University of Cape Town

Strengthening district management as a key lever in health system strengthening: bottom up innovation in two district health systems in South Africa

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Abstract

It is widely recognised that the District Health System (DHS) is an effective vehicle for institutionalising Primary Health Care (PHC) – and establishing an effective DHS to improve access to health services has been an explicit South African government goal since 2003. Whilst there has been progress towards this goal, there have also been challenges. These include a persistent management skills' deficit at district level, in the context of an already under resourced health system. To address this challenge, the competencies of managers and the capabilities of management teams must be strengthened.

Against this background, this PhD sought to understand how, why and in which contexts the capacity development of managers can be nurtured within the South African DHS, applying a bottom-up perspective considering district-level experience. More specifically, I sought to understand the processes, tactics and strategies within the DHS that trigger mechanisms to effect change in management capacity and support system strengthening. A South African national policy process offered the opportunity for this research. In 2012 – 2017, the National Department of Health piloted reforms toward National Health Insurance (NHI) in eleven health district pilot sites across the country, focusing on strengthening and re-engineering PHC. As part of this reform, the Minister of Health called for district management and leadership to be strengthened.

The overarching methodology of the PhD was realist evaluation, and a case study design was used. An initial context mapping process allowed understanding the broader context of reform and supported the development of programme theories in each of two case study sites. The programme theories were then tested and refined through empirical research in each site. Through the cross-case analysis, I then refined my Middle Range Theory – the final product of a realist evaluation.

Key findings include that senior DHS managers drew on their tacit knowledge, understanding of local context, formal training, and systems thinking and sensemaking skills to design innovations to develop the competencies and capabilities of managers and the capacity of structures in the district health system. From a bottom-up perspective, capacity development in health districts was an emergent process, that was led by district managers. It combined

the natural diffusion of ideas and intentional efforts to delegate and disseminate a range of tasks and activities toward nurturing systemic capacity in the district. They worked only with existing resources. The managers used their positional authority and sensegiving skills (using carrots, sticks and sermons), to motivate staff and to develop individual, team and structural capacity. At the same time, prioritising management strengthening as part of nationally led reforms stimulated systemic capacity development at the district level. Key lessons are that: management capacity development should be integrated within routine health system functioning; formal training should be complemented by workplace-based learning; training should enable managers to lead systemic capacity development, team development and broader system strengthening; and large-scale processes of health system strengthening must prioritise system capacity development within the DHS.

Overall, this PhD contributes to the evidence base on how to nurture management and systemic capacity development within the district health system in less well-resourced contexts.

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For God, who strengthens me.

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Marsha

Acronyms and abbreviations

A	Actors
ASELPH	Albertina Sisulu Executive Leadership Programme in Health
C	Context
CBO	Community Based Organisation
CEO	Chief Executive Officer
CD	Capacity development
CHW	Community Health Worker
CMO	Context-mechanism-outcome
DCTS	District clinical specialist teams
DEC	District Executive Committee
DHMIS	District Health Management and Information Systems
DHMT	District Health Management Team
DHP	District health plan
DHS	District Health System
DM	District manager
DMT	District Management Team
DPSA	Department of Public Service Administration
EDP	Executive Development Programme
HMIS	Health Management and Information Systems
HSS	Health System Strengthening
HST	Health Systems Trust
HR	Human Resources
I	Interventions
ICAMO	Intervention-context-actor-mechanism-outcome
IM	Information Manager
LCD	Leadership Capacity Development
LD	Leadership Development
LDP	Leadership development programme
LMIC	Low-and Middle Income Countries
LTT	Leadership Task Team
M	Mechanism
M&E	Monitoring and Evaluation
M&L	Management and Leadership
M & L CD	Management and Leadership capacity development
MNCH	Maternal, Neonatal and Child Health
MOOC	Mass open online course
MRT	Middle Range Theory
NDoH	National Department of Health
NGO	Non-government organisation
NHI	National Health Insurance
O	Outcomes
OTF	Oliver Tambo Fellowship
PHC	Primary Health Care

PST	Public Service Innovation
PT	Programme Theory
RE	Realist evaluation
RTC	Regional Training Centre
SA NDoH	South African National Department of Health
STI	Sexually transmitted infection
UHS	Universal Health Coverage
WPBL	Workplace-based learning

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Chapter 1 – Introduction

In this first chapter, I lay out the key starting points for the research presented in this PhD thesis – considering both relevant features of the setting and experience in South Africa, where the research was conducted, and relevant wider international experience. This chapter sets the scene for the remainder of the thesis.

South African context

The District Health System in the democratic era

Within a wider quasi-federal public governance structure, South Africa has one National Department of Health (NDOH) and nine Provincial Departments of Health. The District Health System (DHS) was first initiated in 1995 (Pillay, David & Bennett, 2001) as part of the radical health system reforms implemented to redress the health care deficiencies that were the legacy of the pre-1994 government – health service fragmentation and inequity in access to services due to discrimination. The DHS was understood as central to the democratisation process of the new government, led by the African National Congress (ANC), because it recognised the centrality of communities in the governance of their own health and sought to provide a governance structure supporting the adoption of a Primary Health Care (PHC) approach bringing health care closer to communities (Gilson et al., 1996; Van Rensburg, 2004). The DHS was legally established as a key structure within the wider health system through the National Health Act 61 of 2003.

The South African DHS is led by a district manager with a district management team (Van Rensburg, 2012), whose core functions are listed in Table 1.1.

Table 1.1: District Management Team core responsibilities in South Africa

Identification of client and stakeholder needs
Identification of critical health and systemic challenges and understand source of the challenges
Balance competing demands by taking decisions on key District Actions, which respond to key priorities, client and stakeholder needs and challenges

Allocate resources (time from personnel, goods and services and capital costs). Ensure that capacities are matched with planned Actions. Refine the Actions until the allocated resources meet the Actions
Monitor and reflect on progress against plans
Strengthen processes where necessary (to implement the plan)

Source: (South African National Department of Health, 2017)

Since its establishment, the DHS has consistently been identified as a critical platform for strengthening the primary health care platform: it was intended to address the high levels of poverty that combine with an intersecting complex disease burden (Mayosi & Benatar, 2014; Schneider & Barron, 2008). In 2007, considering South Africa's challenges in achieving the Millennium Development Goals, Chopra et al. (2009 p. 1029) noted specifically that "at the provincial level, making the district health system work must be the priority".

However, although functional across the country, the DHS continues to face challenges. These include inequalities in access and coverage, under resourcing, lack of capacity across cadres, and lack of role clarity between provincial and local government (Coovadia et al., 2014; Dookie & Singh, 2012; Fusheini & Eyles, 2016; Tshabalala & Rispel, 2023). DHS management and leadership has been widely seen as a weakness since the 1990s. Attempts to improve management capacity have largely focused on individually oriented training and the more operational management skills, rather than the leadership skills needed to motivate and lead staff and navigate change processes (Byleveld, Haynes, & Bhana, 2008; Schaay, Heywood, & Lehmann, 1998). In many senses, the DHS in South Africa is still considered as under development.

To note also that South Africa has a quasi-federal system of government, in which the DHS is a specific structure of the public health system, reporting to the provincial departments of health. These vertical and hierarchical relationships have been noted to undermine the agency of managers in districts to act, with key challenges including a high burden of reporting and an audit culture driven from the national level (Engelbrecht & Gilson, 2022). Demands from higher level governance structures represent a key feature of the context with which DHS managers must grapple. These include the political demands of provincial Ministers of Health (MECs, members of the executive council) whose micro-management within the public

health system has itself sometimes been a challenge for DHS managers (Engelbrecht and Gilson, 2022).

A new wave of health system reforms

Large-scale health financing reforms have been a part of ANC health policy since 1994, and these received new emphasis following the appointment of a new Minister of Health in 2009, Dr Aaron Motsoaledi. The publication of the NHI Green Paper in 2011 then set out a gradual timeframe for implementation over a 14-year period, in three phases (South African National Department of Health [SA NDoH], 2011).

The overarching priorities for the first phase included (1) strengthening of the health system, (2) improving the service delivery platform and (3) policy and legislative reform. More specifically, the intention was to strengthen public health care and prepare for the longer-term NHI roll out by addressing (SA NDoH, 2011 p. 52):

- Management of health facilities and health districts
- Quality improvement
- Infrastructure development
- Medical devices, including equipment
- Human resources planning, development and management
- Information management and systems support
- Establishment of an NHI Fund (to support revenue collection and purchasing).

In addition, the NDoH selected eleven districts (out of a total of 52) across all nine provinces as pilot sites in which to implement interventions to strengthen primary health care, such as ward-based outreach teams (including community health workers) to improve access, and District Clinical Specialist Teams to improve the quality of clinical care. The overall set of interventions sought, ultimately, to ensure that South Africans (1) have access to quality health services, (2) experience a reduction in the burden of disease, particularly that borne by women and children and (3) experience improvements in the overall health system performance.

The fundamental place of PHC within the NHI reforms – as well as the need for strengthened health system management - were clearly stated by the NDOH before the piloting process began:

> To successfully implement a healthcare financing mechanism that covers the whole population such as NHI, four key interventions need to happen simultaneously: i) a complete transformation of healthcare service delivery and provision … iii) a radical change of administration and management and iv) the provision of a comprehensive package of care underpinned by a reengineered Primary Health Care. (SA NDoH, 2011)

Elaborating on the critical role of the DHS in supporting strengthened PHC within the NHI roll out, (Pillay & Barron, 2012, p. 1) noted that:

> …this means that district management, sub-district management as well as management of all facilities within the district must continue to be strengthened, that district health plans are developed (and strengthened) and that the existing information systems be used to monitor and strengthen service delivery. It means District Management Teams (DMTs), Sub-DMTs and district hospital CEOs must be responsible and accountable for all the services that take place in all the facilities and communities in the districts.

The importance of management at all levels was also, critically, emphasised by Minister Motsoaledi as he travelled the country championing NHI.

The research conducted within this PhD

The PhD research reported in this thesis was nested within the first five-year phase of the NHI roll out, 2012–2017. Within this large-scale reform, I found an opportunity to evaluate emergent bottom-up capacity development innovations in two NHI pilot site districts. The call by the Minister of Health to strengthen DHS management triggered bottom-up action by two district managers. In different ways, they both nurtured the development of their managers as part of wider, systemic capacity development processes.

In examining these experiences, I adopted a realist evaluation approach to contribute to building and testing programme theories about leadership and management development in the health system. The research sought to contribute to a better understanding of emergent

bottom-up innovations to strengthen management capacity developed within districts by DHS managers, with no additional resources. It also sought to contribute to an understanding of management capacity development as part of broader systemic capacity development within the DHS in under resourced settings.

The international context

Since the 2000s, human resources for health have gained attention globally. In the wake of the mushrooming global health initiatives, it became clear that the health workforce presented a major bottleneck to the successful roll-out of MDG-related programmes, the World Health Organisation's (WHO) 3 by 5 programme and GAVI's (the Vaccine Alliance) programmes. The World Health Report 2006 *Working Together for Health* (World Health Organization [WHO], 2006) called for a decade of focus on human resources for health and many multi- and bilateral agencies developed capacity development programmes for health workers. Since 2007, the global health system strengthening (HSS) agenda has brought significant additional external resources into health systems in low- and middle- income countries (WHO Maximizing Positive Synergies Collaborative Group, 2009). HSS approaches built upon the WHO's six building blocks, which include the health workforce, and intended to shore up the capacity of health systems to deliver disease control programmes effectively and to improve the coverage of primary health care. Interventions typically focused on in-service training, reorganising diagnostic and care procedures through task shifting and deploying community health workers. They rarely included management and leadership development as a major priority (Doherty et al., 2018).

In parallel, a growing international literature has recognised that to fully embrace a Primary Health Care approach and make progress towards Universal Health Coverage (UHC) in Africa through the DHS, we must take stock of the realities we are facing, including bottlenecks at service delivery level and lack of management capacity (Bradley, Taylor, & Cuellar, 2015; Cassels & Janovsky, 1991; Egger & Ollier, 2007; Goergen & Schmidt-Ehry, 2004; O'Connell & Sharkey, 2013; Tangcharoensathien et al., 2018; Vriesendorp et al., 2010; WHO, 2007). Tumusiime et al. (2019) argue that many health districts in Africa are failing because post-colonial reforms have not managed to discard the history of bureaucratic hierarchy - district health systems are still constrained by the same organisational practices that were embedded by colonial authorities. As a result, district managers neither have authoritative power, the

resources or the skills for their roles. These authors argue that in some countries in Africa, managers understand being sent to work at the district level (rather than at the national or regional level) as a punitive measure, rather than seeing working in the districts as attractive. They suggest not only that we need to address the systemic constraints within which managers work but also, develop new approaches to capacity development for managers. Past capacity development programmes have failed because they were financially unsustainable, top-down, verticalized and focused only on the number of managers and their individual competencies. Instead, to achieve UHC, a new orientation is needed, emphasising creativity, managing uncertainty and systems thinking (Tumusiime et al., 2019).

What are the challenges facing management capacity development in South Africa and beyond?

In South Africa and internationally, we need to understand better how to strengthen management and leadership at the district level for health system strengthening (Bradley et al., 2015; Frenk, 2010; Heerdegen et al. 2020; Kwamie et al., 2015; Reich, Javadi, & Ghaffar, 2016; Tanner, 2005; WHO, 2007). A series of issues have been raised in the international literature about the challenges facing the capacity development of managers in health systems. These include the need to: (1) move beyond individual training and also build the capacity of the teams and structures in which managers work (Daire et al., 2014; Gilson & Daire, 2011; Schneider et al., 2019; Tetui et al., 2017); (2) promote the national ownership and stewardship of management capacity development (Mutale et al., 2017; WHO, 2007) as an alternative to the donor-funded project approach, which sometimes creates conditions for change but does not sustain outputs once the project ends (Kwamie, van Dijk, & Agyepong, 2014); (3) set up capacity development programs that go beyond developing the technical management skills of problem analysis, solution analysis, implementation, evaluation, to include inspiring staff, stimulating them to develop a broad strategic vision and enable their strategic management skills (Belrhiti, Giralt, & Marchal, 2018; Gilson & Agyepong, 2018; Gilson et al., 2023; Nzinga et al., 2021); and (4) maintain the gains of capacity development programs in the light of personnel turn-over by looking into the 'routinization' of practices and shaping the organizational culture to support sustained outcomes (Bosongo et al., 2023; Johnson et al., 2021; Kwamie et al., 2014).

From a research perspective, meanwhile, the literature suggests that to support sustained management and leadership capacity development at DHS level, it is important to explain how leadership capacity development programs actually work and in which conditions, and to contribute to theory-building about capacity development (Adam et al., 2012; Bosongo et al., 2023; Prashanth et al., 2012; Prashanth et al., 2014). There is limited research on understanding emergent bottom-up approaches to developing health management capacity that utilise existing resources with no external support (Bosongo et al., 2023). This is the research gap to which this thesis contributes.

Against the South African and international background, the objectives of this thesis were:

1. To describe and analyse senior managers in district health systems as mediators of policy reform between the National government and sub national government.
2. To describe what opportunities and challenges arise in disseminating, diffusing, and implementing bottom-up innovations in complex health district systems for management capacity development.
3. To identify the mechanisms for change triggered in context by bottom-up innovations and to identify how they interact with the existing social processes and norms to impact on capacity development [or do not].
4. To derive insights from experiences of bottom-up management capacity development innovations for future capacity development of capacity at district level in South Africa and internationally.

The layout of the thesis

Below, I present the lay out of the thesis:

- In chapter 2, I present a literature review addressing seminal literature on the DHS globally as well as in South Africa, as well as literature on management and leadership capacity development in South Africa and internationally.
- In chapter 3, I present the conceptual foundations for the PhD research and the initial middle range theory.
- In chapter 4, I present the realist evaluation methodology that was employed in the PhD.

- In chapters 5 to 7, I present the three empirical studies at the heart of this thesis. Chapter 5 sets the scene by showing the initial intersections of the national large-scale reforms and the district health system. In chapter 6 and 7, I present two case study experiences of systemic capacity development led by district health managers in each of two case study sites. In each case, the managers initiated and developed bottom-up innovations for management capacity development in their district, allowing an emergent approach to capacity development.
- In chapter 8, I present a cross case synthesis of the empirical research, testing and refining the middle range theory.
- Finally, in chapter 9, I present the discussion of the key contributions of this PhD. and present recommendation for future management and leadership capacity development initiatives in South Africa and internationally.

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Chapter 2 – Literature Review

Introduction

This chapter presents reviews of several sets of literature that together provide the background for this PhD thesis – and identify the knowledge gaps to which it contributes.

I, first, provide a brief overview of seminal global literature on health districts as part of health systems, and then, present an historical perspective of the development of the District Health System (DHS) in South Africa – bringing an evolutionary perspective to the role of district management teams in the DHS. This includes drawing on literature since 1994 (the post-apartheid era) to show the evolution in thinking on the challenges and opportunities related to management capacity in the DHS, as well as some of the challenges that persist. Second, I provide a summary of the efforts implemented over time in South Africa to address these challenges and build the capacity of managers in the district health system, which include formal training programmes and workplace-based initiatives. Third, to situate this PhD within the international literature, I provide a synthesis of findings from scoping and realist reviews of management and leadership strengthening in district health systems. These include sub-Saharan Africa reviews that speak to management and leadership challenges across the health system, and that include issues related to managers in the DHS.

The PhD focuses on the capacity development of DHS managers' ability to perform their overall management functions, encompassing both management and leadership functions. I start by defining what I mean by management and leadership.

Defining management and leadership

Management and leadership (M&L) functions overlap in practice. Ideally, we hope for a cadre of managers who can be considered 'managers who lead' (Daire, Gilson & Cleary, 2014; Vriesendorp et al., 2010). It is important, however, to describe the distinction as the literature varies between programmes that focus on leadership capacity development (CD), some that focus on management CD and some that focus on both. While there are multiple definitions of M&L, I offer the following insights:

Management functions include planning, organising, coordinating, solving problems, managing resources, and overseeing the administration and implementation of key health

system objectives. They can also be broken down further into administrative and strategic management activities. The first group focusses on administering the organisation, executing plans and policies, realising its objectives (the planning approach), whereas the second is about developing and steering the organisation towards a desired state (Goodwin, 2013; Kotter, 2000). While management functions have been well defined, Mintzberg (2009) reminds us that the management role is in practice a mix of art, science and especially the craft of managing. “Craft is about learning from experience - working things out as the manager goes along” (Mintzberg. 2009: 10). And, while managers themselves have specific functions, much of what they need to do is bring out the best in other people to get things done, including in their own organisations but also outside of it. Overall, “[w]ithout good management complex enterprises tend to become chaotic in ways that threaten their very existence” (Kotter, 2000 p. 104). Leadership, meanwhile, is “the capacity to translate a vision into a source of inspiration that mobilises others” to act; it includes setting the direction of the organization, aligning, motivating, and inspiring staff and thinking out of the box to create and identify opportunities to produce desired change (Goodwin, 2013; Kotter, 2000). Agyepong et al. (2018, p. ii36) write that strategic leadership “demands the abilities to make decisions, develop organizational structures, processes and controls and manage multiple constituencies”.

There are a variety of recognised leadership concepts, in this PhD we are concerned with distributed leadership, which understands leadership as a collective practice amongst members who have different roles, who negotiate meaning and work together to achieve common objectives (Nzinga, 2018). This shifts one’s focus from only looking at who is leading, to rather understanding how leadership is co-created and accomplished. Both management and leadership are needed in organisations, and they overlap in practice, and the effect of both managing and leading are influenced by health system context, including prevailing norms, cultures and structures within an organisation, managers have to be aware of and responsive to context in the way they manage and lead (Nzinga, 2018). For example, medical hierarchies intersecting with manager identities and roles, the merging of interests and/or organisations that change the structure of the organisational and more traditional features of context such as the availability of human, technical and financial resources (Denis, 2001).

Defining capacity and capacity development

We recognise management and leadership development as being broadly understood as developing the capacity of managers and leaders through formal training and/or workplace-based training and/or through experience at either the individual, organisational or systems levels, and so form part of the wider range of activities relevant to capacity development (Gilson et al. 2023).

This thesis discusses the capacity of managers who manage and lead in complex district health systems that is influenced by a variety of contextual factors. Given the complex nature of district health systems we embrace a systems definition of capacity, capacity is "that emergent combination of individual competencies, collective capabilities, assets and relationships that enables a human system to create value" (Baser & Morgan, 2008. p.34). Capacity is made up of individual competencies and collective capabilities (the skills of the collective to achieve objectives). Capacity is an outcome of capacity development; capacity is an improvement in the way things get done. It is not the same as change, change could simply be the reconfiguration of a system with no improvements in the way things get done (Baser & Morgan, 2008).

We define capacity development as "the process of enhancing, improving and unleashing capacity; it is a form of change which focuses on improvements" (Baser & Morgan, 2008, pg. 3). Baser and Morgan (2008) classify three approaches to capacity development, (1) planned capacity developed includes processes and activities that have a clear set of goals and objectives, it includes clear targeting and scheduling. An (2) incremental capacity development approach sees goals and objectives as guidelines, rather than as strict rules. There is an openness to adjustment and change as the CD activities are rolled out. Emergent capacity development has no centralised direction, it is not driven top-down, it is driven by "relationships, interactions and system energy" (Baser & Morgan, 2008: 78). It requires a sense of shared meaning, some sort of collective identity and some basic rules of conduct. In this approach, capacity emerges out of relationships, system cohesion and collective actions.

Districts as part of health systems

It is argued that the DHS is an effective vehicle for institutionalising primary health care (PHC), as the district serves as an operational unit for implementing PHC. Many recognise that if the

vision of the 1978 Alma Ata declaration on PHC is to be achieved, then the DHS needs to be strengthened (Monekosso, 1994; Janovsky, 1988; South African National Department of Health [SA NDOH], 2011). PHC is the first level of the health system that the community encounters and is, thus, a core component of the DHS (Tarimo, 1991). Governments globally seek to strengthen health systems, including the decentralised level, to provide high quality and responsive PHC as well (Task Force on Health Systems Research, 2004; Tanner, 2005).

Janovsky (1988 p. 10) aptly describes the rationale for the importance of a DHS:

> The district is the most appropriate level coordinating top-down and bottom-up planning, for organising community involvement in planning and implementation; and for improving the coordination of government and private health care. It is close enough to communities for problems and constraints at community level to be understood. Many key development sectors are represented at this level, thus facilitating inter-sectoral cooperation and the management of services across a broad front.

The main pillars of the district health system are recognised to be: (1) organisation, planning and management; (2) resource allocation and financing; (3) inter-sectoral action; (4) community involvement and (5) the development of human resources (Janovsky, 1988).

In order for a district to function effectively, there are certain preconditions that should exist; these include (a) adequate decentralisation and (b) a national government that is committed to and supportive of the district health system and provides overall national plans, legislation and direction for PHC delivery – providing the necessary enabling environment for districts to function (Janovsky, 1988; World Health Organisation [WHO], 2007). Decentralisation is defined as “the transfer of authority, or dispersal of power, in public planning, management and decision-making from the national level to subnational levels, or more generally from higher to lower levels of government” (Mills, et al., 1990 p. 11). It is noted, however, that other factors such as control over resources, an ability to mobilize political support, the perceived legitimacy of the managers’ position and the general climate of rules, regulations and expectations within which they operate influence the amount of discretion enjoyed by the local body (Mills et al., 1990).

A manager or officer must be assigned to lead the DHS across all four pillars.

> Its [the DHS] component elements need to be well coordinated by an officer assigned to this function in order to draw together all these elements and institutions into a fully comprehensive range of promotive, preventive, curative and rehabilitative health activities. (WHO Global Programme Committee, 1986, cited in Janovsky, 1988 p. 9)

A district manager is typically supported by a district health management team, who supports the district manager in implementing national and local health policies and strategies and provide technical support (Chatora & Tumusiime, 2004). District management teams (DMTs) vary in composition in South Africa but are typically led by a district manager, range from 12 to 20 people and include senior support service staff such as for human resources, finance, transport, as well as senior staff from regional hospitals, co-ordinators of local clinics and various senior programme managers and information officers (Dovey, 2002).

A historical perspective on the DHS in South Africa

South Africa started a process of decentralisation and restructuring public services in 1995, post-apartheid. Public services had been heavily fragmented in favour of specific population groups in the apartheid era. Two critical steps taken in 1995 were the creation of nine provincial health departments, and the initial demarcation of district boundaries (Gilson et al., 1996). The main reasons for decentralising health services to provincial and district level in South Africa were (Gilson et al., 1996):

- Service delivery and planning was highly fragmented, with a divergent set of government institutions catering for different population groups but focusing mostly on vertical programmes rather than integrated care. The government, therefore, hoped both to reduce fragmentation across health services and to develop uniform conditions of service and salaries across government as a whole.

However, many challenges faced the development of the DHS in the 1990s, with contestation centring on (McCoy & Engelbrecht, 1999):

- The appropriate size of health districts
- The roles and relationships between the health district and local government
- The relationship between local government and the provincial Departments of Health

- The relationship between the national, provincial and district levels of the health system
- The role and relationships of the district hospital
- The role and relationship between management and 'governance' structures

Nevertheless, the process of decentralisation moved forward. Prior to the process of municipal demarcation in the year 2000, there were more than 200 health districts in South Africa, as sub-districts were effectively operating as districts. After consolidation, there are now 53 health districts in South Africa, including 6 metros and 47 non-metro districts, aligned with local government boundaries. This process of consolidation had a major impact on the scope of control and the degree of interaction between health managers in these now much larger districts (Byleveld, Haynes, & Bhana, 2008).

Today, South Africa has three tiers of government: national, provincial, and local government. This provides the framework for the national health system in South Africa. South Africa has one National Department of Health (NDOH) and nine Provincial Departments of Health. The National Health Act (2003) legitimises the establishment of the DHS in South Africa (Van Rensburg & Engelbrecht, 2012). Health districts are understood as central to democratisation in South Africa, with a vision of involving people in the local governance of their community health system.

> The rationale for the introduction of the district based PHC system in South Africa …. [is] … to meet the health care needs of everybody in the way that people want to receive care, to provide a simple, integrated and logical service, and thus to overcome inefficiencies in service delivery caused by undue fragmentation of the system, To ensure that local decisions are made locally, in terms of local needs, and by the very people who have to implement and will be affected by the decisions. (Van Rensburg & Engelbrecht, 2012, p. 144)

In 2009, the then Minister of Health Barbara Hogan commissioned a technical task team to review the progress made in the development of the DHS in South Africa and to make recommendations for progress. Its recommendations, as noted by Masilela and Barron (April 2009), included some highlighting the importance of strengthening management and leadership:

- Improving the functioning of the DHS; including that Provincial legislation should provide for the functioning of the DHS as required and that clear criteria for a well-functioning DHS must be adopted including the required management and governance structures as well as criteria for measuring management and leadership.
- Introducing an outcome-based focus in the delivery of district-based health services; including PHC revitalisation that includes building the capacity of sub-district and district management teams, including developing standardised training programmes for managers and supervisors; integrated information systems that allow facilities, sub districts and districts to report on key coverage, quality and outcome indicators.
- Improving quality of care.
- Empowering and ensuring accountability of district management teams; Provincial governments should complete the restructuring process and filling of District management teams; district managers should be provided with adequate authority and district health plans should be the basis for resources allocation to districts, to enable them to effectively address local health needs, the DMT should then be held accountable for health outcomes.

Management in the South African district health system

While the government successfully transformed the South African public health services post-apartheid into an integrated, comprehensive national system, management and leadership is still one of the major challenges with consequences for successful policy implementation (Coovadia et al., 2009). These authors report that management capacity was highly centralized during apartheid. In the post-apartheid era, many managers with institutional memory left the service and were replaced by, in some cases, inexperienced managers with little experience.

> After 1994, a concerted effort was made to include women and black people in senior and top management teams. The changes resulted in loss of institutional memory and some problems associated with many inexperienced managers placed in positions of seniority (because competence had not been an essential criterion for public sector appointments in the past, lack of experience or expertise was not seen as a necessary barrier to employment). Inexperienced managers have struggled to handle the major challenges associated with transformation, and in particular, efficient and effective

> management of human resources. Reports of ill-discipline; moonlighting, and absenteeism are widespread. Additionally, there is a serious shortage of training, support, and supervision. (Coovadia et al., 2009, p. 830)

Sanders and Chopra (2006) commented that limited managerial capacity in the health system was one of the factors inhibiting the effective implementation of a variety of public health programs in South Africa for both complex and less complex programs. However, there is not only limited managerial capacity but also a massive shortage of health workers which limits the ability of managers to implement health programs and services successfully. Lehmann (2008, p. 174), considering whether South Africa has the required resources to implement a PHC approach, found that South Africa is severely lacking in this area, writing that while excellent health policies exist: “the health workforce is substantially weaker now than it was 14 years ago”. This author suggests that we need to think of new innovative ways to make real progress, and specifically recommend that academic institutions devise new ways of teaching public health and management skills to strengthen capacity to plan for and manage district health services (Lehmann, 2008). While there are many committed managers in the public health service, many of them feel disempowered as they feel they cannot change the system in which they work.

There is a long history in South Africa of reflecting on the role of managers in transforming the health services. This role was seen as necessary for implementing the new DHS as well as in implementing primary health care in a complex and changing health system (Schaay et al., 1998). In 1998, Schaay et al. (1998) conducted a review of health management training programmes in South Africa that had been or were being implemented post 1994. They noted:

> A common theme running through the new numerous workshops and reports which focus on the issue of health management training – is the need to develop managers who will be able to work with and confront the complexities of a transforming health care system. Emphasis is thus placed on the need to develop a cadre of managers, who are able to manage through innovation and action – as opposed to administration and who are able to manage within the context of rapid – and sometimes turbulent – change. (Schaay et al., 1998 p. 95)

Subsequently, the Health Systems Trust, a South African NGO, was involved in assessing the capacity of managers in some health districts in South Africa. They developed a list of 14 generic competencies for district management teams based on a national and international document review of competencies for health managers (Byleveld et al., 2008). These competencies include: (1) strategic leadership; (2) communication; (3) people management and empowering environment; (4) financial management; (5) honesty and integrity; (6) self-management; (7) problem solving and analysis; (8) service delivery and innovation; (9) client orientation and customer focus; (10) knowledge management; (11) resource management and allocation; (12) programme and project management; (13) change management and (14) community / partnership collaboration.

Byleveld et al. (2008) also drew attention to the fact that managers not only need these generic skills but also transformation skills, to work in the system and as part of a collective. Concluding their thoughts on developing managers in districts, they note:

> There is a reason to believe that, given an enabling environment, existing pockets of excellence or sites of best practice would serve as the examples necessary to lead the way towards the change needed to return DHS to its perceived heights of earlier years. Renewed energy and opportunity for creativity are needed to bring about the required change. More of the same is unlikely to be the catalyst (Byleveld, 2008, p. 21).

There are still, unfortunately, persistent challenges with management capacity in the DHS in South Africa (Doherty et al., 2018). However, over time, efforts have been made to improve the capacity of managers to manage and lead in the DHS. Given my interest in this PhD on the capacity development of managers to manage and lead in the DHS, I specifically reviewed the empirical literature on this topic in South Africa, seeking to understand programmes that targeted the development of senior managers in the DHS aiming to improve their management and leadership competencies and capabilities.

Contemporary literature on management capacity development in the DHS in South Africa

I have been gathering literature on South Africa throughout the course of the PhD by scanning reference lists of international review papers (looking for empirical work conducted in South Africa for managers in the DHS) and consulting South African health management experts.

For this review, I also searched in EBSCO, Web of Science, PubMed and Scopus for additional literature. I specifically searched for CD programmes that focused on interventions and/or programmes and/or innovations that explicitly sought to develop the capacity of senior managers in the DHS to manage and/or lead. I found only seven published empirical papers that spoke explicitly to management capacity development in the DHS (Blanchard, 2012; Choonara et al., 2017; Cleary et al., 2018; Doherty et al., 2018; Dovey, 2002; Schneider et al., 2019; Van der Berg-Cloete et al., 2020). Clearly, there is a dearth of literature on this topic in South Africa.

I transferred the papers to NVivo, and then identified cross-cutting themes from the papers, grouping sets of data in Nvivo. I also manually drew mind-maps to identify and sort the most common themes and then I synthesised the knowledge in tables, and then developed a narrative around each theme, which is presented below.

Overall, I sought to explore the ideas underpinning the CD programmes (as such ideas and conceptualisations of programmes are central to understanding how and why the programmes are meant to work in the DHS) and whether there were empirical papers that explored bottom-up emergent innovations. I sought to understand what the existing knowledge base was on bottom-up capacity development given the focus of my PhD. I also wanted to understand how context influenced the implementation and sustainability of CD programmes, given that we recognise context as a key influence on programmes in complex adaptive health systems. Finally, I sought to understand key pathways to success in the programmes as well as to understand the outcomes that were being measured for the programmes.

Empirical papers that discuss M&L capacity development in the DHS in South Africa

Two of the papers discussed M&L capacity development activities implemented in the workplace that were designed and delivered by actors who do not work within the DHS (Blanchard & Carpenter, 2012; Cleary et al., 2018). Choonara et al. (2017) outline internally led bottom-up strategies that improved district management capacity through the daily practice of managing, whilst Schneider et al. (2019) present a bottom-up process of improving management capacity through a governance intervention. The other three papers reflected on formal training programmes, which included some workplace activities (Doherty et al.,

2018; Dovey, 2002; Van der Berg-Cloete et al., 2020). An additional book chapter also provided useful information and insights on management capacity development in South Africa (Gilson et al., 2023).

Four of these papers speak to CD that is embedded entirely within the workplace and were not part of a formal training programme (Blanchard & Carpenter, 2012; Choonara et al., 2017; Cleary et al., 2018; Schneider et al., 2019), a summary of each of these papers is provided in Table 2.1 below. The remaining three papers speak to management and leadership CD within formal training programmes, all three were either delivered by, or in partnership with a South African university (Doherty et al., 2018; Dovey, 2002; Van der Berg-Cloete et al., 2020), a summary of each paper is provided in Table 2.2 (below). The formal training programmes included taught formal courses/modules in the programmes and students would leave with a recognised certificate or diploma. In the tables I first discuss the CD programmes that were entirely embedded in the workplace, and then those that constitute formal training programmes.

It is interesting that all of the papers found in this review of the South African literature focused on leadership development, although it is evident that there has been an overwhelming focus on management training in the public health service in South Africa (Byleveld et al., 2008; Schaay et al., 1998). An early review of health management training conducted between 1994-98 reported the courses that were being established at that time were being delivered by universities and/or took the form of short-term management training delivered internally by government (Schaay et al., 1998). At that time, these authors recommended that the programmes should be evaluated, but few such evaluations appear to have been conducted or, perhaps, reported; hence the limited publications focusing explicitly on management capacity development interventions in SA. At the same time, it could be that the CD programs that are the focus of publications were considered as part of research projects and/or included academic staff who had an interest in publishing. More worryingly, however, as noted by Gilson et al. (2023 p. 680) “existing experience suggests that, with some exceptions, health system leadership development is generally not well supported within African countries”.

Summary Table 2.1: Findings on management and leadership capacity development in South Africa (non-formal training programmes)

Author and title	**Aim of paper**	**Description of the intervention and/or strategy**	**Key intervention inputs**	**Reported positive leadership capacity outputs or outcomes**	**Key challenges and issues related to sustainability**
(Cleary et al., 2018) **Enabling relational leadership in primary healthcare settings: lessons from the DIALHS collaboration**	"As part of the DIALHS (District Innovation and Action Learning for Health Systems Development) collaboration, the article reflects on 5 years of **action learning** and engagement around leadership and LD within primary healthcare (PHC) services. The paper provides insights into how leadership is currently practiced and to highlight lessons about whether and how an action learning approach to LD enabled a strengthening of leadership within this setting" (p. ii65) The paper focused on how to nurture relational leadership. **Key concepts:** **Relational leadership:** -enabling relationship building and commitment to each other through nurturing interpersonal relationships, based on ideas of	Employed action learning approaches that utilised co-creation processes for leadership development. The intervention was implemented over a five- year period. Intervention co-designed by researchers and local government authorities from the City of Cape Town. **Participants:** Sub district managers and facility management teams. **Key framework to inform design of the M&L CD intervention:** The thinking environment	-Collaborative action learning methodological approach, including working on projects in their own complex contexts. -Employed principles of the thinking environment -Reflective practice to learn from experience. -Team approach in routine spaces -Emergent learning over time itself is an intervention in the system. -An organizational psychologist led the design of the intervention and supported implementation. -The research team regularly engaged with the group to support	-Facility managers (FM's) and Sub District Management Team members renewed their thinking about how they personally engaged with others, this improved relationships with staff and with staff higher up in the hierarchy in the DHS. -Improved trust and team cohesion amongst staff -Through the use of appreciative rounds, they started showing appreciation towards each other -Facility managers improved their way of hosting strategic planning workshops	While these practices were now taking place, over time the broader governance context of accountability and performance to targets limited the time and space available for collaborative relational practices and for 'anybody to be a leader'. This will thus limit long term impact and limit the ongoing embeddedness of these practices. Given that not everybody in the system is engaged in the learning, other staff who the managers interact with are not attuned to these ways of working and so the practices can be challenging.

	empathy, trust, collaboration in everyday work. - anybody can be a leader -ideas centred on distributed leadership rather than hierarchical relationships to engender commitment to each other		learning and reflexivity and to make meaning of the outcomes of the intervention **Pathways to leadership capacity development:** -It was a revelation to many how well working in collaborative and appreciative ways with each other made them feel about themselves and influenced their ways of doing and being.	-There was a shift in organisational culture through improved behaviours	
(Choonara et al., 2017) **Significance of informal (on-the-job) Learning and leadership development in health systems:**	The research was embedded in a study which had a focus on financial management in districts, however this paper's "*primary focus was to draw attention towards the value of informal learning in developing leadership competencies such as motivating and inspiring staff. …. the focal point of the paper moves beyond financial*	While conducting research on financial management practices in the DHS, the researcher observed a set of informal learning strategies in the DHS. **The informal learning strategies they observed included:**	The knowledge of senior managers being shared with others in their teams and the adoption of team based and collective efforts to solve problems.	They observed the development of three competencies needed by managers working at a district level, based on their observations these competencies included: -People management	At times a lack of delegated authority to the district level limited innovative solutions. While authority is delegated on paper, in practise most things still required permission from the Provincial Government or the National

lessons from a district finance team in South Africa	*management to illustrate the significance of informal learning in developing leadership competencies in the finance team and the broader DHS*" (p. 2)	-effective delegation and communication by leaders, which other staff observed -Team-based learning, managers noted that they promoted team-based learning by encouraging the team to learn the job functions of other staff which meant they could support others in their team in times of high pressure. **Participants:** No formal participants as it was an emergent process, key actors observed included the district manager, the finance managers and their staff under them in the DHS office.	**Pathways to leadership capacity development:** They describe learning strategies employed that enabled learning from leaders, and which fostered team-based learning: -Managers with open door policies who help staff -Everybody in the finance team learning everybody else's job so they could easily fill in for each other -Consistent one-on-one feedback -Managers taking staff with to meetings so they can learn -The district manager giving staff challenges to tackle and giving feedback -When there was a particular high-level	and empowerment -Problem solving and analysis -Strategic capability and leadership *They used the DHS competencies framework to interpret the competencies they were observing[1]	Government (e.g. outcomes of disciplinary procedures). Further lack of delegated authority at the sub-district level – so limited opportunity for staff at that level to enact agency and innovation. This compromises system level strengthening.

[1] Gilson L, Daire J. Leadership and governance within the South African health system. In: Padarath A, English R, eds. South African Health Review. Health Systems Trust; 2011. http://www.hst.org.za/ publications/south-african-health-review-2011

			task, such as capturing budget data for all the clinics, everybody was requested to help and leave their own jobs for that time to ensure completion of the task. -Acknowledging good work and award ceremonies -Being innovative in findings solutions to challenges (such as IT services being cut off in their office and then together working around this constraint)		
(Blanchard & Carpenter, 2012) **Experiences of action learning groups for public health sector managers in rural KwaZulu-Natal, South Africa**	The objective of the study was to pilot action learning groups in order to understand how managers in a rural district experience the process of action learning. Based on the idea that leadership competencies can be developed through working with managers in the DHS through action learning groups. Paper primarily focused on the value that managers found in	An eleven-month action learning group program was implemented with public health sector managers in a rural health district in one Province in South Africa. The program was developed by a team from the Centre for Rural Health (CRH) in the same province. CRH staff were facilitators in each action learning group	Initial introductory workshop where participants were introduced to each other and divided into three action learning groups. -Each group had a facilitator from the CRH, who was present in each group meeting. -They met over a period of eleven months, each group	-Improved capacity to work in teams and to collaborate -Improved capacity to use the action learning model in their own organisations -Improved capacity to reach out for support from others in the district (ability to display vulnerability) -The provision of support for managers from those within	-The paper called for additional research on measuring capacity development outcomes and to test whether the model of action learning is more viable than traditional models of training. -Action learning groups are recognised as feasible for those in rural settings who would spend large cost

	action learning. But a clear articulation that the paper was about leadership capacity development for managers and that this is a potential useful method for leadership capacity development. **Conceptual underpinnings:** -**Action learning** allows for participants to reflect on their own real life work problems and to work together with others in doing so. -The onus is on a participant to act based on discussions with group members who he/she can leverage for insight.	**Participants** -Participants included staff from seven hospitals, including CEO's and HR managers only. -Also included the district manager and some senior staff from the district office. -17 participants in total. Once the program was complete a qualitative evaluation was conducted to find out the experiences of managers in the program.	met once a month for about 4-6 hours within the eleven-month period. -Meetings took place at members various workplaces. -At the meetings, managers who were members of groups, each took turns to present their real-world challenges -Individuals designed action plans and received feedback from the group. **Pathways to leadership capacity development:** -The CRH facilitator visited participants at their place of work – thus had real world understanding of managers reality -Enjoyment in participating in the groups and comfort in the action learning groups -Setting up	their action groups (could reach out beyond their facility for support) -Action learning groups can be a useful method for improving capacity to solve problems	and time travelling to more traditional formal training (more of the same, as some managers referred to it).

			confidentiality in the groups (led to trust relationships) -Having meetings locally saved time and cost -Attending each meeting and arriving on time (95% attendance rate) -Skills to develop an action plan -Each participant gives feedback at each meeting on their own action plan		
(Schneider et al., 2019) Title: **District Governance and Improved Maternal, Neonatal and Child Health in South Africa: Pathways of Change**	**Aim:** "This paper is a case study of a district and sub-district governance mechanism, the Monitoring and Response Unit (MRU), which aimed to improve MNCH outcomes in two districts of South Africa ……. paper seeks to shed light on the value and potential of a governance lens on district health system strengthening for improved health outcomes" (p. e1669943-1) Does not explicitly call it a capacity development intervention but provides useful	**Monitoring and Response Unit (MRU) for Maternal, Neonatal and Child Health.** **This was a governance intervention** at the district level to improve collaboration between relevant actors in the district to improve maternal, neonatal and child health in the district. Overall goals included achieving the MDG targets and	-Included a monthly meeting at facility or sub district level and at the district level -Included relevant managers and staff who are responsible for a continuum of clinical governance. -Included "a standard agenda of reporting, analysis of and response to maternal, neonatal and child deaths, indicator dashboards, planning tools, and the use of	Strengthened governance structure at the meso-level, between sub-district and district level. Which led to service delivery changes: -"Enhanced screening in community and PHC settings, with early identification of problems in women and children -Better referral systems across levels	Given that the governance intervention was a bottom-up intervention, there are concerns about sustainment given that there are not similar structures at provincial and national level who could mirror and support the strengthened processes and structures at the DHS level.

	insight into the power of the bottom-up capacity development of routine structures in the DHS. This is done through developing the capacity of managers, teams and systems of working together toward a common goal. **Conceptualisations:** The analysis in the paper is underpinned by a governance lens. The authors define governance "*as the collective actions and measures adopted by a group of people to achieve common goals. These actions and measures occur within a given set of formal and informal rules that shape and are shaped by power" (*p. e1669943-1).	national targets for MNC mortality. The intervention sought to improve the performance of pre-existing forms of maternal, perinatal and child death auditing, by adding a clear line of district accounting and response, described as the "4Rs": Report, Review, Record, Respond". The improvement in the governance structure was convened and led by an expert facilitator, considered an insider in the DHS in South Africa. Well respected and seen as legitimate to those working in the DHS but was also respected as representing national level authority. The district manager and a range of managers in the district were part of capacity building efforts	evidence-based guidelines and strategies" - Preparation of relevant reports by key people in the district before meetings -District Clinical Specialist teams provided support in instituting solutions agreed on. -Only existing resources used **Pathways to success:** -The legitimacy of the facilitator -Feelings of needing to improve on MCH indicators as they were identified and singled out by the NDOH as bringing the national numbers down due to poor performance. -In the district the driver must be the district manager -Coalitions with relevant stakeholders	of care and between players within hospitals -Improved clinical practices within health facilities -Better continuity of care" (Schneider et al, 2019, p. e1669943-6).	

		within the revived structure to strengthen clinical governance. Their capacity was improved by being part of the process of improvement.	-Communication and collective sensemaking -Accountability at the facility level has motivated people to change -Systems perspective on problems. -Shared responsibility		

Summary Table 2.2: Formal training programmes for management capacity development in South Africa

Author and title	Aim of paper	Description of the intervention and/or strategy	Key intervention inputs	Reported positive leadership capacity outputs or outcomes	Author and title
(Dovey, 2002) **Title: Leadership development in the South African Health Service**	The paper "reports the outcomes of one module of a collaborative learning project aimed at the development of leadership capacity in district health management teams in the Eastern Cape province of South Africa" (p. 520). The paper discusses insights from the cohorts who participated in the period 1998-2001. **Key concepts:** **Capacity development centred on the concept of**	A 6-month module that was part of a two-year District Health Management Certificate. A total of four modules were delivered over a two-year period. **The** District Health Management Certificate was developed through a consortium of actors: -The Eastern Cape Department of Health	- First week of the module is lecture based content including coaching, team building, transformational leadership, and how to do strategic action research in practise. -Seeks to address strategic workplace challenges -They **employed a work-based learning methodology** to address complex problems of implementation over	-In presentations of their projects, students displayed evidence of growing a culture of workplace-based learning in their workplace teams and working in sustained collaborative ways. - Collaborative workplace projects improved the capacity of managers to solve complex workplace problems which improved service delivery (e.g. in areas of "the treatment of scabies and the preparation of safe drinking water", and STI's) and improved	The certificate course included managers from district management teams. However, these strategic leadership skills, to function effectively up and down the system to solve complex problems needs buy in from staff at the Provincial government level to co-create solutions. It was unclear what the strategic

	transformational leadership: the authors define this as the ability to drive renewed commitment to the organisation based on a set of values and beliefs aligned with the core mission of the organisation. This works through relational and distributed leadership. The aim of the module was to enable the use of s**trategic and procedural knowledge** in the workplace to the advantage of the district. These are skills that employ tacit knowledge and are highly related to context – through a collective **workplace-based learning** methodology, managers start to engage with situated knowledge in their context, this enables managers to understand the distributed nature of knowledge and expertise in the DHS which they collectively leverage.	-Johnson and Johnson Leadership Development Institute at Rhodes University (JJLDI) -Management Sciences for Health (MSH) -Grassroots community organisations The title of the module was 'transformational leadership'. Managers were given an overarching challenge to work on in teams, and together they had to define local problems and develop solutions and drive strategic change. **Participants:** -Students included current and/or prospective district health managers drawn from district health management	time within the course, presented and critiqued at a workshop by peers and supported by a leadership coach who was always available. - An academic supervisor supports integration of theory and practise - Students must network and address the challenge at hand using knowledge acquired and local contextual knowledge - Students engage with the politics of implementation -Coaching **Pathways to leadership capacity development:** -Committed coaching by the JJLDI staff, coaches modelled transformational leadership practices themselves. - Workplace-based	managers capacity for strategic thinking and implementation. - Leadership coaching built the skills of managers to know how to leverage different knowledge resources within their teams and from other teams. - WPBL methodology has nurtured strategic thinking skills and inclusive behaviours in district management teams.	thinking capacity was of Provincial level officials, they had at the time of writing refused to be part of any work-place based training initiatives to build their own strategic capacity using this methodology.

