisation. Attractor logic was then used to assess whether recurrent themes reflected patterned social states. Finally, Dissipative Structures Theory [4] further informed the interpretation of far-from-equilibrium conditions, instability, and potential system reorganisation. To support analytic rigour, the research team documented coding and interpretation decisions, compared patterns across data sources, and emergent system relationships against relevant literature. To enhance transparency, Tables 1–4 make visible the data analysis procedure from code creation to thematic analysis, attractor characteristics, and final attractor-like states.

DATA COLLECTION

The target population comprised public HCWs and leaders across Australia. Healthcare worker participants included nurses, midwives, general practitioners, and specialist practitioners. Frontline managers or leaders such as clinical nurse managers and nurse unit managers. Clinical nurse managers and nurse unit managers represented frontline leadership, while senior leadership spanned hospital unit heads, department heads, and executives. These cohorts were selected because they represent the primary agents of clinical delivery, operational and strategic oversight within the public HCS. To ensure depth of insight, recruitment targeted individuals currently registered and actively working in the HCS. This ensured that while professional roles varied, the phenomenon under investigation remained the central focus of the inquiry. Participants were recruited via purposive and snowball sampling through human research ethics-approved professional social networks and industry-specific channels to ensure sample diversity [19].

DATA COLLECTION INSTRUMENT

In this study, the primary data collection instrument was an interview guide developed following a comprehensive literature review [19]. The guide focused on three domains: participants well-being, workplace experiences, and leadership communication. Within the communication domain, emphasis was placed on communication modification and feedback processes. This semi-structured approach provided a consistent framework across all interviews while allowing for the "rich, deep" data collection – typical of qualitative inquiry [20]. This approach allowed for the emergence of unanticipated topics, which were recorded and transcribed via Zoom software. All transcripts were manually audited and de-identified to ensure verbatim accuracy and participant anonymity.

ETHICS APPROVAL

The study formed part of a larger PhD research study. Study approval was received from by Central Queensland University Human Research Ethics Committee (0000024290) prior to data collection commencing. All participants received written study information packs and their consent was confirmed before each interview commenced.

DATA ANALYSIS

Data analysis followed a multi-phase approach. First, participant accounts were coded to identify recurrent meanings relating to leadership communication, psychosocial safety, workload, well-being, and adaptive responses. Second, these codes were grouped into broader themes reflecting patterned relationships across the dataset. Third, the emergent themes were interpreted through the theoretical lenses of Complex Adaptive Systems theory [21] and Dissipative Structures Theory [4] to identify recurring system characteristics, including reinforcement, recurrence, attractor behaviour, stability, emotional salience, and resistance to disruption. Finally, this approach informed the identification of underlying mechanisms such as behavioural patterns and system-level outcomes identifying attractor-like states, thereby providing a nuanced understanding of how leadership communication dynamics modulate psychological responses within healthcare organisations [22]. Tables 1–4 summarise this analytic progression, while the findings section provides examples showing how codes and themes informed each attractor state interpretation. To distinguish attractor-like patterns from strong qualitative codes, recurrent themes were not assumed as attractor states solely because of frequency or salience. Rather, a pattern was interpreted as attractor-like only where participant accounts suggested a recurrent configuration of interacting conditions that appeared to stabilise, reinforce, or draw the individual or healthcare system back toward particular behavioural, emotional, or communication patterns over time (Table 1).

