

Health system learning through responsiveness mechanisms in the Cape Winelands District health system: a descriptive qualitative study

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Aim

This study examines if and how the Cape Winelands District health system learns through its responsiveness mechanisms. It seeks to describe and understand health leaders' experiences with multiple and varied forms of feedback, as well as their decision-making in responding, which together influence the responsiveness of the district health system.

Method

A descriptive qualitative study in four phases was conducted, comprising a scoping review and contextual analysis of peer reviewed and grey literature as well as policy and online documents relevant to the district; focus group discussions with district (n = 1) and sub-district (n = 2) teams; and thematic data analysis of multiple sources, including an expert checking process with sub-district teams.

Findings

Feedback mechanisms are an important link between responsiveness and learning. The Langeberg and Drakenstein sub-districts have begun the most basic form of learning, single-loop learning, through the existence of feedback mechanisms, deliberation, action, policies and by cultivating cultures of learning (such as welcoming research). The district health system's capacity to graduate to more system-transformative learning is restricted by contextual constraints, system reactivity rather than long-term systemic response, and hierarchical power.

Conclusion

The presence of some learning activities in the Cape Winelands District suggests that it might be possible to achieve the goals of responsiveness and deeper learning in this and similar settings by effectively utilising feedback mechanisms. To enable this, however, collaboration and deliberate effort from health system leaders across all governance levels, as well as hierarchical teamwork is imperative to balance power dynamics that may hinder progress. Sustained long-term investment in health system learning activities is necessary to reduce the overwhelming pressure health systems face, so that they can continue to be responsive.

Introduction

Responsiveness has been flagged as a significant and key goal of health system performance alongside improving health outcomes, equality in the distribution of health status, and ensuring fairness in financial contributions for health.¹ It is defined as "the ability of health systems to meet the legitimate expectations of populations for

the non-health enhancing aspects of the health system".¹ Its significance includes improving health system users' perceptions and health-seeking behaviours, making it easier for users to interact with the system, and providing better quality of care.² However, the concept and how it is implemented are not well understood.³ This paper focuses on responsiveness beyond service level, adopting a systemic outlook that considers the broader

population, multiple actors, and health system building blocks in providing feedback and generating response.³ One way for health systems to be responsive is to learn from the failures that lead to patient dissatisfaction and poor health outcomes.⁴ Responsiveness and learning are especially important because both concepts are considered to foster health system strengthening, functioning, effectiveness, and efficiency.⁵⁻⁷

Learning is described as “the capability for continuous improvement through the collection and analysis of data, creating new knowledge, and the application of the new knowledge to influence practice”.⁸ A health system is considered a learning health system (LHS) when it is able, through experience, to connect past actions, and whether or not they were useful, to influence future actions towards constant and efficient improvement.⁸ This paper draws from a framework that describes learning in a health system as occurring at individual, group and organisation/cross-organisation levels.⁷ Cross-organisation learning happens “between different organisations within a national, provincial or district health system, or across sectors and geographies”.⁷ In addition, the framework identifies three loops of learning. Single-loop learning enables the system to maintain its current policies and objectives, double-loop learning facilitates changes in objectives and policies, while triple-loop learning helps improvements to be made in the way the system learns.⁷ Finally, the ways of learning may include collecting information as well as distributing it (information gathering), collective engagement and reflection on issues to evaluate the impact of past actions so that decisions can be made for the future (deliberation), and action by practising, repeating and improving on the different practices and routines occurring in the system.⁷

The process of becoming an LHS is recognised from characteristics such as innovation; continuous collection, updating, interpretation, and use of the latest information to guide decisions; driving cultures of self-critique and reflection; leveraging technology innovations; deliberation or collaboration to determine ways to improve health system performance; changing structures in the whole system based on feedback received; drawing from past experiences in own/other health systems and engaging in forecasting and preparedness plans; and monitoring and evaluating activities.⁷ Achieving systemic learning in the context of this study means experiencing change in the way the system has been working that involves multiple actors and parts of the health system instead of focusing on individual patient and user feedback.³