		teams in the Eastern Cape Province. -"the challenge for each team is to improve its district health profile by transforming its service to a team-based, primary health care model" (p. 525)	learning methodology enabled the transformation to a team-based work culture. - the setting of bite size objectives and goals where students could see success, this generated commitment and confidence -The development of a sense of social agency		
(Doherty et al., 2018) **Title:** Achievements and challenges in developing health leadership in South Africa: the experience of the Oliver Tambo Fellowship Programme 2008–2014	Main aim of the paper is to assess the OTF programme achievements between 2008 and 2014. Also aimed to describe lessons learnt for others who seek to develop leadership training courses in LMICs – a description of the course and the mechanisms of success are discussed. **Conceptual underpinnings:** The driving approach to LCD was a move away from traditional management knowledge (planning, finance etc.) to building individual	A post-graduate Diploma in health leadership supplemented by management seminars, mentorship, and alumni networking. It is a 2-year Diploma that includes both course content and experiential approaches to learning. Offered by the University of Cape Town. Focus is on supporting management capacity	- students have to "meet the academic requirements of the university" (p.ii51). -includes "four residential modules (three of 8 days and one of 5 days) run over a year" (p. ii51). - "a range of assignments between each module, always entailing personal reflection, critical thinking skills and diagnosing and addressing challenges specific to their own workplaces" (p. ii51).	They measured outputs, outcomes and impact of the programme. Majority of students graduated within 18 months of enrolment. There were a range of improvements to health services because of actions by graduates at district, provincial and national level. Many examples are listed where students contributed to service programme improvement, decision making structures	-The need for post-training support for alumni -The need for a space for programme convenors to engage more easily with human resource departments and managers of participants to ensure that new capacities are harnessed within the system -HR departments need to think more

	and team-based competencies that enable managers to drive strategic change. Focusing on taking real-world action in complex systems through strengthening teamwork and reflective practise. The premise being that because of the complex nature of health systems, new innovative leadership skills are required by managers to manage strategic change, this includes inter-personal relationships and work that is driven by a set of ethics and values.	development in the public health sector in South Africa. Key focus on: -"understanding health systems as complex systems, the nature of complex systems, the politics of change within health systems and in policy implementation, and on developing systems thinking skills and practices" (p. ii51). -Focused on improving knowledge, attitudes, and skills of managers through the OTF programme. -Addressing soft skills such as self-knowledge and inter-personal relationship development. -Employs WPBL to enable skills development in context and to deal with real world problems. <u>Participants</u>	-They must complete "a final management project that was larger in scope and implemented over the 4 months following the last module –focus on a set of small-scale interventions" (p. ii 51) within their workplace, working through this using reflection and action (part of workplace-based learning) -Personal reflective practise was a key ingredient over time in the module. -Also, included mentoring in the workplace, engagement with an alumni network via newsletters, seminars etc. **Pathways to change:** -Graduates were very satisfied "with the structure, content, and teaching style of the	and at policy level by applying their new skills. For the course in particular, examples of outputs achieved included: -Retention of graduates in the health system -Graduates employing more effective leadership styles -"Alumni have a sense of personal pride" (p. They also highlighted a range of challenges, including some students who did not complete the programme – challenges ranged from (1) managers who could not dedicate the time required to complete the intense programme of work (2) managers being incorrectly nominated by their departments and then not having the capacity to do the programme and (3) some managers had	strategically about who they send to leadership training and then support their development. - Performance development processes currently do not provide time for management to study and do not evaluate their contributions after attending training - There is a need to think about how to produce a critical mass of more trained managers into the health system, the relational aspects of leadership development take time

		Students are managers in the public health system who are nominated to attend the OTF by the South African Department of Health (both national and provincial), and in one province the Metro, or city level, also nominates students.	course". Adult learning pedagogy was appreciated. Teaching as facilitation rather than didactic training. -Favourite strategic thinking tools included "policy analysis, system thinking and tools, critical thinking, stakeholder analysis, reflective practice and the concept of small wins" (p. ii57). -Enjoyed group work as they could learn from others -Case studies and real world problems in the classroom was found to be able to immediately help them solve challenges.	personal reasons for being unable to complete.	
(Van der Berg-Cloete et al., 2020) **Title:** The Albertina Sisulu Executive Leadership Programme enhancing the	"The purpose of this paper [was] to evaluate the effect of the Albertina Sisulu Executive Leadership Programme in Health (ASELPH) in improving the competencies and performance of public healthcare managers in South Africa" (p. 163) in	One receives a Diploma in Health Systems Management (executive leadership) from the University of Pretoria when one is completed with the leadership programme.	-traditional didactic lectures, -"e-Learning, -group-work, practical "real-time" assignments, -case studies" (p. 173), with a focus on South African case studies. -"mentoring and	"This study assessed the extent to which the ASELPH Fellowship training has changed the leadership competencies and performance of public health sector leaders and managers through the ASELPH programme" (p. 166).	-"Assessors and mentors should continue to play an active role in the students' development and hold them accountable" (p. 173).

competencies and performance of public health service managers in South Africa	2015. For the evaluation the sample included 36 participants, 25% of the participants were employed at the district manager level. **Key conceptualisations:** The paper is conceptualised around the idea of the importance of leadership competencies needed by SA managers to deliver on health system needs. While the paper does speak about leadership there is no explicit theorisation for the programme. The programme was designed based on a self-assessment with managers. The programme was designed by merging two managerial competency frameworks designed in South Africa by the Department of Public Service and Administration (DPSA) and the Health Systems Trust (HST) in South Africa.	The programme was endorsed by the Ministry of Health, and it focused on developing managerial capacity but also building the capacity of university faculty to deliver leadership training in the future. It was designed in partnership with international universities and local universities. The ASELPH programme requires all students to have a four-year degree plus three to five years' relevant health services experience to enter the programme. The fellowship focused on three areas of development: - service delivery - human resource capacity - and executive level training	exposure to very -experienced leaders and managers in real-life work situations" (p. 173). -Feedback from peers - module assessments -Self-assessments and 360-degree assessments **Inputs into developing the capacity of university faculty to train managers:** - faculty staff attended training Harvard School of Public Health for ongoing training and personal development. **Pathways to change:** Aside from all the inputs, other pathways to change identified included: - Students expressed gratitude that they were selected to attend the ASELPH	- "11 of the 14 competencies and 44 of the 56 performance indicators improved significantly from pre-training to post-training" (p. 168). **Areas of significant improvement:** -self-management competency and all the associated performance indicators, including self and team awareness, time management and own leadership philosophy. The communication competency improved significantly following the ASELPH Fellowship. Included communication with internal and external stakeholders. -people management and empowering environment competency 3 of the 14 competencies did not improve significantly: -financial management	-Given the evidence presented in the paper they argue that the government should invest in more such programmes. -there was evidence of the importance of an enabling culture that is required for managers to utilise their skills and the government should support the creation of this environment. -The government should send all newly appointed managers into the ASEPLH programme or some form of leadership training

	Given the nature of leadership they included experiential and practical based learning into the course. They write that "*leadership training and development benefit the development of skills, attitudes and behaviour in individuals, leading to positive effects on teams, organisations and society*" (p. 164).	The programme included a focus on 14 competencies, the 14 ASELPH Fellowship competencies were then further defined, and measurements or performance indicators were developed to facilitate the evaluation of the change in the competencies. From these competencies, 13 ASELPH Fellowship modules were designed All the ASELPH **Participants:** The programme included managers from the private sector, tertiary institutions and managers working in the public sector, including at senior district manager level. In this study only managers working in the public sector were	Fellowship training and noted that the training impacted them positively and professionally. - Reflection was found to be both challenging and therapeutic for students - Students appreciated the reflective essay that kept them aware of the classroom and workplace environment and the implementation of the learnings at their workplaces throughout the training and beyond. - Expert faculty - Group work	-community/partnership collaboration -client orientation and customer focus.	

		included as participants.			

The ideas and conceptualisations underpinning CD programmes in South Africa

In this section, I provide an overview of the ideas underpinning the programmes and how authors have conceptualised management and leadership development in SA, further descriptions of the programmes are embedded in the narrative.

Workplace based CD programmes

The District Innovation and Action Learning for Health Systems (DIALHS) research collaboration included 5 years of action learning to support leadership and management CD within a PHC setting, this included facility managers and sub-district managers as targets of the intervention (Cleary et al., 2018). The intervention was embedded within a long-term research project, was conceptualised in terms of the development of the relational leadership capacities of managers, including teams, and overall, used an action learning process. The intervention focused on manager's inter-personal behaviours with others, which included reflecting on one's own behaviour in relation to others in everyday activities such as meetings and conversations. The approach included engaging in real world meetings as part of the intervention to embed it in existing workplace structures. The focus was on individual, team, and structural capacity development. Other key ideas in this CD intervention included a focus on collaboration, empathy and trust building through co-creation (Cleary et al., 2018). A key body of work that informed the approach were the principles of the 'thinking environment' which is premised on the idea that the quality of our thinking informs our actions, and to develop these skills there is a focus on equality in relationships, actively showing appreciation for others and the capacity to create a space of ease in which good communication can happen, rather than tension (Cleary et al., 2018).

Blanchard and Carpenter (2012) explored the use of action learning as an approach to building the capacity of health managers in a rural health district in KwaZulu Natal, a province in South Africa. The authors do not explicitly define the intervention as a leadership CD intervention but conceived it after identifying capacity gaps in the DHS setting amongst managers, specifically the need for improvement in people management and self-management skills (Blanchard & Carpenter, 2012). The program was developed by researchers from the Centre for Rural Health (CRH), an NGO in the same province. A key idea underpinning the CD programme was that managers in rural settings are too far away to attend formal training

programmes and that formal learning programmes take too much time away from work. Hence an action learning approach in the rural setting was adopted. The programme also did not set out to develop a particular set of skills but rather took an inductive approach to understand whether managers felt working in action learning groups was useful to them, also seeking to understand why. They define action learning as:

> Learning by sharing real problems with others, as opposed to theoretical classroom learning. Action learning is a process of reflecting on, and making sense of, past events and behaviours, to identify new ways of behaving. Reflection is accomplished with the support of a small group of colleagues/peers (an action learning group). Individual group members each … present a real issue, task or problem relating to their work. Others in the group help the individual to explore the challenge and identify a solution they can action in the workplace. (Blanchard & Carpenter, 2012 p. 3)

It was an eleven-month pilot programme working with 17 participants in total, including the Chief Executive Officer (CEO) and Human Resource (HR) Manager from seven hospitals, the District Manager for Health, two representatives from HR at the District Office, and the CEO and HR Manager of a Community Health Centre. Three groups were assigned, and action learning was explained to them and each group had a facilitator who met with them at their places of work. Individual managers presented problems that they identified in their own workplace context to a group of their peers and with the help of a researcher-facilitator, these were discussed and fed back to the group, where peers could support the development of solutions.

Choonara et al. (2017) did not set out to implement or evaluate a M&L CD innovation, but while conducting research on financial management systems in the DHS these authors observed informal leadership capacity development strategies that emerged in the workplace. They observed how a strong leader, the district manager, employed their own skills to teach others the value of delegating and effective communication. This cascaded down to other managers who mirrored her behaviour; managers below her felt empowered to do their work as she delegated tasks to them, and managers valued consistent feedback. Teamwork was a management strategy employed by the finance managers which others learnt from and mirrored; for example, everybody was required to be able to rotate tasks so that their colleagues could easily help each other at high stress times. After their observations,

these authors retrospectively conceptualised leadership development through the concept of workplace-based learning:

> The workplace is seen as a learning environment based on life experiences or realities and is said to enhance or supplement formal education and nurture personal development in the workplace and brings about the importance of learning or developing through practice. Workplace based (informal) learning is another approach which supports development of leadership competencies which could enable responses to changing circumstances in the workplace and brings about the importance of learning or developing through practice. (Choonara et al., 2017 p. 2)

To make sense of the management CD strategies they observed, they retrospectively employed a South African leadership competency framework developed by the SA Department of Public Service and Administration (DPSA) and then updated by Gilson and Daire (2011). They also identified the space they observed as having characteristics of a learning organisation.

While Schneider et al. (2019) did not call the intervention they evaluated a district management CD intervention, a range of key staff in the district were engaged in it, including district management team members in two health districts. In their evaluation, these authors conceptualised the intervention as a governance intervention because it focused on improving decision-making processes within an existing governance structure to improve the quality of Maternal, Neonatal and Child Health (MNCH) care throughout the district. The ideas underpinning within their evaluation were drawn from a framework developed by the World Bank. The three arms of hypothesized success to improve the functioning of the governance structure were the identification of a credible/legitimate threat or a credible promise in the district that acted as a stimulus, the need for interfaces for coordinated action and the need for willing cooperation amongst relevant actors to work together (Schneider et al., 2019). The intervention did not utilise any new financial resources, it only worked with existing staff in the two districts. The only additional resource was an outside/insider actor (well known in South Africa for his district management skills and health service acumen) who led the process of developing and improving the governance structure, facilitating change. The structure served as a home for capacity development in terms of new ways of doing and being in relation to roles that pertained to MNCH, including development of a key set of processes,

the “4R’s: report, review, record and respond” (Schneider et al., 2019 p. e1669943-4), which supported management accountability. Given that governance is part of the portfolio of work of senior managers in districts, governance interventions can be understood as contributing to the development of the capacity of senior managers.

Formal training programmes that included capacity development in the workplace

Doherty et al. (2018) discussed the Oliver Tambo Fellowship (OTF) **–** which is based on a post graduate diploma in Health Leadership and included core teaching modules, management seminars, mentorship, alumni networking and workplace-based learning activities. The OTF programme name was changed from health management to health leadership only in 2016/17. Students who are managers in the public health system are nominated for the OTF by South African Departments of Health (both national and provincial), and in one province the Metro, or city level also nominated students. A key feature of the conceptualisation of the OTF programme for leadership CD, was to move away from traditional management knowledge (planning, finance etc.) to building individual and team-based competencies that enable managers to drive strategic change. The course is premised on learning through doing and workplace-based activities are included to enable students to engage with real world problems in their workplace. The course focuses on taking real-world action in complex systems through strengthening skills and shaping attitudes and behaviours that include new, innovative leadership skills such as “team-building and joint decision making” (Doherty et al., 2018, p. ii51), which are required by managers to lead strategic change:

> The underlying theory of effective leadership that the Programme espoused during the evaluation period is that it builds on, and acts through, sound interpersonal relationships that, in turn, are informed by appropriate values and ethics: this is in alignment with relevant international thinking, especially around complex systems. (Doherty et al., 2018, p. ii51).

Dovey (2002) presented empirical evidence on a 6-month course module, titled ‘transformational leadership’, for DHMT members in the Eastern Cape province in South Africa, which was part of a two-year District Health Management Certificate programme. The focus of the module is the development of capacity to work collaboratively in teams, with the support of a coach. It is centred on the idea that implementation in health services is a complex and political phenomenon, and, therefore, managers require a particular set of

competencies that include the awareness, and application of, strategic and procedural knowledge which is embedded in their context. Managers come to understand the distributed nature of these forms of knowledge in their own context by working with a team and increasing their collaborative strengths. The application of strategic knowledge entails the ability of managers to use their own tacit knowledge to make sense of and apply other forms of knowledge in their environment to solve difficult problems. Procedural knowledge refers to knowledge of general organisational practices and routines that is acquired tacitly through doing one's job and learning from experienced people (Dovey, 2002 p. 521). Workplace-based learning strategies were explicitly employed as the pedagogical approach within the module, to develop these skills as managers engaged with real world challenges in teams. In this way, the intervention sought to develop transformational leadership (a key overarching idea in the programme) skills in managers to transform the current public service to a system where all work is well aligned to the mission of the public service.

In 2015, Van der Berg-Cloete et al. (2020, p. 163) evaluated "the effect of the Albertina Sisulu Executive Leadership Programme in Health (ASELPH) in improving the competencies and performance of public healthcare managers in South Africa". Participants receive a postgraduate Diploma in Health Systems Management (executive leadership) from the University of Pretoria when completing the programme, and it was initially designed in partnership with a US-based university. Participants include managers from the private sector, tertiary institutions and managers working in the public sector, including at senior district manager level. The programme is individual competency focused, but teamwork skills are embedded in it. The ASELPH programme was endorsed by the Ministry of Health and focused on developing both managerial capacity and the capacity of university faculty to deliver leadership training in South Africa. Limited theorisation is presented about how the programme is meant to work in practice, however the paper reporting the evaluation is conceptualised around the idea that leadership competencies are needed by SA managers to deliver on health system needs. The authors write that "leadership training and development benefit the development of skills, attitudes and behaviour in individuals, leading to positive effects on teams, organisations and society" (Van der Berg-Cloete et al., 2020 p. 164). The capacity needs of managers were identified through a participant self-assessment, and the programme was designed by merging two South African managerial competency frameworks

(one from the Department of Public Service Administration and one from the Health Systems Trust). Key programme activities include "e-learning, group-work, practical "real-time" assignments, case studies, mentoring and exposure to very experienced leaders and managers in real-life work situations" (Van der Berg-Cloete et al., 2020, p. 166).

Pathways to success and outcomes of the capacity development programmes in South Africa

In this section I present the outcomes that are reported in the empirical papers, as well as the key factors and pathways that are described as being associated with the CD programmes' success. Key challenges to implementation and to sustainability are presented in the next section.

Workplace place-based CD programmes

Cleary et al. (2018) reported on how their action learning approach to Leadership Development (LD) helped to strengthen leadership within the sub-district setting. One of their intervention's key goals was to nurture relational leadership capacity. Drawing on qualitative judgements and their own experience, they reported outcomes such as increased trust and cohesion amongst the facility managers and the sub-district managers, which improved organisational culture. Within the organisation some managers reported an increase in compliments in facilities and a decrease in staff grievances and an improvement in the way facility managers hosted strategic planning workshops. Trust and cohesion were also reported as improved up the system, between sub-district managers and their higher-level managers, given the new set of behaviours managers were practicing – and this, overall, contributed to re-shaping the culture of the organisation. Key pathways to success included the use of several actors who facilitated the learning over time, including: a trained coach; an organizational psychologist who led the design and implementation of the intervention including self- awareness and personal behaviours; and research team members who regularly engaged with managers to support learning and reflexivity. Another key pathway to success was the managers' own recognition that working in collaborative and appreciative ways with each other made them feel good about themselves.

Blanchard and Carpenter (2012) had a 95% attendance rate at their action learning group sessions in an eleven-month period. Having been exposed to the principles of action learning,

some managers were initially sceptical that it might be 'just another training', but by the end of the period had found the groups highly valuable – and were reported, subsequently, to be employing these team-based principles in their own workplace. Problem solving with colleagues in the district made them realise that they could themselves solve problems and did not always need to escalate problems to higher levels of management. After the programme was complete managers continued to call each other in their different workplaces to reflect on problems and solutions, having realised in the action learning groups that many shared similar problems and that their colleagues in other hospitals might have solutions to offer them of which that they had not thought. Participants realised that action learning groups enable one to capacitate each other through the power of the collective and teamwork.

> Previously we underestimated the power of working together as a group. I thought when we sat together as a group it would be a waste of time - it would take too long to come to a decision. But now I have seen that working as a group does wonders" (Focus Group 1 in Blanchard & Carpenter, 2012).

Key pathways to success included the use of a researcher facilitator who visited participants at their place of work and developed a real world understanding of managers' realities. Another pathway was that managers found enjoyment in participating and found comfort in the action learning groups. An initial process of setting up confidentiality in the groups led to trust relationships and managers formally committed to attending each meeting (which led to the 95% attendance rate) and arriving on time. The skill in developing an action plan was also seen as very important and value was found in reporting back on progress to colleagues. More generally, having meetings locally saved time and cost (Blanchard & Carpenter, 2012).

Choonara et al. (2017) identified the development of three competencies that resulted from the application of informal learning strategies, this included learning from each other through delegation and effective communication, and through team-based learning in the workplace. They applied an existing leadership competency framework to interpret the competencies that were developed retrospectively (Gilson & Daire, 2011). These competencies included (1) *people management and empowerment* through learning from senior managers on how to delegate and communicate effectively in the workplace, particularly role modelling by the District Manager (DM) and (2) *improved problem solving and analysis* as lower-level managers

and staff were able to utilise their agency because of successful delegation and, due to observing a variety of coping strategies and strategic thinking, were themselves able to think innovatively about solutions. Choonara et al. (2017) credit the learning environment that was created by the DM as well as teamwork and personal motivation as reasons for these effects. While the informal learning strategies were themselves pathways to success, talking and listening to staff as well as the needed balance between autocracy and democracy to motivate staff also helped. The acknowledgement of good work and award ceremonies was also a key motivator in the learning environment.

Schneider et al. (2019, p. e1669943) report several service delivery successes that were achieved through the MNCH governance intervention they evaluated, including an improvement "in the scope, quality and organization of MNCH services", such as enhanced screening to improve "early identification of problems in women and children, better referral systems across levels of care" (Schneider et al., 2019, p. e1669943-5) on the DHS platform strengthening continuity of care and ultimately also, improved clinical practices due to increased collaboration and knowledge sharing between the MNCH stakeholders. I identified serval pathways to change highlighted in the paper, such as: high motivation to improve on MNCH indicators, as the two districts were singled out by the NDOH as undermining the overall national MNCH performance due to their poor performance (this was a stimulus for change); a district manager as a key driver of process; the legitimacy and expert authority of the facilitator. Other factors included coalitions with relevant stakeholders, facilitating communication and collective sensemaking within the structure including a sense of shared responsibility, taking a systems perspective through holding those at the facility level accountable for their data and performance as part of the accountability process.

Formal training programmes that included capacity development in the workplace

Doherty et al. (2018) evaluated the postgraduate Diploma in Health Leadership delivered as the central element of the OTF, at the University of Cape Town. The majority of students were found to graduate within 18 months of enrolment. The authors also developed a set of output indicators linked to effectiveness, relevance, and sustainability of the programme. Overall, the programme was measured to have met its programme goals and the needs of the participants' employees. Outcomes for the CD programme were also developed with key indicators and included staff retention in the South African public health sector, and "how

alumni felt as a result of the training they had received, and self- and peer-reported changes to on-the-job effectiveness of alumni" (Doherty et al. 2018, p. ii58).

An overwhelmingly positive set out of outcomes was reported, including retention of graduates in the South African health system, alumni having a sense of personal pride and empowerment having graduated and evidence of graduates employing more effective leadership styles, for example the ability to have difficult conversations with staff (Doherty et al., 2018). Many examples were provided where graduates contributed to service programme improvement, decision making structures and at policy level by applying their new skills. I drew from the paper as key pathways to change - graduates were very satisfied "with the structure, content and teaching style of the course" (Doherty et al., 2018, p. ii57), and their favourite strategic thinking tools included policy analysis, system thinking, critical thinking, stakeholder analysis, reflective practise, and the concept of small wins (Doherty et al., 2018). They also enjoyed group work as they could learn from others and the adult learning pedagogy that included teaching as facilitation was valued (Doherty et al., 2018).

Van der Berg-Cloete et al. (2020, p. 166) "assessed the extent to which the ASELPH Fellowship training changed the leadership competencies and performance of public health sector leaders and managers". They tested individual competencies including that ability to work collaboratively with others. They measured 14 competencies in total and developed 56 associated indicators. The authors report that 11 of the 14 competencies and 44 of the associated 56 "performance indicators improved significantly from pre-training to post-training" (Van der Berg-Cloete et al., 2020 p. 168). Areas of significant improvement included the self-management competency, related to this, areas of improvement included "self and team awareness, time management and own leadership philosophy" (Van Der Berg-Cloete., 2020 p. 168). Other areas of high significance post training included the communication competency, which included communication with internal and external stakeholders; people management and empowering environment competency, which included students feeling more confident in dealing with, for example, low morale and absenteeism. "Three of the 14 competencies did not change significantly - financial management ($p>0.05$), community/partnership collaboration ($p>0.05$) and client orientation and customer focus ($p>0.05$)" (Van Der Berg- Cloete et al., 2020 p. 168). Key pathways to change included activities for reflection, such as writing of reflective essays on their working environment,

their learning in the classroom and reflection on their implementation in the workplace of key learnings. Participants found reflection both therapeutic and challenging and noted it as highly valued. Key inputs that were valued included expert faculty and group work. Students felt a sense of pride that they had been selected to take part in the fellowship training and noted that the training had impacted their professional and personal lives.

The 6-month module within a two-year certificate programme that Dovey et al. (2002) evaluated employed a blended approach to learning including coursework, leadership coaching (central to the model) and workplace-based learning. The aim was to improve managers' capacity to solve workplace problems and to implement strategic change and each team was presented with a challenge to transform their health service to a team-based primary healthcare model (Dovey et al., 2020). There were successive cycles of coming together collaboratively to discuss problems and solutions, support by a coach, incorporating strategic action over time. Key outputs presented included (1) a growing culture of learning together in district management teams and in working in collaborative ways that was enabled by the workplace-based learning methodology (2) the workplace-based learning projects improved managers capacity deal with complexity which led to an improvement in service delivery, for example improvements were made in the treatment of scabies, access to safe drinking water and sexually transmitted infections (STI's). A key pathway to success was identified as committed coaches who were accessible to managers at any time in the period, who modelled transformational leadership practices (high commitment, honesty and integrity) themselves and enabled managers to know how to leverage knowledge resources in their context. Another output included increased capacity for collective strategic thinking, one key pathway to this was the realisation by managers of the value of working toward bite sized objectives where one can see results in increments and then gain confidence over time. Centring the values and mission of the public service gave managers a sense of social agency.

The contextual conditions that influence management & leadership capacity development

In this section I provide insights about the contextual conditions that affect management and leadership in the South African health system, as I believe it important to understand the context in which they must integrate their new skills, attitudes, behaviours and orientations. These conditions include features of the national public health system and features of the local context.

Organisational conditions

Choonara et al. (2017) highlight the issue of hierarchy and inadequate delegation of authority to DMT members. DMT members make decisions but must still get these decisions approved by the Provincial Department of Health, thus limiting their own strategic decision making. Hierarchy and compliance are also embedded in system processes at the sub-national level, the sub-district managers who were trained in new relational skill in the DIALHS project would have liked to apply their new skills in their supervision visits to facilities, but given the context, continued to adopt "a compliance driven approach".

> It's supposed to be about mentoring and support—but is in fact a very detailed audit. The part of management that is very well looked at during the visit is that part that looks at whether the equipment is there, are people where they should be, are staff there on time ... but not the side of management that looks at people. (Cleary et al., 2018 p. ii70)

Weak functional support systems also limit managers' capacity to do their job well (Choonara et al., 2017). For example, in the district budget office in Gauteng there was limited internet connectivity, which compromised digital communication, and a shortage of IT equipment which meant personal devices had to be used. This impacted communication between sub-district managers and the district office as they had no means to follow up and/or felt that their challenges were not being managed when they sent complaints or questions (Choonara et al., 2017). Additionally, some managers have to work in buildings where the infrastructure is falling apart: the ASELPH programme trained a number of managers who worked in a Province that has a history of being under funded and neglected due to the history of apartheid (Dovey, 2002). The neglect in the province has persisted post-apartheid due to mismanagement, corruption and a provincial office that is far away from the district and the district is hardly ever visited by managers:

> District health management teams crowd into buildings that should be condemned given their structural decay and are at times without electricity or telecommunications (except for the recently introduced cell phones). Four-wheel drive vehicles are required to traverse much of this area but many of those donated … are out of action because of reckless driving or poor maintenance. (Dovey, 2002 p. 525)

Alumni of the OTF leadership programme, from many different places in SA, reflected on a public service culture that is not highly receptive to innovation, partly because other managers and staff are not exposed to the concepts and skills they had learned. Other cultural factors included senior managers who felt threatened by those working under them, some managers being not fit for purpose and a lack of a culture of excellence in the service. Overall, the necessary 'soft' support systems were not in place to support graduates in applying their new leadership behaviours (Doherty et al., 2018). While Choonara et al. (2017) reported that informal learning took place at the district office, it was constrained at the sub district-level because of limited administrative capacity and the lack of delegated decision-making authority to be innovative and solution driven. Also, all levels of the health system may not be prepared to be part of leadership development programmes for transformation, even if given the chance. (Dovey, 2002) writes that on many occasions provincial level officials were invited to partake in work-based leadership development initiatives but refused. This raised the question of whether the higher-level managers will have the strategic capacity to face challenges in the system and support DMT members in their pursuit of developing solutions.

At an organisational level, Doherty et al. (2018) note that can be challenging trying to engage with human resource departments in the public health service about how managers can employ their new skills in practice in the workplace, to sustain capacity development. HR departments, they argue, often do not think strategically about training or work continuously with those who have been trained. For example, performance development processes were noted as not providing time for managers to study and as not evaluating their contributions after attending training.

Broader societal challenges

The relational leadership intervention delivered in a sub-district in Cape Town was delivered in a low income setting that has a high burden of disease and challenges with gang-related violence and traffic injuries. At facilities, items such as the perimeter fence had been stolen and gunshots were a regular occurrence, resulting in managers working under conditions of stress (Cleary et al., 2018). The authors note that these experiences compound the culture of compliance which works against trying to get managers to transform the service and innovate, as managers must focus their energy on basic needs such as safety for themselves and patients.

Key reflections on the South African literature

It is evident in the pedagogical approaches adopted, that high value is placed on experiential methods such as action learning and workplace-based learning to develop management and leadership capacity in the DHS. A learning by doing approach, with a focus on local problems and solutions is clearly well supported. Other key similarities included a focus on the health system as complex, that relationships are important and that strategic competencies are necessary to manage complexity. Some programmes explicitly included systems thinking skills (Choonara et al., 2017; Cleary et al., 2018; Doherty et al., 2018; Schneider et al., 2019).

It is my analysis that the capacities that managers learn will naturally transcend the boundaries of the specific CD programme. As Cleary et al. (2018) noted, the new relationship skills did not only benefit the team being targeted, but sub- district managers also improved ways of working with their higher-level managers in the system. Any new relationships built among district actors will undoubtedly also benefit programmes beyond the focus of an explicit CD programme.

The collective approach to leadership capacity development reported in all papers, for example, working in groups or consulting peers, embraces capacity development in the DHS as not only an individual competency development but also an approach that includes team competency development. Given the focus on leadership (rather than management) development in all papers, many interventions focused on developing the software of the system, for example people management skills and self-management skills (Blanchard & Carpenter, 2012). This focus on software (self-awareness, behaviours, relationships, critical thinking) benefited hugely from facilitation through a variety of strategies, including facilitation of, and input into, action learning and reflection by researchers, psychologists, health system insiders and leadership coaches who walked the journey with managers (Blanchard & Carpenter, 2012; Doherty et al., 2018; Dovey, 2002; Schneider et al., 2019; Van der Berg-Cloete et al., 2020). This led to increased self-awareness, a change in thinking and new ways of doing and being within teams and a variety of individual, team and service level outcomes. Students also enjoyed learning practical skills such as how to develop an action plan, disaggregating problems and solutions into bite size chunks, implementing small wins and presenting and getting feedback from peers and stakeholders in the district.

A common idea that underpins all the CD programs considered is that managers in district health systems have the tacit knowledge to identify problems and to find solutions in their workplaces. The CD programmes harness their agency to utilise this tacit knowledge as well as draw on other situated knowledge resources. The ability to harness one's tacit knowledge as well as to work with others and collectively pull together context specific situated knowledge to solve local problems is a key skill required of a leader (Dovey, 2002). As a team, through collective sensemaking, such leaders can also embrace challenges and work toward solutions. Managers need, therefore, not only to understand how to use knowledge strategically but they also need to be knowledgeable on routine procedural issues to transform the organisations they work in. Across the papers, it is my analysis that the context in which managers work can be understood as resourceful, rather than only as an impediment to change. Choonara et al. (2017 p. 4) importantly note that we need a cadre of leaders who confront challenges in their context and "who will express agency despite system constraints".

Good leaders who are already embedded in systems, are themselves inputs into the capacity development of others, but we understand little about this type of informal workplace learning; and there is not much observational research of how this takes place in practice (Choonara et al., 2017). This is a missed learning opportunity for LCD, and it is my intention that this PhD will contribute to our understanding on informal workplace-based learning and how managers themselves act as conduits for capacity development. For example, behaviours such as intentional delegation and positive role modelling by a DM, are acts of leadership [outcome] but are also inputs into the development of leadership skills in others. These bottom-up capacity development efforts are taking place with no external support or additional financial resources (Choonara et al., 2017), even if, at times, they the support of health system insiders who act as facilitators for the bottom-up development of solutions (Schneider et al., 2019). There is, however, a clear need also for formal training and funded interventions that support management capacity development (Blanchard & Carpenter, 2012; Cleary et al., 2018; J. Doherty et al., 2018; Dovey, 2002; Van der Berg-Cloete et al., 2020). As noted by Doherty et al. (2018), in South Africa, the government should have a long-term vision that includes a practical strategy for leadership capacity development. Until such time this is in place, externally funded interventions (like those presented in the papers) will

be necessary and should anyway continue working alongside government as part of a systemic approach to management capacity development. A good example of this relationship is the in-principle support of the ASELPH programme by the National Department of Health, which not only trained managers but also sought to support the development of university faculty to train managers in the future (Van der Berg-Cloete et al., 2020). The OTF has also built good relationships with some provincial governments, which regularly nominate and fund managers to attend the post graduate Diploma programme (Doherty et al., 2018).

Overall, then, there is a clear need to recognise the importance of both the bottom-up emergent CD that is taking place as part of the everyday practice of managing and of more formal approaches to capacity development for managers in the DHS.

Management & Leadership capacity development in district health systems: insights from the international literature

In this section, I provide a summary of findings from five relatively recent review papers that consider international experience of management and leadership capacity development programmes relevant to the district health system. I collected these papers while working on this PhD, as well as by purposefully searching international databases. In an initial exploration of the relevant literature, I purposefully searched for relevant empirical papers and identified only a few papers. The majority of these papers are those identified in the five review papers — and the review papers also speak to issues beyond the specific empirical papers identified. Therefore, I decided to focus this section on the five review papers. As the papers have been published in the last five years, they offer a fair reflection of the most recent, wider literature on the subject of management strengthening.

Table 2.3 briefly summarises the review papers. Two consider the district health system explicitly (Bosongo et al., 2023; Kiarie, 2023), whilst three consider levels beyond this but still provide useful insights for capacity development programmes at sub-national level. These latter three include literature on leadership development in sub–Saharan Africa (Johnson et al., 2021); international literature on e-learning as part of capacity development for managers (Car et al., 2018); and management and leadership development in low- and middle- income countries generally (Daire et al., 2014).

Table 2.3: Review papers included in the international literature search on management and leadership capacity development

Citation of paper	Title of paper	Total number of papers reviewed and selected
(Daire et al., 2014)	Developing leadership and management competencies in low and middle-income country health systems: a review of the literature	This literature review supported a research project. The authors do not indicate the total number of papers considered. They indicate that "the search was limited to articles, reports and books published after 1990 in English. In addition to searches in databases and websites, references from the retrieved articles were tracked."
(Car et al., 2018)	The role of eLearning in health management and leadership capacity building in health systems: a systematic review	Authors found zero papers that speak to the effectiveness of e-learning, so they then changed their scope of work to look at general issues related to M&L capacity development and describe how e-learning resources could benefit M&L capacity development.
(Johnson et al., 2021)	Interventions to strengthen the leadership capabilities of health professionals in Sub-Saharan Africa: a scoping review	28 studies were included out of 495
(Bosongo et al., 2023)	How capacity building of district health managers has been designed, delivered and evaluated in sub-Saharan Africa: a scoping review and best fit framework analysis	44 papers were included out of 2523
(Kiarie, 2023)	Workplace based learning in district health leadership and management strengthening: a qualitative evidence synthesis	24 articles were included out of the total of l 435 that were initially identified

Conceptualising and theorising management and leadership development programmes & theories underpinning programmes

Two key issues discussed across the review papers are the variety of ways in which CD programmes are conceptualised and the lack of theorisation about how CD programs are expected to work.

First, three papers make the varied conceptualisations especially clear. Bosongo et al. (2023) note that only 16 of the 44 papers they reviewed applied frameworks or models in conceptualising their programme and among the 16, seven different models or frameworks were used. These models or frameworks included the participatory action research cycle, a leadership and management competency framework, Potter and Brough's capacity pyramid and an attitudes, knowledge, skills, and behaviours framework (Bosongo et al., 2023). Johnson et al. (2021), meanwhile, found that 8 of the 28 studies they reviewed referred to a leadership framework of some sort – ranging from competency-based frameworks, including a public health competency framework, to a competency-based curriculum that informed programme design and in one South African case, principles of the thinking environment. These authors also identify the approaches to leadership embedded in the leader CD programmes reviewed, which included individualised, pluralised, distributed/collective, transformational, and relational leadership (Johnson et al., 2021). They suggest that "this range and spread suggest that there is no consensus on how leadership functions or is generated in the context of health care in Sub-Saharan Africa" (Johnson et al., 2021, p. 123). In their review of e-learning for managers, Car et al. (2018) similarly noted that there is no conceptual development of how e-learning is contributing to management and leadership development. Neither Daire et al. (2014) nor Kiarie (2023) reported on the use of frameworks or models in programme design, although as workplace-based learning (WPBL) was the central focus of Kiarie's (2023) work it was also a central feature in the conceptualisation of all the papers reviewed. WPBL was defined as:

> Learning that is organized in the workplace … the workplace can be a physical location and includes the shared values, ideas, actions, and attitudes that define the working environment and network of relationships …. the learning that happens in the workplace can be informal, responding to critical changes or problems initiated within the workplace that require resolution, or formal in nature, usually around more structured planned learning activities. (Kiarie, 2023 p. 5)

Second, across reviews very few studies were found to present a clear theoretical underpinning articulating how a CD programme is expected to work to impact management capacity. Bosongo et al. (2023) specifically noted their concern that none of the 44 papers they reviewed included a clear theorisation of how and why the CD programme was supposed

to work in practice, given that, in their view, CD programmes are “theories incarnate”. These authors argue that a good, evidence-informed theoretical underpinning about how a programme should work, and its expected outcomes, should lay the foundation for any CD programme, and is also required for evaluation (Bosongo et al., 2023; Johnson et al., 2021). Johnson et al. (2021) also found that only six of the leadership development programmes (LDP) they identified from the 28 papers reviewed had any sort of theory of change whilst Car et al. (2018) found no papers that evaluated the effectiveness of e-learning programmes as a strategy for the managerial capacity development, suggesting there is very limited or no theorisation taking place in this area.

Approaches to M & L capacity development

Table 2.4 shows the wide range of approaches being used within M&L CD programmes, including on-the-job training, adopting an action learning approach, blended learning and formal training. Some of the available studies report on formal training in a university with a number of components, and others consider research projects where action learning is an overarching approach to capacity development (Johnson et al., 2021).

It was difficult to categorise the specific CD approaches used in these programmes because the review authors themselves use different styles of classification, and there is currently no, relevant universal classification. For example, Bosongo et al. (2023) applied the Kerrigan and Luke (1987) management classification framework whereas the other papers simply provided definitions or explanations of the approaches and learning formats used, as shown in Table 2.4. Car et al. (2018) also did not categorise approaches for e-learning – but provided insight into ways e-learning was being incorporated into management training, such as through blended learning, showing its potential contributions to capacity development.

It appears from Table 2.4 that action learning or on the job training is quite widely used within M&L CD. Bosongo et al. (2023) identified action learning as the most frequently employed approach in the papers they reviewed, also noting it can be used in combination with formal training. Similarly, Johnson et al. (2021 p. 122) indicates that most of their reviewed papers highlighted on-the-job training as a central element of M&L CD, “where participants remained in their current roles and received additional leadership development support”. Finally, Kiarie (2023) focuses specifically on WPBL as an approach within CD programmes, providing insights

into the different elements of this overall approach – which, again, include action learning, as well as coaching, mentoring and even case study work. Given Car et al.'s (2018) discussion of what is possible with e-learning, and the growing amount of mass open online courses (MOOCs) and online degree programmes, it is surprising how little we know about the contribution of e-learning to management and leadership capacity development.

Table 2.4[2]: Approaches to and elements of M&L capacity development programmes identified in the review papers

(Johnson et al., 2021, p. 122)	(Bosongo, Belrhiti, Ekofo, et al., 2023, p. 11)	(Car et al., 2018, p. 5)	(Daire et al., 2014, p. 8)	(Kiarie, 2023, p. 11-12) specifically related to work-place based learning
1. "On the job programme (where participants remained in their current roles and received additional leadership development support" 2.Training program followed by placement in a host organisation. 3.Short courses 4. "Fellowship with part-time postgraduate degree course" 5. International fellowship	1. Action learning approach: focuses primarily on the action learning cycle. Includes a mix of approaches. 2. "On-the-job training: this approach aims at supporting health managers in carrying out their tasks through various approaches such as classroom training, on-site mentoring, coaching or supervision visits and	1.E-learning as part of blended learning, which is "a combination of online modules and face-to-face, collaborative, project-based learning". 2. E-learning being used for fully virtual cases for managers who are dispersed geographically. 3. A 12-week online learning community for nurse participants to share experiences of leadership virtually via a	1.Formal training ("include modules within Masters programmes, diplomas, certificates and short courses, whether provided through face-to-face instruction or distance learning"). 2. On the job training ("Commonly used practices include 360-degree feedback, use of technical advisors, mentoring, coaching and	1. The use of facilitators to enable transformation 2. Action Projects (work related assignments) 3. Action learning (people work together to solve problems) 4. Mentoring (interaction with a more experienced person) 5. Coaching (one – on one learning) 6. Peer-learning (skills transfer between peers) 7. Reflection (stepping back to think) 8. Case studies (used to

[2] Descriptions of approaches to capacity development are taken directly from the sources.

6. Conference	technical assistance” 3. Mixed approaches: “Combination of formal training (usually provided by academic institutions) with on-the-job training Combination of formal training with action learning Combination of action learning with on-the-Job training”	wiki (a wiki is a website or database used “by a community of users, allowing users to add and edit content”. 5. The use of a flipped classroom approach – the participants receive a set of online materials and training before attending classroom lectures.	learning networks”) 3. “Action learning (Action learning is also known as action training and research, action research, learning by doing, capacity building, joint development activities, participatory capacity building, and collaborative learning).”	connect theory to practice)

Finally, Bosongo et al. (2023, p. 8) also classify M&L CD programmes as either adopting a prescribed approach or an emergent approach:

> The prescribed approach refers to a blueprint approach or a normative process in which inputs (e.g. competencies) and outputs (e.g. standards, performance) required for leadership or management capacity development are specified. The emergent [capacity development] approach entails a dynamic, flexible or adaptable process that emerges from stakeholders’ interactions.

Key lessons on the development of M&L capacity development programmes

Across papers the importance of experiential learning, and context specific content (Johnson et al, 2021), is commonly emphasised, as well as team-based learning approaches. Kiarie (2023) note that team-based approaches encourage the development of distributed leadership, whilst Johnson et al (2021) suggest it is important to recruit students from across hierarchies. Key lessons from across the papers are presented in Table 2.5.

Car et al. (2018) provides interesting insights of how e-learning can be applied within CD programmes, including to facilitate information sharing and enable collaboration among participants, and to support simulation of real-world activities that provide an avenue for experiential learning.

Daire et al. (2014) and Johnson et al. (2021) both emphasise the importance of paying attention to social and emotional competencies, and Johnson et al. and Karie highlight the value of reflective practice as a key element in M&L CD, which is an approach for developing these competencies as well as for critical thinking.

Bosongo et al. (2023) offer specific insights into how to approach M&L CD design – involving stakeholders, adopting a flexible approach and taking a long-term view; and Kiarie emphasises the need to have wider system support for WPBL (these sorts of issues are discussed more in the next section).

Finally, both Diarie et al. (2014) and Kiarie (2023) point to the value of an embedded approach to M&L CD, where M&L CD is incorporated into the daily routines and practices of managers – and indicate that peer support and coaching and mentoring offer support to such an approach.

Table 2.5: Lessons on what to consider when designing and delivering M&L CD programmes

(Johnson et al., 2021, p. 128)	(Bosongo, Belrhiti, Ekofo, et al., 2023, p. 15)	(Car et al., 2018)	(Daire et al., 2014, p. 9)	(Kiarie, 2023)
1.**Programme design:** -Ensure consistent administrative support - "Provide remote follow up after the training" 2. **Learning content** - adapt the content to context	1. Adopt a learning-by-doing approach. 2. Allow for "an alternation of short workshops and on-the-ground follow-up visits". 3. Adopt a team-based approach.	1.E-learning can facilitate the sharing of information to managers in bite size chunks. 2. Experiential learning can be done through simulation, for example in virtual reality environments	1.Pay attention to the social and emotional competencies of managers 2.Link capacity development to a shift in selfhood and identity (leadership then becomes a part of person's life purpose).	1.Allow people to work in teams in WPBL – this promotes distributed and relational leadership and limits hierarchy. 2. Incorporating peer learning is a good model for building confidence in managers.

-"Include systems thinking and reflective practice" -Include emotional intelligence 3. **Teaching and learning methods** -Include work-based learning - Include team-based learning 4. **Participants and selection** - Make the workload explicit - Select students from across hierarchies	4. Adopt a flexible and adaptable process. 5. Ensure "supportive interactions among facilitators and participants". 6. Collaborate with and involve different stakeholders in the design of the program. 7. Take a long-term perspective to capacity development, it is not a short-term endeavour.	3 There are multiple platforms where e-learning can enable managers to work together with others, such as through chat functions and wikis. 4. Digital platforms can provide decision making support in the form of checklists or e-manuals.	3. "Leadership skills are first learned through problem related experiences or observational learning in specific contexts and then" evolve to higher levels of awareness. 4. Integrating leadership into one's daily routines and practices can be supported by mentors and coaches.	3. Reflective practice is a good tool for promoting critical thinking. 4. Action learning and action projects enable a focus on locally identified problems. WPBL also allows for a deeper analysis of DHS problems. 5. Wider systems support is needed to effect managers ability to do the WPBL in the workplace.