TABLE 1. NINE CHARACTERISTICS OF ATTRACTOR STATES, IDENTIFIED THROUGH THE LENSES OF COMPLEX ADAPTIVE SYSTEMS AND DISSIPATIVE STRUCTURES THEORIES, UTILISED FOR MAPPING AGAINST INTERVIEW DATA

Attractor State Characteristic in a social CAS	Description	Reference
Occur in a Complex Adaptive System	A hierarchical arrangement of complex nested systems that influence one other through dynamic interactions.	Gomersall (2018)
Spontaneous Evolution	The evolution of HCWs towards a certain point arising from local system dynamics.	Morales-Matamoras (2010)
Fractal Properties	Behaviour patterns or outcomes are evidenced across multiple organisational contexts and nested sub-systems.	Dimitrov and Woog (2000)
Initial Conditions	A specific set of system variables, factors, or a starting point to which the HCWs respond.	Richardson (2014)

Path Dependence	Future system states or outcomes depend on past system states, historic events, or previous choices made.	Morales-Matamoros (2010)
Context Dependent	The conditions, parameters, or environment to which the HCWs respond has various meanings and values for the HCWs.	Dimitrov and Woog (2000)
Purpose	The attractor state has a purpose for the HCWs – to make sense of information, disorder, or guide behaviours.	Morales-Matamoros (2010)
Self-Organisation	Responses and decisions from HCWs evidence behaviours and patterns of self-organisation.	Weber (2022)
System Entanglement	Mechanisms such as feedback show multi-system entanglement that can provoke system change.	Radzicki (1990)

FINDINGS

Sixteen in-depth interviews were conducted, comprising nine HCWs and seven HCS leaders. Participants' demographics are summarised in Table 2. The HCW cohort represented a diverse range of multidisciplinary backgrounds, spanning 5-44 years of experience in the Australian HCS. Geographically, the sample was primarily concentrated in Western Australia (n = 12; 75%), with further representation from Queensland (n = 2; 13%), New South Wales (n = 1; 6%), and Tasmania (n = 1; 6%). Within the HCW cohort, the majority were nurses (n = 8; 89%), over half of whom were specifically situated within Emergency Departments (ED). Notably, many participants held experience across multiple Australian HCS disciplines and geographical states, providing a diverse perspective on the HCS. The leadership participant cohort was highly experienced, possessing a collective 113 years of service within the HCS (median=16.1 years). Experience within the leadership cohort ranged from frontline management experience through to senior leadership roles, representing clinical management, administrative, and strategic leadership.

TABLE 2: INTERVIEW PARTICIPANT DEMOGRAPHIC INFORMATION

Legend: FLL- Frontline leader, HCW- Healthcare Worker SL-Senior Leader NSW-New South Wales, TAS-Tasmania, QLD-Queensland, WA-Western Australia

Identifier	Country of Birth	Total years working in HCS	State in Australia	Role in public HCS	HCS Discipline
Healthcare worker participants					
HCW1	South Africa	5	QLD	Nurse	Theatre Department
HCW2	Australia	16	WA	Specialist Practitioner	Emergency Department
HCW3	Australia	5	WA	Nurse	Emergency Department
HCW4	England	39	WA	Nurse	Anaesthesia
HCW5	Australia	9	WA	Nurse	General Medical and Emergency Department

HCW6	Australia	6.5	WA	Nurse	General medical
HCW7	England	13	WA	Nurse	Acute care and Emergency Department
HCW8	Australia	9	WA	Nurse	Emergency Department
HCW9	England	44	WA	Nurse	Clinical
Healthcare sector leader participants					
FLL1	Australia	12	QLD	Frontline Leader	Clinical Nurse Manager Aged Care
FLL2	South Africa	20	WA	Frontline Leader	Clinical Nurse Manager- Hospital
FLL3	Zimbabwe	10	WA	Ass. Frontline Leader	Ass Nurse Unit Manager- Acute Care
FLL4	Australia	14	WA	Frontline Leader	Nurse Unit Manager- ED
SL5	South Africa	9	TAS	Senior Leader	Director of People and Culture
SL6	Australia	22	WA	Senior Leader	Director of Women's Health Portfolio
SL7	South Africa	26	NSW	Senior Leader	Director of People and Culture

Reflexive thematic analysis of the interview transcripts revealed six primary themes and two integrated sub-themes (see Table 3). The primary themes, which are unranked to prioritise thematic depth over frequency, include: Well-being and Psychological Safety; Resource Constraints; Transformation and Turbulence; Bureaucratic Challenges; Leadership Efficacy; and Communication Processes and Feedback Mechanisms. Within these broader themes, two sub-themes emerged: Normalising Trauma (situated within Well-being), and A New Generation of HCWs (situated within Transformation and Turbulence). Table 3 provides a summary of the codes extracted from NVivo 14, including the main themes, associated interview questions, and the density of participant contributions as indicated by code reference counts.