Taking the understandings of responsiveness and learning above, responsive LHSs continuously improve even non-health aspects of care based on past experiences to meet population expectations. The literature on LHSs suggests a link between such systems and responsiveness ([Figure 1](#)). For example, learning systems are related to non-health aspects of care which are characteristic of responsiveness such as communication, community involvement and patient centredness.⁹ Health fa-

cility committees (HFCs), which are also responsiveness feedback mechanisms, are considered deliberative avenues for learning.⁷

The focus of this paper is feedback and response, which together are one way of conceptualising responsiveness.³ To demonstrate the link, feedback and response are also highlighted in the LHS literature as a loop consisting of the collection of data and response to it through change.¹⁰ With a systemic view, “feedback would more likely be understood as multiple streams of feedback from varied sources, via varied formal and informal channels; and reaction might be understood as a sustainable systems-wide reaction/response”.³

Considering the importance of both the learning and responsiveness concepts for health system strengthening, the link between them is important as part of broadening these research areas to examine whether and how the health system learns from feedback mechanisms to achieve systemic, sustained change. This research explores these concepts within the Cape Winelands District (CWD) of the Western Cape province. The policy, contextual, and organisational factors that affect district health leaders’ decision-making towards acting or not acting on the multiple and varied forms of feedback they receive from the community are investigated. Furthermore, the perceptions and experiences of health leaders at sub-district level about information gathering through receiving feedback, deliberation about the feedback, and the responses they make when faced with multiple and varied forms of feedback to facilitate learning in the health system, are explored.

Method

A descriptive qualitative study was conducted in four phases: scoping review; contextual analysis; focus group discussions (FGDs) (one at district level, two at sub-district level); and data analysis. A member-checking process followed. The scoping literature review answered the question: How do global health systems demonstrate responsiveness at systemic level as learning health systems? It served to help understand how responsiveness and LHSs are conceptualised in the literature and to provide the theoretical and empirical foundation on which the primary research was built ([Figure 1](#)). The contextual analysis was based on a wide search for data relevant to responsiveness and learning in the CWD health system ([Table 1](#)). The Google search engine was used in searching for secondary data, and CWD’s five sub-districts, comprising 23 towns and 59 health facilities, were identified as search terms.

Phase three incorporated secondary analysis of three FGDs. The focus groups were conducted face-to-face, lasting about two hours each. Prior to participation, written consent was obtained from each participant (eight from Langeberg, nine from Drakenstein). Questions were semi-structured, probing about the experiences of each of the sub-district teams on responsiveness and learning. Convenience sampling was used for participant selection