Institutionalisation and routinisation of M&L capacity development programmes

My assessment is that key questions that should be asked when considering the design or implementation of a CD programme are, firstly; will managers be able to employ their new skills, attitudes and behaviours within their working environment beyond the period of the formal programme? Secondly, will there be support (possibly mentorship, supportive management, supportive human resource departments) that facilitate the use of these new skills post the programme and provide ongoing CD for managers? Thirdly, if the CD programme is externally funded, who will take over the support functions that were being provided by facilitators and/ or coaches and/or researchers when the funding stops (Johnson et al., 2021; Kiarie, 2023) in the district and/or broader health system. Ideally any investment in CD, whether at an individual competency level or organisational level, should aim to be

sustained within the health system or else the investment will be lost (Kwamie et al., 2014). The review papers provide useful summaries of lessons for promoting the integration of new individual skills, attitudes or behaviours into routine practices and speak to ways in which to ensure that CD programmes or program support is continued after the programme is complete or the funding has ended. I first present lessons for individuals and then lessons for the organisational and systems level.

Individual level

At an individual level, incentives such as the accreditation of courses make them attractive to participants as they enable career development when linked to promotions in the organisation (Johnson et al., 2021). Other factors enabling integration into routine practise include ensuring managers have enough time to engage in the CD programme activities, ensuring learning content is aligned with the local context and is delivered in the language of the country, and embedding activities in workplaces to ensure situated learning (Johnson et al. 2021; Kiarie, 2023). Allowing for emergence and flexibility linked to needs in the local context was found to be important to individuals and making room for managers to volunteer into the programmes was a pathway to ensure their buy-in to it (Bosongo et al., 2023; Johnson et al., 2021; Kiarie, 2023). Also ensuring that managers have roles and/or places in the health system after completing the CD programme is pertinent to sustaining the capacity that was developed (Bosongo et al., 2023; Daire et al., 2014; Johnson et al., 2021; Kiarie, 2023)

Organisational level and systems level

Ensuring the integration of new skills and behaviours of managers into routine practices is linked to the commitment of actors at the organisational or systems level to the sustainment of these practices and/or commitment to continued support after the formal programme is complete. One strategy proposed, is to, in the design phase, align the expectations of different stakeholders within the context, for example ensuring that senior staff and employers are engaged with and supportive of the programme as well as supportive of managers once they have completed the CD programme to ensure sustainment of new skills and practices (Johnson et al., 2021). This includes ensuring support from the senior institutional leadership who have the power to, for example, enable "graduates to implement their learning in the workplace" (Doherty et al., 2018, p. 129). Ensuring that an "LDP is aligned

with the broader health system administrative and governance processes" and goals was also judged important – for example, by linking the LDP to promotions and continuing professional development systems (Johnson et al., 2021, p. 129). Another strategy for sustainability proposed is to ensure external partners are well versed in the existing system processes, for example, by holding regular meetings between the host academic faculty and the relevant government department to ensure alignment between the course outcomes and government systems (Doherty et al., 2018).

Ensuring a critical mass from a particular organisation participates in leadership development programmes can also ensure peer support within the organisation for collective learning outside the programme. Training some participants to become future mentors or to become part of the teaching faculty (e.g. guest lectures) could be another strategy to support sustainment of skills in the workplace (Doherty et al., 2018). Other practices that support integration of new skills within routine practices include, embedding new skills or practices within structures in the workplace, allowing for adaptations to local realities and allowing emergence in programmes, as managers engage in and with CD activities this enables growth in ownership and commitment from management team members (Bosongo et al., 2023).

Outputs and outcomes of programmes

The review papers speak to a myriad of outcomes resulting from management and leadership capacity development programmes. One reported on what was hoped to be achieved through the CD programmes (Johnson et al., 2021), another hypothesized the effects of e-learning (Car et al., 2018; Johnson et al., 2021), and others discussed the actual outputs and outcomes reported in the papers that were reviewed (Bosongo et al., 2023; Kiarie, 2023). Johnson et al. (2021 p. 124) noted that "trying to untangle this information and fit it into strict categories of outputs, outcomes and goals was difficult as this can be framed in different ways" – making difficult to identify which programmes are more effective than others.

Kiarie (2023) was the only author who presented *outputs* as well as outcomes. Specifically considering WPBL, this author highlighted several positive outputs. Most related to the 'software' of the system: an increase in trust among district health management team members, an increase in teamwork and collaboration amongst managers and, at times, with community members. These new relational and collaborative ways of working also facilitated

a deeper sense of ownership amongst managers of programme goals, improved DHMT functioning and improved transparency in accountability (Kiarie, 2023). Negative outputs of WPBL were reported where poor teamwork persisted; in two studies reviewed this was reported to be a result of socio-cultural norms that led to doctor's inputs being valued more than that of other cadres, which undermined teamwork. In another study, the novelty of WPBL was found to wear off as managers felt it took too much time to continue with the new workplace practices that had been supported through WPBL and they also found it hard to get others in the district involved with new practices in the context of under-staffing (Kiarie, 2023).

Across review papers I categorised the *outcomes* identified as linked to individuals, the organisational level, the community level, and health system performance more broadly, including health outcomes.

Individual level outcomes

Johnson et al. (2021) found only three papers that identified expected individual level capacity outcomes, with most focused on service delivery improvements or performance. The capacities targeted in the three papers included (1) personal growth (2) improving the health habits of managers as they can serve as role models for their peers and patients with hypertension and (3) focused on "enhancing self-awareness, self-care and personal well-being, thereby increasing the ability to manage stressful situations and conflicts, impacting positively on productivity, teamwork and service delivery performance" (Johnson et al., 2021 p. 124). The third reflects Daire et al.'s (2014) emphasis, in programme design, on emotional competencies and identities, although these authors did not identify any specific LDP programme outcomes. Car et al. (2018), meanwhile, hypothesized how e-learning could lead to outcomes, and, at the individual level, proposed health worker competencies as an intermediate outcome of CD programmes using e-learning.

Bosongo et al. (2023) and Kiarie (2023), meanwhile, reported actual outcomes. The two most prominent at the individual level identified by Bosongo et al. (2023 p. 14) were "increased management or leadership knowledge" and "increased management or leadership skills". Reported WPBL outcomes included increased commitment to roles, using new skills to solve problems, an increased ability to engage in policy and guideline development processes for HIV services, and strengthened individual management and leadership skills (Kiarie, 2023).

Organisational level and community level outcomes

The hoped for outcomes of leadership capacity development programmes include creating a better and healthier community, health worker retention, an improved workplace climate, an improvement in advocacy skills, a more resilient and responsive health system, and policy reform at the organisational level (Johnson et al., 2021). Car et al. (2018) hypothesise a proximal outcome of e-learning at the organisation level - an increase in the quantity of health workers and improvement in health worker retention, skills-mix and distribution.

Finally, the three most frequently reported organisational outcomes of M&L CD programmes that were achieved included "improved financial management", "more regular and effective team meetings" and "increased team and staff morale, motivation or commitment" (Bosongo et al., 2023). Kiarie (2023) also mentioned improved staff commitment as an outcome of WBPL. Other key WPBL outcomes achieved included improved health system performance, the construction of health facility infrastructure and acquisition of ambulances, increased organisation learning and knowledge sharing that improved collective learning, and an improvement in forecasting health system needs (Kiarie, 2023).

Improved staff commitment was, then, the only consistently reported organisational level or community level outcome.

Health system performance and outcomes

Review papers report a range of outcomes, but their authors do not offer commentary as to whether these outcomes can be plausibly linked to the CD programme of focus. However, Bosongo et al. (2023) do highlight the need for more explicit explanation in papers about how outcomes were expected to be achieved, they identified this as lacking. Across papers, the population service coverage outcomes reported from M&L CD programmes included increased immunisation coverage, antenatal care, and use of contraceptives (Bosongo et al., 2023; Car et al., 2018; Johnson et al., 2021; Kiarie, 2023). Other service outcomes reported included increased health service use, considering in- and out-patient services, births attended by skilled personnel, improved (quality of) service delivery, reduced stigma around mental health (Bosongo, et al., 2023; Johnson et al., 2021; Kiarie, 2023). Car et al. (2018) also hypothesise the range of health system outcomes that could be achieved through M&L capacity building programmes that include e-learning as varying from equity to user satisfaction, although, as mentioned, there is no evidence base yet to support these

propositions (Car et al., 2018). It was not clear from their review paper how they expected that a capacity development programme would improve an outcome such as equity. While recognising that e-learning may not be accessible or appropriate in some contexts given internet and resource availability, at an individual level they argue it can improve *accessibility* for busy health professionals, *relevance* as they argue it can be more easily modernised, that the content can be more *engaging* using videos and multimedia, online forums and virtual classrooms.

It is clear from the review papers that there is limited consistency in the outcomes being measured for L&M capacity development programmes.

The need for consistency in evaluation

All the review papers commented on the need for longer term evaluations and evaluation designs that embrace complexity. Alongside the variation in leadership conceptualisation noted across programmes, there are also a range of different frameworks being applied in evaluation, including Kirkpatrick's (in Basongo et al., 2023) evaluation model, the competing values framework by Quinn, the five core capabilities framework and some frameworks developed by study themselves using relevant literature (Kirkpatrick & Kirkpatrick, 2006; Quinn et al., 2020). Johnson et al. (2021) argue that, depending on who is funding the programme and what their interests are, Johnson et al (2021) write that, based on their interpretation of their review results, there appears to be a larger interest in program design and delivery rather than generating evidence through evaluation.

Key challenges for M&L CD programme evaluation work are identified as the limited amount of time and funding available. Johnson et al. (2021) argue that the outcomes of LDPs may only be seen after many years as change in behaviours and attitudes take time to emerge, and they also argue that the reason many programmes only focus on intermediate outcomes is because of the limited amount of time available. Bosongo, Belrhiti, Ekofo, et al. (2023) and Car et al. (2018) also argue for longitudinal collection of data and taking a long-term perspective to funding and evaluation design given the later stage results that may emerge.

As mentioned previously, a key issue identified by review paper authors is the lack of theorisation to inform evaluations. While these authors recognise the importance of effectiveness studies (assessing what outcomes are achieved), they argue that there is a need

also to understand the conditions of success and how and why these CD programmes work to achieve any outcomes – a way of doing this is through showing explicitly the programme theories underlying the CD programmes (Bosongo et al., 2023; Car et al., 2018; Johnson et al., 2021). There is a clear recognition that because of the complexity of the health system and because multiple variables (workload, budget etc.) influence what managers who partake in CD programmes do in real world conditions, it is very difficult to directly attribute an LDP to health outcomes.

The review authors argue that given the complexity of the health system, a systems perspective beyond positivism is a valuable addition to understanding conditions for success with a clear articulation of programme theories in design and then used in testing during the evaluation stage in order that it is not only clear what the outcomes are, but also how and why the programme worked in practise and to what end. Two papers call for evaluation designs that take account of this complexity, accepting context as a reality and explaining how and why a programme is supposed to work, for example, by applying realist evaluation methods (Bosongo et al., 2023; Car et al., 2018). There was also a call for experimental designs with organisational level analyses (Car et al., 2018). Finally, several authors agree that as action learning is a growing area of interest in M&L CD programmes, it is worthwhile to evaluate these approaches further and to take a longer-term perspective on whether they contribute to health system strengthening (Bosongo, Belrhiti, Ekofo, et al., 2023; Daire et al., 2014).

Discussion

A key message drawn from across the review papers is that there has been an increasing interest in M&L capacity development over the past ten years in the published literature. For example, 20 papers of the 24 reviewed by Kiarie (2023) on workplace-based learning were published between 2011 and 2021, with none published before 2002. For Johnson et al., 77% of their 28 papers were published in the last five years (Johnson et al., 2021). However, while despite this apparent emerging interest, review paper authors judge that there is still not enough investment in leadership capacity development in low- and middle-income countries (LMICs) - given that most managers come into the position with clinical training only and are not sufficiently equipped to manage and lead in under resourced contexts (Daire et al., 2014; Johnson et al., 2021). There is at present a very limited body of literature in South Africa and

internationally on management and leadership capacity development. As noted below, there is also especially a paucity of literature that has observed or evaluated emergent or bottom-up innovations, it is my assessment that empirical chapters 5, 6 and 7 make a critical contribution to this literature. It is also evident that the structures in which managers work and the teams of people they work with are critically important in building management capacity, nested within a contextual understanding of the conditions in which they work – it was thus imperative in this thesis to explore not only individual management CD but also how teams can enable CD and how context influences CD.

There are a range of conceptual frameworks or models being used to conceptualise programmes, which shows a huge diversity in how actors are ideating around M&L capacity development for managers but is unclear whether this is positive or negative in terms of DHS management capacity development. There is also very limited consistency in terms of the outcomes that are being measured for M&L CD interventions. This may be linked to programme design and the funder or government goals for management strengthening, or it may be linked to the fact that almost all papers recommend that CD programmes should be adapted to context and benefit local challenges. A clear challenge for evaluation is, however, the lack of initial theorisation about how programmes are intended to work and why, and with what expected outcomes. Such theorisation would lay the foundation for a well-researched programme design and serve as the basis for an evaluation of an intervention in a complex district health system (Bosongo et al., 2023). In the South African literature review I also found many well conceptualised ideas and thinking informing programmes but only Schneider et al. (2019) and Doherty et al. (2018) presented a partial theorisation of how their interventions were meant to work in practice and through which pathways.

It was noted by Bosongo et al. (2023 p. 8) that most of the work being published on management strengthening in the DHS is prescriptive, adopting a blueprint approach as defined earlier. In contrast, very limited research is being done to document and analyse emergent capacity development in the workplace, which entails a "dynamic, flexible or adaptable process that emerges from stakeholders' interactions" (Basongo et al., 2023 p. 8). In the South African review, I only found one paper that documented capacity development as an emergent phenomenon. Choonara et al. (2017) observed capacity development in practice by a district manager and her finance managers. The governance intervention

analysed by Schneider et al. (2019) was also an emergent process led by a facilitator. While it had some prescription it also allowed for emergence and bottom-up innovation as the capacity of staff emerged over time through the strengthening of the health governance structure and its associated processes.

It is quite evident from both the South African and international literature that the workplace is a site of learning and capacity development for management strengthening in the DHS. Managers in the DHS are recognised as having insight into the context specific challenges in their districts and through working in teams and participating in a variety of capacity development activities such as action learning, action projects, WPBL, blended learning and formal training they can collectively achieve outcomes at the individual, organisational and – even - system level. It is, therefore, important to think further about how to embed such learning in the system, ensure that the capacities developed are institutionalised in the system, and that processes for ongoing capacity development and support are sustained over time.

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Chapter 3 – Conceptual framework

Introduction

In this chapter, I present how I developed the foundation of this study, from designing a conceptual framework to formulating the initial middle range theory.

A conceptual framework provides a lens for understanding the social world being studied. It provides insight into the key set of inter-linked concepts foregrounded in the study and provides a boundary for data collection and analysis (Gilson, 2012). Conceptual frameworks are used in realist evaluation as, from a realist perspective, "conceptual abstraction provides the means of establishing a common language to draw out the similarities between different interventions and to provide the bridgehead to link their evaluations" (Pawson & Tilley, 1997).

In realist evaluation, the middle range theory (MRT) is the starting point of research or evaluation (please see the methods chapter for more on this point). It is developed at the start of the study, tested empirically and refined in accordance with the findings of each case (Marchal et al., 2010). While the terms 'middle range theory' and 'programme theory' are increasingly understood to be the same thing, they are not. The programme theory (PT) presents the hypothesis underlying the actual intervention under study, outlining the mechanisms through which the outcomes are expected to be achieved as well as the required contextual conditions (Vareilles et al., 2015). The programme theory is a real-world hypothesis based on the views of actors on the ground, document reviews and existing knowledge. The middle range theory (MRT), meanwhile, operates at a higher level of abstraction (Vareilles et al., 2015). MRTs can be developed from a variety of disciplines (in this PhD, capacity development theory and organisation science), "but can also be the end result of a series of realist studies" (Vareilles et al., 2015 p. 5; see also Van Belle et al., 2023).

From the perspective of realist evaluation, the theory embedded in a conceptual framework serves as a basis for framing the middle range theory, which can be considered as a hypothesis or a set of propositions about how interventions fire mechanisms in contexts to produce outcomes, which is a key task in realist evaluation (Pawson & Tilley, 1997). In this study, the conceptual framework assembled relevant and interesting concepts and theories drawn from

literature reviews and discussions with colleagues. As such, it provided a frame within which the MRT on capacity development of district management teams was developed.

The initial Middle Range Theory

In Box 3.1, I present the initial MRT of this study.

Box 3.1: The initial Middle Range Theory

> Capacity is best considered to be an emergent combination of individual competencies, collective capabilities, assets and relationships that enable a human system to create value[3].
>
> Capacity development is not a one-off event that happens through a training programme: it takes place in a complex adaptive system, in which capacity is not held by one person alone, although individuals do make contributions to capacity.
>
> The ways in which capacity is built in the public sector generally, and in this case the district health system specifically, is influenced by several factors. Senior managers are often inundated with top-down policy directions but have the agency and discretion to make decisions and reshape policy, this includes the discretion to innovate (or not) and thus drive capacity development. Besides these internal organisational factors, external factors in the broader government system influence the ability of managers to manage and lead well. Managers are embedded in specific organisational and social contexts but can also, through their own agency influence the conditions in which they work. This process is influenced by their belief systems and experiences.
>
> Innovations to support capacity development in complex adaptive systems can be implemented in a proactive way or they can emerge and diffuse bottom-up through the system. Implementation and diffusion is likely to be supported through champions, boundary spanners, vertical networks and horizontal networks. As a dynamic process, capacity can emerge, decline or sustain itself.

In the next section, I present the conceptual foundation for this MRT in visual format (Figure 3.1) and I explain the theory and concepts within the diagram in the narrative below.

[3] Heather & Morgan. 2008. *Capacity, change and performance: Study report*. Maastricht: European Centre for Development Policy Management.

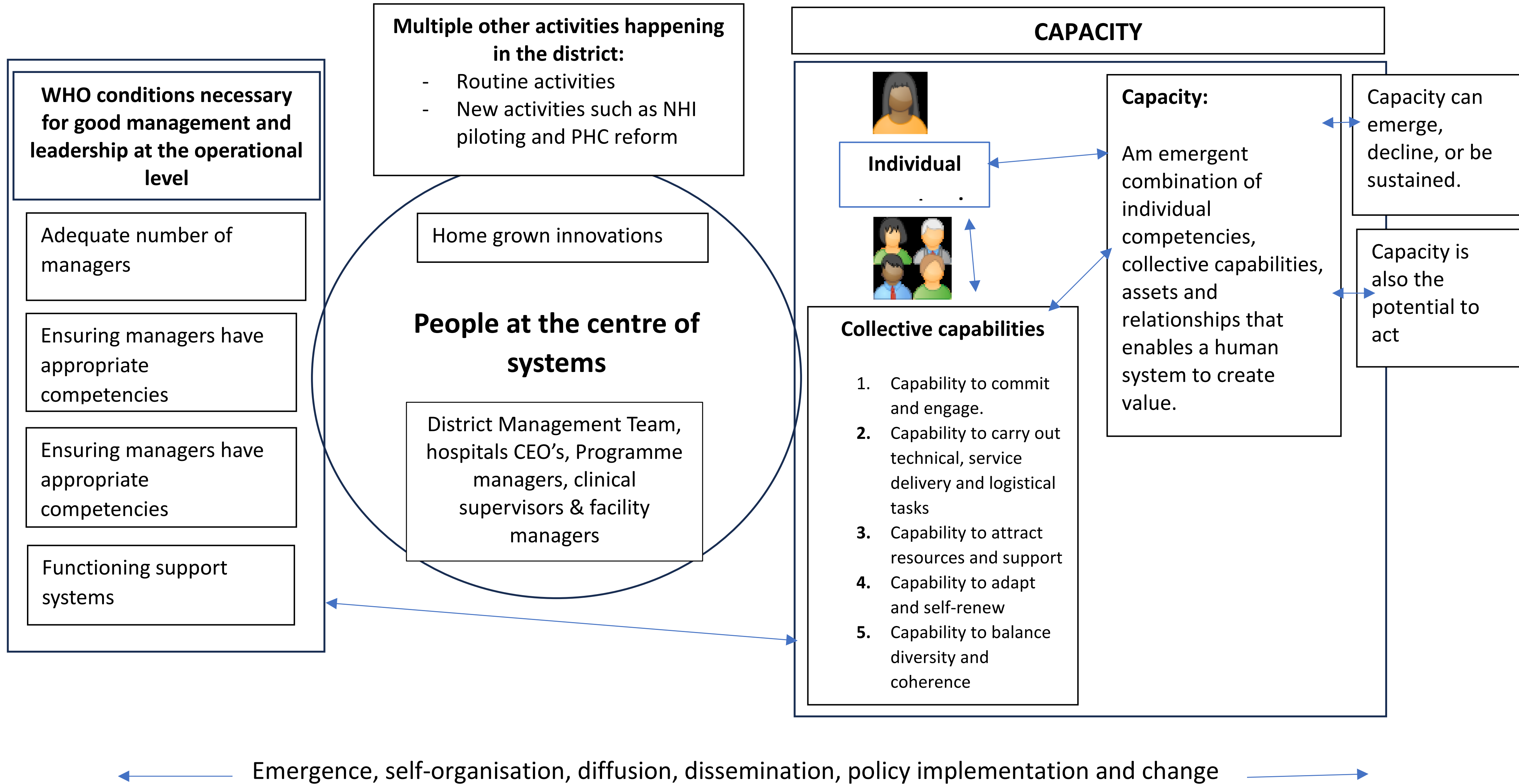

Figure 3.1: Conceptual foundations of the PhD research
Sources: Plsek et al. (2001), Borins (2002), Waddington et al. (2007), Baser et al., p. 28 (2008), Brinkerhoff et al. (2010) Sheik (2014)
WHO conditions necessary for good management and leadership at the operational level
Adequate number of managers
Ensuring managers have appropriate competencies
Ensuring managers have appropriate competencies
Functioning support systems
Multiple other activities happening in the district:
- Routine activities
- New activities such as NHI piloting and PHC reform
Home grown innovations
People at the centre of systems
District Management Team, hospitals CEO's, Programme managers, clinical supervisors & facility managers
CAPACITY
Individual
Collective capabilities
1. Capability to commit and engage.
2. Capability to carry out technical, service delivery and logistical tasks
3. Capability to attract resources and support
4. Capability to adapt and self-renew
5. Capability to balance diversity and coherence
Capacity:
Am emergent combination of individual competencies, collective capabilities, assets and relationships that enables a human system to create value.
Capacity can emerge, decline, or be sustained.
Capacity is also the potential to act
Emergence, self-organisation, diffusion, dissemination, policy implementation and change

Public Policy and innovation

The policy process

This PhD is in the field of health policy analysis, and I adopt a non-linear view of the policy process. From the 1950s, the policy process was described through the stages heuristic model, which reflects the policy process as a set of stages, including agenda setting, policy formulation, policy implementation, and finally monitoring and evaluation (Dunn, 2018; Jenkins-Smith & Sabatier, 1993; Lasswell & Lerner, 1951). The field of policy analysis has, however, grown substantially since this model was introduced and now recognises the policy process as non-linear. Frameworks and models of the policy process have been developed over time to reflect this non-linearity (see for example Baumgartner & Jones, 1993). Moving back and forth between stages, this process can occur within days or over years (Walt & Gilson, 1994). Understanding has evolved to a view of the policy process as a political process that is affected by actors, their interests, and their sources of power within particular contexts (Buse et al., 2005; Gilson et al., 2018). Within each of the stages, there are multiple non-linear sub-processes. Efforts have been made to document and describe these non-linear interactions, in, for example: agenda setting (Buse et al., 2005; Cobb et al., 1976; Kingdon & Stano, 1984; Shiffman, 2004, 2007; Shiffman & Smith, 2007); policy formulation (Berlan et al., 2014; Bertscher et al., 2018); and policy implementation (Elmore, 1979; Erasmus et al., 2014; Hill & Hupe, 2002; Lipsky, 1980; Orgill & Gilson, 2018). Whereas policy implementation is often described as a top-down process, a 'bottom-up' perspective gained traction in the 1980s. Evidence grew that the actors who are charged with managing and implementing public policies use their agency and discretion to reshape policy on the ground (Gilson et al., 2014; Lipsky, 1980; Sabatier, 1986).

Elmore (1979) provides a useful description to explain the top-down and bottom-up perspectives on policy implementation, using the lens of forward mapping and backward mapping. Forward mapping is how policy is typically considered to be made, from the setting of objectives and developing the steps to achieve that objective and designing measures to assess success of failure. This view is shared by many who believe that implementation can be controlled from the centre, or top, by policymakers – an understanding strongly linked to ideas about control and authority in hierarchies. Elmore (1979, p. 603) critiques this position and writes that "the most serious problem with forward mapping is its implicit and

unquestioned assumption that policymakers control the organizational, political, and technological processes that affect implementation". He offers an alternative position. Policy is not the major influence on the behaviour of implementors; rather policy success is conditional on the ability of the organisational unit, at the coal face, to exhibit certain behaviours. Instead of seeing implementation as an ordered process facilitated through hierarchy, it can be considered as a dispersed and decentralised process happening through those actors with close proximity to implementation. Backward mapping assumes "the closer one is to the source of the problem, the greater is one's ability to influence it; and the problem-solving ability of complex systems depends not on hierarchical control but on maximizing discretion at the point where the problem is most immediate" (Elmore, 1979, p. 605). Through the lens of backward mapping, the process of policy making starts by looking at behaviours at the implementation level and then policy objectives and intent are derived from this starting point. Discretion, Elmore (1979) argues, is the key to understanding why those closest to implementation are at the centre of policy implementation outcomes, which may not necessarily match policy intentions as designed by policy makers. Discretion is often seen as something to be bounded and controlled by those at the top, but Elmore (1979, p. 605) argues this is a near impossible task that is rarely a good approach - unless for a very technical task such as airline inspection where command and control is required: "The crucial difference of perspective stems from whether one chooses to rely primarily on formal devices of command and control that centralize authority or on informal devices of delegation and discretion that disperse authority". Bottom-up theory tells us that those who work at the local level will make meaning of top down reforms based on the conditions in which they work and will use their own experience and understanding of local contextual conditions to transform policy into practice (Erasmus et al., 2014; Gilson, 2016; Hill & Hupe, 2002; Lipsky, 1980).

Hypothesised mechanisms underlying management capacity development

In both top down and bottom up theory, meaning making (for themselves and for others) is a key function of a manager's leadership role. Managers who have formal leadership roles, by virtue of their position, are legitimised to make meaning for others through their actions and utterances and so, lay the basis for organised action toward desirable goals (Smircich, 1982). Effective leaders use a range of images, tools and symbols to convey meaning that drives action (Smircich, 1982). Managers are not only subject to the contextual conditions in which

they work, but part of their meaning making role is to punctuate the prevailing context with new ideas and actions.

Meaning making has come to be understood as part of broader processes of sensemaking, and social construction, in organisations (Turner et al., 2023; Weick, 1995). Key mechanisms that are hypothesised in programme theory 1 and programme theory 2 (as shown in the methods chapter) include sensemaking, sensegiving and tacit knowledge. Sensemaking is defined in a variety of ways, in this thesis we understand sensemaking as the way in which managers understand, interpret and create sense for themselves based on the information surrounding strategic change (Rouleau, 2005). Sensegiving, as a reciprocal process, "is concerned with their [managers'] attempts to influence the outcomes, to communicate their thoughts about the change to others, and to gain their support" (Rouleau, 2005 p. 1415). Hope (2010) argues, however, that sensegiving is not a politically neutral act. When managers take over meaning construction for others, they draw on a variety of power resources to shape change in ways that could be the same or different from organisational goals. "The power of meaning has to do with controlling or shaping perceptions, cognitions and preferences, which is per se sensegiving. This is possible by influencing what information is given, and how, and to whom, it is presented. It has to do with controlling language symbols and rituals" (Hope, 2010, p. 198).

Health system theory, meanwhile, recognises that people, operating in various roles, are at the centre of health systems (Gilson, 2012; Van Olmen et al., 2012). It is their agency, ideas and behaviours that shape what happens in the health system (De Savigny & Adam, 2009; Sheikh et al., 2014). Managers in health systems ideas are informed by their tacit knowledge and formal training, they rely on tacit knowledge to make sense of the health system and to act within it (Dovey 2002). Tacit knowledge is acquired while doing one's job and learning from others, managers located within the DHS apply their tacit knowledge to identify the correct people to bring into conversation and the appropriate strategies to employ to improve systems (Dovey, 2002). Polanyi (1966) notes that tacit knowledge is made up of both practical knowledge and theoretical knowledge, and our knowledge informs the way we make meaning of the world. It is not however easy to share tacit knowledge, "we can know more than we can tell" (Polanyi, 1966, p. 6; Rouleau, 2005). In this thesis, tactics and strategies that managers use to share what they know with others and drive collective action is explored.

In the South African district health system (DHS), categories of managers include district managers/management teams, sub district managers/sub district management teams, hospital managers, clinic supervisors, programme managers and facility managers (Gilson & Daire, 2011; Van Rensburg, 2012). I recognise that among these will be at least some who can harness creative energy and innovate regularly in their daily work. This could be in the process of managing the implementation of top-down and/or donor driven innovations designed to support management capacity development or they could themselves design/generate 'home grown,' bottom-up innovations to support management capacity development (Borins, 2002).

Public service innovation

While some may see the discretionary acts of agents as factors of discontinuity with prespecified policy goals and guidelines, I judge that discretionary acts can also be seen as a valuing of context as well as the useful application of tacit knowledge (Elloker et al., 2012; Orgill et al., 2021). I see the bottom-up transformation of policy into practice as representing *innovation* in public services, as ideas generated by those working on the ground can represent a fresh new perspective on implementation.

In this thesis we apply a definition by Osborne & Brown (2005). They define public service innovation as "the introduction of new elements into a public service – in the form of new knowledge, a new organisation, and/or new management or processual skills. It represents discontinuity with the past." The authors define three types of public service innovation:

- Incremental innovation: existing skills and knowledge are improved upon. Incremental innovations are new ideas but do not require significant changes to how an organisation operates.
- Semi radical innovation: a new idea that requires a change in how an organization operates (its business model), processes, services, or products.
- Radical innovation: entirely changes how an organisation operates as it requires new knowledge and skills (rendering previous ones defunct) and renders current products, services, and processes obsolete (Osborne & Brown, 2005)

Chen et al. (2020) assert that public service innovation (PSI) is not just a creative idea, it is a process that moves from idea to development (through engaging actors in the eco-system)

and on to implementation that serves to create public value through a variety of actors and relationships.

The goal of creating public value is a key defining feature of public services innovation versus the goal of the private sector, which is profit. Given these different goals, Chen et al. (2020) developed a typology of public sector innovation to better support an understanding of innovation in the public sector specifically. They note importantly that the focus of PSI is typically either on (1) developing new strategy (2) a focus on capacity development which includes introducing processes that improve structures, human resources, infrastructure etc. and includes managers improving practices and/or (3) a focus on operations includes for example, the introduction of new services and/or client experiences. PSI can have an internal locus (within the organisational boundary) or an external locus (collaboration with external stakeholders). Chen et al. (2020) then introduce a typology of innovations, including mission innovation, policy innovation, management innovation, partner innovation, service innovation and citizen innovation. Interestingly their typology of "management innovation" complements this thesis well, "the introduction of new management practice, process, structure, or technique to improve the organization's ability to further organizational goals" (Chen, 2002, p. 1684).

The diffusion and dissemination of innovations

In their comprehensive systematic review, Greenhalgh et al. (2004) provide key lessons on how innovations diffuse and are disseminated and implemented in complex adaptive systems. They define innovation as "a novel set of behaviours, routines, and ways of working that are directed at improving health outcomes, administrative efficiency, cost-effectiveness, or users' experience and that are implemented by planned and coordinated actions" (Greenhalgh et al., 2004 p. 582). A key similarity in the definition by Greenhalgh et al. (2004) with Baser and Morgan (2008) is that an innovation is something that is new to the people to whom it is being introduced, Greenhalgh et al. (2004) do however also focus on the outcomes of these innovations. I found the factors in the Greenhalgh et al. (2004) model useful for understanding how bottom-up innovations are adopted and implemented in the health system, given that these processes can be long, complex and require sustained effort by a range of actors. Greenhalgh et al. (2004) identified factors that help to communicate, influence and spread an innovation in an organisation – "sensemaking is a continued

redrafting of an emerging story so that is becomes more comprehensive" (Weick et al., 2005 p. 415).These factors can be thought of as lying on a continuum between pure diffusion and active dissemination. Pure diffusion is when the "spread of innovations is unplanned, informal, decentralized, and largely horizontal or mediated by peers"; active dissemination is when the "spread of an innovation is planned, formal, often centralized, and likely to occur more through vertical hierarchies" Greenhalgh et al. (2004 p. 601). This might include a formal communication strategy. Key factors associated with effective diffusion include champions: individuals in social networks who are willing to support an innovation (Greenhalgh et al., 2004). Boundary spanners are "those people who have significant social ties both inside and outside the organization, and who are willing and able to link the organization to the outside world in relation to this particular innovation" (Greenhalgh et al., 2004 p. 601). Vertical networks are used "for spreading peer influence and supporting the construction and reframing of meaning", while horizontal networks are used "for cascading codified information and passing on authoritative decisions" (Greenhalgh et al., 2004 p. 601). Innovation-system fit reflects whether the innovation fits within the existing context, the existing norms and values and to whether it works well in parallel to existing programmes and routines and/or how does this navigation happen (Greenhalgh et al., 2004).

Basic conditions for strengthening management and leadership in district health systems

Context is an important feature that influences capacity. It has been recognised that targeting individual manager competencies is not enough for strengthening management capacity: managers work within systems and contexts that affect their capacity to do their jobs well. The WHO (Waddington et al., 2007), thus, identified certain basic conditions that need to exist in a district health system for strengthening management and leadership at the operational level to achieve improved health services and sector goals. The four basic conditions include (1) an adequate number and deployment of managers, (2) ensuring managers have appropriate competencies, (3) functioning support systems and (4) an enabling working environment, these are further explained in Table 3.2 (Waddington et al., 2007, p. 4).

Table 3.1: WHO four basic conditions for strengthening management and leadership at the operational level[1]

Adequate numbers and deployment of managers	How many health service managers are employed? **|** What are the critical posts that managers are needed for? **|** How many combine the role of manager with clinical work? **|** How are the managers distributed throughout the country? At what levels of the health service? **|** What efforts have been employed to increase and maintain the pool of available managers?
Ensuring managers have appropriate competencies:	Is there a practical competency framework for the knowledge, skills, attitudes and behaviour required for various managerial posts? | How are the competencies enhanced? Are off-site, on the job training, coaching or action learning methods used? **|** What qualification and experience do managers have? **|** What are the principal limitations of current managers in terms of their own competencies? **|** Which managerial competencies have been targeted for development? **|** Is there a national system for competency development? **|**Have management approaches been piloted and later scaled up? What is known about the costs and effectiveness? Are the activities and achievements sustainable?
The existence of functional critical support systems (to manage money, staff, information, supplies etc.)	How well do critical support systems function? **|** What are these critical systems? **|** How successful have efforts been to improve these support systems? **|** How important were changes in these managerial support systems in terms of improving the performance of managers themselves? **|** Who are the management professionals running specific support systems and how qualified are they?
An enabling working environment	Do organisational arrangements within the health system encourage managers to perform well? (autonomy, definition and communication of roles and responsibilities, fit between roles and structures, existence of national standards, roles and procedures etc.) **|** Do incentives and supervision encourage managers to perform well? **|** How do the various disciplines in the health sector work together in the context of leadership and management? **|** Have there been recent changes to organisational arrangements, incentives or supervision? (job descriptions, written guidelines, benchmarks, changes in remuneration)

[1] This framework can be used for (1) mapping current activities, (2) needs assessment, (3) planning, (4) problem solving and (5) monitoring and evaluating the effects of existing leadership and management strengthening activities.

These conditions interact within the health system, and will influence capacity development initiatives for managers in a DHS.

Conceptualising capacity for management and leadership development

In the health literature, nonetheless, developing the capacity of health system managers often adopts an approach that focuses on strengthening the capacity of individual managers. For example, the “Leading and Managing for Results model” of the US not-for-profit organisation Management Sciences for Health has been applied in many settings. It posits that good management (planning, organising, implementing and monitoring & evaluation) and leadership practices (scanning, focussing, aligning and inspiring) will contribute to (1) an improved work climate and (2) improved management systems, which both contribute to the improved capacity to change and ultimately results in improved services and better health outcomes (Vriesendorp et al., 2010). While recognising that managers must manage complex systems and that they work with teams, the model focuses on the practices and behaviours of *individual* managers. I do not dispute that focusing capacity development on individual manager competencies is necessary, indeed it is critical that managers are competent to perform their tasks. However, in this PhD, I understand managers as agents who are embedded in complex adaptive systems and influenced by a range of contextual factors (Elloker et al., 2012; Plsek & Wilson, 2001; Prashanth et al., 2014). I do not separate the exercise of their competencies from the system in which they are embedded; capacity development requires a focus on the individuals *and* the system.

Capacity development interventions identified in the wider development literature similarly include those that encompass different levels or elements. Bolger (2000), for example, discusses four levels at which capacity development activities can be targeted: (1) the **individual level** (focus on skills and abilities to meet objectives), (2) the **organisational level** (focus on organisational structures, processes, resources, and management issues), (3) the **network / sectoral level** (focus on sector or sub sector programs), (4) **the enabling environment** (the broad context in which development takes place – such as: poor / good policies, corruption, coordination etc.).

The international development literature (Zamfir, 2017) also offers insight into the differences between capacity building and capacity development. “[W] hile 'capacity-building' suggests building something new from the ground up, according to a pre-imposed design, 'capacity development' is believed to better express an approach that builds on existing skills and knowledge, driving a dynamic and flexible process of change, borne by local actors” (Zamfir, 2017 p. 1). After reviewing the literature on capacity development, they conclude that central features of capacity development include local ownership, partnership, action required at multiple levels, including governance issues and it must be sustainable. Key criticisms of this wider approach to capacity development are, that it is too broad to measure and that it has become an acronym for development assistance (Zamfir, 2017).

While I acknowledge such criticisms, I adopt this broad systems perspective on capacity because I recognise the health system as a complex adaptive system which cannot be reduced to component parts without taking consideration of their interconnectedness (Plsek & Greenhalgh, 2001; Plsek & Wilson, 2001). Baser and Morgan (2008 p. 34) suggest that capacity is “that emergent combination of individual competencies, collective capabilities, assets and relationships that enables a human system to create value”. Capacity is thus made up of individual capacities as well as collective capabilities – that is, “… the collective skills or aptitudes of an organization or system to carry out a particular function or process either inside or outside the system” (Baser & Morgan, 2008 p. 25). These capabilities enable an organisation to deliver on its mandate and ultimately sustain itself into the future. In the view of these authors, a focus on capabilities provides a more operational way to approach the broader concept of capacity. Through empirical work, they found that successful organisations were able to create structures to embed capabilities in the system. They note that “capabilities in practice, were ongoing processes that emerged out of the system that enabled it – or not – to survive and create value” (Baser & Morgan, 2008). The core capabilities they identify are described in Table 3.3 (Baser & Morgan, 2008, p. 27-33).

Table 3.3: Core capabilities that contribute to capacity in organisations and systems

The core capability to commit and engage	This is the ability of an organization (a living system) to develop its own motivation and commitment and then to act). This depends on a series of skills or abilities, including: the ability to encourage mindfulness, the ability and willingness to persevere, the ability to aspire, the ability to embed conviction, the ability to take ownership, and the ability to be determined.
The core capability to carry out technical, service delivery and logistical tasks	This core capability includes the capabilities to deliver services, to ensure strategic planning and management and, financial management, and carrying out technical and logistical tasks. It needs to be supplemented and combined with the four other capabilities to enable sustainable capacity to emerge.
The core capability to relate and to attract resources and support	This is the capability to relate and survive within the context of and in connection with others. It includes the following capabilities: to earn credibility and legitimacy, to buffer the organization or system from intrusions, to earn the trust of others (such as donors and clients) and to combine political neutrality and assertive advocacy.
The capability to balance diversity and coherence	Organizations need to encourage both stability and innovation and need to balance their different capabilities. This includes the following capabilities: to communicate, to build connections, to manage diversity, and to manage paradox and tensions.
The core capability to adapt and self-renew	Change shapes the nature of the tasks facing people and may erode the existing capabilities of those organizations that fail to keep up. This is associated with adaptation and change, including the following capabilities: to improve individual and organizational learning, to foster internal dialogue, to reposition and reconfigure the organization and to incorporate new ideas; and to map out a growth path.

Brinkerhoff and Morgan (2010 p. 30) discuss key issues arising from a symposium in which applied case studies using this five capabilities model were presented and highlight two key implications for thinking about capacity and capacity development (CD) from a systems perspective:

> The systems perspective shows that no single factor or constituent element—incentives, financial support, trained staff, knowledge, organizational structure—can by itself explain the development of capacity. Thus, narrow interventions, such as staff training, are not likely to make a significant difference in performance unless they can create opportunity space or leverage that can shift actors' behaviours … One clear conclusion is that CD design and implementation need to recognize the fallacy of one-best-way approaches, to incorporate flexibility and learning, and to pay attention to the specificities of context.

Finally, in a different paper, Baser and Morgan (2006) discuss their multiple country case study work on the links between capacity, change and performance They observed that capacity development efforts implemented by development agencies within low- and middle-income countries are often too narrowly focused on improving programme or project implementation and that these agencies see capacity development as a quick solution to 'fixing' the organization as if it were a machine. They note that "groups, networks and organizations in the cases were [rather] living human systems that need a wide range of capabilities to survive as well as perform …. All these capabilities overlapped and formed elements of the others. And all five were necessary to ensure overall capacity. None was sufficient by itself" (Baser & Morgan, 2008 p. 27).

Challenges in determining the success of management capacity development interventions

As this research is focused on management capacity development, I had to think about how to define, observe and assess capacity as an outcome. Various definitions of outcome exist. Cassels and Janovsky (1991 p. 121) cite Faculty of Public Health Medicine (1989) who suggest that:

> It is possible to define a hierarchy of outcomes for management strengthening initiatives which progresses from the [1] acquisition of management skills; [2] to improved management performance of individuals, teams and systems; [3] to better and more efficiently delivered services; to improved utilisation of those services; [4] and thereby to improved health status (Faculty of Public Health Medicine, 1989). It is also

clear that the link between management development and management performance is easier to substantiate than the link with changes in utilisation or health status.

Different actors and stakeholders will, moreover, have different ideas about what success means for such programmes. In the health sector, politicians, senior administrators and some researchers will likely be concerned with health status, utilisation and cost-effectiveness, while those closer to programmes may be concerned with management performance (Cassels & Janovsky, 1991). Cassels & Janovsky (1991) write that there are two main schools of thought concerning the outcomes of health management development. The first suggests that a positive change in health status is the only measure of success that is valuable - if this has not happened nothing has been achieved. The other school judges that “health systems management is a necessary but not sufficient cause of improved health” (Cassels & Janovsky, 1991). These authors recognise both that multiple factors influence health status, and that the importance of health system management to health improvement makes it a valued outcome in its own right.

Baser and Morgan (Baser & Morgan, 2008) note a similar argument in relation to capacity development generally. Some see capacity development as a secondary means to reach performance ends only, while others view capacity development as an end in itself.

Finally, it is widely acknowledged that it is challenging to link management capacity development programmes to health outcomes (World Health Organisation [WHO]b, 1990). “Answers can be slow to arrive and uncertain, because of the long-term nature of change, inherent complexity of the health system, and the complex and indirect links to final outcomes” and generalizability can be difficult because of the effects of the environment (Travis et al., 2004 p. 904). Perhaps not surprisingly, then, Cassels and Janovsky (1991) wrote that “at present, there is little documented experience on how to evaluate better management practice. There is a need to decide, in any specific context, what better practice actually means and what indicators should be used to demonstrate change”.

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Chapter 4 – Methodology

Introduction

This chapter outlines, explains and justifies the main methodological choices made in conducting the studies presented in chapters 5-7, each of which adds further methodological details.

While similar questions face health systems in different countries, each system has its own contextual conditions which influence the design, implementation and outcomes of innovations (Gilson, 2016; Spicer et al., 2014; Van Belle et al., 2023; Van Olmen et al., 2012; Walt & Gilson, 1994). Health systems and populations have varying needs, values, priorities and levels of resource availability, which have implications for research and documentation of the health system under study. Health systems are also complex, highly interdependent, and relational - and so, are commonly defined as complex adaptive systems (Brinkerhoff & Morgan, 2010; Gilson, 2012; Marchal et al., 2012; Plsek & Greenhalgh, 2001).

> Complex systems consist of multiple elements, which interact with their environment, but some factors make them stand out: the nature of the interactions, the feedback loops, and the importance of the initial conditions and of the past. As a result, complex systems will display emergent behaviour and unpredictability. (Marchal et al. 2013, p. 3)

History, including existing organisational cultures and norms, therefore, influence the implementation of innovations in complex systems. Emergence is another key characteristic of complex adaptive systems: "patterns emerge from self-organization among interacting agents. What emerges is beyond, outside of, and oblivious to any notion of shared intentionality. Each agent or element pursues its own path but as paths intersect and the elements interact, patterns of interaction emerge and the whole of the interactions becomes greater than the separate parts" (Patton, 2010: p. 8). Because of emergence, it is not possible to predict the outcomes of innovations in complex systems, such as health systems - especially when implementing complex innovations (Morgan, 2005; Patton, 2010). Such innovations are themselves characterized by learning and adaptation, adding to the unpredictability of outcomes. Relationships, actors and policies

inside and outside the system will impact on and effect the diffusion, dissemination and implementation of innovations (Greenhalgh, 2005).

To engage with the complexity of health systems as part of this research, a realist approach was adopted (Pawson & Tilley, 1997). Realist evaluation (RE) is underpinned by the philosophy of scientific realism. It acknowledges that causal mechanisms can be found in the interaction between the actors implementing an innovation and the context and institutions in which they are situated (Marchal et al., 2012). Realist evaluation:

> Realist evaluation considers causality to be generative: actors and society have potential mechanisms of causation by their very nature. Change occurs when interventions, combined with the right contextual factors, release the generative mechanisms. The Context–Mechanism–Outcome (CMO) configuration is used as an analytical tool to analyse the data and unearth the mechanism … If all human action is embedded within such a wider range of social processes, then causal mechanisms reside in social relations and context as much as in individuals. (Marchal et al. 2012, p. 195)

Realist evaluation is now a widely applied methodology for evaluating innovations that are embedded in complex contexts (Belrhiti et al., 2020; Bosongo et al., 2023; Jagosh et al., 2015; Kwamie et al., 2014; Marchal et al., 2019; Pawson & Tilley, 1997; Prashanth et al., 2012; Prashanth et al., 2014).

Within this realist approach, for this study, I adopted a case study design (Yin, 2014). The realist inquiry approach is method neutral and encourages the researcher to adopt a design that is useful to examine the research question under study. In health policy and systems research, many realist studies have adopted the case study design as it fits well with organisational and systems studies and allows the researcher to study a phenomenon in the real world (Belrhiti et al., 2019; Prashanth et al., 2014)

In this chapter, I introduce the overall methodological steps followed in the PhD through the lens of realist evaluation - as outlined in Figure 4.1.