TABLE 3: PARENT AND CHILD CODES FROM THEMATIC ANALYSIS RESULTING IN MAIN THEMES

Main Theme/Code	Select example of interview questions	Child codes	No. of References
Well-being and psychological safety	-Describe working in the HCS over the past 2-3 years -How would you describe your current state of well-being?	-Cultural divide -Feeling devalued -Hierarchy or dominant communication -Importance of psychological safety -Leader intolerance and lack of understanding	131

		-Leaders' effort to support -Experiences of well-being -Normalising Trauma	
Resource constraints	-Why is leader communication important (to you)?	-Structural and Human Resources -Training and clinical development -Workload and increased demand	119
Transformation and turbulence	-Describe the current culture in the workplace	-Changed perspective -Conflicting agendas -COVID-19 -HCW warnings of crisis -Loss of cultural identity -Staff changes -System changes	105
Bureaucratic challenges	-How do you feel the (Healthcare Worker) Unions could be more efficient?	-Bureaucracy -Compliance -Leadership visibility -Government participation -HCW Unions -Public vs private -Remuneration	66
Leadership efficacy	-What do you feel are important factors in leader communication? -How do you think communication in the HCS could be improved?	-Adapting communication -Different work ethic -Don't listen to HCW -Front Line Leaders action -Lack of support -Leader communication style -Psychological safety	220
Communication processes and feedback mechanisms	-Can you describe any experiences of speaking out or voicing your concerns to the leader? -How is conflict or uncomfortable situations managed?	-Accessibility and hierarchy -Adaptation of communication -Communication gaps -Debrief and feedback -Poor experiences of feedback -Roles of workplace communication	159

To identify the presence of attractor-like states within the Australian public HCS, data were analysed through the lenses of Complex Adaptive Systems (CAS) [21] and Dissipative Structures Theory (DST) [4]. Participants discussed experiences of chronic fatigue, stress, and burnout stemming from the confluence of escalating clinical demands and HCS resource scarcity. The cumulative pressure of operational requirements often exceeded the HCS's functional capacity which further contributed to HCWs' experiences of disorder. Healthcare workers explained how high levels of affective distress, including anxiety, anger, burnout, and Post-Traumatic Stress Disorder (PTSD), were precipitated by repeated exposure to high-acuity and traumatic patient cases, amidst excessive workloads. The HCWs' specific roles modulated their experiences of occupational distress, where understaffing, leaders' normalisation of occupational trauma and sub-optimal staff-patient ratios variably modulated their perceptions of workplace disorder. Notably, HCWs within emergency departments (EDs)

identified frequent "bottleneck points" of systemic friction – characterised by periods of system strain and operational overcapacity. Consequently, leadership intervention was sought to mitigate the cascading effects of psychological distress and manage resulting pressures on patient service provision.

Leadership communication was predominantly described as authoritative and transactional. For example, subordinate cohorts, including nursing staff and frontline managers, describe barriers to communicating non-clinical challenges or engaging in discussions regarding psychosocial support. Leadership were widely perceived as detached from the relational and emotional complexities and realities of clinical practice. Consequently, participants expressed how available psychological services and leadership accessibility for feedback and debriefing were inadequate. The absence of structured communication platforms contributed to participants feeling undervalued and was incongruent with the HCWs' requirements for trauma-informed debriefing.