Figure 1. Perceived link between responsiveness and LHSs

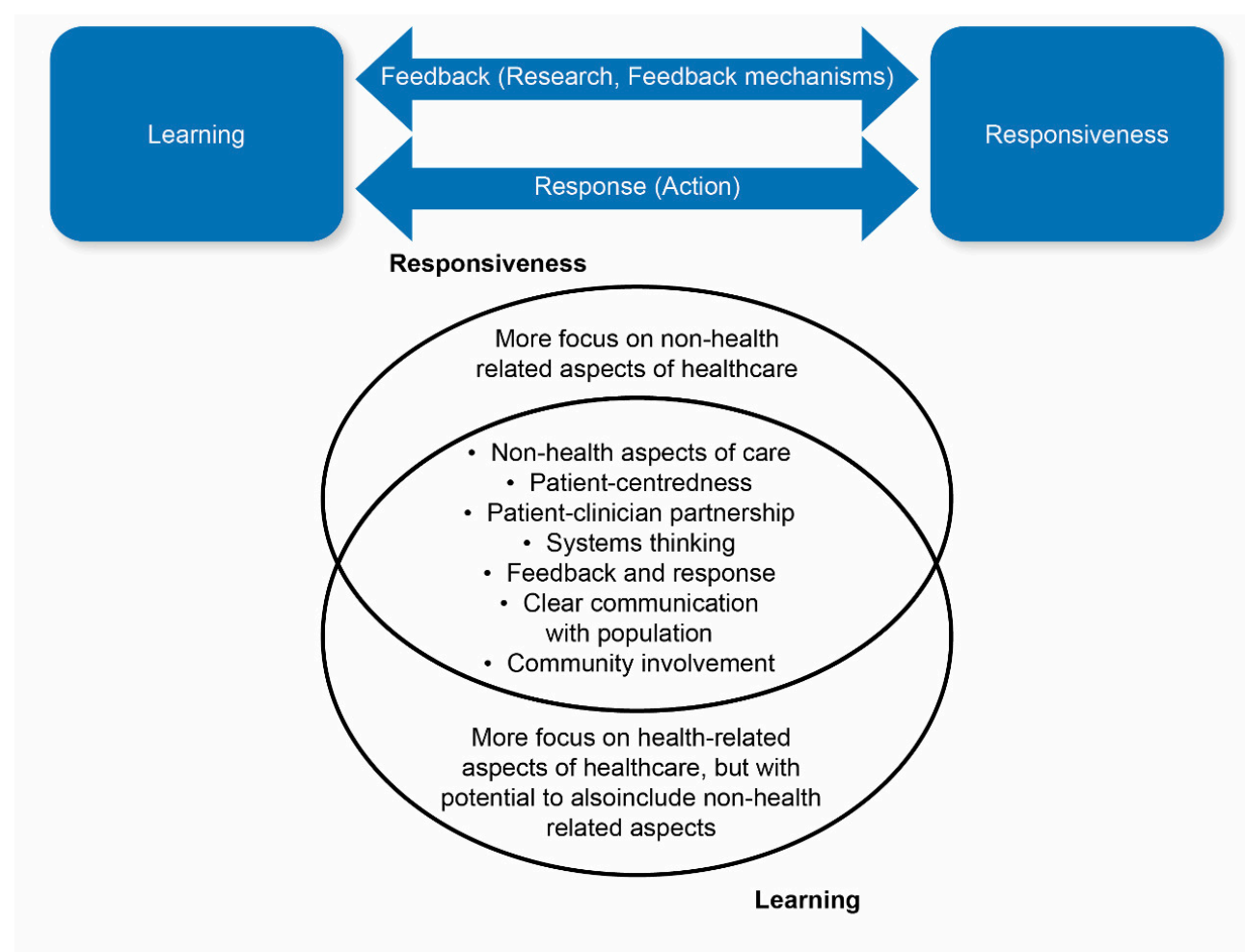


Table 1. Documents included in contextual analysis

Type of information	Source
Reports and policies	Western Cape Government websites
Media articles	Websites for Daily Maverick, Ground Up, News24
Websites of organisations	Health Systems Trust, People's Health Movement, South African Medical Research Council, The Learning Network
Research output (theses)	University of Cape Town, Stellenbosch University, University of the Western Cape

because strong relationships between the researchers and the local leaders in these sites were already established through a broader study, of which this paper forms a part, making participants more amenable to research.

The final phase comprised integration of the varied materials from across the phases, and further thematic analysis, followed by member-checking. The latter involved sending a preliminary draft of the article to respondents, with follow-up questions. Drakenstein sub-district provided responses via a Microsoft Teams meeting, while Langeberg responded via email.

Data analysis included document analysis for secondary data, which comprised skimming, thorough reading, and interpretation of all secondary data.¹¹ This was done deductively¹² looking for evidence of systemic learning through responsiveness elements (feedback mechanisms) and LHS dimensions (means, levels, and loops of learning). FGDs were transcribed and thematic analysis applied using an inductive¹² approach to allow themes related to the research question to emerge. Thereafter the findings were integrated and interpreted through broader responsiveness and LHS concepts. Thematic analysis included familiarisation; coding; theme identification; theme review, definition and naming; and

final analysis included interpretation, synthesis, and drawing out meaning to produce a report.^{13,14} Codebooks were developed to provide transparency and increase rigour.¹² Debriefing with this study's research supervisor, who is also the principal investigator of the broader study, and member-checking were done to support credibility. The positionality of the health system leaders as knowledgeable and experienced actors who worked in the health system at length brought confidence in their ability to respond to address the objectives and research questions with relevance.