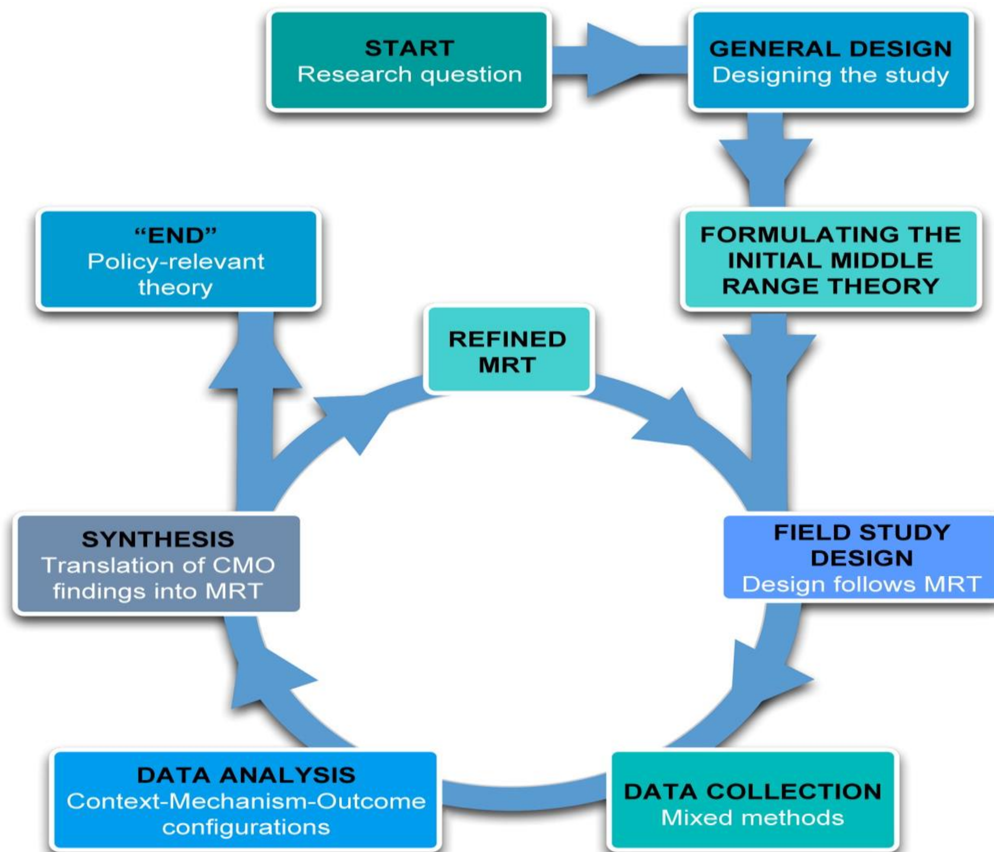

Figure 4.1: The realist evaluation research steps. Source: Marchal et al., 2012

Situating the research conducted in this PhD in a larger study

The data collected for this PhD research was nested in a larger European Union-funded research project called "Universal Coverage in Tanzania and South Africa" (UNITAS) (Michel et al., 2019; Michel et al., 2020; Michel et al., 2020; Oboirien et al., 2014; Oboirien, 2019; Oboirien et al., 2018; Oboirien et al., 2019). The objective of the UNITAS project was to understand the implementation of large-scale efforts in Tanzania and South Africa to improve universal coverage. In South Africa, we focused specifically on a range of innovations introduced under the banner of 'National Health Insurance (NHI) piloting' by the national Ministry of Health. No large-scale finance reforms were introduced in the period. However, in preparation for the possible introduction of a National Health Insurance model, the government in South Africa set out to strengthen the public health system through a variety of innovations addressing the primary health care platform (Pillay & Barron, 2012). Ten health districts in South Africa were selected to pilot a series of innovations, and they included a call by the national Minister of Health to improve management capacity at all levels of the District

Health System (DHS) in preparation for future reform. This call by the Minister was the trigger for the conceptualisation of this PhD.

Within the UNITAS project, we conducted research in three NHI pilot districts. For this PhD, data were collected in two of those NHI pilot sites.

The steps in the research process

Step 1 and 2: developing the research question and general study design

The research questions for this PhD were developed iteratively over time in an initial context mapping phase and during the process of developing the programme theory for each innovation in Site 1 and Site 2 (both districts).

In the context mapping phase (findings presented in Chapter 5), my colleagues and I interviewed thirty-eight senior health managers across three districts and their respective provincial departments of health, between September 2013 and July 2014. The aim was to identify managers' understandings of the Minister's call for management strengthening, to understand both the context in which they were working and how they were responding to the need to develop the capacity of their managers.

After a series of interviews, I was able to identify some top-down activities toward ensuring management capacity in the districts; for example, in one, Hospital CEOs had to re-apply for their jobs and prove their competence for their existing role. Interestingly, I also identified novel, bottom-up innovations in two districts. I decided to take innovations as the theme of my PhD study and I drafted a general set of criteria for the selection of innovations, including purposively sampling within an NHI pilot site. After discussions with the district managers, I then refined this to focus on bottom-up innovations (Table 4.1), as I developed a keen interest in finding out more about 'home grown' bottom-up innovations to strengthen management capacity. I applied these selection criteria in follow up interviews with district managers in two sites to select innovations to ensure that the innovation was in the process of being implemented and that the innovation was initiated by the local actors themselves.

Table 4.1: Inclusion and exclusion criteria for innovations

Inclusion criteria for innovations	Exclusion criteria for innovations

Targets managers for the purpose of developing their competence or capability to manage and/or lead. The innovation must be a bottom-up initiative that has been developed and/or initiated by actors in the district itself. The innovation must be in the process of implementation. The innovation must be seeking to bring about change and must have at least some intentionality in this regard (a vision of change). The innovation must be in response to the South African Minister's call for strengthening management in district health systems. The district manager agrees to allow us to conduct research in the district	The innovation has not been developed within the district. The innovation is only an idea, and no attempts have been made to implement it. The innovation targets disease/service delivery programmes only and does not have a clear focus on building management capacity. The process of innovation has no evidence of someone leading it.

Step 3: Developing the middle range theory and eliciting programme theories

As discussed in the chapter 3 (the conceptual foundations chapter), MRTs can be gleaned from other disciplines (such as capacity development theory and organisational science in this case), which we have shown in narrative form and diagrammatic form in chapter 3. The initial MRT on capacity development of district management teams was drawn from this conceptual framework. This initial MRT was the starting point, tested through the case study and refined at the final stage of thesis through cross case synthesis.

For the site-specific research in each case study site, I developed a *programme theory* to understand how, why and under what conditions local actors expected the innovation to work at the beginning of implementation. A programme theory (PT) can be elicited by doing primary exploratory research (through interviews to identify the perspectives of people on the ground), reviewing programme documents, as well as on the basis of existing programme evaluations, past experience or research from previous evaluation studies (Marchal et al., 2012). The programme theory describes the hypothesis underlying the intervention in

question, presenting the mechanisms through which the outcomes are expected to be achieved as well as the required contextual conditions (Marchal et al., 2019).

To develop the initial programme theories, I carried out interviews. To this end, I developed a data collection instrument, which included a 'theory of change', a somewhat simplified version of the PT that served as a pragmatic tool in the interview guide (Appendix 2). I also developed a guide specially for NGO partners (Appendix 3) as I sought to understand their role in the district and their interpretation of events. It enabled me to ask questions of managers in the district to elicit their assumptions regarding how the innovation of focus would work in practice (Funnell & Rogers, 2011), as well as to find out their implicit or explicit models of change in developing and driving bottom-up management capacity development initiatives.

Participant selection criteria for this series of interviews included:

(1) being a senior manager in the DHS and

(2) being involved in the dissemination of and/or implementation of NHI piloting innovations in the district.

After initial analysis and write up, I fed back the initial programme theory to the district managers in interviews as a process of respondent validation, and then refined the programme theories with their feed-back. The programme theory for Site 1 can be seen here as Figure 4.2.

Additional File 1: Initial programme theory for strengthening management capacity

Context: NHI pilot site Lack of clear policy direction from the Provincial government | Vacant critical managerial posts | Limited financial and HR delegations | Difficulties in attracting people to rural areas | Reactive agenda's in DMT meetings | District Hospital and PHC platform reporting on different lines | New district manager | NHI piloting being implemented | situated in the Province with some of the worst health outcomes in South Africa | An information manager carrying the burden of reporting in meetings | Limited accountability for information use | Many NGO partners working in the district

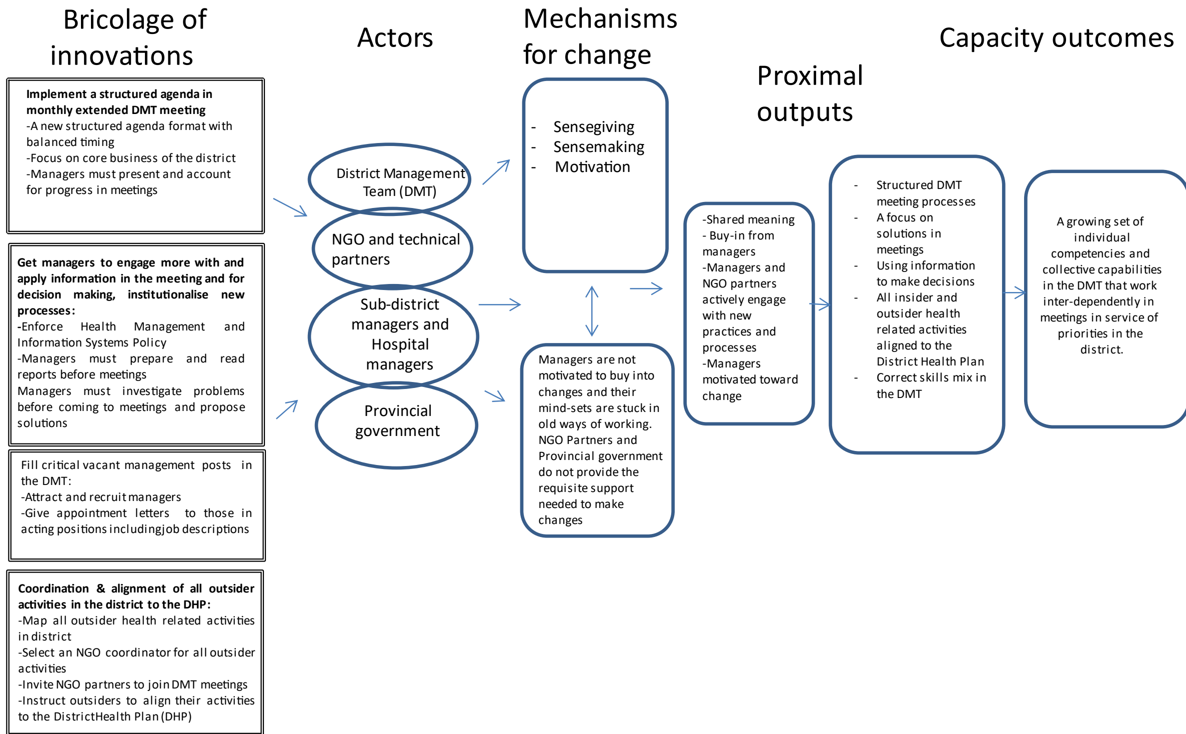

Figure 4.2: The programme theory for Site 1 *(a larger version of this diagram is listed as Appendix 4)*

The programme theory for Site 2 can be seen as Box 4.1. These programme theories provided guidance for the research in Site 2 and 3, and the subsequent results are discussed in the empirical chapters in chapter six and chapter seven.

Box 4.1: Programme theory for site 2

In a historically under-performing health district (C), that is an NHI pilot site (C) and where a shortage of leadership capacity has been identified (C), senior managers in the district will use their positional power and agency to design and implement bottom-up ideas and innovations to develop leadership capacity, because they perceive (M) the Minister's call to strengthen management in districts as a priority, because they are motivated (M) and because they can generate resources to put plans into action (M). If the resulting bottom-up idea diffuses naturally and/or is disseminated through planned strategies that make use of champions, vertical networks, boundary spanners, sensemaking and sense giving, a process of buy-in from relevant actors and a course of change will be triggered, which will lead to putting in place functioning structures and activities (proximal output) to support leadership capacity development in the local context. These activities will provide capacity development opportunities for managers which will improve their competencies, contribute to a change in the behaviour of managers, ultimately improving the capacity within the district to manage and lead the district platform.

Realist evaluation is an iterative approach. After confirming the initial programme theories, we refined the **research questions** as follows:

What home-grown bottom-up innovative health management capacity development initiatives exist in the study districts? How do these initiatives work, and in what conditions? Do these initiatives provide opportunities for consolidating and strengthening management capacity in the South African district health system?

The **research objectives** were defined as follows:

1. To describe and analyse senior managers in district health systems as mediators of policy reform between the National government and sub national government.
2. To describe what opportunities and challenges arise in disseminating, diffusing, and implementing bottom-up innovations in complex health district systems for management capacity development.

3. To identify the mechanisms for change triggered in context by bottom-up innovations and to identify how they interact with the existing social processes and norms to impact on capacity development [or not].
4. To derive insights from experiences of bottom-up management capacity development innovations for future capacity development of capacity at district level in South Africa and internationally.

Step 4: The field study design

Realist evaluation is method neutral: the chosen study design must allow one to answer the research questions and test the initial programme theory (Pawson & Tilley, 1997). Innovations are embedded within contexts and the case study design is a useful research design as it is "an empirical enquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (Yin, 2014).

The case study design is distinctly different from studies that seek to control context. Like realist evaluation, the case study approach argues for the development of theory-based propositions before the start of a study (Yin, 2014). It is also recognised to being well suited to answering how and why questions rather than measuring frequencies or incidence "Because phenomenon and context are not always distinguishable in real-life situations, case study work will benefit from the prior development of theoretical propositions to guide data collection and analysis" (Yin, 2014). In terms of generalisation, case studies use the testing of theoretical propositions as way to expand and generalise the findings, through a process more commonly known as analytic generalisation (Yin, 2014). This aligns well with the approach of realist evaluation, where middle range theories or programme theories serve the same purpose.

I employed a multiple case study design (Figure 4.3), which allows for comparison across cases (Crowe et al., 2000). After the initial context mapping phase in three sites as part of the larger project, I purposively selected two sites. The criteria for purposive selection of innovations are shown in Table 1.

Yin (2010) writes that "with the use of multiple-case studies, each case must be carefully selected so that it either (a) predicts similar results (a literal replication) or (b) predicts

contrasting results but for anticipatable reasons (a theoretical replication)". For this study, I used the theoretical replication logic, because the two cases are embedded in contexts which are completely different (Figure 4.3 below). I also assumed from the outset of the study that the results from the two cases might be different as actors in each district responded differently to the Minister's call for management strengthening. This assumption reflects Yin's statement that "Multiple case rationales also can derive from the prior hypothesizing of different types of conditions and the desire to have subgroups of cases covering each." (Yin, 2014: p. 62). Following this argument, I also work at a level of abstraction, as proposed by Pawson (2013) and Yin (2014) and use theoretical propositions to compare across cases. The initial middle range theory captures these theoretical propositions as noted in Chapter 3, the conceptual foundations chapter.

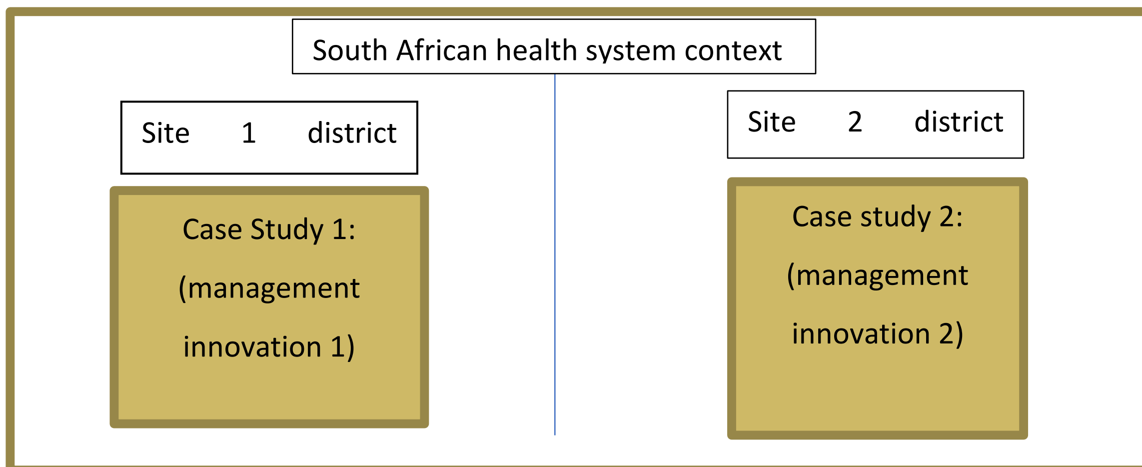

Figure 4.3: Multiple case study design (Yin, 2014)

Step 5 – Data collection

Research procedures and data collection methods

The primary method of data collection was in-depth interviews, either conducted face-to-face or telephonically. Data collection was undertaken over the period 2013 – 2015 (see Figure 4.4 below). I was also invited by the district managers to attend meetings to observe discussions and gain more insight into the roll-out of PHC strengthening efforts in both districts, during which I took field notes. Further, I reviewed documents relevant to each site, such as the district health plan, for the purpose of cross checking my understanding of what was happening in the district. Other methods employed to ensure rigour in data collection included the use of theory in data collection and analysis, and theory also informed my

interpretation of events, which can enhance transferability of the findings. On many occasions I had a colleague in the room with me and we would discuss together after the interviews our interpretive judgements to assess for any negative or positive bias in our understanding. I also made many visits to the district, interviewing and speaking to people more than once, prolonged engagement is a feature of rigour in case study data collection (Gilson, 2012; Gilson et al., 2011). I also purposively sampled more than one person to understand an issue from multiple viewpoints (Gilson et al., 2011).

As I was part of a larger project in which we were conducting research on other activities in the districts, I was also able to gain broader insight into each district context. I often met people in hallways and had interesting informal discussions with them about the management capacity development innovations, which I captured as field notes. I used these field notes to cross check my initial data and to inform interpretive judgements. The larger project ended in 2015 and this was when data collection concluded. A validation workshop to validate findings was hosted in Site 2 in 2015 as part of the larger study.

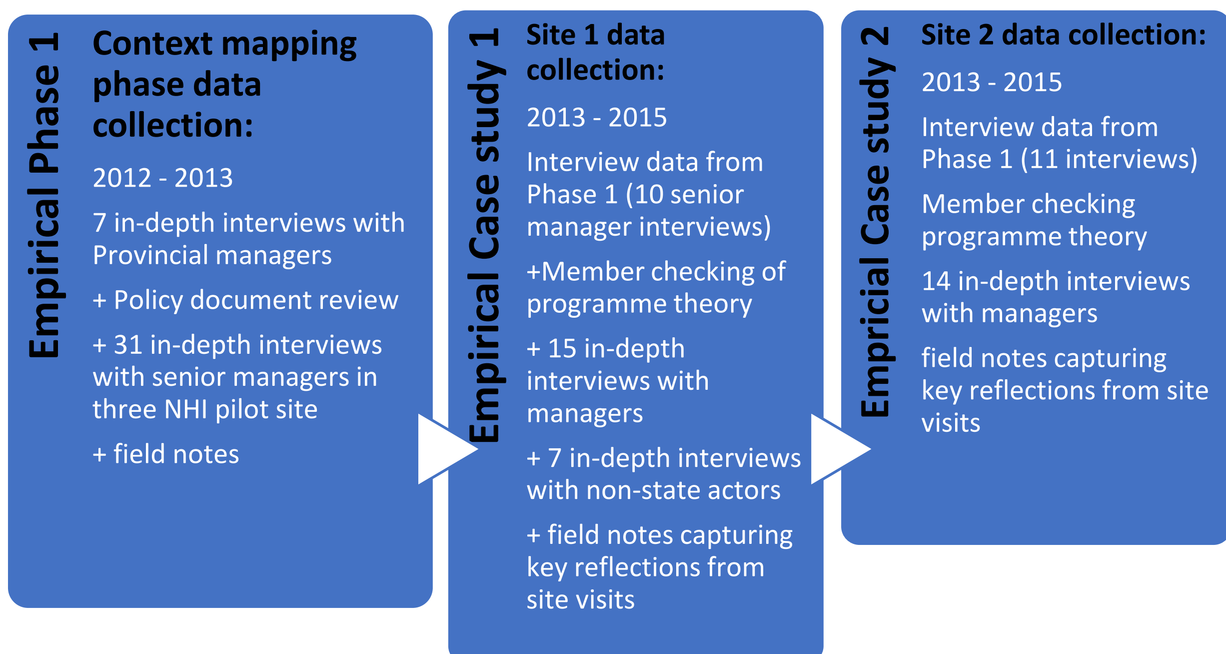

Figure 4.4: Data collection for the PhD 2012 – 2015

A detailed list of participants interviewed for this study can be found in each empirical chapter, namely chapters five, six and seven.

Characteristics of the study population

Pawson et al. (1997) write that there is a 'division of expertise' and a 'hierarchy of expertise' relative to a particular programme under evaluation. Wisdom can, therefore, be drawn from practitioners, subjects and researchers, each of whom have different knowledge on different aspects. Given that the bottom-up innovations studied were emergent, I followed the innovation in each site as it emerged and employed snowball sampling to select respondents (Miles, Huberman, & Saldana, 2014).

Generally, **the selection criteria for respondents included:**

- District staff (or outside actors) involved in the design of the innovation;
- District staff (or outside actors) involved in the implementation of the innovation;
- District staff (or outside actors) who were subject to the innovation;
- Actors who are engaged in working in the district health system whose core function/s may have been affected by the innovations (e.g., human resources manager);
- Actors who could give insight into an understanding of the broader context of the district (e.g. National Health Insurance Coordinator, provincial level officials);
- Evaluators involved in the evaluation of the PHC strengthening initiatives.

Over the course of the research, I maintained contact with the district managers, specifically, to give them feedback and to allow their validation of the findings, as well as to identify any new relevant actors to interview. I contacted interviewees by phone and/or e-mail to explain the project and to secure an interview appointment.

Ethics and consent

Each participant was provided with an information sheet (Appendix 5), which described details of the research, informed them that there would be no compensation for partaking in the research and that the information they provided us with would be pooled and anonymized. Once an interview was agreed, each participant was asked to sign a consent form (Appendix 6), indicating their willingness to be interviewed as well to be audio taped. Given that all participants were adults and were working as professional staff in the health system and/or in NGO partners, they were fully capable of making an informed judgement on whether to participate or not and were not considered vulnerable. All audio files were kept on the primary researcher's computer, which is password secured.

I received research ethics clearance from the University of Cape Town Human Research Ethics Committee, number 746/2015. The ethics approval letter is shown as Appendix 7.

Step 6 - Data analysis

The in-case analysis

The interviews conducted for the PhD were transcribed and anonymised and then analysed, applying principles of thematic qualitative data analysis (Miles et al., 2014; Thorogood & Green, 2018).

For the first analysis (Chapter five), I wanted to understand the diffusion and dissemination of innovations from the National Government ('top') into the districts (the 'bottom'). This enabled an understanding of the broader context and assisted in identifying relevant innovations to study in this PhD (Orgill et al., 2019). Data was coded deductively using Greenhalgh's model of diffusion and dissemination to understand the transfer of ideas and innovations (Greenhalgh et al., 2004). Theories of top-down and bottom-up implementation were also used to identify multiple innovations in each district (Hill & Hupe, 2002). Finally, the concept of innovation-system fit and the WHO conditions for good management and leadership were used to interpret relevant features of context (Borins, 2002; Greenhalgh et al., 2004; Hill & Hupe, 2002; Orgill & Gilson, 2018). I also remained open to induction, recognising that ideas beyond these theories may emerge.

For the second set of analyses (Chapter 6 and Chapter 7), focused on the two case studies, I developed a deductive code list on the basis of the programme theories developed for each innovation, to identify key components of the bottom-up innovation's implementation over time, and key theories and concepts captured in the conceptual framework. I placed these deductive codes in a matrix framework in MS Excel alongside relevant RE codes considering context, key actors and relationships, mechanisms, intervention and outputs/outcomes. These codes were then applied to chunks of interview data as a way of assigning meaning. Miles and Huberman (2010) consider coding as part of the analysis process as the analyst engages in reflection even before assigning codes, and specifically when hypothesis coding (codes are developed from a theory or prediction). Coded data were then sorted in the matrix to assist in observing patterns in the data (Miles & Huberman, 2010). After the first stage of coding, second cycle coding was applied in which I summarised segments of data into: (1)

themes; (2) causes/explanations/ mechanisms; (3) relationships among actors; and (4) theoretical constructs (Miles & Huberman, 2010). I also coded inductively for new mechanisms and outputs that had not been identified deductively.

As part of this coding process, I coded the data into intervention-context-mechanism-actor-outcome (ICAMO) configurations (Marchal et al., 2019), an adaptation of the primary tool for analysis and interpretation used in realist evaluation (Marchal et al., 2012). Realist analysis applies intra-programme comparisons (i.e. comparisons across different groups involved in the same programme) to test the initial programme theory (Pawson, 2013). This approach allows the analyst to confirm or reject the conjectured ICAMOs. Once ICAMOs are confirmed, the analyst moves again to a level of abstraction which allows the initial MRT to be modified, if necessary (Marchal et al., 2012).

To ensure rigour in data analysis, I tested the ICAMOs by triangulating the interview findings with field notes and district documents where available. I had developed the programme theory with the district managers and also member checked preliminary findings with district managers and other staff over time when meeting them in the district (construct validity), and I engaged in co-researcher checking with colleagues, who were also engaged in research in the district for validation of my ideas and interpretations (Yin, 2014). I also interrogated the data for patterns through the generation of a series of work-in-progress ICAMO configurations. I went through a series of rounds of writing up the ICAMO configurations, which was checked and re-checked by a supervisor to ensure alignment with realist principles, which is also a form of peer debriefing and scrutiny (Gilson, 2012; Yin, 2014). I have also presented thick descriptions of each case as shown in chapter six and seven. These enable lessons learnt to be transferable to other settings. The use of theory and thick description in analysis indeed enables the transferability of qualitative findings, given one has worked at a higher level of abstraction than only the data (Gilson, 2012; Miles et al., 2014).

The cross-case synthesis

The MRT is used as the primary starting point for cross case synthesis. The purpose is to check which components and relations of the MRT can be confirmed or refuted using the empirical data from both cases. After I had completed the analyses for chapter 6 (site 1) and chapter 7 (Site 2), I compared the two cases by comparing the ICAMOs of each site and summarised the explanations of each site. I developed a matrix on the basis of MRT 1 and coded data from

the three empirical chapters into the matrix using data from the ICAMO configuration. I specifically looked at the main differences in context and actors, and how that may have shaped the innovations as well as the outputs and outcomes. I identified new elements drawn from the empirical work in each site and checked how these related to what I had originally hypothesized in MRT1. The objective at this point was to draft a refined version of the middle range theory (MRT2), from which implementers can learn and that researchers can retest. The refined MRT2 is presented in the cross-case synthesis chapter eight and key elements are presented and discussed in more detail in the discussion chapter (Chapter 9).

Making claims about the findings

Realist evaluators try and make sense of the complex processes underlying programmes by formulating plausible explanations ex post that we can learn from and then retest (Marchal at et. 2019). This is done to inform ongoing innovation implementation as well as to build theory about how bottom-up innovations come about and how and why they have results (or not). Specific to realist evaluation is the focus on examining why certain mechanisms are triggered in particular contexts to produce particular outcomes (Pawson & Tilley, 1997). These explanations will not, however, be statistically generalizable claims. The realist perspective is that, when dealing with complex phenomena, the best research can offer is plausible explanations based on sound research from an ex-post perspective (Pawson, 2013; Pawson & Tilley, 1997).

Researcher reflexivity

I am by nature an optimist, and I am inevitably biased to seeing the positive in circumstances and people. This, I realise is not good for objectivity. Because I believe in engaged scholarship, I have also worked with staff in the health system as part of my duty as an academic for many years. This however makes me feel at times as if managers in the health system are my colleagues and we are collectively working together toward the same societal objectives.

Fortunately, I had supervisors and colleagues who walked this research journey with me, who were able to temper my optimism, seeing the cracks in the district health system I sometimes do not see and requiring me to validate my judgements. Working with senior colleagues in the wider research project also built my confidence to do the research and helped to develop

my capacity to visit sites and collect data confidently. My background and training is multi-disciplinary and I was well positioned to apply research methods that embrace complexity.

Finally, As part of the PhD journey, I had to remind myself that the duty of a university in society is to support government in delivering on human rights, but it is also to critique and hold government accountable when it does not do so. In the end, I write in a way that seeks to generate learning – this helps me to write objectively, I am not a harsh critic but also not an idealist. I present a thick description of issues that I hope others can learn lessons from, be cautioned by, but also be motivated for the future.

Limitations

As already mentioned in the published papers, a first limitation to my research is that long chains of complex events take time to manifest. Ideally, it would have been beneficial to stay longer in the district and to observe and assess distal capacity outputs and distal capacity outcomes. Unfortunately, funding did not allow for this. Second, in complex contexts, it is not always possible to explicitly discern the exact pathways between innovations and outputs. What I provide is an in-depth case study of an experience that was taking place within the context of multiple other activities. I used the MRT as a guiding framework, but I remained open for surprises and unexpected findings. Finally, I could have interviewed more people to gain more perspectives on how these emergent events unfolded and it is likely I would have identified more mechanisms and a deeper understanding of outputs if I would have done so. Here to, limits to the funding did not allow this.

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Chapter 5 – A qualitative study of the dissemination and diffusion of innovations: Bottom-up experiences of senior managers in three health districts in South Africa.

Chapter 5: A qualitative study of the dissemination and diffusion of innovations: Bottom-up experiences of senior managers in three health districts in South Africa

Overview: The research explored, from a bottom-up perspective, how efforts by the National government to disseminate and diffuse large scale reforms were experienced by district level senior managers in pilot sites and why some dissemination efforts were more enabling than others. The paper discusses key experiences of managers and how they were able (or not) to navigate large scale reform at the district level and key lessons for the future.

Contribution to the thesis: This paper sets the scene and explains key features of context in South Africa, including National Health Insurance (NHI) Piloting and the context of the district health system at the time (2012), which influenced the development of bottom-up innovations for management capacity development. The paper provides an empirical example of the interface between National government policies and plans and sub-national realities. It provides insight into the intersection between top down and bottom-up policy processes in the real world thus contributing to our understanding of manager 'discretion'. It describes the long chains of dissemination and diffusion of policy reform and how policy processes are influenced by both context and actor agency. The paper also describes the central role of district managers as mediators between the National government at the sub national level and lays the groundwork for understanding their mediating role in navigating change and their use of 'discretion' in management capacity development in the districts – which is explained in more detail in the two empirical cases/chapters to follow.

Publication Status: Published

Contribution of the Candidate: I developed the original idea and conceptualisation for this paper and was part of the larger team who conceptualised the larger body of research in which the empirical research in this paper is nested. I developed data collection and data analysis tools for the research. I collected data in two sites, conducted analysis and cross-case comparison and developed the draft paper for comment and reflection by the co-authors. I finalised the paper for submission.

Abstract

Background: In 2012 the South African National Department of Health (SA NDoH) set out, using a top down process, to implement several innovations in eleven health districts in order to test reforms to strengthen the district health system. The process of disseminating innovations began in 2012 and senior health managers in districts were expected to drive implementation. The research explored, from a bottom-up perspective, *how* efforts by the National government to disseminate and diffuse innovations were experienced by district level senior managers and *why* some dissemination efforts were more enabling than others.

Methods: A multiple case study design comprising three cases was conducted. Data collection in 2012 – early 2014 included 38 interviews with provincial and district level managers as well as non- participant observation of meetings. The Greenhalgh et al. (2004) diffusion of innovations model was used to interpret dissemination and diffusion in the districts.

Results: Managers valued the national Minister of Health's role as a champion in disseminating innovations via a road show and his personal participation in an induction programme for new hospital managers. The identification of a site coordinator in each pilot site was valued as this coordinator served as a central point of connection between networks up the hierarchy and horizontally in the district. Managers leveraged theirown existing social networks in the districts and created synergies between new ideas and existing working practices to enable adoption by their staff. Managers also wanted to be part of processes that decide what should be strengthened in their districts and want clarity on: (1) the benefits of new innovations (2) total funding they will receive (3) their specific role in implementation and (4) the range of stakeholders involved.

Conclusion: Those driving reform processes from 'the top' must remember to develop well planned dissemination strategies that give lower-level managers relevant information and, as part of those strategies, provide ongoing opportunities for bottom up input into key decisions and processes. Managers in districts must be recognised as leaders of change, not only as implementers who are at the receiving end of dissemination strategies from those at the top. They are integral intermediaries between those at the at the coal face and national policies, managing long chains of dissemination and natural (often unpredictable) diffusion.

Keywords: Innovation, Diffusion, Dissemination, Communication, District manager, Bottom up, Health system, Policy analysis

Introduction

Worldwide, countries are rallying under the banner of universal health coverage (UHC). They are conceptualising, formulating and implementing waves of health re- form and innovation with the aim of securing access to quality health care and financial protection for those in need (World Health Organisation [WHO], 2013a). It is now evident that, across countries, the road to UHC is a long-term political engagement that requires vision and commitment to building stable institutions, administrative capacity, good governance arrangements and an understanding of political economy realities when implementing reform (Reich et al., 2016). This process re-quires learning from other countries and adaptation to local context, as well as marrying technical solutions with pragmatism and innovation on the ground (Lagomarsino et al., 2012; Reich et al., 2016). While Brazil, Russia, India, China and South Africa (the BRICS countries) face challenges in reaching UHC, including raising sufficient public health funding andmeeting the demand for more human resources, it is argued that these countries must move forward as leadersin the movement for better social policies (Marten et al., 2014).

in August 2011 South Africa's National Department of Health (SA NDoH) published a draft policy for public consultation which proposed phasing in, over a 14-yearperiod, a range of major health reforms towards a National Health Insurance (NHI) system. This system ultimately seeks to "promote equity and efficiency so as to ensure that all South Africans have access to affordable,quality healthcare services regardless of their socio-eco-nomic status" (South Africa National Department of Health [SA NDoH], 2011a, p. 4). The SA NDoH, however, recognised the importance of improving the functioning, management and quality of the country's public health deliverysystem in the first five-year phase (2012−2017) before moving ahead with major health financing reform. In 2012, eleven of the country's fifty-three health districts were named National Health Insurance pilot sites (NHI pilot sites),[2] with at least one pilot site in each of South Africa's nine Provinces. The overall purpose was to pilot reforms to

[2] NHI pilot site: The overall purpose was to pilot reforms to strengthen the district health system in eleven selected health districts in South Africa

strengthen the district health system, with aspecial focus on 'Primary Health Care (PHC)[3] re-engineering' (Gray, Vawda & Caran, 2013; Matsoso & Fryatt, 2013; Marten et al., 2014) and to demonstrate reforms related to the future needs of NHI implementation, for example piloting fund administration (SA NDoH, 2011a). Many of the of innovations are listed in the 2011 Green Paper on NHI (SA NDoH, 2011a), while subsequent draft policy developments have been published in 2017 and 2018 (SA NDoH, 2017; 2018). Even though no major health *financing* reform (e.g. the creation of a single fund) occurred in the first 5 years, the multiple innovations implemented in the eleven NHI pilot districts are still commonly referred to by the umbrella term 'NHI Piloting'.[4]

The 2013 World Health Report on Universal Coverage calls for a wide variety of research studies including research on detection, treatment and diagnosis to health policy and systems research acknowledging the importance of local knowledge to answering UHC research questions (WHO, 2013a; 2013b). A bottom up approach to understanding health systems recognises that multiple actors are engaged in the politics of health system change at the coal face, and the need for more policy analysis and health systems research in Low- and Middle-Income Countries (LMICs) to understand this politics of implementation and change has been identified (Bambra, Fox & Scott-Samuel, 2005; Gilson & Raphaely, 2008; Duran, Kutzin & Menabde, 2014; Erasmus et al., 2014; Sheikh, Ranson & Gilson, 2014). McIntyre and Klugman (2003) note that most literature on health system reform focuses only on structural and technical issues. They call for a research focus on 'the human face of decentralisation' to understand the software issues affecting managers and front-line workers (being and feeling part of the process of policy development and receiving early communication). Health managers are a key 'human face', going through processes of collective sensemaking - "the way managers understand and interpret and create sense for themselves based on information surrounding the change" - and then a process of sense-giving - "their attempts to

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[3] South Africa currently promotes a PHC approach to healthcare, ideally a comprehensive set of health services including preventive and promotive services, is community based and engages multiple sectors embedded in a social understanding of the community. PHC re-engineering included ward-based outreach teams, a renewed focus on school health services and the introduction of clinical specialist teams into the district health system.

[4] An additional table provides a description of some of the innovations that were being implemented in the NHI pilot sites (see Additional file 1)

influence the outcome, to communicate their thoughts about the change to others, and to gain their support" (Rouleau, 2005 p. 1415).

District management teams (DHMTs) are subject to and are part of the politics of implementation and change. They must use the resources available to them to best serve the needs of their community (Financial Management Guide, 2017) and in policy reform processes must also make sense of and then guide implementation (Chatora & Tumusiime, 2004) from top down policy instructions.

Seeking to contribute to understanding the human face (specifically managers) of change in South Africa, this research explored district-level senior manager experiences of the dissemination (by the National government) and diffusion of innovations (in the NHI pilot sites) in the early period of introduction (2012 - early 2014).

Conceptual framing

Greenhalgh et al. (2004) offer a lens to interpret the dissemination and diffusion of innovations in South Africa's NHI pilot sites. They define innovation in service delivery and organization as a "novel set of behaviours, routines, and ways of working that are directed at improving health outcomes, administrative efficiency, cost effectiveness, or users' experience and that are implemented by planned and coordinated actions" (Greenhalgh et al., 2004 p. 582). An innovation can be old in one context, but completely new in a different context. Greenhalgh et al. (2004) acknowledge that innovations that include new behaviours, routines and ways of working must be disseminated, diffused, adopted, implemented and sustained in complex systems over time to make a difference. To help make sense of these multiple components, building on Rogers (2003) work, these authors (Greenhalgh et al., 2004) developed a comprehensive conceptual model, through systematic review, that depicts determinants of diffusion, dissemination and implementation of innovations in health service delivery and organisation to help make sense of complex situations.

The conceptual model is comprehensive and includes multiple components. Dissemination and diffusion are concepts identified under the 'communication and influence' component of the model. Understood as a continuum, at one end dissemination strategies are formal, planned efforts to persuade target groups to adopt an innovation (often centralised and occurring through vertical hierarchies), whereas, at the other end, in pure diffusion, the

spread of innovations is unplanned, informal, decentralised, and largely horizontal or mediated by peers, see Figure 5.1 (Greenhalgh et al., 2004). Effective communication is also recognised as a key component of implementation success by both top down and bottom up policy theorists (Lipsky, 1980; Barret & Fudge, 1981; Sabatier, 1986; Walt & Gilson, 1994).

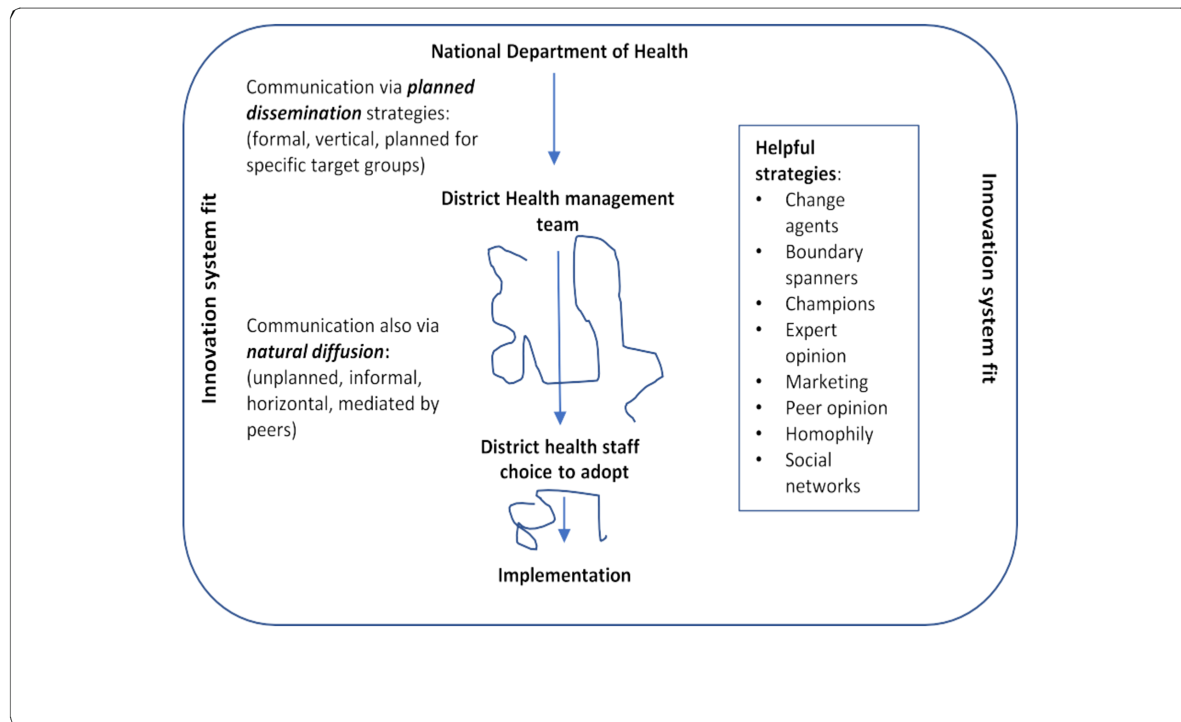

Figure 5.1: Communicating top down innovations: dissemination and diffusion

Source: key concepts are taken from Greenhalgh et al. (2004) conceptual model for considering the Determinants of Diffusion, Dissemination, and Implementation of Innovations

It is possible for those driving policy change to influence actors to adopt an innovation by using strategies that have proven to help disseminate and diffuse reforms (Greenhalgh et al., 2004). These include taking account of the structure and quality of actors' *social networks*: horizontal networks can be effective for spreading peer influence and reframing meaning, while vertical networks can be effective for cascading information and authoritative decisions downward. Second, adoption is more likely if individuals are *homophilous*, sharing certain common traits such as education and professional backgrounds. Third, expert *opinion leaders* can influence the beliefs and actions of others through their authority and status, while peer opinion leaders 'exert influence through their representativeness and credibility'. Opinion leaders, however, have to find the innovation appealing and buy into it; they could sway opinion either way. Fourth, the use of *champions*, key individuals in a social network who can

garner support from others, can make adoption more likely. Fifth, the use of *boundary spanners* – people who have significant social ties inside and outside the organisation –can help to link the organisation to the outside world with regards to an innovation. Actors in these various roles can serve as intermediaries to promote adoption and implementation (Rogers, 2003). Finally, the use of *formal planned dissemination strategies* that target particular audiences with appropriate messaging and appropriate communication channels can facilitate innovation diffusion (Greenhalgh et al., 2004). Another key factor affecting adoption is '*innovation-system-fit*', the interplay between the innovation and the context in which it is rolled out, policy analysis theory also recognises the critical role of context. In the Greenhalgh et al. (2004) model implementation takes place after the adoption decision.

These concepts and strategies from the model provide us with a lens to identify dissemination strategies and diffusion in the sites in the early stages of change. A bottom up perspective explicitly draws on the experiences of district level senior managers working in and managing the day to day functioning of the health district (Orgill & Gilson, 2018).

Methods

The aim of the study

The research specifically sought to understand, from a bottom up perspective, *how* efforts by the National government to disseminate and diffuse NHI piloting innovations were experienced by district level senior managers, in order to draw key lessons from the experience on practices that enable the diffusion and dissemination of innovations in ways that are helpful for health managersat the coal face.

Setting

In 1994, the South African government inherited a fragmented and regressive health system that was set up toserve a minority of the population with a hospital based curative focus (Van Rensburg, 2012). Embodying a vision to establish an equitable health system with a PHC focus, the government developed a National Health Plan for South Africa in 1994 which laid the foundation for establishment of a district health system (African national Congress, 1994).

South Africa has a fiscal federal system of government which decentralises authority for a range of powers, functions and budgeting from National to Provincial and Local government.

National government is the main revenue collector and financial transfers are made via equitable share allocations (general-purpose) and conditional grants (specific purpose) to provincial and local governments to provide and finance services in the different sectors (including health) (Okarafor, 2010). The National Department of Health (SA NDoH) is primarily responsible for policy making, setting standards and regulations while the Provincial Departments of Health are responsible for the provision and financing of public health care services relying largely on the National government for financial resources. Local municipalities are responsible for environmental health services, and PHC services are delivered through the district health system (DHS), which is by design a lower level of the provincial health authority (Okarafor, 2010). The Provincial government determines the amount of decision space granted to each DHS, including financial and human resource authority. The DHS is led by a district manager (DM) who works together with programme, hospital and support service managers as adistrict management team; across the fifty-three health districts, the structure of district management teams vary in practice (Byleveld, Haynes & Bhana, 2008). In South Africa, management competence in facilities and districts at all levels is varied with managers having a diversity of backgrounds (SA NDoH, 2011c). Today South Africa has fifty-three health districts established through the 2003 National Health Act. The district health system is still being institutionalised in many ways and whilst it has achieved gains, the current challenges include different interpretations by Provinces on what constitutes the most appropriate structure for a DHS, sufficient delegation of powers to managers in districts, that formal accountability mechanisms are not always in place, shortages of human resources and district hospitals that are sometimes poorly coordinated with PHC services (Rispel, 2016).

Study design

Context-sensitive and flexible approaches are needed to understand and support evaluation of large scale health programmes due to the longitudinal and complex nature of implementation (Svoronos & Mate, 2011). We employed a case study design, appropriate for research of contemporary phenomena in complex health systems where events and experiences of change emerge while research is undertaken, the phenomena being directly influenced by the context (Yin, 2014). More specifically, a multiple case study design allowed

for deeper explanation of the experience through more than one case (Miles, Huberman & Saldana, 2014).

We defined the case as the experience of district level senior managers of the dissemination and diffusion of innovations in the period 2012 - early 2014. We explored this case in three district sites, each district thus serving as a case study.

Site selection

Three sites were selected from the 11 NHI pilot districts. Selection criteria included (1) a district that was actively receiving information from other levels of government and/or was implementing some of the innovations, (2) access to the site, meaning district managers were prepared to give us access to staff and (3) rural/urban mixto capture variation in experiences of implementation possibly linked to geography.

The study sites

To maintain anonymity, only general information aboutthe study site is given to provide context. The sites were underperforming relative to other districts in the country. For example, in 2013/14, the sites had facility maternal mortality ratios and an incidence of under 5 severe acute malnutrition higher than the national average (Massyn et al., 2014). The sites are nested in geographic areas where health and social services were hugely under-resourced and neglected during the apartheid era pre-1994 (Kautzky & Tollman, 2008).

Data sources and data collection

As a first step, we conducted interviews in late 2012 – early 2013 with 7 provincial level managers who played a role in information sharing and/or rolling out NHI piloting, to help purposively select the three district study sites. Guides included questions relevant to early dissemination efforts between the three levels of government, leadership for NHI piloting and information on roll out to the districts. While the paper focuses on the experiences of senior managers at district level, information from provincial interviews were relevant to contextualizing experiences and were thus included in analysis.