Mapping the themes of participants' experiences of leadership communication, system disorder and well-being against the attractor characteristics (Table 1), revealed recursive and reinforcing patterns across individual, team, organisational, and system levels (8). These patterns repeated across diverse clinical disciplines and geographic contexts suggesting feedback dynamics recur across multiple levels of the HCS. Fourteen comparable attractor states were identified and grouped into five main types, each associated with leadership communication patterns linked to organisational instability or workplace disorder (see Table 4). First, these attractor states were marked by adverse occupational and psychological conditions experienced by the subordinate HCW. Second, the fluctuations in psychosocial well-being were situationally shaped. For example, the duration of an HCW's unaddressed adverse well-being appeared to trigger low expectations in the leader's competence and the likelihood of support [23]. This combination of factors coincided with the HCWs' support-seeking interactions with leadership to obtain psychological assistance or systemic relief [24] (See Table 3). Third, the subordinate HCWs frequently described leadership communication mechanisms within these attractor states as deflective, dismissive, and ambiguous (see Table 4). These communication mechanisms inhibited reciprocal dialogue, thereby damping information flows necessary for HCWs to resolve concerns or feel adequately supported.

Consequently, subordinate HCWs discussed their associated responses to these communication engagements, including anxiety, exhaustion, burnout, PTSD, emotional breakdown, and workplace withdrawal. These responses shaped the HCWs' consequent decisions to reduce their work hours and, in some instances, resign from their roles.

TABLE 4: ATTRACTOR STATES IDENTIFIED IN THE AUSTRALIAN HCS– ASSOCIATED LEADERSHIP COMMUNICATION STYLE AND HEALTHCARE WORKER BEHAVIOURAL PATTERNS: SELECT REPRESENTATIVE QUOTES

Attractor State Descriptor	Dominant Leadership Communication Style	Manifested Workplace Disorder Outcomes	Representative Interview Quotes
Leadership Deflection	Intentional redirection of systemic concerns toward individual resilience	Chronic affective distress; erosion of trust	<i>Occurred in EDs and Medical Wards across numerous states and multiple time periods.</i> "I said to my manager that we are not ok, we are all getting a bit psychologically affected. And she went- yes, it is really bad isn't it? Are you free to do an early shift tomorrow?" - Nurse "I had a private meeting with my manager about my concerns, and it backfired on me" - Nurse
Hierarchical Silence	Authoritative blocking of feedback, restrictive top-down communication flows	Emotional breakdown. Feeling 'disregarded' by leadership	<i>Consistent across Metropolitan and Regional Hospitals</i> "There was no sense of support from management. It was as though the whole unit itself has such a low morale and there was so much negativity as well. We were dreading going to work. There were shifts in the end where I left in tears." – Nurse "The more burnout you develop, and when you ask for help, there is no help to be given. Do the managers not care, or they are stuck and they can't help from higher up themselves? The burnout is astronomical." – Nurse "I find that there are often too many people at the top end of the organisation that have no idea what it is like to actually be on the floor. They get paid so much money and do not listen to those on the ground. It is so infuriating." - Nurse
Ambiguity	Vague or non-committal responses to resource constraints or subordinates communications	Anxiety and inability to plan; challenges clinical workflows	<i>Occurred between HCWs and frontline managers and between frontline managers and senior leaders.</i> "After a discussion with her manager, an Indian nurse was terrified she was going to lose her job. She was fearful of the consequences. A couple of us were able to explain it to her and reassure her."- Nurse "When we have to treat patients in the corridors, and we give feedback to the manager, there isn't really a response. It makes me feel horrible when I go home, I feel bad for the patients. "- Nurse

Trauma Normalisation	Dismissal of HCW's expressed high patient acuity, stress, and debriefing needs as a "part of the job"	PTSD symptoms, increasing adverse well-being or stress desensitisation	<i>More prominent in the ED. Also occurring in medical wards and the theatres.</i> "You were dreading going to work. There were shifts in the end where I left in tears, and I thought-why am I doing his job anymore. So, I needed to leave." - Nurse "The problem is that when you come into this profession, you are expected to see horrific things. It's an emotional yo-yo to go from one extreme to the other without any recognition, that is inhumane and without debriefing. There is no emotion." - Nurse
The Exit Attractor State	Cessation of dialogue, "information damping" at a noticeable dialogue point	Workplace withdrawal and formal resignation	<i>Observed across numerous disciplines and states in the HCS.</i> "None of the nurses who work around me work full time, they have all reduced their hours." – Nurse Two survey respondents stated they had recently resigned from previous roles due to unrealistic workloads and a toxic workplace culture.