Findings

Findings from each of the study's phases are presented in themes that express if and how the CWD health system learns. The scoping review established that there are connections between LHSs and responsiveness in terms of feedback and response (Figure 1). Table 2 identifies the wide range of feedback mechanisms that exists across the sub-districts, illustrating also the various groupings of such mechanisms. Table 3 (Langeberg) and Table 4 (Drakenstein) summarise how these mechanisms translate into different means, levels and loops of learning, showing that the two sub-districts have similar means of learning, with only single- and double-loop learning identified.

Learning through feedback mechanisms: linking responsiveness to single-loop learning

Within the sub-districts, evidence exists for functionality of feedback mechanisms to feed information into the system, thereby demonstrating the link between responsiveness and learning through single-loop learning (see 'information gathering' row, Table 3 and 4). For example, in Drakenstein, Paarl Hospital has a complaints hotline and complaints/suggestion boxes from where feedback is collected, and a response is expected from relevant health system actors within 25 days. Montagu Hospital in Langeberg also has complaints/compliments boxes and media coverage of the health system receiving feedback exists.¹⁵

Both sub-districts have several ward committees and active NGOs which could facilitate movement from single- to double-loop learning (see 'deliberations' row, Tables 3 and 4). For example, Drakenstein confirmed that different heads of departments meet for discussion and deliberation about issues in the sub-district health forum twice a year. Feedback mechanisms such as ward committees also play a role in system learning by serving as platforms for discussions. Instances of action to respond to feedback through these mechanisms were reported, along with collaborations between some stakeholders (municipalities, political representatives) for system improvement based on feedback: "When clients complain about dirty toilets, the cleaners' contract or requirement for cleaning toilets might increase and can be

fed into SOPs to ensure compliance", (Speaker 3, Langeberg member-checking, February 10, 2023). However, the functionality of these feedback mechanisms was not always optimal: "We had previous clinic committees that were very functional. But only at certain facilities, not everywhere", (Speaker 4, Drakenstein FGD, July 26, 2022). Thus, although mandated through national and provincial laws, feedback mechanisms such as clinic committees and hospital boards often operate informally; and no hospital board was identified for Drakenstein as of 2022.

Nonetheless, the intention to be responsive seemed a matter of importance since there were still efforts to put those mechanisms in place formally. These efforts also suggest a learning process that would allow graduation to double-loop learning and potentially triple-loop learning if questioning and application based on effectiveness occurred: "What we [are] currently busy with the health committees is that the appointments by the Minister of Health are concluded, and we [are] currently busy with formal training of health committees. So that's been a learning process as well", (Speaker 1, Drakenstein member-checking, 06 February, 2023).

Contextual constraints

While information is fed into the system for learning, including through feedback mechanisms, a major barrier to consolidating learning in the sub-districts were contextual constraints related to financial and human resources, infrastructure, and long processes of change that sometimes leave the teams frustrated: "So, I mean, it's good to implement policies and stuff and how to get information but then you must give people the hands. There's even a bigger problem like lack of funding, if you've lack of hands how you gonna execute the goals?", (Speaker 7, Langeberg FGD, July 26, 2022); and "I think some of our clinics have been on the infrastructure list for ten years. That's one of the frustrations, is that when you do the planning and the business plan, by the time the facility is built its already too small for the population", (Speaker 3, Drakenstein FGD, July 26, 2022).