Between September 2013 and July 2014, we undertook 2 site visits to each district, interviewing 31 members of DHMTs. Participant selection criteria included (1) being a member of the DMT (a senior manager) and (2) involvement in the dissemination of and/or

implementation of NHI piloting innovations in the district. We also attended meetings as non-participant observers. Recruitment started when we presented the research protocol to the district manager in each site for approval, needed to conduct the research. At this time, we also requested the district manager to identify management team members who met the selection criteria as interviewees. In interviews with these managers we also asked them for their ideas about prospective participants to reduce selection bias. Each prospective participant was emailed an information letter about the project as well as a consent form and both were discussed before the interview. The semi-structured interview guide included questions that would allow us to explore the respondents' experience of the process, including personal understandings of the vision and goals of NHI piloting, key activities taking place in the district around NHI piloting (including early communication), key activities and assumptions driving the dissemination of these activities as well as individual feelings about involvement in the process of change (individual roles, responsibilities and relationships with others) – all from the perspective of the managers themselves, not from the policy documents. Since multiple theories of change may co-exist in processes of reform, we included questions seeking to elicit assumptions and gather information on NHI piloting from the perspective of managers. We also included prompts in the interview guide from the Greenhalgh et al. (2004) dissemination strategies (e.g. the role of networks, champions etc.) to help identify dissemination strategies and any emergent diffusion processes that managers were exposed to. The use of theory and thick description supports the transferability of lessons beyond the cases (Miles, Huberman & Saldana, 2014).

Data analysis

Cross case analysis helps to deepen understanding andexplanation beyond that which a single case study can provide (Miles, Huberman & Saldana, 2014). Cross case analysis allowed the patterns and underlying explanations to be compared, supporting transferability across sites (Miles, Huberman & Saldana, 2014).

In each site, all interviews were transcribed verbatim. The first author led the process of analysis. The first author developed a deductive coding matrix in table format, using the strategies for diffusion and dissemination identified in the Greenhalgh et al. (2004) model as headings to support data extraction and analysis across the three sites (Miles, Huberman & Saldana, 2014). A code book was developed to ensure each researcher understood each

deductive code. Allowance was made in the deductive table for inductive coding to capture any emergent findings and ideas. In each site, data were manually extracted from each interview into the deductive coding matrix by a site research team.

The completed matrix from each site was reviewed by the first author to identify key themes and explanations related to manager experiences of diffusion and dissemination in each site. For each site an initial story of what factors were enabling or constraining national government efforts was developed, this was done in consultation with site research teams to promote rigour in the analysis. The lead author then identified key similarities and differences across the three sites for inductively developed themes that helped to answer our research question.

The lead author, in a more deductive approach, also drew on the Greenhalgh et al. (2004) strategies to look for patterns in each site, specifically grouping codes into named patterns of 'strategies and actors related to dissemination' and 'strategies and actors related to diffusion', as well as looking for any factors related to the context (innovations system fit) that may have enabled (or not) the diffusion and dissemination of innovations in that site. These patterns were discussed and verified with the research team. Parts of this research was also fed back to managers from the three sites in a one-day feedback session, this provided some opportunity for member checking. The findings of this paper will be developed into a policy brief as well as incorporated into our teaching, which includes many students working in the health system in South Africa.

Draft cross case findings were written up by the first author and reviewed in iterative rounds by researchers across the three sites until a final synthesis was reached. The process of writing was also a source of rigour as co-authors were able to verify the lead author's synthesis as it evolved.

The first author also reflected on top down and bottom up implementation theory (Hill & Hupe, 2009) to situate the findings within the broader government context within which dissemination and diffusion was taking place.

Results

The results section presents themes that emerged on how efforts by the National government to disseminate and diffuse reforms were experienced by district level senior managers and

why some dissemination efforts were more enabling than others in the process of adopting reforms. Insights into senior managers' own subsequent roles in the diffusion and dissemination process are also shown. A brief timeline of events is presented first.

The policy

NHI pilot sites were selected as pilot sites by the SA NDoH, rather than by provincial departments of health. Managers and staff in some sites only heard they were a pilot site via media announcements. The SA NDoH had set aside R150 million for the 2012/2013 financial year to support work in the pilot sites to test innovations for future NHI implementation and to strengthen the health system (South African National Treasury, 2012). In 2012 innovations included but were not limited to PHC reengineering, including (1) the contracting in of private general practitioners into public clinics; (2) the introduction of district clinical specialist teams (DCSTs)[5] (3) management capacity building and (4) strengthening of maternal referral pathways (Matsoso & Fryatt, 2013; Pillay & Barron, 2013). Roll out of innovations took a different pace in each pilot district. Some innovations, for example Municipal Ward Based Outreach Teams, were also being introduced in other health districts (non-pilot sites) in South Africa at the same time.

Of the R150 million, each NHI pilot district was intended to receive a conditional grant of R11.5 million (approximately $800000) from the National government as a resource beyond the normal budget allocations they received from their Provincial budgetary allocation (Parliamentary Monitoring Group, 2013). These grants were to be allocated to fund NHI business plans that captured activities and outcomes for each NHI pilot site. "District NHI Business Plans provide an opportunity for 'bottom up' learning and experience to inform central NHI-related policy and the roll out of re- forms to other districts" (Matsoso & Fryatt, 2013 p. 156). Due to the large number of reforms that were envisioned (SA NDoH, 2011b), it was not clear to the research team which innovations were high priority at the outset or how innovations would be selected for a particular annual business plan in each district and there was no clearly outlined monitoring framework. Strengthening of the district health systems and PHC was however a clear focus area. It was also not clear how the NHI Business Plan

[5] An additional table provides a description of some of the innovations that were being implemented in the NHI pilot sites (see Additional file 1)

would resonate with or advance the goals embodied in the district health plan, developed separately.

Engaging with senior managers to institutionalise reform

The conditional grant and the need to develop a district level NHI Business Plan (annually) were key mechanisms that drove district managers' active engagement with the piloting process. In the beginning, key sources of frustration included lack of clarity on the amount of money that would be received, how it would be paid (which ultimately had consequences for annual budgetary cycles) and a feeling that the SA NDoH objectives for NHI piloting which guided the development of the business plans were not well aligned to actual district needs (and nor, sometimes, were provincial objectives). Initially, all districts had prioritised basic operational requirements in their Business Plans; for example, equipping under-resourced facilities, providing office chairs and desks for new district-level staff members, as well as general infrastructure development and maintenance at facilities (some of these were needed to facilitate space and accommodation for new cadres at facilities that were part of NHI piloting innovations). For the districts, these 'basics' were important preconditions for the implementation of the broader reforms and managers felt a top-down approach compromised local level planning. The initial confusion resulted in feelings of rejection in the districts;

> "*I'm not quite clear as to what informs certain focus areas to be decided upon [In the NHI Business Plan] (…) To me at the moment, and I could be wrong, it looks like, these [business plan] focus areas were decided upon by national. (…) There is a need to bring in a bit of flexibility, into how we should look at the plan. (…) So even if, as a district you realise that you've got certain priority areas that you need to attend to, you have to shelf them … and we were only allocated RXXX million, … you understand? So, it's like, you've been restricted access to the wallet*" (SM2, Site 2).

Key concerns centred on the limited decision-making authority at district level and the need to apply for funds from the SA NDoH rather than receiving the full conditional grant at the beginning of the cycle. In one district, delays in capturing expenditure on the system was

perceived as a lack of ability to spend. A provincial manager did however note that within limits, equitable share allocations[6] were also useful in supporting roll out.

After initial confusion, a Monitoring and Evaluation (M&E) team[7] set up by the SA NDoH travelled to pilot sites and disseminated information on rules and guidelines for developing the business plan and spending the conditional grant. After some time, the M&E team facilitated upward negotiation for some flexibility/adaptation in the development of the plans allowing for prioritisation of the basics. Concerns were allayed over time:

> "*Remember we talked GP contracting because we can't talk GP contracting without being ready in terms of proper accommodation in our facilities, you know! So that's why we started to say we want to buy equipment [basics]. And they saw… I'll show you. We have the report and everything in terms of the equipment that we bought. Now all our clinics, you can't believe it, we have built them with this basic equipment, even the IT. There is no clinic here without a computer now.*" (SM2, Site 1).

An NHI coordinator identified three key factors that enabled the work of the M&E team: a willingness to talk; swift responses to communication requests; and quick turnaround times with decisions as they had power to take decisions (it was only when a request had to be signed off by much higher channels that this added to the turnaround time).

Dissemination of information

In 2012, the Minister embarked on a major dissemination event, a roadshow engaging with a range of stake-holders in all the NHI pilot districts, including disseminating information on NHI piloting and gathering information for the piloting. This involved over 15,300 stakeholders (Matsoso & Fryatt, 2013), and the National government also produced leaflets and booklets explaining the NHI in multiple languages (National Health Insurance, 2017;2018). The roadshow events were publicised through government channels and other media, including radio shows and newspapers (Health-e News, 2011; KwaZulu-Natal

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[6] Traditional budgetary resources.

[7] Based on information from interviews, the M & E team was a group of 3–5 individuals from the National Department of Health who were sent as a technical team to provide support and monitor progress in the districts.

Provincial Department of Health, 2012). This road show proved to be memorable for senior managers in the districts.

The role of the minister

Many senior managers mentioned the road shows, having attended at least one session to hear the Minister speak, noting it as a useful source of information to understand what NHI piloting and PHC-reengineering was about,

> "*You don't need healthy people going to a hospital; you need to remove those feet*" (SM1, Site 2).

> "*There should be change, the way we do things; we need to change, especially at this time of NHI." (SM1, Site 1).*

> "*NHI is a vehicle for integration/platform for PHC centred care: an opportunity to integrate services as part of/embedded in the district, rather than stand alone." (SM1, Site 2).*

The Minister of Health also personally participated in the dissemination of innovations within the districts, for example, addressing newly appointed hospital Chief Executive Officers in their induction programme (part of hospital reform) directly about PHC re-engineering and NHI piloting. This impressed one of the new CEOs, who had never experienced such lengthy face-to-face contact with the Minister before:

> "*The Minister was with us, Monday to Friday. I have never seen something like that*" (SM3, site 2).

A senior hospital manager in site 3 also mentioned the Minister's role in communicating information and his focus on building management capacity in the CEO induction programme.[8] The CEO noted he left the meeting feeling motivated to be a part of the PHC platform and noted that the Minister made it clear that a Hospital CEO's job is to work in unison with the PHC platform:

[8] An additional table provides a description of some of the innovations that were being implemented in the NHI pilot sites (see Additional file 1)

"*Within [integrated planning] we said, let's take primary health care, being the centre of our planning, because before, I was always concerned about we need extra beds for my hospital, that is what has been my issue. But now, I am not saying that, because I am saying, within two years, if the community health care worker programme is working well and we are going to communities where they are, it simply means the numbers of people that are going to end up in my hospital are going to go down. So, understand the pressure that is happening now, it is a temporary pressure.*" (SM3, site 2).

The Minister's champion role did however have limits. In the early period, many private general practitioners did not attend the stakeholder events he hosted to promote contracting into public sector health clinics. Managers in two districts commented this was likely due to poor relationships between private general practitioners and the public sector due to previous late payments when doing sessional work in the public sector (Ayanda, 2015). One senior manager commented that private GPs do not see the Minister as 'their boss' and felt this was disrespectful. In later months, sub district managers in Site 2 went door to door to GP offices to discuss the idea of contracting-in, in person, and this appeared to have worked better in starting a conversation. In site 3 there was a history of working with private GPs to improve access to care in the public service and this reform was seen as a continuation of existing practice.

Broader dissemination and support from higher levels While the Minister's role was valued, it was felt better communication from the SA NDoH was needed on the role of the district in relation to specific innovations:

"I think I have managed to sneak in to the National Department of Health to find somebody, Dr X, who is… dealing with the GP contracting. Now, I'm very much happy. I only managed to talk to that person, it was only last week, and she seemed to be a very cooperative lady … You know, I'm going to be fine with that. Because I said to her, you know, "I do not know now what is it that I must do in relation to this? Initially, National said it's a national prerogative to contract the GPs and we had to stop. A month later, an e-mail came: "Tell us how many GPs are willing to contract with you?" (SM2, Site 1).

Some managers wanted information and evidence on where the new innovations came from and how other countries had implemented individual reforms, in order both to help make

sense of the reforms for themselves and to support lesson sharing with staff (who expected managers to give direction and answer critical questions about implementation). One manager noted that while the National government saw them as implementers, staff saw them as managers and leaders.

Questions were also raised about what it meant to be a 'pilot' site and whether districts had the capacity to monitor and evaluate reforms,

> "*I think if you are piloting, you need to be able to actually think outside the box yourself*." (SM1, Site 3).

> "*We haven't been good in the Province [at monitoring and evaluation] … how we going to examine what all nine Provinces are doing in the pilot districts to determine this is what we want, and this is what we going to roll out, but I don't know how.*" (SMP1, Site 2).

Participants felt that more effort could have been made by the SA NDoH to effectively communicate about the new range of new stakeholders entering the district, who often arrived unannounced.

> "*I know that the Office of Standard Compliance [team] usually comes [to inspect our facilities] but we used to know when they are coming. [In contrast] You know National has contracted so many companies, areas, other programmes in relation to the NHI. You will be surprised that others, they don't even show you an appointment or a contract with the Department of Health to say we have been appointed to do this. You would be just seeing them moving around and you will be just hearing by the manager, saying that there are people arriving in our institution. They are saying they want to check this and that and so on.*" (SM2, site 1).

Unannounced visits from Provincial or National supervisors were also felt to have a disruptive effect on the daily working of the managers as they then had to forego their own plans for the day.

All managers agreed that scheduling meetings (e.g. for the whole year) enabled managers to prepare accordingly. NHI coordinators in two districts valued scheduled meetings with National staff as they could air their frustrations and present problems, such as administrative

constraints to spending money or other teething problems related to the service delivery innovations. Facility improvement teams[9] were identified as good at scheduling meetings - staff turnover did however disrupt scheduling when a new incumbent chose not to follow existing schedules in one district.

Innovations aligned to pre-existing local strategies

When new innovations were well aligned to local needs and existing strategies, they were more quickly diffused into the system. In the case of the 'District Clinical Specialist team' reform, for example:

> "*They were able to extend an existing vision of getting specialists into the district through the District Clinical Specialist teams (DCSTs). The pre-existing provincial vision of a family physician-led team was well aligned to the National Plan.*" (SM5, site 2).

Regarding the management strengthening reform, some districts had an existing organisational culture of developing managers in the system and district managers welcomed a renewed focus on management and leadership strengthening:

> Some staff ... "*they started off as pharmacy assistants; they died as deputy directors because of the growth through the system and actually managing talent to make sure that we develop them.*" (SM1, Site 2).

In district 3, the district manager felt that managers in the DMT had extensive training and that a focus on management training should be diffused downward to local level managers. There was, thus, general buy in for the idea of management training.

Synergies between innovations

Actors involved in one innovation helped in diffusing and disseminating other innovations as they were introduced into the district, e.g. the district clinical specialistteams were at times inducting or supervising GPs in theroll out of GP contracting in public clinics and were also playing a role in consulting on and improving the referral system. New CEOs of hospitals who had been through induction and training via a hospital revitalisation programme were actively

[9] An additional table provides a description of some of the innovations that were being implemented in the NHI pilot sites (see Additional file 1)

engaging in thinking through the role of the hospital as an integrated part of the PHC reengineering initiative.

Organisational learning was also taking place, the district developing an induction programme for GPs noted that the SA NDoH was learning from their developmentof the programme.

NHI piloting coordinators in the district

Each NHI pilot district was required to appoint a district NHI coordinator to facilitate communication up and down with National, Provincial, district level and external stakeholders. Even though no formal position existed on an organogram, there was awareness of the role and NHI coordinators were in place in two of the three districts. In practice, the NHI District Coordinators were project-managing the NHI piloting initiatives and played a key role in spreading the message of NHI piloting in the district.

Being included as part of senior management made the NHI coordinators feel valued. In District 1, the NHI coordinator was identified from the existing district staff complement and assigned the additional management task of managing programmes in the district. Being from the district, he used his existing peer networks in the district as well as his new platform as a programme manager to diffuse and disseminate information:

> "*So broadly, I am involved in such programmes. (…) You need to meet with key stakeholders (…) I am able to contact and to talk to these people, to make sure that we wean them towards getting, knowing, wanting to know this NHI [rather] than to have a negative attitude*" (SMS2, site 1).

In District 2, the NHI coordinator expressed gratitude at being mentored by a senior manager with years of management experience in the district as he was new:

> "*You know, for me, I must say, luckily, I've got into the position where there was already somebody who had already laid the foundation …. So, I must say I view myself as being one of the lucky guys who came into a vehicle that was already moving. All that I had to do was to catch up with the speed at which it was moving*" (SMS2, Site 2).

As rules and guidance on the implementation of innovations changed over time, changes were not always effectively communicated downward from the National level to the NHI coordinators, which meant they were sometimes left confused on the way forward.

Challenging implementation contexts

In two districts, district managers had limited decision space to spend money without the approval of their respective provincial governments. This limited manager control and ability to help quickly where needed. Vacancies and a shortage of managers meant that the burden of adopting and implementing new reforms fell on too few staff, which created anxiety for senior managers about the implications for the implementation of structures that would be needed should the full plans for National Health Insurance be implemented:

> "*[Missing posts are] critical because when you look at where the country, the policy directives for National health Insurance specifically. Until such time that you've built management capacity, and the core point for the NHI is that you should have a very strong supply chain management process and also human resource management. Those are the parts that are lacking because with that district health authority that has to purchase services for the district, that's where the problem comes in if you don't have a full complement.*" (SM1, Site 2).

All districts suffered from some basic operational constraints, ranging from infrastructure challenges and shortage of equipment to data verification procedures:

> "*We don't have needles in theatre. The money is there, but nobody is buying. They don't know how to do it, how to procure.*" (SM1, site 1).

A manager in District 3 noted such constraints often meant they were non-compliant with national core standards,[10] casting them as a poor performer. For example, not always having a general assistant in a facility meant they did not meet the cleanliness standard.

A provincial level manager in District 3 expressed concern over a lack of change management culture in public service systems, reflecting on long bureaucratic recruitment processes – "*3 months' just to get a post advertised*" (SMP1, site 3), and about the huge amounts of information needed simply start the process of performance management for

[10] Quality assurance measures developed by the National Department of Health against which service delivery by health establishments can be assessed (http://phisa.co.za/wp-content/uploads/2019/01/National-Core-Standards.pdf)

underperformers. He was concerned about the capacity of a "*passive*" public service to absorb creative and innovate changes.

Senior managers have to manage the daily functioning of the district while also trying to lead change through their staff, a senior manager noted:

> "*I think the preparation for NHI relies heavily on innovation and in order to innovate properly, you need a stable system. This is an extremely unstable system, so you have got to innovate and stabilise at the same time, which I think adds a lot to the complexity of what we do.*" (SM3, Site 1).

Contextual enablers

Even though initial challenges were evident, there was a strong sense that managers valued the additional funding which came with being an NHI pilot site, as it would help improve the context:

> "*There are plans to rebuild three hospitals over the next four years with National. There are plans to rebuild sixteen clinics, eight of which National is doing, so I am getting a lot of support from national. Some of it, I didn't ask for, but it's kind of is in line with what is needed. So, I am not going to say 'No, thank you.'… They are also doing maintenance on forty-five clinics. The sixteen clinics that are being built, they are coming with equipment and everything*" (SM3, site 1).

The innovations under the banner of NHI piloting also benefited from the history of PHC in South Africa, PHC staff already working in the system and routine meetings and discussion spaces at the Provincial and health district level for PHC. Staff discussed PHC and NHI piloting matters together. For example, the NHI coordinator in District 2 was chairing the district level PHC forum, in which he engaged all sub district focal people within the health service, such as sub district managers, to assist in NHI roll out in these spaces. In Provincial PHC spaces, the NHI coordinator in district 2 said there were times he felt overwhelmed by questions on PHC as he was only in control of the funding for PHC under the NHI conditional grant; he thus always attended provincial PHC re-engineering task team meetings with the district PHC manager who understood and managed PHC under the normal provincial budget allocation.

Existing inter-sectoral platforms at the local level, like the Integrated Development Planning processes at local government, were used to disseminate information to a range of local government departments and community councils and structures in district 1.

> "*We are finished with the mayors at this level. Now, we are going to each individual in the municipalities to meet with the councillors there. We make the presentation that says what the NHI is. I think that is just key; at the same time, how is it going to be implemented? Then how far we have gone in this five- year pilot phase, because other people are thinking we are supposed to be implementing this [the financial reform] now. They are not aware that we are talking of a preparatory stage [the first years of system strengthening]*" (SM2, Site 1).

An NHI district coordinator conveyed the importance of promoting an understanding that NHI piloting reforms were connected to existing National mandates in the district, such as the '10 Point Plan for 2009-2014' - a list of ten priorities which included overhauling the health system and implementing national health insurance (SA NDoH, 2010). Quality improvements were also an extension of the existing 'National Core Standards for Health Establishments in South Africa', an existing benchmark of quality of care against which service delivery is monitored (SA NDoH, 2011b):

> "*What is in the ten-point plan for instance, … one of the points that appear there is the implementation of the NHI. You know just for people to understand where we come from with NHI, that it did not just fall from nowhere. You know, it was in the plan, and say this is what we want to do*" (SM2, Site 2).

Existing local horizontal networks were also useful in leveraging resources for individual NHI piloting reforms. In District 1, it was identified that the new Community Health Worker (CHW) programme could benefit from environmental officers already working there. In District 2, efforts were underway to set up communication structures between CHWs and community-based planners from the municipality as both actors made home visits. In District 1, managers were engaging a staff member from the local university to mentor the new District Clinical Specialist team, while the District Manager in District 2 were leveraging private sector resources for health promotion activities to support PHC re-engineering. These existing

structures and relationships thus allowed for a natural diffusion of ideas and interests if identified as opportunities by managers.

District NHI coordinators also worked through new vertical structures set up by the National and Provincial governments including a Provincial NHI task team made up of senior managers in charge of different programmes at the Provincial level to whom NHI district coordinators re- ported. Quarterly NHI financial and progress reports in the district had to be signed off by the Provincial Head of Department and forwarded to the National Department from there – initially there were some trust concerns between district actors and provincial actors. Managers in districts were not able to identify all the new NHI structures as they were only starting to engage with some structures toward the end of the study. We did however observe that Provincial NHI coordinators were starting to visit the district more often and taking on shared responsibility in project managing the NHI piloting portfolio in the districts (one had already started playing a major role).

Discussion

In the period examined, South Africa did make progress in implementing NHI-linked reforms, highlighting that diffusion and dissemination are ongoing processes that run before and parallel to implementation. The case offers some lessons for the dissemination and diffusion of innovations in ways that are helpful for health managers at the coal face.

Dissemination strategies and the concept of natural diffusion identified in the Greenhalgh et al. (2004) model are used to frame key learnings on disseminating and diffusing reforms.

The existing local context presented both challenges and opportunities for these processes. Key strategies that supported them included the use of champions and the use of new and existing horizontal and vertical networks. Well or poorly planned communication strategies and the availability of support structures for managers also affected dissemination. Managers were not only subject to dissemination strategies but also played critical sense making and sense giving roles as part of the dissemination and diffusion of innovations (Rouleau, 2005; Gilson et al., 2014). They also played boundary spanning roles connecting with those outside the health system to leverage support. We did not identify any opinion leaders or homophily playing a role in the processes examined.

Innovation system fit

Innovation system fit represents the interplay between the innovation and the context within which it is embedded (Greenhalgh et al., 2004). Challenges found across the South African DHS mirror contextual challenges facing the adoption of new reforms in the three district NHI pilot sites. These included a continued shortage of managerial capacity partly due to vacancies, infrastructure shortages in facilities, limited staff to drive and implement new reforms, poor relationships with the private health sector and in some cases, poor relationships between provincial and local governments (Van Rensburg, 2012; Rispel, 2016;).

Opportunities for diffusion included similarities between new NHI innovation ideas and existing practices and policies. In one district, as a system of doctors visiting public clinics was already in place, the new model of GP contracting was much easier to absorb. Existing PHC provincial and local networks were also purpose- fully used to keep managers informed of updates from the SA NDoH and for reporting upward on progress of NHI. Institutions thus provide the ‘scaffolding’ that networks are structured around, and ideas are spread through new and old networks (Shearer et al., 2014). Similarly, policy legacies including administrative capacity, positive experiences with an innovation in the past, and a well-established research environment that supported policy learning over time, proved beneficial in the re-introduction of Malaria home case management in Burkina Faso (Shearer et al., 2014).

The senior managers embedded in the local South African context were also able to stimulate synergies between different innovations. For example, the District Clinical Specialist Teams (DCSTs) developed an induction programme for newly contracted GPs and provided clinical oversight of GPs – thus better enabling innovation system fit of the GP contracting reform. The introduction of new teams (or restructuring of existing teams) and posts in the districts are thus both part of the NHI piloting innovation and over time can become a vehicle for its dissemination and diffusion. This experience supports a much longer view of dissemination and diffusion over time as system components combine to produce unexpected and novel outcomes (Pawson, 2013).

The use of champions

Reform champions can be used to garner support for innovations from a range of actors. The Minister, by participating in the roadshow and in his personal capacity, inspired managers;

Greenhalgh et al. (2004) identify a champion who can garner support from other individuals as a *transformational leader*. The Minister's message of equity resonated with senior managers and addressed a shared value - ideas and discursive frames shape how people think about new reforms and are thus important dissemination tools (Béland, 2010) Political elites actively showing support have also been an important factor in garnering support at the local level during early stage implementation of community health workers programmes in South Africa (Schneider et al., 2014) and Greenhalgh et al. (2004) found that innovations are more likely to be adopted when they resonate with the values and beliefs of those expected to adopt and implement them. While political elites supporting population health as a priority can facilitate the mobilisation of financial and human resources and create political will at the local level, other important factors that are key to successful diffusion include continuity and consistency in policies over time and a stable bureaucracy with competent managers who have sufficient power to manage change (Balabanova, Conteh & McKee, 2011). Resources, early communication and managerial support are equally important to successfully giving effect to values on the ground (Walker & Gilson, 2004; Aniteye & Mayhew, 2013).

The SA NDoH requiring the appointment of an NHI coordinator usefully assisted the dissemination and diffusion on innovations in the DHS. The coordinator played the key champion role of *network facilitator,* an individual who develops cross functional networks and coalitions across the organisation, as well as a project management role. They actively participated in existing and new PHC and NHI networks across all three tiers of government, as well as, at the local intersectoral level playing a boundary spanning role,[11] to gather and report information and at times leverage resources for implementation. The 'enablement of knowledge sharing via internal and external networks' is a key system antecedent for the diffusion, dissemination and implementation of innovations (Greenhalgh et al., 2004). A NHI coordinator, in his champion role benefited from having worked in the district previously as he could leverage an existing set of existing peer and social networks, "the pattern of friend-ship, advice, communication and support which exists among members of a social system" has been found to be a dominant mechanism for diffusion (Valente, 1996; Greenhalgh et al., 2004 p. 601). Acceptance by the district senior management team, mentorship to help

[11] "those who have significant social ties inside and outside the organisation and are able and willing to link the organisation to the outside world with regards to a particular innovation"

understand the DHS and acknowledgement of NHI piloting as a major project in the district also aided this champion role. A need was identified for a support person at National level whom the NHI coordinator could contact for early information and clarity on processes related to specific reforms.

Planned dissemination strategies and the use of networks

Good communication

The road show and the introduction of the Monitoring & Evaluation team (a vertical technical support team) by the National government both appear to be planned dissemination strategies that facilitated diffusion and dissemination. Key success factors of the M&E vertical network included a willingness to negotiate with management in district offices on priorities in the business plan, being responsive to communication requests, feeding back information to national government in a timely fashion and having the authority to make quick decisions allayed initial concerns surrounding the conditional grant and the development of the business plan. The implementation of a private medicine retailer programme for Malaria in Kisii, Kenya similarly benefitted from a technical team that understood the district context, previous work experience in the district and specific operational and strategic thinking experience related specifically to Malaria, which helped identify challenges prospectively (Abuya et al., 2010). A memorandum of understanding which laid out a clear set of principles for engagement had also been set up. Other skills required of technical support teams include a unifying vision, an understanding of the local context and its capacities, be well connected, and have coalition building and technical skills (Simmons & Shiffman, 2007).

Greenhalgh et al. (2004) note that the use of formal planned dissemination strategies that target particular audiences with appropriate messaging and appropriate communication channels can facilitate innovation diffusion.

Areas where there is a need for more well-planned dissemination strategies

Senior managers felt that more specific dissemination of information on where innovations came from, what evidence supported the specific innovations and practical success stories from other countries was needed to help them ‘sense give’ to their staff; and a lack of information dissemination about new stakeholders entering the district was also identified as a challenge by the senior managers. In another South African experience, the roll out of

mental health policy guidelines also suffered from the lack of development of a formal dissemination process and a lack of advocacy to lower levels of the system about the nature of the new policy (Draper et al., 2009). Large scale reform toward UHC in Colombia suffered from limited dissemination of information on regulations and rules within the system and from limited information sharing with users which affected roll out (Piza, Barona & Hearst, 2001).

Well planned dissemination strategies about new reforms are important processes to help managers in districts roll out reforms as they have to engage in 'sensemaking' for themselves and then engage in 'sensegiving' to staff (Gilson et al., 2014; Shipton et al., 2016). McIntyre and Klugman (2003) write that managers need to receive timely communication about new policies, so that they in turn can adequately communicate with and motivate their staff, communication should also be collaborative (Walker & Gilson, 2004).

Recommendations for planned dissemination strategies and natural diffusion

While planning for dissemination and communication are critical components for implementation success, Barrett and Fudge (1981) caution that we should not simply see communication as a tool by which those at the top to coordinate the actions of those below. Determining the right amount of top down national guidance with the right amount of bottom up local flexibility in adoption and implementation will always be a balancing act (Hamel, 2004). With a focus on the 'best' or 'standardised' way of doing things organisations are losing out on the benefits of innovation and creativity (Barrett & Fudge, 1981). Plsek & Wilson (2001) recommend developing a set of minimum specifications or simple rules developed through dialogue by relevant stakeholders in- volved in the process of change – the minimum specifications provide a broad framework within which to work, should be direction pointing, show boundaries, identify resources and set permissions. The specifications will not be perfect, will evolve over time and are not 'standards' – they lay the foundation for creativity. In the scale up of antiretroviral treatment (2005–2007) across three provinces in South Africa, Schneider et al. (2010) found that the province that rejected a standardised rigid approach and opted for the development of simple rules over time through joint learning, the use of local tacit knowledge and partnership with others, was able to improve treatment coverage successfully. There is a growing body of research highlighting the importance of 'emergent

and voluntary coordination, collaboration and partnerships' in promoting adaption and learning over time (Jones, 2011).

Limitations

The findings reflect the bottom up experiences of senior managers in districts - they therefore only include information on dissemination and diffusion efforts from their perspective. The National government may have implemented a range of other dissemination efforts that are perhaps undocumented or not mentioned by participants and therefore go beyond what is addressed in this article. Senior managers only represent one cadre working at the district level, facility level staff may have otherviews.

Conclusion

This study adds to our understanding of the experiences of local level managers who are at the receiving end of top down UHC reforms. The early stages of the dissemination of innovations can cause anxiety for managers as they must make sense of new ideas and practices for themselves and for their staff in challenging contexts, sometimes with limited information on the innovations and a lack of clarity on key processes. Senior South African health managers in districts do however believe in the need for change and use tacit knowledge, play boundary spanning roles and leverage networks to further diffuse reforms, promote adoption and get innovations implemented. Well planned dissemination strategies that include early communication, the use of feedback loops, the setting up of communication support structures, the use of champions as well as the use of new and existing networks can help managers to make sense of and lead change. As countries move to institutionalise a range of technical proposals and solutions to achieve UHC, the importance of early, well planned and continuous dissemination strategies that facilitate processes of adoption and implementation should not be forgotten.

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Chapter 6 – Bottom-up innovation for health management capacity development: a qualitative case study in a South African health district

Chapter 6: Bottom-up innovation for health management capacity development: a qualitative case study in a South African health district

Overview: This paper presents insights from a realist evaluation in one South African district that illuminates how district managers design bottom-up innovations to improve management practices in meetings (routine structures in the DHS) through simple but profound acts of sensemaking and sensegiving. It provides lessons that can inform thinking on the approaches needed to develop DHS management capacity.

Contribution to the thesis: This paper serves as the first empirical case study of bottom-up innovation for management capacity development in study site 1. This paper provides useful insight into capacity development for managers as a process embedded within the health system that takes place in routine spaces such as meetings, and can be driven internally as part of the everyday micro-practices of district managers, targeting team processes an structures rather than individuals only. The paper shows how major reform, such as NHI piloting, can trigger action for capacity development, but also that contextual realities in the district and the district manager's own sensemaking will also influence what capacity development is needed for their senior managers. The paper helps us to observe empirically 'capacity' (improved meeting structures, role definition and relationships) as an emergent process made up of individual competencies and collective capabilities. The paper identified key mechanisms that were triggered in context to build capacity.

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Abstract

Background: As part of health system strengthening in South Africa (2012–2017) a new district health manager, taking a bottom-up approach, developed a suite of innovations to improve the processes of monthly district management team meetings, and the practices of managers and NGO partners attending them. Understanding capacity as a property of the health system rather than only of individuals, the research explored the mechanisms triggered in context to produce outputs, including the initial sensemaking by the district manager, the subsequent sensegiving and sensemaking in the team and how these homegrown innovations interacted with existing social processes and norms within the system.

Methods: We conducted a realist evaluation, adopting the case study design, over a two-year period (2013–2015) in the district of focus. The initial programme theory was developed from 10 senior manager interviews and a literature review. To understand the processes and mechanisms triggered in the local context and identify outputs, we conducted 15 interviews with managers in the management team and seven with non-state actors. These were supplemented by researcher notes based on time spent in the district. Thematic analysis was conducted using the Context-Mechanism-Outcome configuration alongside theoretical constructs.

Results: The new district manager drew on systems thinking, tacit and experiential knowledge to design bottom- up innovations. Capacity was triggered through micro-practices of sensemaking and sensegiving which included using sticks (positional authority, enforcement of policies, over-coding), intentionally providing justifications for change and setting the scene (a new agenda, distributed leadership). These micro-practices in themselves, and by managers engaging with them, triggered a generative process of buy-in and motivation which influenced managers and partners to participate in new practices within a routine meeting.

Conclusion: District managers are well placed to design local capacity development innovations and must draw onsystems thinking, tacit and experiential knowledge to enable relevant ‘bottom-up’ capacity development in district health systems. By drawing on soft skills and the policy resources (hardware) of the system they can influence motivation and buy-in

to improve management practices. From a systems perspective, we argue that capacity development can be conceived of as part of the daily activity of managing within routine spaces.

Keywords: District health system, Management, Capacity, Capacity development, Bottom-up innovation, Sensemaking, Sensegiving

Background

Decentralisation debates have a long history in the health sector in low- and middle-income countries (LMICs) (Mills et al., 1990). The rationales for decentralising decision-making authority include better coordination of disparate activities, improved use of local knowledge, and strengthening accountability - with the intention to improve the equity, responsiveness, efficiency and quality of health services (Bossert, 1998; Hutchinson, 2002 Abimbola et al., 2019). Over time, the district health system (DHS) has become understood as an important decentralised foundation for a well-functioning and primary health care (PHC)-oriented system (World Health Organisation [WHO], 1978; 1987). The DHS:

> …consists of a large variety of interrelated elements that contribute to health in homes, schools, workplaces, and communities, through the health and other related sectors …. Its component elements need to be well coordinated by an officer assigned to this function in order to draw together all these elements and institutions into a fully comprehensive range of promotive, preventive, curative and rehabilitative health activities. (WHO, 1988).

Many agree that the management and leadership capacity of the lead 'officer' (and her/his team) to steward the DHS is a key cross-functional ingredient for strong health systems functioning (Blaauw et al., 2003; Bradley, Taylor & Cuellar., 2015; Byleveld, Heynes & Bhana, 2008; Curry et al., 2012; Daire, Gilson & Cleary, 2014; Fritzen, 2007; Gilson, 2016; Gilson & Agyepong, 2018; Kwamie, 2015; Marchal, Dedzo & Kegels, 2010; MSH, 2010; Waddington et al., 2007; WHO, 1988; 2007). District managers (DMs) and their district management teams (DHMTs) are the middle managers who work at the interface between senior management and the rest of the workforce (Chatora & Tumusiime, 2004). They must conduct both 'sensemaking' around top- down policies and the changing environment, as well as 'sensegiving' to a variety of actors in the district in order to direct change (Maitlis &

Christianson, 2014). They are responsible for improving and sustaining organizational performance over time, 'managing' the internal activities of the organization and 'leading' the staff and external partners in the face of increasingly complex conditions (Vriesendorp et al., 2010). From a bottom-up perspective, they often shape policy (Orgill & Gilson, 2018).

However, across settings, capacity to manage the DHS is often found to be weak and in need of strengthening (Bradley, Taylor & Cuellar, 2015; Filerman, 2003; Fritzen, 2007; Nxumalo et al., 2018; Prasanth et al., 2014a; Travis et al., 2004). The attention paid to strengthening such capacity has resulted in the development of many managerial competency frameworks (Caroll, Levy & Richmond, 2008; Chong, 2013; Mintzberg, 2013; Quinne et al., 2000) and the delineation of the 12 practices of managers, grouped as (1) leading, (2) managing and (3) governing (MSH, 2010). Over time as the DHS has come to be recognised as a complex adaptive system (CAS) (Marchal, 2010; Plsek & Greenhalgh, 2001; Plsek & Wilson, 2001), understanding of the competencies and capabilities that district managers need has further evolved (Belrhiti, Giralt & Marchal, 2018; Daire, Gilson & Cleary, 2014; Kwamie et al., 2015; Swanson et al., 2012; Woodhill, 2010). Capacity development efforts have moved beyond the traditional focus on administrative management and health professional practice training. Instead, they have come to consider the leadership skills needed to manage complex systems and intersections with the organisational environment, including both harder (budgeting, planning, monitoring etc.) and softer competencies (communication, trust building, networking etc.) (Aragón, 2010; Belrhiti, Giralt & Marcharl, 2018; Dorros, 2006; Elloker et al., 2012; Kwami, 2015; Sheikh et al., 2011; Waddington et al., 2007; WHO, 2016; Woodhill, 2010). The recognition of the health system as a CAS also demands different ways of managing and measuring capacity development interventions. A systems perspective looks beyond the black box of the intervention, to consider the how and why of capacity development, understanding it as a process of system learning (Adam et al., 2012; Aragón, 2010). Baser and Morgan (2008 p. 34), for example, bring a CAS perspective to capacity, moving beyond linear understandings. They define capacity development as an "emergent combination of individual competencies, collective capabilities, assets and relationships that enables a human system to create value".

There are several calls for further research on management and leadership capacity in the DHS. These identify as important: the role and capacity of middle managers in bridging policy

and practice; how management practices become part of organisational routines; how capacity development interventions 'work' for managers in diverse settings; better knowledge on complex leadership and strategic management of the health workforce; and operational research on how to develop capacity in decentralised systems (Belrhiti, Giralt & Marchal, 2018; Bradley, Taylor & Cuellar, 2015; Chunharas & Davies, 2016; Fritzen, 2007; Kwamie, 2015; Prasanth et al., 2012, Schneider et al., 2010).

This paper presents insights from a realist evaluation in one South African district that illuminates how district managers design bottom-up innovations to improve management practices in meetings through simple but profound acts of sensemaking and sensegiving. It provides lessons that can inform thinking on the approaches needed to develop DHS management capacity. Bottom-up policy implementation theory tells us that managers make meaning of top-down reforms based on the conditions in which they work and that they use their own experience, discretion and tacit knowledge to transform policy into practice (Gilson, 2016; Hill & Hupe, 2002; Erasmus et al., 2014; Lipsky, 1980). Making meaning of and interpreting top-down instructions is an act of sensemaking (Maitlis & Christianson, 2014; Rouleau, 2005). Sensemaking has to do with the way managers understand, interpret and create sense for themselves based on the information surrounding strategic change (Rouleau, 2005).

The local setting: DHS in South Africa

Pre-1994, the health system of South Africa was fragmented along racial and geographic lines. During the apartheid era, deliberate differences in the allocation of funding, infrastructure and human resources between areas and levels of care resulted in inequitable access to health care by the population – and interprovincial and urban-rural inequalities persist today (Coovadia et al., 2009). In 1994, the new African National Congress government faced the massive task of reducing fragmentation – eventually consolidating the health system into one National Department of Health and nine Provincial departments of Health (Coovadia et al., 2009). A new Health Plan for post-apartheid South Africa (1994) laid the basis for the introduction of a district-based PHC system in South Africa (African National Congress, 1994). The primary purpose of the new DHS was to involve local people in decision making, to take account of local needs, to overcome inefficiencies in service delivery and to shift from "administering health services towards improving health and quality of care at the local level"

(Van Rensberg, 2012). South Africa now has 53 health districts spread across its provinces, each led by a district manager who is supported by a district management team (Van Rensberg, 2012), comprised of members with different capacities and authorities (Byleveld, Heynes & Bhana, 2008). Table 6.1 shows the responsibilities of district management teams in South Africa.

Table 6.1: District Management Team core responsibilities in South Africa

Identification of client and stakeholder needs
Identification of critical health and systemic challenges and understand source of the challenges
Balance competing demands by taking decisions on key District Actions, which respond to key priorities, client and stakeholder needs and challenges
Allocate resources (time from personnel, goods and services and capital costs). Ensure that capacities are matched with planned Actions. Refine the Actions until the allocated resources meet the Actions.
Monitor and reflect on progress against plans
Strengthen processes where necessary (to implement the plan)

Source: South African National Department of Health, 2017

The DHS in South Africa has achieved successes over the years, but there is still need for improvement in developing the capacity of DMTs to distribute and manage resources (Byleveld, Haynes & Bhana, 2008; Chopra et al., 2009; Dookie & Singh, 2012). In 2012, the National Department of Health introduced a range of innovations under the banner of 'National Health Insurance (NHI) piloting'. These innovations focused on strengthening the public health system in preparation for major health financing reforms (Orgill et al., 2019; South African National Department of Health [SA NDoH], 2011). Eleven NHI district pilot sites were selected in 2011 on the basis of their underperformance in health outcomes relative to other districts in the country (Matsoso & Fryatt, 2013). The innovations proposed/introduced centred on re-engineering the PHC platform and included a call to strengthen the capacity of management in the DHS at all levels (Pillay & Barron, 2012). Among the many top-down capacity development initiatives introduced was a hospital revitalisation strategy focused on Hospital CEO capacity. In addition, as identified in our previous research, some district

managers used their discretion to develop bottom-up innovations to strengthen management (Orgill & Gilson, 2018; Orgill et al., 2019; Sabatier, 1986).

The suite of inter-linked innovation

The DM worked with a combination of existing resources to address challenges within the management team meeting. He designed a suite of bottom-up innovations, understood as "…the introduction of new elements into a public service – in the form of new knowledge, a new organisation, and/or new management or processual skills. It represents discontinuity with the past" (Osborne & Brown, 2005). These innovations included: introducing a new meeting agenda that focused on all the health system building blocks; developing job descriptions for former hospital chief executive officers (CEOs) who were sent to work inthe district office 'without a portfolio'; inviting non-governmental organisation (NGO) partners to the meeting to foster shared vision and accountability; enforcement of the Health Management and Information Systems (HMIS) policy to promote information use by managers; and efforts to focus on solutions in meetingsnot only problems.

Methods

We conducted a realist evaluation over a two-year period (2013–2015) in one health district. This study followed the realist evaluation cycle (Figure 6.1).

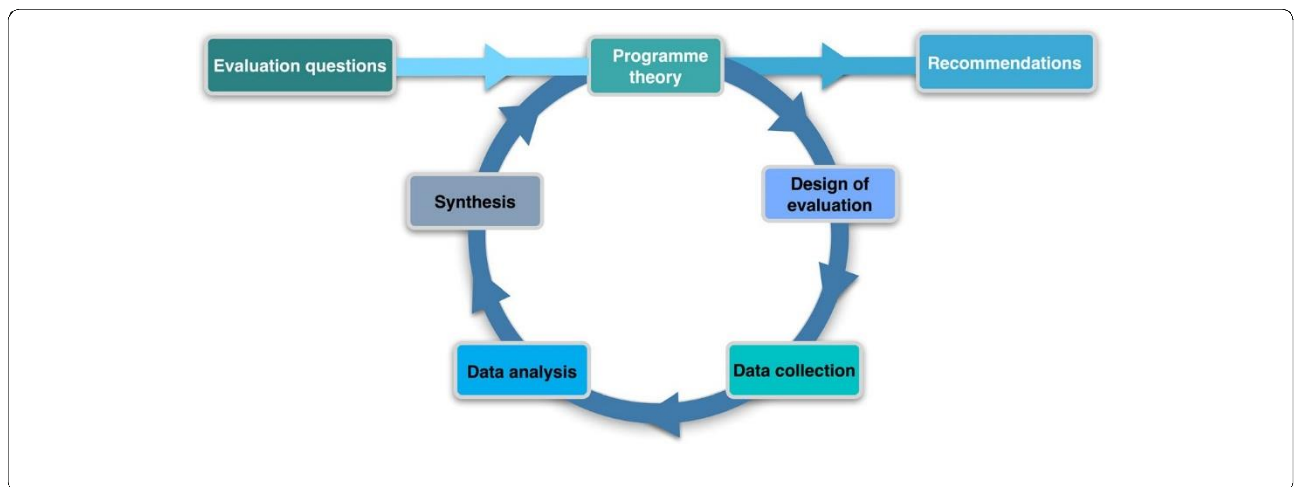

Figure 6.1: The realist evaluation cycle (Source: Marchal et al., 2012)

Study aim

To contribute to an evolving understanding of how to develop management capacity in district health systems.

Research question

What mechanisms for change are triggered when bottom-up innovations to develop management capacity emerge in the district context and how do these home-grown innovations interact with the existing social processes and norms? What outputs and outcomes emerge?

Eliciting the programme theory (PT)

To elicit the PT, we drew on (1) theories of bottom-up innovation and capacity development and (2) exploratory research to elicit the assumptions of key actors who designed the bottom-up innovations in the local context. The full programme theory is presented in Additional file 1.

We have articulated the first part of the programme theory in the background section of the paper, considering theory on bottom-up implementation and a description of the innovation. Here we further elaborate the mechanisms, outputs and outcomes of this programme theory.

Hypothesized mechanisms

In times of change, managers, like the new DM, need to challenge the existing ways of working that drive individual and collective action (Weick, 1995). Managers first engage in sensemaking but must also sensegive to their staff to get them to buy into and enact the innovations in practice, a step that forms part of and precedes an innovation adoption decision. Sensemaking and sensegiving are "complementary and reciprocal processes" (Rouleau, 2005). "Sensegiving is concerned with their [managers'] attempts to influence the outcomes, to communicate their thoughts about the change to others, and to gain their support" (Rouleau, 2005 p. 1415). Innovation recipients also work through a series of their own sensemaking cycles before the adoption decision (Seligman, 2006). It is this cog in the wheel of change we seek to explore - the cycles of sensemaking that precede the adoption decision. Rouleau and Balagon (2011 p. 973) identify two strategic discursive competencies of managers. First, 'performing the conversation', which includes crafting and diffusing

messages in order to influence others, using the right words, the appropriate metaphors and symbols – in ways that speak to the demands and interests of others. Second, 'setting the scene', which is about bringing the right people and alliances together; this includes mobilising networks as well as drawing on others for influence and legitimacy, "…. knowing how to set up the arena in which the conversations are to be performed". Table 6.2 outlines the micro-practices entailed by these competencies that are "embedded in tacit knowledge and social contexts" Rouleau, 2005 p. 1433). These include the notions of carrots, sticks and sermons that are borrowed from political science theory, where they are used to categorise policy instruments for behavioural change (Bemelmans-Videc, Rist & Vedung, 2011). Action, participating in the activity, is another key ingredient for sensemaking (Weick, 1995).