DISCUSSION

This study examined the influences of leadership communication on HCWs' well-being within the Australian public HCS, through the lens of Complex Adaptive Systems and Dissipative Structures Theories. The study reveals in-depth, regional, and transferable insights into how workload pressure, leadership communication, psychosocial safety, and workforce instability may interact recursively in high-pressure public healthcare settings. The study identified numerous attractor states, indicating repeating social patterns across geographic and organisational contexts. While organisational isomorphism has been observed regarding bureaucratic stability [25], this study observed a problematic form of pathological isomorphism – where restrictive leadership communication patterns have become a repeating concern across the nested public Australian HCS. This pattern reinforces that workplace disorder is systemically produced through leadership practices that limit adaptive organisational responses.

The recurrent social configurations evidenced attractor-like states and were entangled with HCWs' experiences of workplace disorder and unaddressed adverse well-being [24]. While leaders hold the formal authority to provide intervention and support [23], the HCWs approached the leaders with scepticism, as prior experiences suggested that the desired support was unlikely to be realised [23]. This finding is consistent with work from Varga, Spehar [26] regarding the link between leadership availability, trust, and competence, suggesting that in the Australian HCS, HCWs' well-being was recursively shaped by relational conditions and prolonged unresolved distress. These findings demonstrate the importance of support-seeking conversations, whereby the outcomes of these interactions shape HCWs' perceptions of leadership competence.

In contrast to work by Losada (27) on functional disequilibrium in productive social systems, our study found that the public HCS was often characterised by periods of functional disequilibrium. In these states, when feedback mechanisms were restrained to promote change, the system could no longer effectively self-regulate or manages increasing internal social disorder [28]. First, this finding is consistent with Holland's concept of boundary conditions that function as control mechanisms between sub-systems within CAS [21]. The analysis revealed that during the attractor-like social configurations, leaders' restrictive communication mechanisms acted as system boundaries to weaken the progression of non-clinical conversations, thereby restraining the escalation of organisational disorder. Contrary to adaptive communication in CAS [29], the leaders exerted authoritative behaviours which attempted to shape top-down control or revert the system to a pre-existing state [30]. These 'information damping mechanisms' suppressed signals of HCWs distress. Given the nature of systemic disequilibrium, our study findings indicated the emergence of behavioural patterns – signalling a shift in system dynamics – and attempts by HCWs to self-manage unaddressed psychosocial and workplace distress [7]. The analysis shows that when HCWs' efforts to seek resolution and support from leaders were constrained, their well-being deteriorated. This, in turn, strengthened systemic disorder rather than diminishing it.

Observations from our study revealed a central paradox: rigid hierarchical communication, that desires to maintain order, is fundamentally incompatible with the complex and nested feedback inherent in public HCS. Our finding is congruent with the work from Jackson [5] regarding leader communication mechanisms that reinforce top-down structures in organisations. However, workforce shortages, workload intensification, and constrained operational capacity are well-established pressures within HCS and align with complexity-informed understandings of the HCS as a CAS, where outcomes emerge through interactions between structural conditions, relational processes, and local adaptation (31, 32). This study therefore does not position leadership communication as a substitute for inadequate HCS resourcing. Rather, leadership communication is interpreted as a sensemaking and dynamic feedback mechanism through which resource pressures are acknowledged and escalated – not normalised or buffered. Consequently, leadership communication appears to shape whether resource scarcity is experienced as a shared system risk or as an individualised burden managed through withdrawal, or attrition. The findings emphasise how the leaders' recurrent restrictive communication approaches with HCWs did not suppress system disorder. Rather, the HCWs appeared to self-organise, adopting survival-based coping mechanisms in response to unresolved, perceived pathological systemic disorder (33). These responses

included resignations, reduced work hours, and disengagement, are all purposeful actions to limit further adverse well-being as a consequence of leader inaction [28].