Receptivity and system reactivity

The 'action' row in Tables 3 and 4 exemplify some of the actions the sub-district teams took to respond to information gathered. However, difficult contextual issues reduced sub-district teams' receptivity to this feedback and their agency to respond. Receptivity and proactive decision-making were mainly driven by pressure, wherein issues that were seen as urgent, such as those that brought the most reputational risk, were prioritised. Learning therefore did not happen organically as a direct result of feedback. Rather, a more short-term, reactive approach to responding rather than long-term systemic learning, was adopted: "I personally feel we've been managing all the problems that we've had reactively, because we've been forced to do that because of lack of resources, lack of infrastructure, lack of money", (Speaker

Table 2. Feedback mechanisms in Langeberg and Drakenstein

Feedback mechanism in sub-district	Active (Yes/No)	Type of feedback received
Patient reporting mechanisms		
Complaint, compliments, and suggestion boxes in all health facilities; Sub-district/district complaint, compliment and suggestion committees; complaints hotline/WhatsApp line	Yes/No	Complaints, suggestions, and compliments (for Drakenstein, flowcharts of how to complain are put on the walls of facilities); hotline/WhatsApp line and committees not active for Langeberg as of 2022
Patient satisfaction surveys (yearly), staff surveys (every 2 nd year for Drakenstein)	Yes	Patient experiences of care, complaints, service provider performance; staff grievances and needs
Health system reporting		
Incident reporting and medico-legal	Yes	Accidents, injuries, misses and near-misses in health service delivery; patient health records and reports
Data systems	Yes	Patient health records
Community health worker programmes	Yes	Community grievances and needs; health status of community members; conditions of social determinants of health in the communities
Health system structures		
Health facility clinic/committees; Health forums	Yes	Human resource needs; gaps in service delivery; health facility performance indicators; meeting minutes
Hospital boards	Yes/No	Patient complaints; suggestions on strategic plans, reports, meeting minutes (not active for Langeberg as of 2022)
Office of Health Standards Compliance	Yes	Reports from inspection of health establishments
Community and social reporting		
Non-governmental organisations	Yes/No	Research, suggestions, requests from communities (not active in Langeberg as of 2022)
Scorecard/report cards	Yes	Conditions of health service provision and health status of users (not active in Langeberg as of 2022)
Social audits	Yes/No	Reflections of health system users' views; lists of social responsibility projects (not active for Langeberg as of 2022)
Citizen juries	Yes/No	Research; community opinions; expert opinions; policy evidence (not active for Langeberg as of 2022)
Intersectoral spaces for civil society participation (Treatment Action Campaign withdrew for Drakenstein); Whole of Society Approach learning sites; Multisectoral action teams; South African NGO Coalition	Yes	Expert knowledge, concerns, experience, ideas, suggestions from different health system stakeholders; meeting minutes; plans; Manifestos; marches; petitions; proposals; annual and field reports; health statistics; research; lobbying
Media	Yes	Newspaper articles, radio, television broadcasts
Political and governance structures		
Ward health committees	Yes	Budget proposals; integrated development plans; community/public opinion; complaints, compliments and suggestions; meeting minutes
Sub-district health committees/councils	Yes	Indicators of health priority needs of communities in the sub-district; financial records of health facilities; community opinions; meeting minutes
Joint operating committee	Yes	Focus activities of each department and tap in activities applicable to their field of work

9, Langeberg FGD, July 26, 2022). Yet some evidence of reflective learning did emerge: Langeberg's adoption of Drakenstein's year-long chronic medication scripting practice during COVID-19, and Drakenstein's use of bi-annual waiting-time surveys to create quality improvement plans, illustrate attempts at double-loop learning based on past actions (Table 3, Table 4).