Table 6.2: Four micro practices of strategic sensemaking and sensegiving

Translating	Translating is an act of authoring, involving selecting the content to be shared and then using material and discursive symbols in the language of the receiver to bring the elements together. Elements and symbols are chosen purposefully to establish shared meaning, managers use their tacit knowledge of people and situations to shape the content.
Over-coding	Inscribing speeches and acts in the appropriate professional and socio-cultural codes of the receiver to reinforce meaning. Different social con- texts are home to different social codes, social codes are intrinsic to meaning creation.
Disciplining the client	In routines and conversations, managers produce subjective and emotional effects around the change. Disciplining clients therefore consists of using diverse tactics − including symbolic (e.g. speaking in someone's language, invoking common cultural roots to create shared meaning), and discursive consciousness (conscious use of implicit knowledge to construct and tell stories − to subjectively influence and convince recipients to adopt change). Through their implicit knowledge managers create sense for others and diffuse meanings around the change. This includes the use of space and body to create an environment which resonates with what is trying to be achieved.
Justifying the client	Providing a set of good reasons for actors to adopt the change.

Sources: Bemelmans-Videc, Rist & Vedung, 2011; Rouleau, 2005

We hypothesize that the reciprocal processes of sense-making and sensegiving will kick-start a generative process of buy-in for new management practices by members of the extended district management team, including senior managers in the district and some NGO partners.

Proximal outputs

The new DM wanted to develop the *capacity* of the management team by improving the practices and processes of the managers in the monthly DMT meeting. We see capacity development as a continuous process, not a time-bound, discrete intervention. *Capacity development* is "the process of enhancing, improving and unleashing capacity; it is a form of change which focuses on improvements" (Baser and Morgan, 2008, pg. 3). Capacity as the long term outcome in the programme theory is understood as an "emergent combination of individual competencies, collective capabilities, assets and relationships that enables a human system to create value" (Baser & Morgan, 2008 p. 34).

While we do not measure long-term outcomes, the Baser and Morgan (2008) view on capacity enables us to think about capacity as a phenomena that emerges overtime, and that includes a set of interdependent collective capabilities (Table 6.3) that are needed within complex systems. We anticipate that capacity will emerge over time in the district as a result of the suite of inter-connected innovations.

Table 6.3: Five interdependent collective capabilities that emerge and work together to harness capacity in a system

The core capability to commit and engage	Actors can mobilize resources (financial, human, organizational); create space and autonomy for independent action; motivate unwilling or unresponsive partners; plan, decide, and engage collectively to exercise their other capabilities
The capability to carry out technical, service delivery and logistical tasks	Actors produce acceptable levels of performance; generate substantive outputs and outcomes (e.g., health or education services, employment opportunities, justice, and rule of law); sustain production over time; and add value for their clients, beneficiaries, citizens, etc
The core capability to relate and to attract support	Actors can establish and manage linkages, alliances, and/or partnerships with others to leverage resources and actions; build legitimacy in the eyes of key stakeholders; deal effectively with competition, politics, and power differentials

The capability to adapt and self-renew	Actors can adapt and modify plans and operations based on monitoring of progress and outcomes; proactively anticipate change and new challenges; learn by doing; cope with changing contexts and develop resiliency
The capability to balance diversity and coherence	Actors can develop shared short-and long-term strategies and visions; balance control,flexibility, and consistency; integrate and harmonize plans and actions in complex, multi-actor settings; and cope with cycles of stability and change

Source: Quoted verbatim from Brinkerhoff & Morgan, 2010

Study design

We employed a realist evaluation (RE) approach, which is method neutral and allows study designs to be chosen based on their capacity to test the initial programme theory. RE not only assesses outcomes, but explicitly seeks to understand the processes involved in achieving the observed outputs and outcomes (Jagosh et al., 2015; Marchal, Dedzo & Kegels, 2010; Pawson & Tilley, 1997). It is the combination of intervention inputs together with mechanisms triggered in context that brings about change. Mechanisms are "not variable [s] but an account of the behaviour and interrelationships of the processes that are responsible for the change" (Pawson & Tilley, 1997). Programmes 'don't work', it is people that make them work (Pawson & Tilley, 1997). Mechanisms are a combination of resources and reasoning, "intervention resources are introduced into a context, in a way that enhances a change in reasoning" (Dalkin et al., 2015 p.4). Resources (material, emotional, social, encouragement, etc.) and reasoning alter the behaviour of participants in specific context, which then leads to outcomes. As the study design, we adopted the case study design (Yin, 2014) as it allows to study a phenomenon in context as it is being shaped and re-shaped.

This study was approved by the University of Cape Town Human Research Ethics Committee (479/2011 and sub study 746/2015).

Definition of the case and of the unit of analysis

We adopted a single case study design to "determine whether the propositions [in our programme theory] are correct or whether some alternative set of explanations might be more relevant" (Yin, 2014 p. 51). The context is the district and the case is defined as 'the

introduction of bottom-up capacity development innovations targeted at the district management team' to improve processes for managing the district.

Site selection

We purposively selected a health district to which we had access given the larger project in which this work was nested,[12] and which had a district management team in place. The new DM was willing to grant us access to himself and his staff and had clear ideas on what he was planning to do to strengthen management.

Data collection

The first author collected data within the period 2013– 2015, monitoring reforms in the district pilot site, keeping researcher notes and capturing key reflections on the district's context. The process of eliciting the initial programme theory from managers in 2013 contributed to a rich understanding of the context (the interview guide is shown as Additional file 2).[13] We drafted the PT and then member-checked it with the new DM in an additional in-depth interview. To test the PT and to understand the processes and mechanisms underlying the introduction and adoption of the innovations, the first author conducted in-depth interviews with 15 senior managers in the district (all of whom were part of the extended DMT) and 7 major non-state actors (some of whom participated in the extended DMT meetings). The same interview guide was used in the second round of interviews, which focused solely on the bottom-up innovations that had been identified.

Based on what we had learned, we developed an additional interview guide for NGO partners (see Additional file 3). Researcher notes on context were usedto further interpret findings.

Data analysis

In realist evaluation, the context-mechanism-outcome (CMO) configuration is used as the main structure for analysis (Dalkin et al., 2015; Pawson & Tilley, 1997). The transcripts were coded using principles of thematic analysis. Deductive codes included actors, mechanisms

[12] In the larger project, we selected 3 of the 11 NHI pilot sites based on the following criteria: (1) a district that was actively receiving information from other levels of government and/or was implementing some of the innovations, (2) access to the site, meaning district managers were prepared to give us access to staff and (3) rural/urban mix to capture variation in experiences of implementation possibly linked to geography.

[13] Please see Appendices for links to additional material published with the article.

(both resources and reasoning, including the micro practices of sensemaking and sense-giving), contexts, processes and emergent outputs and outcomes, as well as elements of the innovation itself (Miles, Huberman & Saldana, 2014). "People who study sensemaking pay a lot of attention to talk, discourse, and conversation because that is how a great deal of social contact is mediated" (Weick, 1995 p. 28). The process also included looking inductively for any new ideas that emerged in the data.

In the analysis, we moved back and forth between the empirical data and key theoretical concepts. We deepened the analysis by searching for patterns and conjecturing various CMO configurations, moving between the micro-practices within the meeting space and the interaction with the context. Finally, plausible CMO configurations were tested by triangulating a variety of sources of data including researcher notes and observations, and by validation with co-researchers within the project. Interim findings in this paper were presented to some of the senior managers as part of the larger project feedback session in 2016, and the final conclusions of this paper were presented in 2019 to the District Manager who had led the innovation to member-check the analysis.

Synthesis and comparison of CMO findings with the programme theory

At the end of the analysis phase, we reflected on our findings against the original PT, considering the data, the theoretical literature and the original PT. In this process, we engaged in peer debriefing across the three authors to discuss what we had found beyond the original assumptions captured in the PT.

Results section

In this section, we describe the general context of the district, the innovations to strengthen management practices, key outputs achieved in the 18-month period November 2013 to April 2015 and finally, we consider the mechanisms triggered in context that generated outputs. The results are summarised in table format in Additional file 4.

Context and actors

The health district both under-performed relative to the rest of the country in terms of health outcomes and suffered from human and infrastructural under-resourcing as a result of apartheid legacies (Kautzky & Tollman, 2008). The district is considered rural: it is hard to

attract staff to work in it and at times there are poor working relationships between the district and the Provincial government.

In November 2013 a new DM with 29 years' experience in the South African health system (public and private sector) arrived to lead the district. The new DM worked with a *core* district management team (DMT) who met every Monday morning. There was also an *extended* DMT (including the core managers as well as hospital, programme, sub-district managers and other invited guests; in total 24 managers at that time) who met once a month to report, plan and prioritise for the district. There were critical vacancies in the DMT, and three hospital CEOs who had to leave their hospital posts[14] were sent to work within the district office with no specific portfolio. The DM reflected that stability was needed. Being an NHI pilot district expected to implement several new service delivery reforms made the challenges more complex:

> *"I think the preparation for NHI relies heavily on innovation and in order to innovate properly, you need a stable system. This is an extremely unstable system, so you have got to innovate and stabilise at the same time, which I think adds a lot to the complexity of what we do (The new DM, 09/09/2014).*

The extended monthly DMT meeting needed to change, as it was a space mainly used for complaining. The use of information by hospital and sub-district managers for problem diagnosis, decision making, and accountability needed to be improved:

> *"I think that there were lots of meetings, or there are lots of meetings that happen, but not lots of structured meetings. Not lots of minutes and not lots of agendas, so you cannot go to a meeting and you sit there the whole day and you don't have something tangible to show …. We get a lot of whining sessions, but they actually don't help at all …. That is more the approach than to listen, because you can spend ninety percent of your time listening to or whining, and then only ten percent looking at solutions, whereas we would like to reverse that … It is about looking at the indicators and asking: "Why we are doing well or why we are doing badly? … It has worked before and it is kind*

[14] As part of another innovation in the district some hospital managers were being replaced in their current job due to new job requirements, they were not removed from the payroll or from the district.

of standard practice in functional systems. I am sure it will work" (The new DM, 19/02/2014).

The information manager (IM) was carrying the burden of information preparation and presentation for the meeting. She had a sense that managers were afraid of working with numbers and this resulted in a general culture of avoidance and deferring queries back to her:

"… because even things that they can do themselves, they will also say: "No give it to [the] information person." … They would make it a big deal when it comes to compilation of other reports. Anything that is computer-related, they associate it with anything that relates to numbers. They will just give it to someone to add it in … they don't want to use numbers" (Manager 1, 09/09/2013).

The IM already had a huge workload, including managing all the aggregate information, quality-checking data and being responsive to information requests in the district. Additional data capturers had been sent to the district as it was an NHI pilot site, but they did not have the skills to do the work required. In the past, reports had sometimes been generated but the problems managers raised in them were at times not acted upon reducing motivation to produce new reports.

There were also many NGO partners operating in the district, but it was not clear whether they were well aligned with the service delivery priorities in the district health plan (DHP). The new DM felt there was neither a shared vision with all partners, nor an established decision-making platform where decisions could be taken consultatively with stakeholders.

The suite of inter-linked innovations to develop management capacity

The suite of inter-linked innovations introduced in the extended DMT monthly management meetings to improve capacity were:

(1a) The introduction of a new agenda that focused on the core functions of the district ('services', 'corporate governance' and 'quality', with time allocated for each item), and the introduction of a routine procedure to support decision making - whereby managers had to produce reports, covering core indicators for reading, which were distributed before the meeting. Additional file 5 presents an overview of key agenda items.

(1b) An explicit effort to institutionalise the engagement with and application of information by all managers, backed up by the DM's purposeful enforcement of the national District Health Management and Information Systems (DHMIS) policy. Linked to this, the DM also established the routine procedure that managers must first investigate problems by collecting information on the ground before bringing them to the monthly meeting, and be ready to discuss solutions and progress (or lack thereof).

(1c) The routine procedure that NGO partners in the district would attend the extended district management meeting in order to support coordination and accountability, as well as discuss their activities directly with the DM.

(1d) Defining job descriptions for the ex-hospital CEOs newly posted to the district office describing their purpose in the team; as well as attempts to fill critical management vacancies in the team.

Outputs

By 2015, 18 months after the new DM's appointment, senior managers and district partners who attended the monthly meetings confirmed that the innovations had resulted in an emerging set of improved management practices.

Output 1a

A new extended DMT agenda with a structured format was being routinely applied, managers had to present on core system issues and meetings were being time- managed.

> *"Yes, we present but we are being given a chance, we are being informed earlier on that you are expected to present in such-and-such a DMT because of the time schedule and there are a lot of them here. So, it doesn't become possible for us all to report. For instance, there's a lot of, the NHLS, there's pharmaceutical, there's the information officer who gives a summary report for the activities that happened in the districts. Then we input or respond; when you haven't done well, you indicate what causes the deviations from targets and how are you going to improve on those things. And if we don't present the actual status ourselves, it appears".* (Manager 7, 02/ 10/ 2015).

Already by the end of 2014, at least 15 managers were preparing and submitting reports to the DM, who then decided both what would be discussed in the meeting and which reports would be circulated in preparation.

> "*so what we are trying to do now is have a structured agenda, not a reactive agenda, a structured agenda where you have reports that you prepare and then the line management people that attend have to interact with those reports*" (The new DM, 19/02/2014).

The hospital managers and sub-district managers as line managers were expected to read the reports to empower themselves. Nonetheless, getting managers to engage with information in the reports was not easy. The DM identified two challenges: he was not fully satisfied with the make-up of the reports and not all managers had read the reports as needed before coming to meetings:

> "*because progressively we are going to start making decisions based on that and if they don't read those reports … we are now at the point where we are kind of saying read your emails, read your reports etcetera*" (The new DM, 19/09/2014)

Output 1b

The application of information for decision making was now part of managers' performance contracts as per the Health Management and Information Systems (HMIS) Policy. There was an improved use of information to diagnose problems, monitor progress and support forward planning in the extended DMT meetings by sub-district managers. The IM and another manager in the DMT confirmed that, in 2015, service delivery information was being presented and discussed in the meeting and that managers had to account for targets. This process remained in place after our final evaluation period.

> "*We continued with what [the new DM] has started. We look into the indicators and the performance of the district, the subdistrict and the hospital CEOs, they do make some presentations so that we are able to identify gaps and formalise some strategies to work around the gaps - we're still continuing.*" (Manager 6, 17/05/ 2015).

While problems were still brought to meetings, there was a proactive effort to identify solutions in the meeting:

"So now, at least people, even though not everybody, but some are able to say, okay, we have got a challenge of transport – how about if management could talk with [the] municipality so that we can join vehicles together when they are going to ward A, maybe we got to ward A, all of them. Starting from that integrated planning there." (Manager 8, 24/03/2015).

"I have to get assistance from the people who are actually doing the immunisations, what was the problem? Were there vaccines that were not available, for instance; or was there something that made themnot be able to come to the facility?" (Manager 7, 02/ 10/2015).

Output 1c

Improved capability to relate and partner with others

Staff of the large NGOs in the district met with the new DM personally to report on their district activities, and subsequently, a growing number of NGOs were reported to attend extended DMT meetings to present and discuss their progress. However, we primarily observed interactions with representatives of two large NGOs that had been present in the district for more than 5 years, had their own funding and were actively implementing health programmes and/or were directly engaged with senior management in the district toward health system strengthening. These NGOs also participated in developing the DHP to ensure shared planning and vision.

"*Yes, I was part of that stakeholders [mapping] meeting and we all [NGO partners] presented the work that we are doing, the challenges and the successes that we have had. And on a monthly basis we used to give him our progress reports in the DMT meetings*" (NGO partner 1, 18/05/2015).

" *…. they [NGOs] are actually invited to make inputs [into the DHP] and also to look at the priorities of the district when they are going to be doing that. So their plans must actually be part of what the district plan is*" (Manager 4, 1/10/2015).

Formal invitations to partners had also become routinised.

"*Ja [yes], I think mainly it's [NGO partner 1 & 2] who are attending those district management meetings, though it's continuously growing in terms of who is attending those meetings.*" (Manager 4, 1/10/ 2015).

An NGO partner who had been part of the DMT meetings before 2013 (when the new DM arrived) noted that as partners had to present on their activities when attending the meetings, accountability amongst NGOs improved (NGO partner 2a, 2/10/2015).

Output 1d

The new DM filled at least two key senior management posts that had been critical vacancies: an HIV/AIDS, STI and TB (HAST) manager and a quality assurance manager. Also, the hospital CEOs who had been redirected to the district office were given clear job roles[15] linked to their competencies and the needs of the DMT.

Mechanisms for change

Initial sensemaking by the DM

The arrival and initial sensemaking by the DM were both a trigger and a mechanism in improving management practices in the DMT meeting.

"Look, when I first got here, we went through quite a long process of saying: "What is the ideal organo- gram that is needed at district level? What are the ideal processes needed at district level to ensure that we are able to have a strong management team that can take us into the NHI?" Therefore, I think it does depend a lot on what people we've got. I think there needs to be a standardisation of processes, because the way I am doing things, it is pretty similar to the way they do it in the [previous Province he worked in], but chatting to my colleagues from other provinces, it is not the same and I think there needs to be a standardisation of the management processes. There should be some space in between for us to ex- press our individuality and so on, but essentially there needs to be an improvement in the standardisation" (The new DM, 09/09/2013).

The new DM drew on his personal resources, including tacit knowledge and experience in the public and private health system in another province to design the suite of inter-connected innovations. He did not believe that more resources would by themselves improve district

[15] These were not new formal posts on the organogram but rather adescription of the duties they were expected to fulfil.

performance and instead judged that inefficiencies in the public sector could be dealt with through system improvements. The new DM explained where the idea for the structured agenda came from:

> "*My little thing to keep me focused, there is a thing called the district management accountability framework, which over the …. five years, … that I was a manager in [Province X], we progressively developed a series of things that need to be in place for a health system to be functional. So, we documented you know, the governance, management, leadership*
>
> *… as I was saying, those things are the pillars of … what is it … [the] WHO building blocks, but having lived through the … development of it, I understand it in a particular way. It is ... management, governance, leadership, it is service delivery, it is critical support functions, and it is quality. Now … and below that, I can see the headings … and that is the agenda for the DMT* (The new DM, 09/09/2013).
>
> "*So, I think the vision comes from … a lot of the vision comes from what I have seen in reality in [Province X]. A lot of the vision [also] comes from what I have seen in reality in the private sector*" (The new DM, 9/09/2014).

Introducing a new agenda in the extended DMT meeting: sensemaking and sensegiving as reciprocal processes

The DM 'disciplined' the DMT meeting space as part of sensegiving to others – as shown in Table 2, "discipline comes from a meticulous organisation of gestures, words and objects that permits optimal use of space, bodies, and thought" (Rouleau, 2005). He employed tacit and experiential knowledge of meetings and agendas to structure proceedings in the space, the information managers summarised the comparative data and time was allocated for managers to speak to their performance, reinforcing accountability.

The DM translated and framed the need for a new agenda by drawing on familiar organisational-cultural codes of the health system, including discourses such as 'core business of health', 'patient care related', 'indica- tors' and 'PHC' and 'performance' – which can be seen as the careful crafting of 'normative sermons'.

> "*You know, when he came, there was much more focus around the core business in meetings, than to simply discuss how much money we have spent around HR, around*

> *that, and so on. Remember, we are having this business of being the Department of Health, so everything must be patient care related. Now once you talk the performance indicators, you talk PHC, hospital indicators, that's fundamental – because we can say our department is existing not because of various other things but because of the performance. I would say in relation to that I'm still very much pleased "* (Manager 2, 25/03/2015).

For one manager, working closely alongside the DM (proximity to change) enabled an understanding of the need for change:

> *"Maybe one will be saying because I was really always close to this office and having that advantage of knowing why there is this initiative, why we should change – I would say starting from you say the nature of our agenda items in the DMT."* (Manager 2, 25/03/2015).

The DM over-coded, drawing on familiar organisational socio-cultural codes as a 'stick', noting that the 'auditor general' (a powerful figure in the bureaucracy) can *check up* on the use of information and the focus on performance in meetings by looking at the agenda, effectively using hardware of the system as a stick linked to accountability.

> *"The DMT meetings might have been held every month, but if in the minutes and the agenda, there's no … agenda items around the information or data management, then you cannot say you are discussing your performance – because it's not showing in the agenda and minutes. So, that's what [the new DM] emphasised all the time*." (Manager 1, 09/09/2013).

The new approach to meetings encouraged active participation by senior managers, whilst simultaneously facilitating their buy-in to the new practices through the process of 'doing'. Managers appreciated that they were no longer tired in meetings because of long drawn-out processes. Increased participation provided more ingredients for sensemaking and sensegiving, which triggered the motivation and self-efficacy of managers.

> *"Yes, because before the subdistrict managers were presenting, the CEOs were presenting – so when the last one is presenting, you are no more listening. It's already four o'clock, so you are tired. So the way he did it – it's for the information manager to*

> *present comparing the subdistricts, not for subdistricts, for [sub-district A] to present, then one for sub-district B to present, because at the end, you won't be able to see how do they work comparing them, and where to give assistance. The way he did it is for the information manager to present and show us which subdistricts doesn't perform well in what. That has really helped us. Like they are also doing it today in preparation of the DMT on Thursday."* (Manager 8, 24/03/2015).

These actions were complemented by the preparation and pre-reading of reports, which reinforced the use of information and, together with the requirement to present problems with potential solutions, fed into a more structured agenda.

Embedding the use of information for problem diagnosis and problem solving: sensegiving and sensemaking as a social process

The DM used his positional authority and employed over-coding, drawing on the professional codes of the bureaucracy [public policy], to create shared meaning around information use for decision making. The National Health Management and Information Systems policy (policy hardware) also served as a 'stick'. The new DM enforced it to justify why managers must use information and monitor performance in their daily practice. Information use also formed part of their performance contracts as per the policy. He matched this with a sermon approach, taking the time to visit managers at facilities, together with the Information Manager (IM). The latter had institutional memory given her working history in the district and was familiar with policies and staff; she also reinforced that they 'must' comply with government policy.

> "*They [the managers] were fine because we were also emphasising to them that it's not any person's choice, because it's a policy issue which, though we were trained on it, but in terms of implementation, you were not implementing it as expected. But now, that [was coming from] from the district manager" when [the new DM] went around."* (Manager 1, 09/09/2013)

Including the IM in his visits was symbolic in 'setting the scene' as the IM legitimated discussions, was always highly motivated for change (despite not having had the authority to enforce improved information practices) and knew the content of the HMIS in detail. To improve information use and accountability in the DMT meeting, the new DM drew on his

positional authority and introduced a requirement that the sub-district manager 'sign-off' data from the facilities before sending it to the district office.

> "*They* [sub-district managers] *are more responsive, especially when it comes to the variances that we are showing them, because they are the only people that should tell us the reason as to why it is like this.*" (Manager 1, 09/09/2013).

The planning manager, identified as exceptional by the DM, was tasked with reviewing all the data from facilities to identify any obvious discrepancies. The DM then employed 'sticks' to reinforce the importance of data by writing letters to each facility manager or sub-district manager, saying either 1) your data was late, 2) your data was not complete, 3) your data is not believable in the following areas (…).

However, the information management changes had not yet impacted at the facility level, the planning manager has picked up similar challenges again:

> "*So, she is now … she has given me the second month's letter, and it is almost identical to the first month's letter.*" (The new DM, 19/09/2014).

Sensemaking and sensegiving for information use was also reinforced by the working environment. Some managers had been permanently appointed to their positions during the tenure of the new DM. The IM felt 'being permanent' supported responsiveness and accountability in the meeting, as when managers are in 'acting' positions, it is easier for them to say they are 'only acting', avoiding accountability.

Since NHI piloting began, additional resources for performance monitoring were introduced by the National government and the Provincial government, including templates for monitoring and evaluation and sets of preparatory activities for meetings. All managers in the DMT had been given computers and 3G data cards. The IM was hopeful that the new technology would enable better practices by the managers. She felt she needed to be released from the dependence of managers on her for information:

> "*Yes, because in those pivot tables [shown on the computers], all the indicators for various programmes, they are there. So the managers even [can] now compare quarters to look at the performance of sub-district A versus [B] sub-district … to see areas that are alarming and as well as for them to be able to act up on the data that they see and*

it's also assisting me as information manager, even if I am not there. (Manager 1, 09/09/2013).

However, there were still challenges to using information for decision making in the DMT, including some managers' lack of trust in the data. The DM tried to address these reservations by using an example of a project where data had successfully been collected and verified to illustrate that it is possible to change practice and get good data.

He also used his positional authority (system hardware) to encourage managers to present proposed solutions, based on insights from the 'ground', in the meeting,

> *"Ja, people were focussing on challenges. Really their focus was specific to challenges. Like they are doing now, [they] don't have vehicles to reach area 1, so at the end what he was saying is "when you have got a challenge, come up with a proposed solution". It mustn't be just a challenge being thrown because you need to think what is it that can help you to change."* (Manager 8, 24/03/2015).

However, it was not always easy to make people focus on solutions. Doctors' accommodation was one intractable problem that seemingly had no solution:

> *"So, people started getting a little bit edgy. They said "what is the point of telling this guy that we have got a problem, because he actually can't do anything about it", you know and it is that kind of a … situation*" (new DM, 19/09/2014)

When a problem was resolved, the team were asked to share lessons in order to generate collective learning and thus contribute to the collective capabilities of the team.

Sensegiving to NGOs: crafting and managing key relationships to attract resources and support

In 2013, the new DM used his positional authority to host a stakeholder meeting for NGOs to present to him what they were doing in the district, what progress they were making and to remind them of their role as supporters in the district. They were told they would be invited to the extended DMT monthly meetings to present on their work to ensure objectives and progress would be aligned to district goals – effectively reinforcing 'the disciplining of the space'. His actions were supported by many managers in the DMT:

“*They [NGOS] don’t have priorities; it’s the district that has priorities – they are here to support the district to achieve the set targets on those specific priorities.*” (Manager 5, 1/10/2015).

For the NGOs who supported these actions, the new DM tapped into shared meanings and, in some cases, a history of working relationships (for example, generated by sharing office space with the NGO). They felt he was working hard at working together and that he gave them a voice in these processes. He, thus, also tapped into their intrinsic motivation. In this research we interviewed four staff members from two supportive NGOs:

Everybody had a voice. Everybody had a voice, all the partners had a voice. We felt part of the plan, and so we were prepared or we managed to own the plan." (NGO partner 1, 18/05/2015).

"As a partner we have to compromise … As a partner we have to be flexible all the time, because we are here to respond to the needs of the DoH. So, if you are not doing that, then the relationship between yourself and the DoH might turn a little bit sour; so you have to ensure that you’re flexible all the time." (NGO partner 1, 18/05/2015).

“*No, he was not a difficult person because he had the best interests of the department at heart*” (NGO Partner 2b, 18/06/2015).

The DM told NGO partners who did not want to create a shared vision that he would report directly to their funders, using sensegiving ‘sticks’ to influence participation.

“*We are actually more explicit to them, and said “if you don’t talk to us, then we write to your funder, saying that you are not helping us, then they can send the money somewhere else*”*, because everybody comes and they think the answer is training.*” (The new DM, 19/09/2014).

Some managers were wary of including NGOs in DMT meetings, given negative experiences of media reporting prompted by NGOs. However, the new DM successfully justified the need for inclusion using his experiential knowledge:

“*Really, it started working. He invited partners, even the partner that we didn’t like a lot, Partner XXXX. So, we felt that these are the people that normally write negatively about the department of health – then why are they here now? But the way he explained*

it ... because they were part of the meeting and they know what is happening, they have inputted in relation into what is supposed to be changed.

… *It really worked; I think it really worked, because otherwise we didn't like the idea, but we saw that as fruitful.*" (Manager 8, 23/05/2015).

As part of his plan, the new DM originally requested one of the large NGO partners to steward all the NGOs in the district as "*they must be guided as to what the needs of the district are*" (The new DM, 19/09/2014). But as this approach did not work because not all NGOs were pulling in the same direction, he then drew on his planning manager, who had a long history working in the district and long-standing relationships, to take co-ordination forward. The DM thus employed distributed leadership toward the overall goal.

"*[The planning manager] ensures that we plan with our partners; we do reviews with our partners.*" (Manager 6, 17/05/2015).

However, the district NGO coordinator felt somewhat left out of these new processes, as he was not a senior manager and did not attend extended DMT meetings. He also primarily coordinated Community Based Organisation Organisations (CBOs), rather than large NGOs - smaller organisations receiving subsidies from the Provincial government and monitored by the district office.

The DM also used familiar professional codes and discourse to encourage NGOs to understand that they had to participate in the development of the District Health Plan. This helped to create shared meaning about the importance of shared vision and accountability in the district:

"*Firstly, [the new DM] told us that what he needs is a consolidated plan for the DoH and for the partners as well. As partners, we have our own operational plans that talk to the objectives and the targets that have been set up by our funders, and there are certain indicators that we need to focus on. Same applies to the DoH, because they have got some indicators that they need to focus on. So, [the new DM] said "with all your plans that you have, they need to be integrated into our master plan so that we can have one plan that we are going to support and implement as district [X]. So we found that very valuable because with all the plans that we had, we had an opportunity to express our*

concerns and maybe the needs that we might have as partners for the kind of support that we are expecting from the DoH." (NGO partner 1, 18/05/2015).

Other mechanisms in context that facilitated sensemaking and sensegiving included the ongoing work of a large NGO specifically placed in the district to provide technical support to the district as an NHI pilot site. Some donor-funded projects also intentionally and actively sought to build working relationships between themselves and members of the management team (e.g. a UNICEF project).

An NGO partner noted that strong partnerships are built on good relationships:

"*Make good relationships with people, be flexible and try and understand the other's opinions. Don't be a know it all - acknowledge we learn from them and then learn from us. Be yourself and present yourself as you are.*" (NGO Partner 2b, 18/06/2015).

Despite the improvements experienced, persistent on- going challenges for partner NGOs in the district included their limited power to hold staff in the sub-districts they supported accountable, where, for example, staff showed lack of urgency.

The number and distribution of managers in the team: negotiation as sensegiving

To fill a critical vacancy (in this case a quality assurance manager) in the DMT, the DM used his positional authority and negotiated within his resource envelope rather than pushing the Provincial government for more money:

"*I have weighed up the benefit of one post above the other one, and said I am giving you [the Provincial government] the money for a quality assurance manager, … I have got a TB manager that resigned, and I said TB and HIV should actually be under the same deputy director. So, I am taking that TB money and that is quality assurance money.*" (The new DM, 19/09/2014).

This approach of prioritising among management posts was contested as some senior managers felt that posts at the same level simply could not be ranked (e.g. occupational health and safety against an HIV manager). But, using his positional authority, the new DM asked managers to rank their posts from 1 to 10 in order to create shared meaning. Using his implicit knowledge, he tried to create sense for others and diffuse meanings around the change – to influence and convince recipients to adopt change. Whilst acknowledging the

reluctance of managers to do the ranking and his own discomfort in ranking posts he believed were all important, he noted that it had to be done given budget shortages.

> *"But you … as a leader and manager, you have to make tough decisions"* (The new DM, 19/09/2014).

The DM noted some said he did not push the province hard enough for more resources, but he drew on his knowledge resources to arrive at a decision:

> "*I come from a different school of thought, but I mean to be fair, there are people that say I don't argue enough for more resources and that is based on … I attended a course on efficiency and so on and he [the lecturer] said the worst thing that you can do for a dysfunctional system is to throw money into it … It makes it more dysfunctional. So, I have been … when Province says I am not giving you money, I say okay.*" (The new DM, 19/09/2014).

For the Hospital CEOs deployed to the DMT without portfolio, the DM considered their skill set and then wrote each 1 a role description for a portfolio of work where they could use their skills, purposefully enhancing the collective capabilities of managers within the DMT in the process. In this, he drew on a common cultural code in the workplace of having a 'job description' to facilitate a sense of collective purpose.

> "*He couldn't get formal job descriptions because job descriptions come from the provincial office … [but] … he looked at those who were additional to the establishment and then from there, he managed to allocate them in areas where he was seeing that there are gaps … So, from there, you will be able now to come with what you are supposed to be doing.*" (Manager 8, 24/03/2015).

Did practices continue over time?

The DM who designed the innovations left the district in late 2014, but his successor as DM continued with the innovations in 2015. This new DM reflected that they drew on the courage instilled by the previous DM when applying for the leadership position, as well as recent leadership training. We asked if the changes in the use of information introduced by the previous DM was making things better:

Yes, it does because that's what we are continuing even with … we continued with what [the previous DM] has started. We look into the indicators and the performance of the district, the subdistrict and the hospital CEOs, they do make some presentations so that we are able to identify gaps and formalise some strategies to work around the gaps - we're still continuing. (Manager 6, 17/05/2015).

In 2015, the new DM also confirmed that the Planning Manager continued to ensure that planning and review processes continued with partners. Similarly, the Hospital CEOs deployed to the DMT without portfolio continued to work within clear role descriptions to ensure they functioned as an effective part of the team:

"Then I am able to allocate them to those areas. So, they're kind of busy there, because once you don't utilise one, he becomes demotivated and feels as if he's worthless. But now, we are utilising them fully."(Manager 6, 17/05/2015).

Nonetheless, the new DM was not naïve about the broader contextual challenges faced in leading the district in 2015, including key leadership vacancies in the hospitals (and in the district more broadly) and challenges related to clinical governance in some hospitals:

"*So, there are those kind of weaknesses that affect the progress and stability in the district*" (Manager 6, 17/05/2015).

"So, another weakness is you see there's a lot of staff turnover in the whole district, especially clinical people, professionals, the nurses. Because you will appoint a hospital manager; while you're appointing this one, the other one says I'm resigning, I'm going. So it's those kind of things that are threats now – I've done the weakness, the threats" (Manager 6, 17/05/2015).

More positively, the new DM mentioned that a new key NHI liaison official had been appointed at the Provincialgovernment, which helped them stay on top of NHI processes in the district.

Discussion

Amidst challenging contextual conditions and the implementation of top-down NHI piloting, this paper illustrates how a new district manager drew on systems thinking together with tacit and experiential knowledge to design bottom-up innovations to improve management

capacity in monthly management meetings. The innovations, together with the agency of the DM, triggered simple but profound micro-practices of sensegiving and social sensemaking among other DMT members. In turn, these triggered a further, generative process of buy-in and motivation among managers and partners to engage in improved management practices in their monthly meeting, unleashing and harnessing capacity in this routine structure (the meeting).

The research thus highlights (1) the individual competency for systems thinking needed by those in subnational management positions, who must develop capacity bottom-up to manage district functioning; (2) the mechanisms of sensegiving and social sensemaking that trigger motivation and buy-in of district-level managers and NGO partners and (3) bottom-up capacity development as an emergent process in the daily routines of the DHS. These points are discussed further below.

The competency for complex sensemaking

The DM's competency for sensemaking in context was a key factor underlying the design of the bottom-up innovation in the experience reported here. Sensemaking has to do with the way managers understand, interpret and create sense for themselves (Gilson, 2016; Rouleau, 2005; Rouleau & Balogun, 2011). Managers may adopt a linear or a complex frame to drive sensemaking and interpretation in context (Aragón, 2010). The DM applied systems thinking, for instance, when targeting a routine structure (the meeting) that brought managers and partners together to work across health system functions and silos to manage the district collectively. Systems thinking is an approach to problem solving that views problems as part of a wider dynamic system, "demanding a deeper understanding of the linkages, relationships, interactions and behaviours among the elements that characterise the entire system" (De Savigny & Adam, 2009 p. 33). Other experiences of capacity development offer insights on how to build capacity for systems thinking. In Ghana, a study of a programme to develop leadership capacity found that teaching systems thinking only as a tool rather than embracing it as an embedded practice failed to develop the new mental models needed (Kwamie et al., 2014). System leaders need to develop and apply three key capabilities: "their understanding of the system that shapes the challenge they seek to address; their ability to catalyse and support collective action among relevant stakeholders; and their ability to listen, learn and lead through coordination with and empowerment of others" (Dreier, Nabarro &

Nelson, 2019 p. 13). The systems thinking competency demonstrated by the DM was informed and complemented by his formal training, as well as his tacit and experiential knowledge of the health system. Together, these individual competencies allowed the DM to design a suite of bottom-up inter-connected innovations to build the capacity of the extended DMT. The DM's individual competencies thus also contributed to the growing capacity of the DMT.

While we did not measure long-term outcomes, we argue that the outputs observed in this case study are likely to contribute to building capacity in the management team over the long-term, defined as an "emergent combination of individual competencies, collective capabilities, assets and relationships that enables a human system to create value" (Baser & Morgan, 2008 p. 34). In their research, Baser and Morgan (2008) found that capacity *emerges* out of multiple relationship and that capacity has both technical, organisational and social aspects – which cannot be addressed through exclusively functional interventions. They note that some are sceptical of taking a system approach to capacity development given that the operational implications can be challenging. However, the operational guidance they offer those supporting capacity development includes: (1) given that the future is largely unknowable in complex systems, settle for 'good enough' and allow for exploration in the early stages of capacity development; and (2) as "capacity cannot be assembled like a machine", focus on emergence and opportunities and promote self-organisation for capacity (Baser & Morgan, 2008).

Sensegiving and social sensemaking

Recognising the DHS as a CAS informed our approach to investigating capacity development, and required us to look at the software of the system (knowledge, relationships, norms, communication), the intersection with hardware (positional authority, public policy documents) and how together they serve as sensegiving tools that drive an ongoing process of capacity development (Blaauw et al., 2003; Baser & Morgan, 2008; Sheikh, George & Gilson, 2014). "Sensegiving is concerned with ... [managers'] attempts to influence the outcomes, to communicate … thoughts about the change to others, and to gain their support" (Rouleau, 2005 p. 1415). The micro practice of sensegiving included the use of sticks, such as the DM drawing on positional authority to shape accountability in the meeting, and enforcement of the HMIS policy, and overcoding using discursive symbols, such as 'the auditor

general'. To trigger the motivation of managers and partners, the DM also employed sermons, created shared meaning by taking time to justify and translate the need for new management practices, including visiting managers in their workplace, gave voice to partners in meetings and employed relevant discursive symbols (performance, core business). He also disciplined the space by using an agenda to systematise the processes in the meeting and further drew on distributed leadership to create an environment that reinforced the overall goal (Rouleau, 2005). As these experiences demonstrate, complexity-sensitive managers adopt a contingency approach to leadership, balancing transactional, transformational and distributed leadership styles based on the needs of the situation and problem, adapting leadership practices to fit context (Belrhiti, Giralt & Marchal, 2018). A study on the daily management practices of sub-district managers in South Africa found, for example, that improving practices in daily routines, such as facilitation styles in meetings, minute taking, etc. required a set a software skills to nurture and engender "relationships of constructive accountability … that support persistent and adaptive problem solving aimed at enhancing service delivery and patient care" (Elloker et al., 2012 p. 169). We posit, then, that software skills are critical aspects to be considered when designing and evaluating capacity development innovations.

Sensegiving was strengthened by the DMT members' proximity to change (working alongside the DM), as well as by their engagement with new practices. In other words, 'doing' triggered appreciation for the new practices leading to motivation and renewed self-efficacy in managers and partners - and it triggered a generative process of buy-in. Actions also provide raw ingredients for sensemaking by generating stimuli or cues … "action serves as fodder for new sensemaking while providing feedback on the sense that was already made" (Weick, 1995). Sensegiving and sensemaking are "complementary and reciprocal processes" - staff will go through a series of cycles of sensemaking before making a decision to adopt an innovation (Rouleau, 2005 p. 1415; Seligman, 2006). Sensemaking is not only an individual act, it is also a social process that is ongoing and recurrent in organisations and that is influenced by contextual factors (Weick, 1995). In our study, the introduction of NHI piloting came with additional technology to support information use, training on information use in facilities and the placement of the large NGO in the district to provide technical support.

These other efforts to build capacity in the context complemented the new DM's suite of inter-connected innovations.

The outputs of these processes are the emergent practices and processes within a routine meeting structure that reflect improved DMT capacity.

Proximal outputs and emergent capacity development

Taking a CAS or systems perspective on capacity development in this research has enabled us to look beyond the input – blackbox - output model of capacity development (Baser & Morgan, 2008). It has allowed us to identify how a space between the health system building blocks/functions, the monthly management meeting, itself shaped by history and context, emerged as a site of innovation and anchor for capacity development within the DHS.

While there are growing efforts to understand how to develop district/health management capacity through CD interventions and courses from outside districts (Kwamie et al., 2014; Prashanth et al., 2014b; Hipgrave et al., 2018), we posit that from a bottom-up perspective, capacity development can be seen as an everyday act of managing. This may refocus attention to the challenging role of daily managing critical vacancies, developing support systems, holding well-functioning meetings for better planning, establishing clear role descriptions and knowledge of one's role in a DMT (Bonenberger et al., 2015; Muchekeza et al., 2012). We argue that bottom-up capacity development initiatives anchored in daily routines have the potential to circumvent some of the challenges identified in external, top-down CD initiatives. These include finding time in busy sched- ules to attend training, additional resources needed to convene new activities, the duplication of existing structures and/or processes in a district and the limited understanding of capacity development as a bounded project that is finished when the project is over or the convenors leave (Scheider et al., 2010; Kwamie et al., 2014). Homegrown CD activities allow for longer time frames and can potentially deepen local actor ownership and voluntary commitment to CD strategies, both of which are necessary for sustained capacity (Brinkerhoff & Morgan, 2010). We acknowledge that this type of workplace-based capacity development can work in combination with other, and external, forms of training and learning, such as classroom-based learning or e-learning combining theory and practice (Car, Kyaw & Atun, 2018; Doherty, Gilson & Shung-King, 2018; Edmonstone & Robson, 2014; Mshelia et al., 2016; Raelin, 1997). We also note that some of

the general challenges facing innovation in the public service include risk-averse attitudes, coordination problems, opposition to innovation in general and the doubts of stakeholders. To deal with the unexpected challenges likely to arise in implementation, slack should be built into the innovation process (Borins, 2001; Osborne & Brown, 2005).

Gilson et al. (2020) present a rare empirical example of bottom-up capacity development. They worked with local managers to implement and co-create an intervention to improve governance at the sub-district level. The intervention focused in part on the management of meetings and decision making and included rotating the meeting chair, positive rounds and managing time proactively. Challenges faced included senior managers not taking the time to ensure meetings were managed productively and an initial unwillingness of meeting participants to make decisions. These authors note that “institutionalizing the new principles and practices intended to nurture collective problem-solving and collective responsibility for service improvement [takes] time” (Gilson et al., 2020 p. 8). They did, however, find that intervening in the existing meeting structures created emergent and positive changes such as building supportive relation- ships across organisational silos, as well as improved collective decision making and sensemaking in management meetings. They argue, as we do here, that managers at the local level must be given the flexibility to experiment, whilst nurturing relational leadership skills and distributional leadership can improve the practice of decision making (Gilson et al., 2020).

Finally, we argue that building the capacity of the ‘structures’ (e.g. meetings, organisational processes) that hold the district health system are critical for developing capacity and unleashing the tools, skills and infrastructure in the system at large. Structural capacity includes decision making fora where inter-sectoral discussions occur and corporate decisions are made, records are kept and individuals are called to account for non- performance (Potter & Brough, 2004). We call for more research to build our understanding of the challenges and opportunities for building the capacity of managers from the bottom-up in the district health system.

Limitations

Improving district management team functioning is part of the long chain of proximal and distal outcomes needed to improve the capacity of district management teams towards

improved responsiveness, equity and health outcomes. This research only provides insight into one cog of this wheel – that is, the social processes of sensemaking and sensegiving and their interaction with the hardware of the system needed to motivate change. We were also only able to observe short term outputs. Additional longitudinal research is needed to understand how bottom-up innovations are institutionalised over the long term and the consequences for long term health goals. Finally, we did not reflect here on all the challenges faced by the new DM when introducing the changes; these will be considered in a subsequent cross case analysis.

Conclusion

We argue that local managers are well placed to design CD innovations and must draw on tacit and experiential knowledge and system thinking capacities in thinking 'bottom-up'. As their commitment and motivation are required to engage in CD processes, senior managers with power must draw on both their individual software competencies and the hardware resources of the system to influence motivation for capacity development. The act of managing is an everyday process, and we posit that CD can, thus, be conceived of as an everyday act of managing in routine structures while simultaneously building structural capacity in routine organisational processes. We recommend that further research is undertaken to understand bottom-up capacity development from a systems perspective, as well as CD interventions targeted at system 'structures' and organisational processes.

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Chapter 7 – Thinking about systemic capacity for leadership capacity development: a case study of one district in South Africa

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Overview: This paper aims to contribute to understanding of how to build systemic capacity for LCD through the lens of a bottom-up innovation in a health district. We observed, in the period 2013 – 2015, the emergent implementation of an innovation (a Leadership Commission) to develop the leadership capacity of managers in a South African health district. What started out as an effort to train individual leaders, evolved into the development of systemic capacity (i.e. roles, structures, and processes) for LCD.

Contribution to the thesis: Chapter seven serves as the second empirical case study of bottom-up innovation for management capacity development in study site 2. This chapter contributed to an evolving understanding of how to build systemic capacity for leadership capacity development (LCD) through the lens of a bottom-up innovation in a health district. I observed the emergent implementation of an innovation (the Leadership Commission) to develop the leadership capacity of managers in the district health system. What started out as an effort to train individual leaders, evolved over time into the development of systemic capacity (roles, structures, and processes) for leadership capacity development. I identified key mechanisms that were triggered in context to develop the capacity of managers and the systems for LCD.

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Contribution of the Candidate I led the development of the data collection tools for research on which this manuscript is based. I collected data, coded data, conceptualised the paper and drafted the manuscript. I have finalised the manuscript and it has been submitted to a journal for peer review.

Abstract

The need for leadership in and of district health systems is critical for the effective delivery of services and for inter-sectoral collaboration for health. Leadership capacity development (LCD) has not, however, been prioritised within health systems; and the systemic capacity that is needed to develop managers who can lead is not always in place. This paper aims to contribute to understanding of how to build systemic capacity for LCD through the lens of a bottom-up innovation in a health district. We observed, in the period 2013 – 2015, the emergent implementation of an innovation (a Leadership Commission) to develop the leadership capacity of managers in a South African health district. What started out as an effort to train individual leaders, evolved into the development of systemic capacity (i.e. roles, structures, and processes) for LCD. Employing realist evaluation principles and case study design, we firstly developed a programme theory of the internally driven LCD initiative, through a round of interviews with senior managers. We then tested the programme theory drawing on fourteen in-depth interviews, relevant documents and field notes of meetings and processes. Our analysis suggests that building systemic capacity for LCD requires leadership to be expressed as a strategic priority by those with positional authority; and that bottom-up LCD requires institutional commitment through the formation of structures and processes embedded in routine systems. The ability to leverage existing resources is another key component of systemic capacity building. Key mechanisms that enable bottom-up capacity development include tacit and experiential knowledge, sensemaking, systems thinking by champions, trust between and motivation of those tasked with leading LCD. Leadership development is constrained by increased workloads for those involved if the prioritisation of leadership becomes an additional task, and implementation and sustainability challenges are likely in the absence of additional resources for bottom-up innovation.