Our study findings also add to the literature on attractor states in social CAS, particularly the Australian HCS [23] and is congruent with MacIntosh and MacLean (28) demonstrating how leaders have limited control over the informal structures in CAS. Rather than controlling emergent social patterns, leaders can influence the conditions that shape them through communication, feedback, sensemaking, and the reinforcement or disruption of recurring system behaviours. Consistent with Uhl-Bien and Arena [34], our study findings suggest that traditional 'command and control' leadership in healthcare settings suppresses the HCS's ability to leverage information for complex problem-solving, such as HCW well-being and adapting operational requirements.

In addition to workplace disorder, the HCWs' idiosyncratic states of adverse well-being and psychological safety emerged as a variable outcome of the recurrent social patterns [7]. When the HCWs felt their concerns were disregarded, their adverse well-being became exacerbated and was associated with unpredictable psychological states such as burnout and PTSD. Friedman, Resick [35] argue that emotional and psychological states, such as burnout and PTSD, are unpredictable and indicate a progression towards 'edge of chaos' system conditions. The narratives from the study demonstrate that when leaders employ restrictive communication strategies, they fail to mitigate disclosed stressors and instead intensify the occupational harms experienced by HCWs already operating at the limits of their capacity.

IMPLICATIONS AND CONCLUSION

Despite relational-transformational leadership being widely considered the dominant approach in the public sector, findings from this study reveal that Australian public HCS leaders often adopt restrictive communication strategies aimed at containing systemic disorder. Rather than stabilising the workforce, these practices foster environments characterised by low morale, distrust, and worker withdrawal. This disconnect highlights a critical misalignment: leaders attempted to apply linear, cause-and-effect management styles to a complex adaptive system where feedback dynamics are inherently unpredictable. Crucially, the study findings underscore that HCS organisational instability stemmed not just from external pressures, but from a failure to adapt communication mechanisms to the reality of the nested workplace environment-which intensified HCW fragility and feeling unsupported.

To address these systemic vulnerabilities, HCS leaders must transition from generic 'command-and-control' communication toward agile and adaptive practices. This realignment matches the dynamic nature of the HCS, where both frontline managers and leaders transition from top-down information flows to participatory sense-making forums. By fostering psychologically safe environments, leaders enable HCWs to engage in emotionally and contextually uncertain dialogues, allowing real-time feedback to be treated as critical system intelligence rather than a challenge to organisational stability.

Finally, managerial and leadership development programs should prioritise complexity literacy. Rather than relying on standard well-being or psychological safety communication competencies, leaders need a 'complexity and adaptive communication toolkit' that equips them to recognise non-linear patterns, remain transparent under uncertainty, and respond constructively to rising system pressure. This may reduce pathological isomorphism by disrupting the repeated reproduction of restrictive communication practices across HCS levels and strengthening the trust needed to sustain workforce well-being.

LIMITATIONS AND FUTURE RESEARCH

This study's cross-sectional and qualitative design cautions the strength of claims that can be made about attractor dynamics. The findings do not demonstrate attractors as formal dynamical states, nor do they establish temporal stability, basin structure, or observed return following perturbation. Rather, the study applies attractor logic as an interpretive complexity lens to make sense of recurrent behavioural, cultural, and communicative patterns reported by participants. Future research should examine maladaptive system dynamics through longitudinal and mixed-method designs, integrating successive time points of qualitative inquiry and quantitative measures of workload, psychosocial safety,

communication quality, workforce movement, absenteeism, turnover, incident reporting, and workload. This would better identify these recurrent patterns as attractor states and help establish whether adaptive leadership interventions can disrupt maladaptive patterns and support transition toward more functional system states.

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