Power

Power dynamics that come with system hierarchies deter sub-district teams from taking charge of responding to the needs of the system: "And then I think within our specific district there's also issues of, let's call it power feuds or power struggles because there's certain things that we would be able to do ourselves, or we'd be able to co-

Table 3. Means, levels, and loops of learning in the Langeberg sub-district health system

Means of learning	Level of learning	Learning loop	Examples
Deliberations	Organisation and group	Double-loop	Ward committees hold ward-based planning sessions and community feedback meetings for combined decision-making; sub-district teams meet to discuss facility issues and share innovations; NGO collaboration and private-public partnerships also serve as deliberative platforms
Action	Individual and group	Single- and double-loop	Sub-district teams change facility operating processes, such as adjusting which staff categories see certain patients; teams act on complaints, compliments, and suggestions within their power
Information gathering	Organisation and group	Single-loop	Feedback mechanisms, including emails, complaint boxes, a public app, Facebook, and patient satisfaction surveys, help identify complaints and suggestions, with complaints being the most common source; research and directives from higher governance levels also inform learning
Information dissemination	Organisation and group	Single-loop	Feedback mechanisms such as media coverage and formal reports inform the system about existing gaps and challenges
Reflection to evaluate the impact of past actions so that decisions can be made for the future	Group	Double-loop	Sub-district teams develop preparedness plans for future challenges, such as water and power supply disruptions; Langeberg adopted Drakenstein's practice of issuing year-long chronic medication scripts during COVID-19; monthly verification checks support roll-out of new information systems

Table 4. Means, levels, and loops of learning in the Drakenstein sub-district health system

Means of learning	Level of learning	Learning loop	Examples
Deliberations	Organisation and group	Double-loop	Ward committees hold planning and community feedback meetings for joint decision-making; the Drakenstein Health Forum reports community issues to district and provincial levels; teams collaborate with NGOs and multi-sectoral partners and hold annual development plan discussions with staff and partners
Action	Individual and group	Single- and double-loop	Sub-district teams act on complaints, compliments, and suggestions within their power
Information gathering	Organisation and group	Single-loop	Feedback mechanisms, including client surveys, complaint boxes, clinic committees, community health workers, and the health ombud, help identify complaints and suggestions, with complaints being the most common source; research and directives from higher governance levels also inform learning
Information dissemination	Organisation and group	Single-loop	Print and social media inform the system about existing issues; sub-district team training on the Ideal Clinic framework supports learning dissemination
Evaluation of the impact of past actions so that decisions can be made for the future	Group-level	Double-loop	Facility managers create quality improvement plans based on biannual waiting-time surveys and track progress over time; teams analyse survey data to identify service gaps and conduct forecasting and planning to guide goal attainment

ordinate ourselves, but then there's a bit of tension between the district office and the sub-district sometimes because we're doing things we shouldn't have done that we should have worked through them", (Speaker 7, Langeberg FGD, July 26, 2022).