Introduction

The District Health System (DHS) is a critical organisational level in any health system, as it is the platform both for the delivery of primary health care and for coordinating action with societal actors, and across government departments (Van Lerberghe, 2008; World Health Organisation[WHO], 1988). Strengthening district leadership and management is widely

recognised as vital to strengthening overall health system functioning and performance (Doherty et al., 2018; Tanner, 2005; Van Lerberghe, 2008; WHO, 2007).

Health managers, including at the district level, are increasingly required to confront complex challenges in their daily work, such as epidemiological transitions, efforts to achieve universal coverage (Belrhiti et al., 2018; Figueroa et al., 2019; Reich et al., 2016), human resource challenges and capacity constraints. Health systems are widely recognised to be complex adaptive systems. Navigating complex challenges in health systems requires being able to lead people at all levels of a system to take collective action towards shared goals (Bigland et al., 2020; WHO, 2016). Such experiences have driven a shift in wider leadership discourse from concern for individual leaders' characteristics and traits to thinking about leadership as distributed (Gronn, 2002), participatory (WHO, 2016), and a relational and interactive practice (Cleary et al., 2018). These new leadership ideas emphasise teamworking and collective forms of leadership and see leadership as an organisational capability rather than an individual competence. In this sense, leadership capacity can be seen as an emergent property evolving within a system that can be facilitated through explicit or implicit workplace based learning processes (Choonara et al., 2017; Martineau et al., 2018). There is, therefore, growing recognition that "strengthening health leadership is a system-wide reform that requires intervention at individual, team and system levels" (Gilson & Agyepong, 2018; Reich et al., 2016; WHO, 2016) and that capacity development entails more than individual training. Yet, leadership capacity development (LCD) in health systems is mostly targeted at individuals (Johnson et al., 2021) and often entails a mix of on the job training and externally provided interventions (Belrhiti et al., 2018; Chunharas & Davies, 2016; Curry et al., 2012; Daire et al., 2014; Johnson et al., 2021), including in district health systems (Cleary et al., 2018; Daire & Gilson, 2014; Nzinga et al., 2021). Supporting individual training is typically viewed as an internal human resource development task, situated as a function of human resource departments, but LCD is rarely seen as an organisational priority. Little is known about internally driven LCD at health district level.

In this study, we followed a bottom-up emergent process of innovation that sought to build systemic capacity for LCD in a South African health district. We applied the realist evaluation approach and drew from theories relevant to understanding bottom-up processes of innovation and policy implementation. These address the activities of health workers at the

frontline or periphery of a health system, who, in typically iterative processes, both re-interpret policies originating from the centre (or top) of the system and develop their own initiatives (Elmore, 1979; Gilson et al., 2014; Gilson et al., 2018; Hill & Hupe, 2002; Lipsky, 1980; Orgill & Gilson, 2018). In public sectors, innovation can be defined as "the introduction of new elements into a public service – in the form of new knowledge, a new organisation, and/or new management or processual skills, it represents discontinuity with the past" (Osborne & Brown, 2005). We articulate bottom-up innovation as an initiative that is new and/or experienced as a new idea, practice or object and that is designed by actors at the bottom of the system (Brown & Osborne, 2012). Our findings provide insights about what emergent processes for building systemic capacity for leadership development might look like, the mechanisms that facilitate them and the factors that may constrain them.

Background

Within a wider programme of district and primary health care (PHC) strengthening in 2012-17 (Oboirien et al., 2014; Pillay & Barron, 2012; Schneider et al., 2014), the South African National Department of Health (NDoH) introduced a series of innovations to strengthen the DHS in preparation for the introduction of proposed National Health Insurance (NHI) reforms (Matsoso & Fryatt, 2013; SA NDoH, 2011)[16]. The NDoH selected ten health district sites as 'NHI pilot sites', all of which were identified as most in need of improvement (Health-e News, 2012; Khumalo, 2012). The capacity of District Management Teams to implement the proposed reforms was seen as crucial to NHI success, and management strengthening development was identified as a key priority by the Minister of Health (SA NDoH, 2011).

As part of this mandate, bottom-up strategies were developed by some district managers (Orgill et al., 2021), and in the district of focus in this paper, the district manager (DM) chose to focus specifically on 'leadership capacity development' (Box 7.1). We were working in this district as part of a larger project investigating the preparations for NHI implementation. Although we had originally envisioned observing a set of training activities, we instead followed over time an emergent bottom-up process to build systemic capacity for LCD in this health district. Observing the diffusion of this bottom-up innovation allowed us to map key

[16] A National Health Insurance has not as yet been formally adopted or implemented in South Africa.

processes and steps that could be valuable in nurturing the emergence of systemic capacity for LCD.

Our research question was 'what are the mechanisms for change triggered by the Leadership Commission, and how does it interact with the existing social processes and norms, in the period 2013-2015'?

Box 7.1: The bottom-up innovation for leadership capacity development (LCD)

In 2013, a new district manager (DM) and her five top managers identified six strategic priorities for the district, called 'commissions', in the annual planning retreat. For the first time, leadership - this was the term actually used - was identified as a strategic priority in the district. The bottom-up innovation considered in this case is the *Leadership Commission*. This Commission was not a structure, but rather an expressed statement signalling the importance of leadership capacity development. The goal was to harness managers who could lead and transform the health system in the future. The meaning of leadership was not fully specified. Rather, ideas about how to develop leadership emerged through the process. The original premise of the Leadership Commission was to develop the capacity of individuals to lead, but over time it was recognised that the systemic capacity at the local level to implement LCD initiatives was limited: there were no formal structures and processes in place that specifically targeted and/or budgeted for LCD. Subsequently, efforts were made to set up structures and processes in the district to give 'life' to the Leadership Commission.

We did not observe long-term outcomes in terms of changed managerial behaviours in the two years in which we worked in the district. The process from ideation to proximal outputs (roles, structures, and processes) itself took roughly one and a half years.

Methodology

We adopted realist evaluation (RE), which seeks not only to answer whether an intervention (I) (here the Leadership Commission Innovation) works (or not), but also to understand how and why, in a particular context (C). RE is driven by a philosophical understanding that interventions work (or not) because of the ways in which actors (A) make sense of the world. Actor sensemaking is influenced by social or psychological drivers that are embedded in individual reasoning and/or are influenced by the context in which actors are embedded.

These drivers are commonly referred to as generative mechanisms (M) that trigger behaviours in actors which shape the outcomes (O) of interventions (Pawson, 2013; Pawson & Tilley, 1997). Using the Intervention-Context-Actor-Mechanism-Outcome configuration (B Marchal et al., 2019), we followed the realist evaluation cycle (Bruno Marchal et al., 2012; Pawson & Tilley, 1997). The steps in the cycle include the development of a programme theory, which is then tested (the focus of this article) and used as the basis for future evaluation and lesson learning over time.

The initial programme theory (PT) (summarised in Box 7.2) including assumptions, was elicited through an initial round of district interviews undertaken within the larger project in which this study was nested. The conceptual underpinnings of this PT are drawn from innovation theory, which recognises that the assimilation of innovations into a system is often messy. Actors go through cycles of sensemaking along the journey to innovation adoption (Seligman, 2006), and the theory combines elements of diffusion and dissemination. Diffusion occurs when the "spread of innovations is unplanned, informal, decentralized, and largely horizontal or mediated by peers" (Greenhalgh et al., 2004), whilst dissemination is a formal process, often centralised and occurring through vertical hierarchies, and perhaps including a communication strategy. This diffusion can occur through champions, vertical networks and boundary spanners. "Communication is a central part of sensemaking and organizing …… a situation is talked into existence and the basis is laid for action to deal with it" (Greenhalgh et al., 2004).

As the Leadership Commission Innovation had recently been initiated, we were able to gather information about the processes surrounding its implementation and so, test our programme theory.

Box 7.2: The initial programme theory (PT1)

In a historically under-performing health district (C), that is an NHI pilot site (C) and where a shortage of leadership capacity has been identified (C), senior managers in the district will use their positional power and agency to design and implement bottom-up ideas and innovations to develop leadership capacity, because they perceive (M) the Minister's call to strengthen management in districts as a priority, because they are motivated (M) and because they can generate resources to put plans into action (M). If the resulting bottom-up idea diffuses

naturally and/or is disseminated through planned strategies that make use of champions, vertical networks, boundary spanners, sensemaking and sense giving, a process of buy-in from relevant actors and a course of change will be triggered, which will lead to putting in place functioning structures and activities (proximal output) to support leadership capacity development in the local context. These activities will provide capacity development opportunities for managers which will improve their competencies, contribute to a change in the behaviour of managers, ultimately improving the capacity within the district to manage and lead the district platform.

Study design

We adopted a single case study design (Pawson & Tilley, 1997; Yin, 2014) to engage with the innovation as it unfolded and emerged in the real world (Gilson, 2012; Yin, 2014). As Yin (2014) notes, in case studies, theoretical propositions are desirable and serve as blueprints for the study: "such propositions will enable the complete research design to provide surprisingly strong guidance in determining the data to collection and the strategies for analysing the data" (Yin, 2014).

We defined our case as 'the emergence of bottom-up innovation for leadership capacity development' within a district context. We purposively selected the district of focus given the presence of such an innovation, and because the DM and DMT were willing to grant us access to the district. The district was also actively engaging in the process of NHI implementation, which was of relevance to the broader study.

Data sources and data collection to test the programme theory

In 2014 - 2015, we employed snowball sampling to identify actors who were involved in the design and implementation of the Leadership Commission in the district – following the trail of activities. We conducted fourteen interviews with senior managers and mid-managers. We also kept field notes from our visits to the district, in which we recorded our observations, critical events and summaries of encounters with health workers. In 2015 in a one-day workshop we presented preliminary results to senior district managers to validate our observations.

Data analysis

We employed thematic analysis in data analysis (Miles et al., 2014), using a staged process. We first created an MS Excel matrix for first-level coding, deductively applying the Intervention-Context-Actor-Mechanism-Outcome configuration (Marchal et al., 2019; Pawson & Tilley, 1997). Under 'intervention', we coded aspects of the innovation, including key activities and processes, understanding of the problem (linked to assumptions) and understanding of the solutions (linked to outputs and outcomes). We stayed open to induction (Yin, 2014) in all the categories: as this was an emergent innovation, we could not easily predict what the data would reveal in all the categories. While we were looking for certain mechanisms, we stayed open to new activities, actors and subsequent mechanisms that would be triggered.

In a second stage of analysis, we looked for patterns matching with the key elements of the initial programme theory. Specifically, we looked for generative mechanisms as defined earlier. We moved between the data of the interviews and notes and theory to derive the plausible ICAMO configurations which are presented as findings in this paper (Miles et al., 2014). Two researchers who were both engaged in fieldwork in the district regularly checked interpretations with each other during the coding phase where we conjectured ICAMO configurations, and during interpretation. We also discussed o the findings with two additional researchers who worked in the larger project and who have published widely in the field of management and leadership in health systems, in order to review the final conclusions. For further triangulation, in 2015 we member-checked the findings at a one day feedback meeting with senior managers in the district to ensure dependability of the data (Gilson, 2012). Refining the IPT on the basis of empirical data is a way to enhance analytical generalisability of case studies, lifting the data to a level of abstraction that allows conclusions to be transferable to other contexts (Gilson, 2012; Robson, 2002).

Results

In this section, we present the main findings from our analysis. We start by describing the context and the innovation, and then present the mechanisms triggered by the *Leadership Commission* as it interacted with existing social processes and norms in the period 2013-2015, to develop systemic capacity for leadership capacity development within the district.

Initial context for leadership capacity development

In 2013, the district was an NHI pilot site, grappling with implementing a range of innovations as called for by the Minister of Health, including strengthening management capacity. The district had underperformed in terms of health outcomes relative to other districts in South Africa and faced challenges that included an under-resourced and under-staffed PHC platform. It was noted that some facilities in rural areas were only running with 50% of the staff they needed to fulfill their mandate,

> *'There are so many things that they have to do which were not in place when the structure* [of the district] *was developed, and the structure is actually not catching up with the new directives'* (Participant 1, 2013).

Although only appointed in 2013, the new DM had twenty years of experience working in the district, with valuable institutional memory. She recognized the ways in which people grow within the health system, and the need to support such growth for leadership development. As a participant noted,

> '*Some staff ... they started off as pharmacy assistants; they died as deputy directors because of the growth through the systems and actually managing talent to make sure that we develop them*' (Participant 1, 2013).

She was working with a strong District Executive Committee (DEC) whose members all had high respect for each other. The DM also reflected that she had some exceptional managers in the district who had proven themselves through consistent performance in the health facilities they led. However, there were challenges. A DEC member expressed concern about the capacity of District Management Team (DMT) members, especially in leadership skills (Participant 2, 2014).

> '*There were critical gaps that we noticed – not at DEC level but in the 30% [of DMT members] that I talked to you about, in terms of decision making; so we're looking at issues like that: decision making as well as role modelling'* (Participant 2, 2014)

Challenges at the lower level included operational managers that were not trained in administration and leadership. Additionally,

> '*We have a tendency of taking someone who is doing very well in a programme because of their professional expertise and throw[ing] them in the deep end for management and leadership and given the challenges that we are having presently, you need to do handholding because you are dealing with people and people break easily*' (Participant 1, 2013).

Within the public system, district staff could access courses offered by the National Department of Public Service Administration (DPSA), including those addressing various levels of management development, including leadership. The DM commented that she had seen a change in some of the operational managers who had graduated from these courses (Participant 1, 2013).

However, as access to these programmes was via nomination through the Provincial Department of Health, it cannot be assumed that all managers accessed them. The Human Resource Department, meanwhile, asserted that their role was to develop management skills, such as how to discipline staff, rather than broader leadership skills. There was, then, limited bureaucratic infrastructure to support LCD within the system and there were no additional resources for bottom-up innovation. There was, however, a fairly new Regional Training Centre in the district, although solely funded for HIV/AIDS training in 2013.

Bottom-up innovation for leadership capacity development (LCD)

The Minister's call for management development and the DM's contextual understanding of the need for leadership skills in the district triggered **a sensemaking process.** This sensemaking was driven by the DM's firm belief in leadership as an important practice and set of skills that managers need to fulfill their duties; and she wanted managers to be prepared for future leadership roles. This **belief** was shared by the DEC:

> '*And we are very excited, you know that we never focused on this issue [leadership] [before], so we are really doing our best as the DEC to make sure that one day when we are no longer here, these are the managers that are reporting under us must be able to take the hospital and primary healthcare facilities to another level'* [Participant 2, 2014]

The DEC identified leadership as one of six strategic priorities (with HIV, AIDS and TB, ICT, staff wellness, quality and national core standards) for the district at the beginning of 2013, establishing thematic commissions for each.

The DM, using her positional power and acting as champion, showed **expressed commitment** (in her use of language and narratives to prioritize the issue (Fox et al., 2015) by establishing the 'Leadership Commission' as a strategic priority in a district – this was a new organizational arrangement. Although no specific definition of leadership was used, the narratives clearly spoke to issues of interdependence and leadership for the future. The DM also showed **institutional commitment,** beyond expressed commitment**,** by setting up the basic bureaucratic infrastructure to address the issue (Fox et al., 2011). She did this by drawing on resources in the district*,* including establishing the Leadership Task Team (LTT), to drive the work of the Leadership Commission.

> '*It's … difficult to make people think out of the box. You see, when we started with the LTT people were saying "Let's do the things we are supposed to do." and we said we have been trying that for quite some time and it's not helping, let's do something different. Let's shift the focus from ourselves [from] what we need to do as leadership [which] is to build relationships, let us equip these people [managers] with skills so that when we leave it should be easier for someone to take over, there must not be a skills gap' (Participant 1, 2015)*

What mechanisms underlay the successful setting-up and functioning of the Leadership Task Team?

The DM reflected on a personality assessment which had identified her as someone with 'vision', who liked to take 'action' and who liked structure but had fallen short on 'interdependence'. Consequently, she had intentionally brought her focus towards sharing responsibility and allowing others to drive change alongside her. Based on this ***self-reflection,*** the DM purposefully engaged two highly motivated DEC members who believed in the need for LCD in the district, to lead the LTT. Specifically selected because of their proven leadership capabilities, both had many years' experience working as managers in the district and both were CEOs of well-performing hospitals. A shared understanding of what leadership entails was evidenced in the LTT leaders' narratives about their own experience of leading and being led.

There were no additional resources for the Leadership Commission. Yet the new priority status for LCD provided legitimacy for the LTT's establishment and for attracting human resources to it. This unleashed the personal capacity of the two leaders. Their high motivation,

linked to their positive leadership experiences and their sensemaking on leadership, helped to establish the LTT successfully. The sensemaking of Leader 1 of the LTT was also influenced by a DPSA leadership development training programme that she had completed:

> '*It is through the various courses that I did. You know what makes me to be more interested in leadership is the fact that in 2013, I think, 2013-2014, I was involved in the Executive Development Programme…… So now, my mini research was on leadership. I focused, you know there is a strategic challenge that you must give – so I took that as my strategic challenge to say that I do want to see one day the leadership being in place even if one day we leave the Department of Health, so that the hospital must keep on running' (Participant 2, 2014)*

The two leaders selected six additional LTT members from their work networks. They developed a clear allocation of roles and responsibilities in the team and identified champions for specific tasks. LTT members expressed confidence in the LTT leadership. They held regular meetings every second month and there was shared sensemaking around the need for hard work to bring about change.

> '*It was a team effort. It was a team effort, madam, what we do is a team effort. We sit and say: 'This is fine'. We present, we task each other. You go and do, you two you go and develop the tool, you go and do that, and next meeting you present, and we critique'* (Participant 3, 2014).

> '*We are a very diligent group, you know. [The leader] is a [hard] driver'* (laughs) (Participant 4, 2015)

Given that the LTT leaders and some members were part of the DEC, the LTT became integrated into the routine management structures in the district. Accountability structures were also put in place as each of the six commissions had to present on progress at the annual strategic planning forum or *lekgotla*. This accountability facilitated ***sensegiving*** on the priority status of all of the commissions.

While the LTT was functioning well at the district level as a team with champions, one respondent noted that the structure was not yet reaching lower down in the system. Another manager reflected that working on LCD was time consuming as leadership could be

understood as something that was not a priority, given other pressures and job responsibilities.

> '*You running a lot of balls, you running a training plan for leadership, you running the HAST training plan, you running the [training form the] equitable share [budget] … You know, it's a lot of things [but] you have some success'* (Participant 4, 2015)

Within the LTT, there were also different interpretations of what 'leadership' meant. One manager understood it as 'emotional intelligence', a narrow understanding that suggests sensemaking was not fully comprehensive among all actors.

The Climate Survey as part of systemic capacity building for LCD

A key foundational process in which the LTT engaged between 2013 and 2015 was the development and application of a climate survey in the district. There was no routine method of gathering information about the experiences of managers in the district or their capacity needs. The survey was administered to managers of all levels of seniority within the district, as well as to specialist health professionals. On district management and leadership, they were asked (1) what they wanted to be changed, (2) what did not need changing, (3) how they felt about their senior managers and (4) the general challenges they experienced.

The key mechanisms that enabled the development of the climate survey included collective sensemaking about the need for information to drive the Leadership Commission forward and a diffusion of ideas and resources between the DM and one LTT leader, whose existing capacity was unlocked to support systemic capacity building for LCD. The leader had completed the DPSA Executive Development Programme (EDP) and had previously developed a climate survey to assess leadership capacity and skills gaps in her own hospital. The earlier survey tool was updated as the basis for the district-wide climate survey.

Further **institutional commitment** was shown by setting up the processes for conducting the climate survey and for sharing the results. It was conducted district-wide using halls or other convenient venues where managers could complete the survey. The process of administering the survey and the results of the survey triggered **self-reflection** by the senior managers. Engagement with the results served as a moment of sensemaking for the DEC, both about gaps in their own leadership and management as well as in the district at the sub-district levels.

[The climate survey] was a massive eye opener, people were very unhappy with the status of management and leadership in the district' (Participant 1, 2015)

A leader of the LTT commented:

'That was embarrassing, I'm telling you. They told us in our faces what they thought of us' (Participant 2, 2014)

Key challenges identified included lack of decision making at middle management level, lack of role models, not meeting goals and targets and lack of initiative. The DEC identified serious challenges with about thirty percent of managers in the district.

'There were gaps in terms of professional appearance and issues of performance in terms of initiative, and meeting the goals and targets. Those things are very important for any leader. We talk about issues of professional ethics and work ethics because if [indistinct] you are a latecomer as a leader you influence your people … the other issues were issues like team building, it's a whole lot of issues' (Participant 2, 2014)

Other challenges identified included few development opportunities, the lack of management visibility in the district (at all levels) and overall levels of staff wellness. Staff wellness was also identified as one of the six wider district priorities. The survey showed that managers sometimes did not feel rewarded, only called in when something negative happens and that '*no one ever says what you do right'* (Participant 4, member of the LTT, 2015). However, one manager commented that the DM was actively trying to change that situation through her own behaviors in meetings.

The survey results were disaggregated by facility and presented to the DEC, then to the wider district management team and, finally, via vertical networks to sub-districts. The planned dissemination of the results was part of the process of sensemaking and sensegiving at all levels of the district.

'And we developed, we analysed that and we went back and presented to say there, our the people are saying regarding management et cetera, … and we said X Hospital, this is your climate survey, so out of this you develop a plan. The LAMs [local area managers] are developing the plans for the clinics and progress must be shared quarterly' (Participant 3, 2014)

After the presentation of the findings in the sub-districts, individuals were nominated to be responsible for the leadership mandate at lower levels of the system as part of the dissemination strategy. They acted as champions, developed bottom-up plans, and sent a progress report to the LTT leader. The LTT leader commented that this ensured accountability by the people developing the plans.

The Regional Training Centre (RTC) as part of systems capacity for LCD and the role of boundary spanning

Another input into the development of the system capacity for LCD was made by the Regional Training Centre (RTC), and more specifically the manager of the RTC who was selected as a member of the Leadership Task Team. The RTC manager was ***highly motivated*** to support training generally in the district as this was her passion, and the DM had noted to her personally that she could come directly to her for support. She also had a firm grasp of training structures in both province and district. She was highly dedicated and well respected by the leaders of the LTT, and had "*a wonderful team*" (Participant 3, 2014).

The district was a NHI pilot site with many external service providers working toward strengthening the PHC platform. While the RTC was only given a budget for HIV training, she was given a mandate by the DM to extend the RTC's services toward workplace skills more broadly. In her **boundary spanning** role across **vertical and horizontal networks** in the district, the manager used bargaining and negotiation to leverage[17] external service providers to offer free training for managers for a fixed time as part of LCD. For example, she negotiated with one service provider, hoping to do research in the district, to extend their change management training to a group of supervisors.

> *'They can have research here, but then we want one workshop just for the supervisors also. So that we don't have to pay private companies for training […], you know, 'emotional intelligence [training] is R143 000 (gasps) for 20 people and then it's a two-day workshop and then I still [have to] pay the catering'* (Participant 4, 2015)

An additional two service providers were persuaded to use the results of the climate survey to support managers with targeted training. A leader of the LTT commented:

[17] The definition of leverage used here is: "**to use something that you already have in order to achieve something new or better**" https://dictionary.cambridge.org/dictionary/english/leverage

‘Part of the intervention from our task team was that we are struggling with a, b, c, d. […and we identified] those managers that are not doing well. So, yes, we had targeted training in terms of leadership gaps’ (Participant 2, 2014)

Training was also provided internally. For example, the larger hospital management teams developed plans for computer skills training to address a particular need of some of their operational managers.

There was, thus, a combination of external training and internal training for LCD. However, building structural capacity requires thinking about longevity and sustainability. Challenges that arose included that the service providers were all externally funded and would eventually leave the district. The RTC manager noted that, ideally, she should have a set of trainers who could take over these roles, but she had neither the people nor the funding for such activities. A ‘training the trainer’ process was undertaken to try and circumvent this problem, using staff in the district to replace the external service providers. However, these staff members still had other jobs and it was sometimes difficult to ask their managers to release staff to conduct training:

"Person X tried to train people before she went away but those people have other work. … As long as you train a trainer who still has another job, one of the jobs is gonna suffer, either your job or the one you have been trained at, and of course it is the training that suffers.” (Participant 4, 2015)

Discussion

This paper reports a bottom-up innovation that focused on building systemic capacity for leadership development within a district health system, providing insights about how leadership development can be held and nurtured as an internally driven system capacity development intervention. We sought to draw out and synthesise findings on the mechanisms for change triggered by bottom-up innovations for LCD and how they interact with existing social processes and norms.

Potter’s capacity pyramid provides a useful lens to describe the proximal outputs that were achieved. He describes a four-tier interdependent hierarchy of areas relevant when building capacity in systems, including “(A) structures, systems and roles, (B) staff and facilities, (C) skills, and (D) tools” (Potter & Brough, 2004). The establishment of a functioning LTT **[output]**

as a key structure for decision-making for LCD was part of the emergent process of enacting the *Leadership Commission* as a strategic priority in the district. This structure harnessed the collective capabilities of a key team of people, drawing on individual competencies. The climate survey was central in enabling the use of information for decision-making **[output]**. The survey was used to understand the capacity needs of managers and for planning leadership development activities. Using disaggregated survey results, it also informed the identification and tasking of sub-district champions to develop bottom-up plans for LCD. The harnessing of information at the right time for the right purpose is part of the capacity (Potter & Brough, 2004) needed for systemic capacity building. While the regional training centre was initially only developed for HIV training, through the RTC manager and DM, it became a key part of the support service capacity for LCD **[output]** in the district. This included the provision of free management and leadership training by three external service providers as a starting point for LCD, and an annual training plan (covering many areas beyond HIV) for the district, developed by the RTC manager in consultation with the Provincial government. These experiences resonate with Baser and Morgan's (2008) definition of organisational capacity, as comprising individual contributions and the collective capabilities of teams and people working together.

We conclude that PT1 did materialise: senior managers used their positional authority and agency to support LCD for managers through boundary spanners, champions and vertical networks, as we explain below. In addition, we identified the importance of developing components of systemic capacity as a foundation for areas not traditionally prioritised in the health system, such as structures for decision making, strengthening the systems thinking competencies of those embedded in these structures and harnessing support service infrastructure.

The mechanisms for change triggered by the Leadership Commission and their interactions with context

The Leadership Commission did not fit neatly into the usual health system processes and there was limited bureaucratic infrastructure for LCD. The first step in building systemic capacity for LCD was identifying leadership as a strategic priority at the highest level of the district. Importantly, this was a show of expressed commitment (Fox et al., 2011) by the DM,

triggered by her sensemaking, her champion role, her newly acquired positional power. This step was supported by shared sensemaking with her five senior managers about the need for leadership development in the district to sustain the system, and driven by a deep historical and localised understanding of the context.

Unlike policies implemented in a top-down manner, bottom-up ideas diffuse in a system when the “spread of innovations is unplanned, informal, decentralized, and largely horizontal or mediated by peers” (Greenhalgh et al., 2004). Once ideas become more formalised, intentional dissemination of information begins. As there was no formal mechanism for gathering information on leadership development needs or how to develop leadership capacity initially, the use of tacit knowledge was a key mechanism shaping the bottom-up innovation. Such knowledge was complemented by the climate survey, an information gathering exercise implemented through vertical networks, which stimulated personal reflection by senior managers about how staff viewed them. It was used both to disseminate knowledge about the Leadership Commission and to set up planning processes for leadership development at the sub-district level. The champions for leadership development drew on their past experiences of leading and relevant training (Orgill et al., 2019). Identifying the right individuals and harnessing their competencies was a key mechanism that enabled systemic capacity development for LCD – for bottom-up innovation, it is important to harness readily-available resources given wider constraints. Key mechanisms included shared beliefs and a shared motivation by these senior managers to develop future leaders and address current leadership behavioural gaps. Dalakoura (2010) identified similar features associated with leadership development in organisations, such as: (1) the need for a steady focus on developing leaders at all levels; (2) an organizational culture that values leadership behaviour at all levels; and (3) leadership development being seen as a priority of strategic importance.

The DM’s show of **institutional commitment** enabled systemic capacity building for LCD. “[T]he process of setting up the basic ‘institutions’ and bureaucratic infrastructure to mount a response or act beyond expressed commitment only” (Fox et al., 2011) helps to ‘lock in’ a response to prevent new programmes being undone or uncoupled from the system. Beyond building individual role capacity (e.g. the LTT leaders), when implementing innovations, it is also important to focus on developing structural and systems capacity (Potter & Brough, 2004). Administrative and organisational arrangements need to be in place so that there are

proper for a for decision making and functioning systems to ensure that programmes/services can be provided long term (Cassels & Janovsky, 1991; Orgill et al., 2021; Potter & Brough, 2004). The DM's ability to take a systems perspective was a key mechanism that enabled thinking across the DHS towards developing systemic capacity for LCD. Moreover, as the LTT leaders were among the senior managers within the DMT, a routine management infrastructure, the priority status of leadership development was maintained through the collective sensemaking in this team with high power in the district. Information gathering through vertical networks up and down the system using a climate survey served as a useful tool to gather information and to disseminate knowledge down the system about the LTT and the Leadership Commission. As Orgill et al. (2021) have argued: "building the capacity of the 'structures' (e.g. meetings, organisational processes) that hold the district health system [is] critical for developing capacity and unleashing the tools, skills and infrastructure in the system at large". Unlike policies implemented in a top-down manner, bottom-up ideas diffuse in a system when the "spread of innovations is unplanned, informal, decentralized, and largely horizontal or mediated by peers" (Greenhalgh et al., 2004). Once ideas become more formalised, intentional dissemination of information starts to occur.

Insights derived from this experience for future leadership capacity development at district level, in South Africa

Health system challenges are becoming increasingly complex and require intersectoral and interdependent solutions. Management without leadership simply will not be enough (Kwamie, 2015). This experience suggests that institutionalising systemic capacity for LCD from the bottom- only is likely to be challenging. Central-level governmental action will also need to support such efforts by prioritising LCD through additional resource allocation, developing bureaucratic infrastructure to support district-led LCD and building the capacity of managers and teams who embody systems' leadership characteristics to drive the development of these foundations in the health system (Gilson et al., 2023; Kwamie, 2015).

The systems leadership literature "is quite diverse, but there is a common focus on the critical processes and practices needed to nurture change within complex, interconnected and interdependent systems" (Gilson et al., 2023). Adopting a workplace-based learning approach to LCD may enable an embedded approach to LCD and support the development of people and teams, whose new leadership practices work to change the system from within.

Developing leadership capacity will require maintaining a balance between individual and organisational capacity strengthening, recognising the two as complementary. Indeed, leadership practice can support the creation of enabling environments for wider systems change (Aku Kwamie, 2015). One way to develop this complementary balance is to expose individuals to systemic learning opportunities - such as drawing on systems leadership principles and practices in coursework and linking this to system wide processes such as intersectoral action; and embracing pedagogies that include work-based place learning (Gilson et al., 2023), which will itself require support from high-level health systems leadership. Johnson et al. (2021) provide lessons for the sustainability of all health LDPs: (1) ensure self-sufficiency with domestic funding; (2) deliver through national or regional institutions; (3) draw on national or regional faculty; (4) ensure country ownership; (5) train participants to become future mentors; and (6) anticipate resource constraints in the setting (Johnson et al., 2021).

Conclusions

While there is increasing recognition that district-level leadership is a critical component of a well-functioning health system, many health systems do not yet have the systemic capacity to either hold and sustain LCD initiatives or think beyond individual training programmes. Recognising leadership as a district priority and establishing the associated bureaucratic infrastructure and budget commitment are essential first steps. Internal leadership can, moreover, be harnessed to drive wider LCD, especially amongst those who have experienced positive leadership and believe in the need for leadership development. While new resources will be needed, creative opportunities and leverage points should be integrated and synthesized to support LCD.

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Chapter 8 - Cross case synthesis on management capacity development in district health systems: toward a revised middle range theory 2

Introduction

The purpose of this chapter is to show how the initial Middle Range Theory (MRT) was tested and refined on the basis of the empirical research conducted in the study, including the initial research that looked at the dissemination and diffusion of national policy into districts.

First, I show the intervention-context-actor-mechanism-outcome (ICAMO) configurations for each case in the narrative, then I show what information from each case was used to refine the MRT in Table 8.1.

In realist evaluation, the MRT is the starting point and end point of all research. The MRT is a theory (or detailed hypothesis) about how a programme is supposed to work, stating clearly how and why one expects the intervention to trigger mechanisms in a particular context to bring about a set of outputs and outcomes. The reasoning of actors is central to understanding how and why interventions work or not. Realist evaluation starts with explicating the MRT, which can be based on theory, the existing knowledge base - existing studies and evaluations - and initial, exploratory research (including interviews with key respondents). This MRT is then tested through empirical research that may combine quantitative and qualitative data collection and analysis, usually across multiple case studies. In analysis, the researcher uses the context-mechanism-outcome configuration (or, in this study, an adapted form of the context-mechanism-outcome [CMO], the ICAMO) as a heuristic to identify the causal pathways that explain the observed outcomes. As is wider practice, the CMO was adapted to include the intervention [I] as well as actors [A], in explaining the findings. The [I] can consider different features of the same intervention and the [A] represents the different actors involved in managing or implementing the intervention. The study ends with checking to what extent the initial middle range theory is confirmed, refuted or modified by the empirical insights. The resulting MRT is then, in principle, tested in a future study. In realist evaluation, middle range theories serve as the conceptual framework for the research and, in cross-case synthesis, "provides the means of establishing a common language to draw out the similarities between different interventions and to provide the bridgehead to link their

evaluations" (Pawson & Tilley, 1997). Through repeated empirical testing and cross-case analysis, the middle range theory is refined, indicating ever more clearly how the intervention is expected to work in different contexts and why. This enhances the transferability of findings beyond the individual case studies, "to transcend the particular to understand the general" and to deepen understanding and explanation across the cases (Miles et al., 2014).

This chapter is laid out according to the principles of realist evaluation. First, I introduce the initial MRT (MRT 1) that was developed at the formative stage of this study. Second, to contextualise the two case studies (Chapters 6 and 7) of management and leadership capacity development, I draw out key highlights from Chapter 5 that discussed manager experiences of working in a complex National Health Insurance (NHI) pilot site. Third, I summarise the key findings from each case study that illuminate the ICAMO configurations from the experience that are of relevance to the initial MRT (using abbreviations such as [M] for mechanisms and [I] for intervention). Where relevant I use the specific concepts applied in those case studies. In line with RE principles, these cases were purposively selected to understand why and how bottom-up initiatives to develop managerial capacity worked and in what conditions, seeking to understand what mechanisms were triggered and how they interacted with existing organisational processes and norms. In this study, in the time available, I was only able to identify outputs from these processes, as long-term outcomes, for example changed behaviour in managers, were not observable. Finally, the revised MRT, developed from consideration of the two cases, is presented.

Middle Range Theory 1

In this section I present the MRT 1. The development of this MRT is explained in the methods chapter which shows how I drew on the real-world programme theories in the case study districts and that I drew for theory from literature (as shown in conceptual framework).

> Capacity is best considered to be an emergent combination of individual competencies, collective capabilities, assets and relationships that enable a human system to create value. (Baser et al., 2008)

Capacity development is not a one-off event that happens through a training programme: it takes place in a complex adaptive system, in which capacity is not held by one person alone, although individuals do make contributions to capacity.

The ways in which capacity is built in the public sector generally, and in this case the district health system specifically, is influenced by several factors. Senior managers are often inundated with top-down policy directions but have the agency and discretion to make decisions and reshape policy, this includes the discretion to innovate (or not) and thus drive capacity development. Besides these internal organisational factors, external factors in the broader government system influence the ability of managers to manage and lead well. Managers are embedded in specific organisational and social contexts but can also, through their own agency influence the conditions in which they work. This process is influenced by their belief systems and experiences.

Innovations to support capacity development in complex adaptive systems can be implemented in a proactive way or they can emerge and diffuse bottom-up through the system. Implementation and diffusion is likely to be supported through champions, boundary spanners, vertical networks and horizontal networks. As a dynamic process, capacity can emerge, decline or sustain itself.

Summary of findings across earlier chapters

Situating the case studies in the broader context: Initial lessons learnt from the diffusion and dissemination of national level policy to the local level (chapter 5)

As explained in chapter 5, at the beginning stages of the NHI policy process in 2012, there were a multitude of innovations that needed to be implemented, which were directed top-down from the National Government to the district health system (DHS). Managers in the DHS thus had to manage existing work while also attending to new demands, effectively keeping normal processes and routines going in a context of substantial change. Nationally driven top-down policies (which we regard as innovations as they were either entirely new to the district or involved incremental changes to existing services) targeted capacity strengthening in a variety of functional areas in the DHS. This included the primary health care (PHC) platform, for example, in which the strengthening of clinical practice in facilities was supported through the implementation of District Clinical Specialist Teams and a Community Health Worker revitalisation programme.

The focus of this PhD is the capacity development of managers, as called for by the national Minister of Health as part of health system strengthening. The Minister himself played a key champion role in disseminating this and other top-down innovations to be developed in NHI

pilot sites - going on a road show to communicate the rationale for NHI piloting and revitalising the PHC platform to all the pilot districts. This road show was appreciated by many staff and managers. Being an NHI pilot site thus triggered sensemaking related to the development of the capacity of managers in the district health system. Given different contextual realities, district managers had to use their discretion to ensure that the variety of interventions fitted with their context. District managers and their teams had to balance their dual role of being implementers in a large government system, to which they reported, while providing management and leadership to the people who reported to them in their districts, to whom they needed to be responsive. On the whole, key factors that supported the diffusion of the top-down innovations included shared values and beliefs about the need for equity in access to services in the districts (a key pillar of NHI), the establishment of the role of an NHI coordinator who worked as a boundary spanner across multiple structures in the district, and a very useful national monitoring and evaluation team that listened to the needs of the district and spoke on their behalf at national level. A key challenge was a perceived lack of information given about each of the innovations the district managers were expected to implement. While there were some clear policies on how to strengthen management at senior levels, for example the reassessment of fit for purpose of Hospital Chief Executive Officers (CEO's), there was little guidance on the details of how to build the capacity of managers at all levels in the PHC system, which was one of the mandates of the Minister and the National Department of Health.

Case study 1: Bottom-up innovation for health management capacity development: a qualitative case study in a South African health district (chapter 6)

General background

In 2013, a new district manager (DM) arrived in an historically under-resourced district that had poor health outcomes relative to other districts in the country. He had previously worked in the same district many years before and returned to try and improve the district health system. He moved to the district, having resigned from the position of district manager in another, well-performing, province, where he was well respected amongst his peers. In this decision, he displayed strong public service motivation.

He faced multiple challenges on arrival in the new district, including but not limited to critical vacancies in the district management team (DMT) and the non-optimal functioning of general

systems, such as information management. He noted that the district was unstable but also that it needed to innovate, as the district was an NHI pilot site in which multiple top-down interventions led from the National Department of Health were being implemented. He had to balance diversity in the face of new reforms and coherence as he sought to stabilise the routine functions of the district.

To achieve stability, he set out to "institutionalise functional systems", starting with a focus on building the structural capacity of the DMT and its meetings, together with the individual role capacity of individuals attending DMT meetings. He engaged in bricolage[18], pulling together a range of small innovations that work together in complementary ways to build the capacity of the DMT to support and manage the functions of the District Health System (shown in Table 8.1). He believed it was possible to do more with the available resources, rather than thinking he was constrained by the lack of resources.

Table 8.1: Institutionalising functional systems through bricolage[19]: a suite of inter-linked innovations.

Inter-linked innovation 1a	Introducing a new meeting agenda that focused on core performance dimensions of the district health system
Inter-linked innovation 1b	Enforcement of the Health Management and Information Systems (HMIS) policy to promote information use by managers
Inter-linked innovation 1c	Inviting nongovernmental organisation (NGO) partners to the meeting to foster shared vision and accountability
Inter-linked Innovation 1d	developing job descriptions for former hospital chief executive officers (CEOs) who were sent to work in the district office 'without a portfolio'

Below, I describe each inter-linked innovation and the ICAMO configurations in detail for each one – the rationale for including the ICAMO configurations within the text is to surface this for the Reader and make the analysis clear. Naturally, there are some elements of context and some actors that are the same across the inter-linked innovations – these elements are discussed in more detail in the individual case study empirical chapters. The ICAMO configurations supported the cross-case synthesis. While I was only able to evaluate outputs

[18] Bricolage represents ideas about creating something out of nothing in resource constrained environments, it is about making do with the situation at hand and represents resourcefulness and improvisation with what is available (Levi-Strauss, 1967; Garud et al., 2003)

between the end of 2013 and 2015, we believe that these outputs could eventually lead to improved capacity [outcome] as individual competencies improve together with improved collective capabilities. We consider these two factors as necessary outputs on the journey to long term capacity.

As explained in the conceptual framework chapter, capacity is "that emergent combination of individual competencies, collective capabilities, assets and relationships that enables a human system to create value" (Baser & Morgan, 2008, p. 35). Capacity is thus made up of individual competencies as well as collective capabilities. "Capabilities[20] are the collective skills or aptitudes of an organization or system to carry out a particular function or process either inside or outside the system" (Baser & Morgan, 2008, p. 25).

Below, I describe the innovations and their effects using the ICAMO configuration elements.

Innovation 1a: Introducing a new meeting agenda that focused on core performance dimensions of the district health system

The new DM [A] considered the district to be unstable [C]. It was an underperforming district that needed to be strengthened and it was also required to implement multiple new public sector strengthening interventions, some linked to the NHI agenda [C].

The first innovation the DM introduced as part of institutionalising functional systems (I) was building (a) structural capacity in meeting spaces and (b) role capacity for individuals. First, he focused on the structural capacity of the monthly DMT meeting. He had found that these meetings were not well organised to meet the needs of the DHS: there was a lack of preparation before meetings by sub-district managers, and managers in the meeting were 'falling asleep' because of long presentations [C]. Also, an excessive amount of time was spent complaining by managers about problems on the service platform, with very limited amount of time being spent on solutions thinking, e the excessive time spent on complaining thus detracted from a focus on the core business of DMT meetings [C]. This showed limited capacity in the DMT meetings.

[20] Baser and Morgan (2008) further define a set of core capabilities, that incudes (1) the core capability to commit and engage (2) The core capability to carry out technical, service delivery and logistical tasks (3) The core capability to relate and to attract resources and support (4) The capability to balance diversity and coherence (5).

He successfully implemented a new routine if a structured agenda for the DMT meetings [I] that focused on the core functions of the district. This addressed the core performance dimensions of the district [O] and this was reflected in the agenda items: 'services', 'corporate governance' and 'quality'. Managers were allocated time to give input on their targets and indicators in meetings, and reports covering core indicators were distributed by these programme managers for DMT members to read before meetings [outputs]. Time was allocated for each item and this structured agenda was routinely applied.

The DM had worked previously as a DM in a well-performing district and drew on his tacit and experiential knowledge from years of service managing in the health system to develop the new agenda. He had a very clear systems thinking lens – he was able to look across the constituent parts of the system and identify key relationships between support services, clinical services and the information and reporting needed to support an analysis of the system as whole. He also displayed strong public service motivation (A). As a champion for building capacity in the DMT monthly meetings, he used his positional authority and sensegiving (I – tactics[21]) to *disseminate* information about the change and to provide instructions on what needed to be done (output).

This innovation was diffused and disseminated through two pathways.

1. The DM *translated* (I) the need for a new agenda to the managers using familiar discourses of the public sector, including the need for a focus on core business, primary health care and performance. He also appealed to common shared values [I] including intrinsic motivation and/or public service motivation.
2. He justified the change by highlighting the need to comply with the rules of the auditor general's office, which conducts annual performance assessments of all public entities. In other words, he enforced the rules of the auditor general to make other team members comply (M). This was facilitated by the vertical hierarchy [C].

[21] Tactics are a tool used to promote sensegiving – it includes the use of symbolic gestures, for example speaking in someone's language and invoking common cultural roots to create shared meaning (Rouleau, 2005; Bemelmans-Videc, 2011)

Both pathways stimulated the team members to adopt the new practices of preparation and reporting in the meeting (sensemaking, M) and motivated them to implement them. This kicked off a virtuous cycle of horizontal *diffusion* of ideas and a social process of sensemaking, which further triggered motivation [M] in managers who were attending the DMT meetings. Action (engaging with the new agenda and tasks) also provided more ingredients for sensemaking. Over time, managers engaged with the new practices and saw their value [M self-efficacy], and this increased their motivation to engage further.

<u>Innovation 1b:</u> Improving competency to produce and use information for decision-making
A second innovation introduced by the DM was to improve information management. Managers in the DMT [A] were not using information well to support problem diagnosis and decision making.

- The information manager routinely provided a summary presentation of critical data in the meeting when discussing the performance of districts – but discussion of this performance was meant to involve all managers.
- Sub-district managers presented on their sub-districts, but not clearly speaking to their performance targets and their presentations were so long that other managers complained they were 'falling asleep'. To improve, sub-district managers needed to investigate sources and causes of problems before bringing them to the monthly meeting, and also, be ready to discuss solutions.

There was limited capacity amongst DMT members to deal with 'numbers' and there was limited accountability for information use by these managers. As a result, there was an over-reliance on the information manager to deal with the quantitative data and to prepare all reports. (A) Given their lack of engagement with key data on performance targets, managers did not grapple adequately with key challenges and there was a limited focus on solutions in meetings [C].

Key outputs [outputs] that the new DM [A] achieved included service delivery information and targets being presented in the DMT.

- The information manager had a clearly stipulated role [I] only to present data.

- The DMO enforced a policy that all sub-district managers had to sign off on any data coming from facilities in their sub-district so that they could speak to the data in DMT meetings [I].
- All managers in the DMT meetings had to prepare and read reports before meetings [I].
- Each sub-district manager had to account for performance against their targets to enable decision making and problem solving [I]
- The use of information was made part of each manager's performance contract.

Over time, managers increasingly brought information from their sub-districts to illustrate problems and discuss progress and learning [outputs]. This resulted from setting up clear role distribution through (1) enforcement through contracts and (2) the requirement to sign off.

The DM used his positional authority, his tacit and explicit knowledge of health systems [A] [I] to enforce this innovation. He drew on the hardware resources of the bureaucracy particularly the Health Management and Information Systems Policy (HMIS) to enforce and *justify change* to managers [M - mechanism of compliance]. The enforcement enabled a process of sensemaking about rules and motivated managers to comply.

He also engaged in o*ver-coding* (i.e. he drew on the rules and socio-cultural codes of the bureaucracy) by including the use of data in senior manager performance contracts to reinforce their motivation to do so (mechanism of compliance).

In the broader context, he facilitated improvements in the working conditions of senior managers (including providing mobile data and laptops) to reinforce a focus on information use and increase their competence/ability (M of increased self-efficacy). This innovation was complementary and built on the first innovation (the new meeting agenda) as managers in the DMT were now required to present and share data [C].

To support compliance with the requirement to use data, the DM also intervened to improve the quality of data being presented at DMT meetings. He drew on the tacit knowledge of the planner and the information manager to understand what was needed to correct the data challenges in the district and where he should target his efforts [C]. As the data was drawn from lower down the local health system, he visited facility level managers [I] to explain the need and purpose of data. He also drew on the high motivation and knowledge of the

information manager, whom he took on these visits as symbolic of this goal of information use [M sermons/shared values], to justify the change and to 'set the scene' to drive compliance, using his positional authority as DM. Sub-district managers were also required to sign off on this data from the facilities as part of enforcing them to take responsibility and ownership of the data.