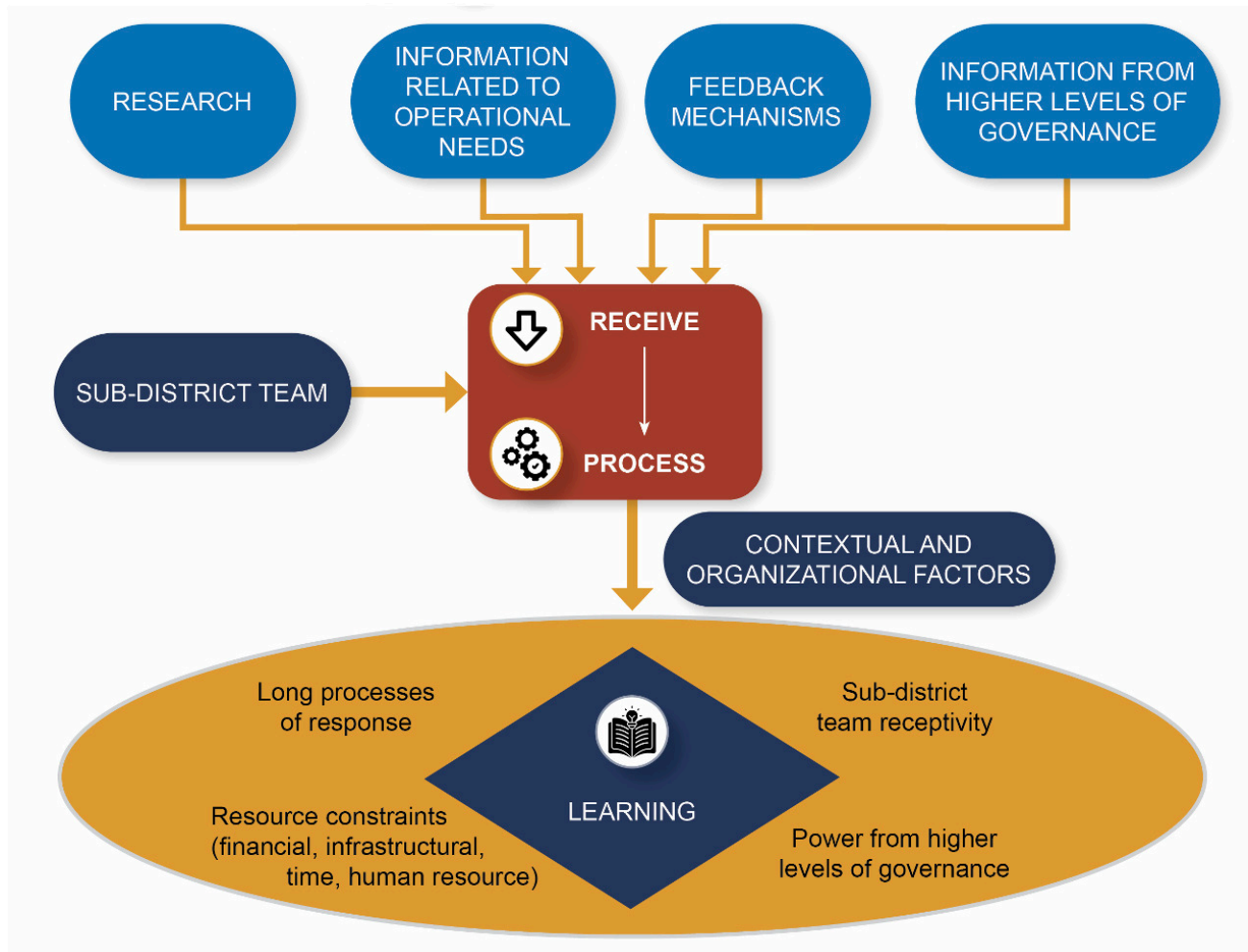
Difficulty in embracing learning due to restricted autonomy influenced by unbalanced power dynamics also speaks to the issue of receptivity: that is, although responsiveness may be a goal of health systems, realising

that goal depends on the ability and willingness of the relevant actors to respond.¹⁶

Discussion

This paper explored if and how health system learning is enabled through responsiveness mechanisms in two sub-districts in the CWD. Results illustrate that the two sub-districts investigated, Langeberg and Drakenstein,

Figure 2. Information flow for learning at sub-district level



are learning health systems using varied ways of learning, with feedback mechanisms playing an important role in facilitating this learning.

Figure 2 illustrates how feedback mechanisms are received and processed by sub-district teams. It suggests that learning ultimately is determined by power dynamics within the overall health system, other contextual constraints, and system receptivity and reactivity. These factors influence whether or not feedback mechanisms translate into meaningful, systemic learning.

A central finding is that feedback mechanisms are common enablers of learning which also drive responsiveness, demonstrating a direct expression of the link between responsiveness and learning. As information carriers, their existence creates a conducive environment for single-loop learning. However, to graduate to double- and triple-loop learning, more deliberate action is required. Fostering organisational culture and behaviours, including collaboration between actors, patient/community participation, and interaction with health system-related information, are responsiveness-related activities that form part of becoming an LHS.¹⁷

As Figure 2 illustrates, power dynamics are a particularly important barrier to learning in both sub-districts.

Understanding power imbalances and different priorities at the different levels of health system governance may help enhance responsiveness.¹⁸ Lack of engagement between actors can create a vicious cycle of division and hierarchical structures that centralise decision-making to the exclusion of important health systems stakeholders like patients, communities, and local-level leaders such as sub-district teams.¹⁹ A more bottom-up approach to support learning, starting with engagement at the front-line of responsiveness, is likely preferable and may help address power hierarchies.²⁰

Contextual constraints such as finances, infrastructure, time and human resources are another key barrier to systemic learning beyond single-loop learning (Figure 2). They reduce sub-district capacity to act in a meaningful way. Issues like long processes of change bring feelings of frustration about the ability to effect change as deemed necessary. Contextual constraints also shape receptivity to feedback. Sub-district teams struggle to commit to sustained improvement as a result of feedback and their response is rather moulded by these barriers into a pattern of reactivity. To consider the implications for health system strengthening (HSS), it is important to allow for both the hardware and software of health sys-

tems.^{21,22} Responsiveness mechanisms can be seen as hardware, but a systemic approach must also consider the other hardware (tangible health system aspects such as infrastructure, finances and technology) and software (values, norms, ways of communicating and relationships) that impact the link between mechanisms and learning.²³ A systemic approach that considers multiple actors including communities, sectors, broader social, structural and environmental determinants, as well as the role of power and trust, is crucial to both learning and responsiveness for HSS.¹⁹ Factors such as building understanding relationships, learning, and collaborating across different levels of governance, are pivotal in supporting responsiveness and attaining the required impact in health systems organisations.^{24,25}

Limitations

In the contextual analysis, the limitation of searches to online data due to travel restrictions because of the COVID-19 pandemic may have resulted in missing paper-based media. In data collection, not all study-specific questions could be asked because the FGDs were primarily intended to address the primary study's questions. However, member-checking enhanced the paper's trustworthiness, and common themes were drawn through synthesis of all these different data types.

Recommendations

Strengthening feedback loops

A priority for HSS in sub-districts like Langeberg and Drakenstein is to ensure that existing feedback mechanisms are not just mandated or established structurally, but also that feedback is received, recorded, and responded to in a timely manner. In addition to the assimilation of new information, learning organisations need to attain learning capacity that goes beyond just basic error correction into the more radical changes that re-define the way the whole organisation functions.²⁶ To graduate from single- to double-loop learning, sub-district teams can establish structured platforms for deliberation to not only note, but also systematically question and make changes to support the effectiveness and responsiveness of the system. Drakenstein and Langeberg have already begun to do this through the creation of preparedness and quality improvement plans. To transform towards triple-loop learning, different levels of the health system could collaborate in reviewing policies and processes to reduce the gap between high-level direc-

tives and challenges in ground-level implementation. Such collaboration could also help address the power imbalances that currently exist. Decentralising decision-making and deliberately cultivating understanding relationships between national, provincial, district, and sub-district level may help strengthen collaborative and learning environments. Sustained, long-term investment in health system learning activities is necessary to reduce the overwhelming pressure health systems face and to help them stay prepared so they can be responsive.

Conclusion

The CWD experience suggests that health systems in low- and middle-income countries (LMIC) contexts can work towards becoming responsive LHSs with feedback mechanisms acting as the link between responsiveness and learning. However, for greater impact, LHS development requires intention, a structured approach, and enough funding and resources.²⁷ Three actions are suggested to drive learning in a health system: placing learning alongside health system values such as human rights and equitable access; integration of research into policymaking through coproduction of knowledge by health system managers, researchers, and service users; and strengthening organisational capabilities for knowledge-production and innovation.²⁸ The idea of LHSs seems under-explored, especially in LMICs. However, examples such as the CWD experience demonstrate that it is possible for health systems in LMICs to work towards becoming LHSs through commitment and actions to learn and adapt, and in that way develop towards being responsive health systems.

Abbreviations

Abbreviation	Description
COVID-19	coronavirus disease 2019
CWD	Cape Winelands District
FGD	focus group discussion
HFC	health facility committee
HSS	health system strengthening
LHS	learning health system
LMIC	low- and middle-income countries

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