Individual competencies and collective capability outputs: The core capability to carry out technical, service delivery and logistical tasks. "This core capability includes the capabilities to deliver services, to ensure strategic planning and management and, financial management, and carrying out technical and logistical tasks" (Baser and Morgan, 2008 p.104)

Innovation 1c: Inviting nongovernmental organisation (NGO) partners to the meeting to foster shared vision and accountability

A range of non-DOH actors worked in the district, including new and existing NGO partners [C]. There were some good relationships with these partners but also a few difficult relationships. It was not clear whether all partners were working towards the goals of the District Health Plan, and the DM felt that any actor working in the district should be working toward those goals [A]. As the district was an NHI pilot site, a range of additional actors were also arriving in the district to support it [C].

The DM [A] decided that it should become a routine procedure that NGO partners attend the extended district management meetings (I) in order to increase coordination [O] and improve accountability, by ensuring their activities were discussed directly with the DM [O]. By 2015, key outputs achieved included a growing number of NGOs attending the extended DMT meetings and presenting on their progress, and more NGO partners were included in the process of developing the annual District Health Plan [O].

Through his positional authority, the DM had oversight of actors working in the district health system. His system thinking skills [A] enabled him to think across actors to conduct a strategically oriented stakeholder analysis.

The DMO's decision to include all NGOs led to a shared social process of sensemaking with his DMT members that NGOs must work towards the goals of the district [M], and as a result,

all DMT members were motivated to make this work. He translated[22] change and gave sense to diffuse his ideas. The DM firstly 'disciplined the space'[23] and called NGO partners [A] to meet with him at his office to disseminate his plans, (noting that he sought to give voice to NGO partners) and define their role. He informed them of the need to report what activities they were engaged in in the district and to attend extended DMT meetings to present their progress on these activities in the district [I]. He tapped into the intrinsic motivation of NGO partners who had good past working relationships with the district office (A) and believed in serving the district [M] [sermons to tap into intrinsic motivation]. This reinforced the positive working relationships between managers and some NGOs [O], building on existing relationships developed through collaboration in developing the district health plan (A). The largest NGO working in the district was already positioned and motivated to support the district as such support was a specific mandate from the National Department of Health [C]. The DM used his boundary spanning role to negotiate for additional resources to hire an additional contract staff member [I].

At the same time, he informed those NGO partners not actively working toward creating a shared vision, that he would report them to their funders [I] [use of positional power to trigger the mechanism of compliance]. He distributed leadership to the planning manager in the DMT to steward the NGO partners, which contributed to building the system capacity targeted by Innovation 1.

Individual competencies and collective capability outputs: a larger capability to relate and to attract support in the district. Baser and Morgan (2008) define this as the capability to relate and survive within the context of and in connection with others. It includes the capability to earn credibility and legitimacy, to buffer the organization or system from intrusions, to earn the trust of others (such as donors and clients) and to combine political neutrality and assertive advocacy.

[22] "Translating is an act of authoring, involving selecting the content to be shared and then using material and discursive symbols in the language of the receiver to bring the elements together. Elements and symbols are chosen purposefully to establish shared meaning, managers use their tacit knowledge of people and situations to shape the content" (Rouleau, 2005; Bemelmans-Videc, 2011).

[23] In routines and conversations, managers produce subjective and emotional effects around the change (Rouleau, 2005; Bemelmans-Videc, 2011).

<u>Innovation 1d:</u> Developing job descriptions for former hospital chief executive officers (CEOs) who were sent to work in the district office 'without a portfolio'

Human resource issues posed significant challenges for the DMT. Some critical DMT positions, including that of the quality assurance manager, were vacant and there was no funding to fill these posts [C]. In addition, a nationally driven process of assessing whether hospital CEOS were fit-for-purpose, as part of NHI preparations, impacted on the district [C]. As a result of this process, two hospital CEOs were deemed unfit and moved to the district office to work as members of the DMT, with no specific portfolio or clear job role – as expected in the public service [C]. Their role capacity[24] was, therefore, unclear. The DM, thus, needed both to full critical DMT management vacancies and had to find a meaningful role and purpose for these ex-CEOs [C].

He proceeded in a stepwise manner. First, he initiated a process of sensemaking and sensegiving amongst the DMT members to jointly identify priorities. He asked the DMT members to rank the vacancies in order of importance (I) to shape their understanding of the process and to raise awareness [output] about the most needed additional expertise in the DMT. An agreement was reached that attracting a quality assurance manager was the highest priority (output). Including the DMT members in priority-setting led to their ownership of the decision and acceptance of this priority. Second, against the background of an historically strained relationship between the Provincial government and the district office, the DM used his positional authority and tacit knowledge to negotiate [I] with the Provincial Government to give him a post for a quality assurance manager, and this post was eventually filled [O]. Third, he spoke with the former CEOs to understand their skills and competencies, before designing their job descriptions. For example, one was highly skilled in human resource management, and she was placed in an HR support role in the DMT [I]. In the end, he provided both former CEOs [A] with clear roles [O] which was symbolic of their role in the team. By doing so he not only increased their role capacity but also increased the structural capacity of the DMT as he gave them tasks both aligned with their skills and with what was needed in the DMT to improve functionality [O]. The ex-CEOs felt included in the decision-making process (M) and accepted their new job descriptions.

[24] The role capacity of individuals (or teams or structures) refers to their authority and responsibility to make decisions essential to effective performance (Potter, 2004).

Individual competencies and collective capability outputs: Improved capability of DMT members to commit to and effectively engage in the DMT extended meetings.

Case study 2: Initiating systemic capacity for leadership development from the bottom up (chapter 7)

In the second district experience examined, a newly appointed district manager focused on developing leadership capacity in the in her health district, building systemic capacity to develop leadership at the district level. In 2013, with her top five managers, she identified five strategic priorities for the district, called 'commissions', in the annual planning retreat. The bottom-up innovation I discuss in this case is the Leadership Commission. For the first time, leadership was identified as a strategic priority in the district. The Leadership Commission was not a structure but rather an expressed statement signalling the importance of leadership capacity development. The goal was to develop the capacity of managers who could lead and transform the local district health system in the future. The meaning of leadership was not fully specified, but it was the term they used, and as we will see below, the ideas about how to develop leadership emerged through the process.

The original premise of the Leadership Commission was to develop the capacity of individuals to lead, but over time it was recognised that the systemic capacity to implement leadership capacity development initiatives at the district level was limited. There were no formal internal structures and processes in place that specifically targeted and/or budgeted for leadership capacity development (LCD). Subsequently, processes emerged, including a bricolage of smaller bottom-up innovations, to set up structures and processes in the district to give 'life' to this goal and embed the Leadership Commission in the district.

Innovation 1a: Setting up the Leadership Task Team

In the broader South African health system context formal management training is available through the National Department of Public Service and Administration, and some managers in the district did access this training. However, upon searching for resources for leadership development, it was realised that at the district level there was no infrastructure, budget or staff dedicated to system-wide leadership capacity development of managers [C]. There was a Regional Training Centre in the district, but at this time the budget was strictly allocated for HIV training. I found that the human resource department interpreted their capacity

development role as one of building capacity of HR management skills only (hiring, performance assessments, disciplinary processes, etc.) and that it was not focused on leadership capacity development [C]. They were thus not holding LCD as a function they owned [C].

As a starting point, the DM, using her positional authority, established a Leadership Task Team (LTT) [I] to implement systems for LCD (output). The DM had noted, through a leadership test she had completed, that she was good at visioning but not good at delegation. Through this self-awareness and sensemaking, she realised the importance of delegating leadership (A). She appointed two experienced and high performing managers from the District Executive Committee as the leaders of the task team, bringing together their individual competencies. The DM also appointed the manager of the Regional Training Centre as a member of the LTT. In total, the LTT was made up of five managers.

A key sensegiving activity, achieved via the positional authority of the DM, was to give LCD a priority status in the district by naming it as a Commission [I]. This was a show of expressed commitment [I] by the DM, informed by her tacit knowledge [M], experiential knowledge of the gap in leadership competencies amongst some managers in the district and by her institutional memory of long years of service in the district [A]. Institutional commitment [I] was shown by establishing the LTT structure to drive leadership as a priority and the DM entrusted leadership to two senior managers. The work of the Commission, through the LTT, was further strengthened in different ways. The DM had good relationships with wider District Executive Committee as they had worked together for a long time in the district, and thus there was trust between them [M]. This trust [M] led the whole DEC to support the establishment of the LTT (who were also members of the DEC) and in delegating and distributing the tasks required to build systemic capacity for LCD. This allowed the LTT easily to adopt a champion role and enabled a social process of sensemaking. Given that the leaders of the LTT were high performing leaders in the own facilities [A], their character traits likely also contributed to the successful establishment of the LTT. Also, as the DM had positional authority to appoint them, this also afforded them legitimacy to lead the LTT.

The LTT became functional through a number of pathways. The two leaders of the LTT had a shared vision about the importance and value of leadership. They were highly motivated [M] to implement LCD in the district. This was revealed in experience. Everyone in the LTT believed

in teamwork and sharing responsibilities and accounting to each other for progress made on tasks – there was thus a shared social process of sensemaking on establishing the LTT. The regional training centre manager was appointed as member of the LTT, and the regional training centre manager felt a strong sense of support from the DM.

Collective capability outputs achieved by 2015 included a functioning and cohesive LTT with clear roles for all members. Individual members utilised their own competencies and the LTT used their team capacity to introduce a range of activities and processes to establish systems and structures for setting up LCD in the district [O]. The LTT was also routinised into the management structures in the district, as members of the LTT were part of the district management team and of the District Executive Committee [O]. An accountability mechanism was set up for all the commissions in the district: at the routine annual lekgotla, each group had to discuss their performance. The LTT presented the performance of the Leadership Commission at these meetings [O] [M = stick]. The LTT was considered as a new asset for LCD as part of *structural capacity* in the district.

<u>Innovation 1b:</u> The Climate Survey as a key process for identifying priorities and engaging staff in leadership capacity development

As there was no policy or plan available for LCD in the district, there was also no formal method of gathering information about the experiences of managers and no information regarding their needs and desires for leadership and management training. The LTT [A] developed and administered a district-wide climate survey to all managers (from level 7) [I] to inform future leadership capacity development in the district. They collected information on (1) the changes requested by managers, (2) what managers thought did not need changing and (3) their experiences with senior management in the district.

Collective capability outputs [O] of the survey included information that was used to different ends. First, it informed the planning of leadership development activities. It also led to identifying champions at the sub-district level who could develop bottom-up plans for leadership capacity development using the disaggregated survey results. Second, the survey results were used for self-reflection [M] by senior managers on their own behaviour as it provided a form of 360 feedback. Third, the survey enabled new sensemaking for the DM and motivated [M] her to more strongly express her vision of leadership on the ground [O]. The

DM actively went to lower levels of the system to show 'leadership in action' in response to the survey results, for example supporting a gardening project at a local facility.

How were these proximal outputs achieved?

Firstly, there was shared sensemaking between the LTT [A] and the DM [A] about the need for information to drive the Leadership Commission forward. This led to diffusion of ideas [M] about how to collect the information. The development of the climate survey was largely driven by the experiential knowledge of one of the leaders of the LTT [A]. She had developed a climate survey for her own health facility as part of a National Department of Health leadership course. The DM [A] showed institutional commitment by facilitating the processes and ensuring the resources to set up the survey. The survey itself can be understood as a social process of sensegiving for managers lower in the system, signalling the importance of involving managers at all levels in prioritising training needs. Another social process of sensegiving was the dissemination strategy used to share the results of the climate survey to the DMT and at sub-district levels, through which sub-district champions took up the bottom-up co-development of LCD plans.

The LTT intended to do the climate survey regularly, but I found that the climate survey was not routinised past the initial administration of it. It did however stimulate thinking for the RTC manager on how to possibly move forward with information gathering on issues relevant to leadership. She considered whether the Human Resources department should be responsible for a recurring leadership survey but also reflected that surveying staff to identify LCD needs could potentially be aligned with a routine staff satisfaction random and anonymous survey undertaken as part of the Ideal Clinic Initiative[25]. These were reasonable ideas, but by the time the research ended this had not yet been actioned and so there was no routine data collection system on issues related to leadership in place at that time.

[25] An Ideal Clinic is defined as a clinic with good infrastructure, adequate staff, adequate medicine and supplies, good administrative processes, and sufficient adequate bulk supplies. It uses applicable clinical policies, protocols and guidelines, and it harnesses partner and stakeholder support. An Ideal Clinic also collaborates with other government departments, the private sector and non-governmental organisations to address the social determinants of health. Integrated Clinical Services Management will be a key focus within an Ideal Clinic. The purpose of Integrated Clinical Services Management is to respond to the growing burden of chronic diseases in South Africa in an efficient and cost-effective manner. An Ideal Clinic dashboard is used to determine the status of a clinic (https://www.idealhealthfacility.org.za/).

<u>Innovation 1c:</u> The Regional Training Centre and the role of boundary spanning in leveraging resources for LCD

The dedicated Regional Training Centre (RTC) serving the district focused on HIV training [C]. Given its NHI pilot site status, many external service providers worked in the district as part of strengthening the primary healthcare platform. Some of their training activities related to developing leadership skills. As mentioned above, the Human Resource Department did not have a clear mandate in terms of LCD, and this was, thus, not integrated into the training and HR systems in the district [C].

Taking a systems perspective, the DM [A] recognised the RTC as a central part of the existing infrastructure for training in the district beyond HIV. She nominated the RTC manager [A] as a member of the LTT [I]. The DM delegated the leadership [I] of the district's overall workplace skills plan, going beyond HIV skills' development, to the RTC manager. The DM judged that this would encourage thinking about training from a horizontal district perspective, rather than only focusing on the vertical HIV programme, and could potentially include LCD. The RTC manager [A] had good knowledge of training systems in the district and was highly motivated. She perceived high levels of support from the DM for her role in the LTT [M= shared values].

Over time, the RTC manager achieved proximal outputs for LCD. She managed to arrange training from three existing organisations: two were providing leadership-related training to strengthen the PHC platform as part of NHI piloting [C] and the other was conducting research in the district. She used her boundary spanning role [M] to negotiate with service providers to provide training for LCD at no cost, for those whom the LTT identified as needing training. She reminded one service provider that they had been granted access to do research in the district and that providing change management training would be a useful contribution to LCD development in the district. The other two service providers used information from the climate survey to develop a set of training activities toward LCD, from which a few managers benefitted during our research period.

There were, however, challenges related to the integration of the training within routine district activities and its sustainability over the long term. The external service providers would leave the district once their role in the NHI pilot process was over [C]. The RTC had no dedicated in-house trainers with the skills to provide the training [C]. There was an attempt

to appoint staff from the facilities to become 'trainers of the trainers' but as they still had their normal daily staff roles to fulfil, it was challenging for them to find time to do training for LCD [C].

Synthesising findings across the three empirical chapters 5, 6 and 7

As explained in methods section, I conducted a cross case synthesis by generating ICAMO configurations for both cases (which are presented above in this chapter) and then used these configurations, together with findings from Chapter 5, to synthesize findings across the two cases. In Table 8.2, I reflect on changes made to MRT and show how data across cases enabled me to arrive at additions and changes to the refined MRT.

Table 8.2: Explaining the refined MRT: cross case synthesis

Additions to the MRT	Data from paper 1	Data from case 1	Data from Case 2 (NW)	Reflection
Systemic capacity development can be triggered by large scale top-down policy reforms. Broader processes to promote buy-in include the use of champions and shared values and beliefs.	Nationally driven top-down policies (which we regard as innovations as they were either entirely new to the district or involved incremental changes to existing services) targeted capacity strengthening in a variety of functional areas in the DHS [C]. The Minister himself played a key champion role in disseminating this and other top-down innovations to be developed in NHI pilot sites - going on a road show to communicate the rationale for NHI piloting and revitalising the PHC platform to all the pilot districts [C].	In response to the Ministers call to strengthen management in the district, the new DM took a system thinking approach to developing systemic capacity. He focused on not only developing the competencies of individuals, but also their roles and tasks and the structures within which they functioned, such as the district team meeting. He also leveraged existing skills in the district.	In response to the Ministers call to strengthen management in the district, the newly appointed DM also adopted a system thinking approach to developing systemic capacity. She focused on building the structures that could hold and harness leadership capacity development in the district.	Typically, when we think about capacity development, we think about a training programme targeting a particular service or a particular group of people in a particular service. However, in this case the Minister took a health systems strengthening / systems leadership approach to developing capacity. National level support can facilitate local innovation. He argued for a programmatic approach (CHWs) as well as a systemic approach – developing management capacity is a systemic approach to developing capacity given senior managers horizontal positioning in the district, we argue that embedding management capacity development within a large scale PCH strengthening initiative was a good approach for systems strengthening. Managers must be centred at the forefront of any reform and must be shown as a priority. In health systems with some power at central levels, national

				priorities have weight and national champions can support systemic capacity development, targeting systems and teams explicitly, not only programmes or services. I believe that we should be talking about systemic capacity development as different from traditional training and programmatic interventions. While I recognise that there are various models that speak to multiple levels of capacity development, systemic capacity starts out with a whole system perspective including the individual.
Capacity development never starts from point zero: all systems have embedded capacity, whether latent or active.	Managers [A] in the DHS had to manage existing work while also attending to new demands, effectively keeping normal processes and routines going while managing change [C]. Both district managers have tacit, experiential, and formal knowledge that they draw on to	The DM drew on the competencies of the two previous hospital managers who were sent to the District Office with no clear role. For example, the one hospital manager had skills in human resources, and he drew on this expertise for the DMT. He gave them both clear role descriptions. He also drew heavily on his planning manager who had	Tapping on existing capabilities, the DM drew on the competencies of two high performing managers in the district, and who had a shared belief in the value of leadership for the future of the district, to lead the Leadership Task Team. The DM increased the portfolio of the regional training manager and the portfolio of the regional training centre for the purpose	In formal training courses, the existing capacity of applicants is often measured in the application process or at the start of the training. For bottom-up innovations on the ground those who leading change need know ledge of the skills of their staff and they need to leverage these existing skills to support systemic capacity development.

	lead the bottom-up innovation.	worked in the system for years, he found her trustworthy and reliable.	of systemic capacity, thus leveraging bureaucratic infrastructure which was only serving an HIV mandate and broadened the portfolio to serve as a resource for management and leadership capacity development.	This was not a capacity development exercise focused on individuals or teams only, it was through developing *existing* competencies that the capabilities of *teams* could be improved – thereby leading to an improvement in DMT meetings and the use of existing bureaucratic infrastructure. Also new structures can be developed using existing staff. They also leverage latent and active capacity of managers over time to enact their vision for management and systemic capacity strengthening.
Systemic capacity development considers the structures and systems within which individuals and teams work as individual capacity is embedded in organisational structures and teams. Existing staff, equipment, roles, structures and systems may present capacity deficits or	The Minister of health in engaging in health systems strengthening for the PHC platform centred management as a key part of systems strengthening and in so doing adopted a systemic capacity lens rather than only a programmatic lens, including for example the Community health worker programme.	The DM embraced components of systemic capacity development in his approach to strengthening management capacity. His goal went beyond only individuals, he noted that he wanted to institutionalise functional systems. The DMT structure and associated meetings were routinised in the system, through which a systemic foundation which was already available was used to improve capacity of the meeting members. Some	The DM adopted a systemic capacity development approach to the management capacity development (focusing on the need for leadership development in the district). She firstly made leadership development a strategic priority at the district level, she then instituted a new structure called the Leadership Task Team, she leveraged existing capacity of two senior managers to lead the new structure. She drew on the	I had originally taken quite an individual and team focused lens – focusing on people at the centre of systems, understanding that they exist in an organisational context. But my thinking on capacity development for managers has now evolved to understand managers as embedded within the structures and systems in which they are nested (not only as individuals)– we need to build their competency and capabilities to understand their agency withing

assets, and new roles, structures and systems can be created to support systems strengthening. A systemic capacity development focus in the innovation enabled the laying of a foundation for management and leadership development within structures		capacities such as a focus on solutions was latent. For example, he focused on the functioning of DMT meetings – a key **structure** in the DHS. By introducing an agenda that was aligned to PHC values and motivating managers to discuss relevant data for decision making. He provided **equipment** (mobile data cards and laptops) to enable them to perform this task and he drew on **existing systems capacity** (HMIS policy) to justify change and ensure compliance. He made clear that this was part of each managers **role** as part of the DMT. He thus strengthened an existing structure, roles and procedures in the DHS to ensure higher productivity and self-efficacy in individuals and in meetings and to enable managers to think up and down the system about data.	Regional Training Centre manager and extended her role to include leadership development and provided a supportive supervisory role to this team. She conducted a climate survey district wide to ensure there was information for relevant decision making.	these systems and structures and to improve capacities at multiple levels. Both district managers laid the groundwork for capacity development of managers by focusing on systemic capacity development, strengthening existing structures and/or the development of new structures and drawing resources from within the existing system to benefit managers. This speaks to embedding manager capacity development into broader system strengthening initiatives. If home grown innovations are taking systemic capacity development as their starting point, perhaps any other forms of training and CD should as well. Innovations to develop management capacity must be designed in a way that targets interdependent capacities, including management capacity. They drew heavily on their understanding of context and the

				understanding of people's skills in the system. They engaged in multiple tasks (bricolage), weaving these together to improve the system and to improve management capacity in that system.
Seen through a bottom-up lens, capacity development for managers in health districts is an emergent process that is a combination of intentional efforts to delegate and disseminate a bricolage of tasks, activities through the positional authority of district managers, sensegiving activities using system hardware and software to motivate staff to improve performance, and a natural diffusion of ideas.	We might have concluded that this policy followed a top-down approach from the National level government who did implement more traditional prescribed interventions such as the re-appointment of hospital CEOs to improve quality in hospitals. The Minister took active efforts to communicate new policy reforms in the districts through roadshows and meetings with managers in the district. However, a bottom-up perspective provided an opportunity to see much longer chains of dissemination and	The District Manager designed an emergent bottom-up innovation to institutionalise functional systems in the DHS, specifically focusing on the district management team meeting. Improving the functioning of this structure took more than one activity – bottom-up innovation to strengthen systems capacity will require a bricolage of tasks that connect together to provide a coherent way forward. The DM was quite intentional in his efforts using his positional authority to drive change, drawing on the hardware of the system (HMIS rules and policies) to promote compliance of managers to use data. He developed job descriptions for hospital CEOs who had not keep their jobs and were then sent to the district office, he took account of their skills and the	The DM, using her own agency and positional authority, designed a bottom-up innovation, in this case is the Leadership Commission. For the first time, leadership was identified as a strategic priority in the district. The original premise of the Leadership Commission was to develop the capacity of individuals to lead, but over time it was recognised that the systemic capacity to implement leadership capacity development initiatives at the district level was limited. There were no formal internal structures and processes in place that specifically targeted and/or budgeted for leadership capacity development (LCD). Subsequently, processes emerged, including a bricolage of smaller bottom-up innovations, to set up structures	The lens that was initially used in the PhD study was capacity strengthening of managers and teams in complex systems. While this did happen, my view of management capacity strengthening has expanded to one of systemic capacity development. The focus in the PhD initially was on capacity efforts originally focused on individuals and teams (people at the centre of systems) but the emergent approach was systemic – the DMS focused on a pyramid of capacity needs from tools (mobile data), role descriptions (for CEO's), skills of managers to use and present data in meaningful constructive ways in meetings, the structures (District Executive and the LTT) in which managers were embedded and drew on systems (regional training centre) which could

	diffusion after the Minister had left the district. The hospital management reforms happened but DMs used their agency and positional authority to design bottom up creative innovations for management strengthening and to enable the diffusion of new ideas (from new policy) existing local practices.	needs in the district office when developing this. He implemented a routine agenda aligned with core priorities of the process and enforced this agenda. He also crafted 'normative sermons' taking a software approach – using the discourse of the health system to help people makes sense of the change, such as 'core business and patient centred care'. Others commented that being part of the meetings, experiencing the new agenda helped to make sense of the usefulness of the new agenda. Over time, this was disseminated to NGO partners who then also had to attend the DMT meetings. He also negotiated a post for his DMT.	and processes in the district to give 'life' to this goal and embed the Leadership Commission in the district. Including: • Setting up a leadership Task Team • Assigning staff new roles to support leadership development • Instituting a climate survey • Leveraging the Regional Training Centre and leveraging service providers in the district A shared sensemaking between members of the District Executive Team enabled these structures to be developed and provided legitimacy for the centring of leadership in the district.	enable management and leadership development.
Senior managers have the discretion to innovate (or not) and thus can drive management and leadership capacity development themselves. They can		The DM had worked previously as a DM in a well-performing district and drew on his tacit and experiential knowledge from years of service managing in the health system to develop the new agenda. He had a very clear systems thinking lens – he was	As a starting point, the DM, using her positional authority, established a Leadership Task Team (LTT) to implement systems for LCD. The DM had noted, through a leadership test she had completed, that she was good at visioning but not	Agents who effectively drive bottom up innovation have a deep understanding of context, via their experiential knowledge, their tacit knowledge and their formal knowledge. This understanding of context enables them to make choices that are fit

also delegate this task to others who have displayed high competency in a specific area and whom they trust. With bottom-up innovation, managers draw heavily on a mixture of their tacit and experiential knowledge and their formal training when deciding on capacity development activities and processes to support systemic capacity development. Their agency is influenced by their belief systems and experiences but also by the sensemaking of those around them.		able to look across the constituent parts of the system and identify key relationships between support services, clinical services and the information and reporting needed to support an analysis of the system as whole. He also displayed a strong public service motivation. He also distributed tasks to managers: - The information manager had a clearly stipulated role [I] only to present data. - All managers in the DMT meetings had to prepare and read reports before meetings [I]. - Each sub-district manager had to account for performance against their targets to enable decision making and problem solving [I.] He leveraged from those he trusted. He drew on the tacit knowledge of the planner and the information manager to understand what was needed to correct the data challenges in the	good at delegation. Through this self-awareness and sensemaking, she realised the importance of delegating leadership. She appointed two experienced and high performing managers from the District Executive Committee as the leaders of the task team, bringing together their individual competencies. The DM also appointed the manager of the Regional Training Centre as a member of the LTT. In total, the LTT was made up of five managers. The two leaders of the LTT had a shared vision about the importance and value of leadership. They were highly motivated [M] to implement LCD in the district. This was revealed in experience. Everyone in the LTT believed in teamwork and sharing responsibilities and accounting to each other for progress made on tasks – there was thus a shared social process of sensemaking on establishing the LTT.	for purpose for management capacity development. They know what to target in the context and they know how to position management capacity development within that context – through assignment of roles, experiential learning in structures, and to engage with the broader health systems to support capacity development, such as the Provincial government, NGOs and visiting service providers. I argue in the discussion chapter that these competencies, to engage in on act on the broader context must be a part of management capacity strengthening programmes.

		district and where he should target his efforts	She also drew on the formal knowledge of the one LTT leader who designed the survey and of the RTC manager who had systems wide knowledge about how training worked in the district.	
Besides these internal factors, external factors influence the ability of managers to manage and lead well. Often these contextual features constrain managers to use new competencies and capacities. These specific contexts can also provide resources that can be leveraged and opportunities. The context may require stabilising, and managers can navigate and improve on this context through capacity development innovations and/or through the skills and behaviours they learn.		**Adequate number of managers:** The DM highly needed a to fill a critical post of quality assurance manager but there was no additional funding available from the provincial government. He did however have a TB manager who resigned – he negotiated with the province to use that money for a quality assurance post. He thus increased the capacity of the DMT. He placed the TB mandate under the mandate of the HIV manager as they should be together. **Ensuring managers have appropriate competencies:** Through experiential learning, participating in meetings with the new agenda and the new process for discuss challenges and solutions the managers competency and collective capabilities to communicate with each other and to analyse	**Ensuring managers have appropriate competencies:** Through the appointment of the RTC manager, who leveraged service providers in the district to provide training to some managers in leadership competencies were developed of those managers. Potentially members of the LTT competencies in teamwork was also improved through leading and being part of the LTT. **Functioning support systems:** The premise of the bottom-up innovation was to set up structural and systemic capacity to hold leadership capacity development in the district. There were no resources and no structures driving or accounting for leadership development in the district, there were thus no support systems. Hence developing the LTT, climate	I had originally understood the WHO conditions for good leadership and management as pre-determinants for good management and leadership. However, through the research, I came to realise that managers are influenced by these features, but they can also influence these conditions for good management and leadership, and the DMs in this bottom up innovation explicitly sought to do so, applying a systemic capacity development lens and also targeting key features of context at the same time. The authors of paper on the conditions for good management and leadership (Waddington et al. 2007) recommend that "*concentrating activities within one dimension may not lead to the expected improvements if other dimensions are neglected.*

		problems and find solutions was improved. **Functioning support systems:** The DM sought to improve the information flow into the DMT meetings. To support compliance with the requirement to use data, the DM also intervened to improve the quality of data being presented at DMT meetings. He drew on the tacit knowledge of the planner and the information manager to understand what was needed to correct the data challenges in the district and where he should target his efforts. As the data was drawn from lower down the local health system, he visited facility level managers to explain the need and purpose of data. He also drew on the high motivation and knowledge of the information manager, whom he took on these visits as symbolic of this goal of information use [sermons/shared values], to justify the change and to 'set the scene' to drive compliance, using his positional authority as DM. Sub-district managers were also required to sign off on this data from the	survey and leveraging the training centre. **Enabling working environment for LCD:** The DM set out clear roles and responsibilities for leadership development in the district. While the process was emergent there were clear structures and people put in place that would in the future allow for leadership capacity development. They reached as far as distributing LCD down to the sub district level, whereby sub-district champions had to design local plans for LCD.	*In practice, a large proportion of leadership and management development resources are devoted to classroom training, at the expense of work in the other dimensions and on overall competency development*" p. I argue in the discussion section that any management and leadership programme /innovation etc. should enable managers to work within these contexts with existing resources but also must enable them to change these conditions.

		facilities as part of enforcing them to take responsibility and ownership of the data. **Enabling working environment:** Improved functioning in and of the district management team meeting, a key decision-making structure. Defined roles for the two Hospital CEO's who were sent to the district office, communicated clear roles and responsibilities to district managers.		

Middle range theory 2 [MRT2]

This section presents the updated MRT 2 having considered the findings from the formative empirical research presented in Chapter 5 and from the two empirical case studies in chapter 6 and 7. The italicised words represent the additions that have been made to the original MRT1.

On the basis of the in-case analysis, as summarised above, I reformulated the initial MRT as follows:

Capacity is best considered to be an emergent combination of individual competencies, collective capabilities, assets and relationships that enable a human system to create value. *Capacity development never starts from point zero, all systems have embedded capacity, whether latent or active*.

Signalling management capacity development as a priority from the highest policy level can trigger management strengthening but also trigger gains beyond the capacity development of managers. Health system strengthening in the DHS can be triggered by large scale top-down policy reforms that explicitly include a focus on management capacity development as one component element of systemic capacity building.

Capacity development is not a one-off event that happens through a training programme: it takes place in a complex adaptive system, in which capacity is not held by one person alone, although individuals do make contributions to capacity. *Systemic capacity development considers the structures and systems within which individuals and teams work, as capacity is embedded in organisational structures and teams. Existing staff, equipment, roles, structures and systems may present capacity deficits or assets, and new roles, structures and systems can be created to support systems strengthening. A systemic capacity development focus in the innovation enabled the laying of a foundation for management and leadership development within structures.*

Seen through a bottom-up lens, capacity development for managers in health districts is an emergent process that is a combination of a natural diffusion of ideas and intentional efforts to delegate and disseminate a bricolage of tasks and activities through the positional authority of district managers and sensegiving activities using system hardware and software to motivate staff to improve performance.

The two bottom-up innovations in the district health system were influenced by several factors, including no additional resources in the district and no explicit support systems for management and leadership capacity development. Senior managers in the DHS are often inundated with top-down policy directions but have the agency and discretion to make decisions and reshape policy. Senior managers have the discretion to innovate (or not) and thus can drive management *and leadership* capacity development *themselves. They can also delegate this task to others who have displayed high competency in a specific area and whom they trust. With bottom-up innovation, managers draw heavily on a mixture of their tacit and experiential knowledge and their formal training when deciding on capacity development activities and processes to support systemic capacity development.* Besides these internal factors, external factors influence the ability of managers to manage and lead well, often these contextual features constrain managers to use new competencies and capacities. But these specific contexts *can provide resources that can be leveraged and opportunities. The context may require stabilising, however managers can navigate and improve on this context through capacity development innovations*. Managers are not simply subject to context, they can through their own agency influence the conditions in which they work. Their *agency* is influenced by their belief systems and experiences *but also by the sensemaking of those around them.*

Innovations to support capacity can be implemented through a proactive way through structured programmes or *they can be nurtured within the system* in proactive ways that allow for emergence and diffusion bottom-up through the system. Implementation and diffusion are likely to be supported through champions, boundary spanners, vertical networks and horizontal networks. As a dynamic process, capacity can emerge, decline or sustain itself.

Conclusion

We have shown that managers in districts are not only mediators of policy change but do engage in bottom-up innovation to improve systemic capacity. This adds to our understanding of bottom-up management innovation as a recognised typology of public service innovation and to the knowledge base on capacity development as an emergent phenomena (Chen, 2020; Baser & Morgan (2008). In the following chapter I present the thesis objectives, followed by a summary of the main empirical findings. Finally, I locate these findings in the broader South African context and provide a list of detailed recommendations for future

management capacity development. I also situate the findings of this thesis, as summarised in the MRT2, in the international literature, and draw out from the MRT2 its key contributions to that knowledge base.

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Chapter 9 – Discussion and conclusions

This chapter is the final chapter of the thesis. I first lay out, in brief, the policy background that set the scene for the PhD research. I then present the thesis objectives, followed by a summary of the main empirical findings. Finally, I present a discussion of the contributions of the thesis.

Given that this thesis was a realist evaluation, the end point of which is a refined middle range theory (MRT), I specifically consider three key contributions of the MRT2 as presented in Chapter 8, discussing each in relation to wider, relevant theoretical and empirical literature. Under each of these three points, I also address the last thesis objective by presenting the critical implications of the MRT2 for future DHS district-level health management and leadership (M&L) development in South Africa and elsewhere. I, then, reflect on research needs in the field of M&L development. As conclusions, I present key recommendations for district managers, national policy makers, designers of training programs and for donors, international project funders and national governments supporting HSS and DHS development.

Introduction

Since at least the 1990s, there have been global calls for improved management and planning in the district health system (DHS), which is recognised as the critical platform for improving access to health services for communities through a Primary Health Care (PHC) approach (Segall, 2003; World Health Organization [WHO], 2000). The DHS is a local governance level within the health system, small enough to reach communities and to allow relationship building, but large enough to require a functional management team with both “technical and managerial skills” (Tarimo, 1991, p. 3) to plan and direct activities. Over time, the stewardship and leadership function of DHS managers has been recognised as critical to managing multiple intersecting services and actors and an increasingly complex disease burden (Belrhiti et al., 2018; Bosongo et al., 2023; Gilson, 2007; Gilson & Agyepong, 2018; Prashanth et al., 2014; Schneider & Mianda, 2022; WHO, 2010). Strengthening district health management holds promise as a key lever for improving health system performance and health system strengthening (Bradley et al., 2015; Fetene et al., 2019).

As shown in Chapter 2, there is a slowly growing body of literature and experience about how to develop the capacity of managers in the health system and in the DHS specifically, and a variety of approaches have been adopted, including formal training, workplace-based learning, and action research. However, as the chapter also shows, this knowledge base is limited and there is, in particular, very little research understanding emergent bottom-up approaches to developing health management capacity that utilise existing resources with no external support (Bosongo et al., 2023; Choonara, 2017; Schneider, 2019). This thesis sought to add to the knowledge base on how to develop the capacity of managers in the DHS, to understand what works, why and in what conditions. As shown in the cross-case synthesis chapter, given the experiences I observed during my PhD, my focus moved from considering the capacity development of individual managers and management teams only, to a focus on embedding the capacity development of managers and teams within a broader, systemic capacity development approach.

South Africa's health system

Since 1994 and the democratic dispensation in South Africa, the DHS has been the cornerstone of the health system, embodying a primary health care approach. It was entrenched as such in the National Health Act 61, of 2003. While there have been successes in establishing the DHS over time, challenges in management and leadership remain (Barron, 2008; Coovadia et al., 2009; Fusheini & Eyles, 2016; Gilson et al., 1996; Schaay et al., 1998; Schaay et al., 2011). These include managers in post who are ill-prepared to lead and manage the district and vacant senior management posts, both of which reduce the capabilities of district health management teams (DHMTs). The variable expenditure on district management across districts reflects a lack of consistency in the prioritisation of management in South Africa. Fusheini and Eyles (2016 p. 6) note for example, "In KZN[29], the percentage of district health services expenditure on district management was lowest in Zululand in KwaZulu-Natal (0.8 %) and highest in Northern Cape in ZF Mgcawu (14.2 %)". As mentioned in the Introduction (Chapter 1) and literature review (Chapter 2), South African management capacity development programmes focus mainly on individually oriented training and operational management skills, rather than leadership skills.

[29] Kwazulu Natal is one of the nine Provinces in South Africa.

In 2012, the South African National Department of Health (SA NDoH) introduced a policy reform known as 'National Health Insurance piloting' which was intended to prepare the health system for future large scale health financing reform, focusing largely on governance and the service delivery platform (Matsoso & Fryatt, 2013; SA NDoH, 2011). PHC-reengineering within the DHS was a key focus of reforms. While district managers needed to manage these top-down reforms, this reform included an explicit call by the Minister of Health to strengthen management in the DHS (Pillay & Barron, 2012).

What did the thesis set out to do?

Against this background, this thesis sought to contribute to the knowledge base on how to develop the capacity of managers in the DHS, to understand what works, why and in what conditions.

The objectives included:

1. To describe and analyse senior managers in district health systems as mediators of policy reform between the National government and sub national government.
2. To describe what opportunities and challenges arise in disseminating, diffusing, and implementing bottom-up innovations in complex health district systems for management capacity development.
3. To identify the mechanisms for change triggered in context by bottom-up innovations and to identify how they interact with the existing social processes and norms to impact on capacity development [or not].
4. To derive insights from experiences of bottom-up management capacity development innovations for future capacity development of capacity at district level in South Africa and internationally.

Overview of the key findings

Chapters 5, 6, and 7 presented the findings of the three core pieces of empirical work, and chapter 8 presented the results of the cross-case synthesis. Together chapters 5-8 serve to deliver on thesis objectives one, two and three.

Chapter 5 explains key features of context in South Africa, including the 2012 National Health Insurance (NHI) Piloting process and the DHS context at that time, all of which influenced the

development of bottom-up innovations for management capacity development. It demonstrates how national initiatives that prioritise management capacity development can serve as a trigger for bottom-up emergence at the district level. By examining the interface between national government policies and plans, and sub-national realities, it provides insight into the intersection between top-down and bottom-up policy processes, and the long chains of actors and processes involved in the dissemination and diffusion of policy reform. Finally, the chapter describes the central role of district managers as mediators between the national government and sub-national level, laying the groundwork for understanding their role in navigating change and their use of discretion in management capacity development in the districts. These issues are examined in more detail in chapter six and seven.

Chapter 6 presents the first empirical case study of bottom-up innovation for management capacity development, from study site 1. It provides insight into capacity development for managers - targeting team processes and structures rather than individuals only - as a process embedded within the health system that takes place in routine spaces, such as meetings, and can be driven internally as part of the everyday micro-practices of district managers. The chapter not only shows how major reforms, such as NHI piloting, can trigger emergent innovations for capacity development, but also that contextual realities in the district and the district manager's own sensemaking will influence what kind of capacity development is judged as needed. It shows 'capacity' (improved meeting structures, role definition and relationships) as an emergent process combining individual competencies and collective capabilities. The chapter also identifies key mechanisms that were triggered in specific contexts to build capacity.

Chapter 7 presents the second case study, from study site 2. This chapter contributes to understanding how to build systemic capacity for leadership capacity development (LCD), through the lens of a bottom-up innovation in a health district. In this site, I observed the emergent implementation of an innovation (the Leadership Commission) to develop the leadership capacity of managers in the district health system. What started out as an effort to train individual leaders evolved over time into the development of systemic capacity (roles, structures, and processes) for leadership capacity development. The chapter examines the key mechanisms that were triggered in context to develop both the capacity of managers and the systems for LCD.

These empirical findings were then analysed in a cross-case comparison presented in chapter 8, which also presents the refined MRT (MRT2). The synthesis of experiences of bottom-up management capacity development presented in this chapter draws on all three empirical studies reported in chapters five to seven, and also allowed me to test the study's overarching MRT. Applying theory embedded in the MRT, I then developed and presented higher order conclusions that are transferrable for future capacity development at district level in South Africa and internationally (Marchal et al., 2012; Yin, 2014).

This final chapter, Chapter 9, picks up the key contributions of the MRT2 as presented in the cross-case synthesis addresses the last thesis objective by presenting critical implications of the MRT2 for future district-level health M&L development in South Africa and elsewhere.

Discussion of the key contributions of this PhD

Overall, this PhD demonstrates that capacity development is an emergent phenomenon in the complex adaptive system of the DHS. "Emergent behaviour can refer to any kind of learning or new pattern that emerges from the complex interactions of a system's components" (Paina & Peters, p. 369). My results reflect the findings of Baser and Morgan (2008), who identified emergence as an explicit capacity development strategy having observed this phenomenon in contexts where there was neither external funding nor a prescriptive approach to capacity development (Baser & Morgan, 2008, p. 30):

> It is a largely undirected process of collective action resulting in increased capacity. Emergent strategies are comprised of a shared sense of meaning and values, some sort of collective identity and a system boundary, some fungible resources, some basic rules of conduct, and a protected space that allows for operational autonomy to experiment and learn. Capacity emerges out of the multiple inter-dependencies and interactions among actors within the system. CD focuses on nurturing relationships and then capitalizing on opportunities to enhance performance and build capabilities; it is related to incrementalist strategies but is less directive.

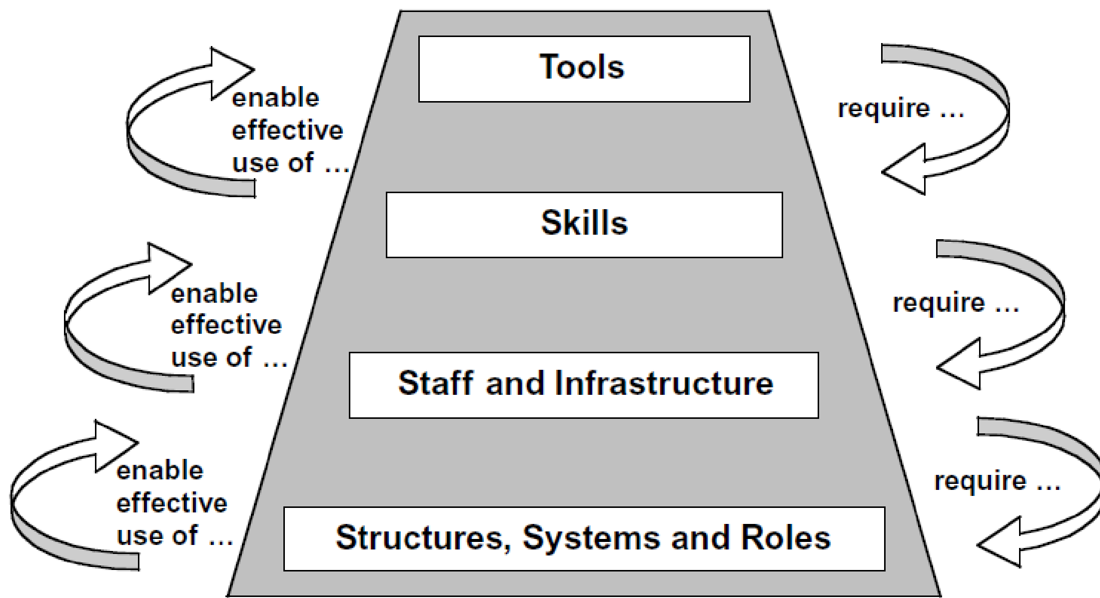
In their recent review of management capacity development programmes in the DHS, Bosongo et al. (2023) note an alarmingly small body of work that looks at capacity development from an emergent perspective. In this review, the authors found only two papers reporting on emergent approaches, one being from this PhD (Orgill et al., 2021).

I now discuss three key issues derived from the refined MRT2. I focus on these points as I judge they represent critical contributions to thinking about DHS capacity development as an emergent phenomenon and move thinking beyond the more common focus on training individual managers. The three points are: (1) nurturing management capacity development as part of systemic capacity development; (2) the need for individual drivers of change to develop systemic capacity through bottom-up approaches; (3) the need for central level prioritisation of management and leadership capacity development as part of a systemic capacity development approach.

Point 1: Nurturing management capacity as part of systemic capacity development

As presented in the MRT 2 in Chapter 8, I argue that taking a systemic capacity development approach benefited managers, management teams and broader structures and systems in the DHS. As I, too, embarked on an emergent research journey in following the bottom-up innovations as they unfolded, I came to appreciate the systemic approach to M&L development at the district level that occurred within the two study districts. The district managers (DMs) did not simply focus on training individuals or teams, but instead also addressed their bottom-up efforts towards leveraging and/or strengthening structures and systems, as well as defining roles within the DHS, to anchor M&L development locally. Such a focus on systemic capacity development redirects our attention to the multiple interdependent capacities that are needed to strengthen a system, which include, but are not limited to, the competencies and skills needed by managers as individuals and teams (Potter & Brough, 2004). These multiple interdependent capacities are reflected in Potter and Brough's (2004) capacity pyramid as shown in Figure 9.1. In both districts, the DMs worked to anchor L&M capacity development in the routine practices of the local health system. They did this by working across the multiple levels of the capacity pyramid, not only developing areas of capacity within the pyramid but also drawing from the system's capacity, such as the positional authority they held given their role within the DHS (Bossert, 1998; Hendricks et al., 2014).

Figure 9.1: Potter and Brough (2004 p. 340) Capacity Pyramid



The capacity pyramid is a useful visual representation of capacity interdependencies and shows how the development of health managers (as individuals and teams) must be understood as a part of a hierarchy of capacity needs. Within the pyramid, individual skills are only one of the capacity dimensions that need to be addressed in capacity development. Tools (equipment), staff (workload capacity and supervisory capacity of individuals), infrastructure, systems, structures and roles are all also important, as they act as conditions for the preceding level. The framework also recognises how context influences capacity development.

In the case studies in this PhD, the district manager in Site 1 (Chapter 6) provided managers with needed tools (mobile phone data cards and laptops) and he improved their attitudes and behaviours (skills) in meetings to focus on data-informed problems and solutions. However, he also addressed deeper levels of capacity, strengthening the structures within which managers work (the district management team meeting) and clearly defining the roles of senior managers (role capacity strengthening). He negotiated support from the Provincial Government for a critical post (systems strengthening through negotiation) and he instituted the formal sign-off of data by facility managers to ensure accountability for data sent upwards. In a similar way, the district manager in Site 2 (Chapter 7) also focused on the

foundations of the capacity pyramid – developing enabling structures, processes and systems for management and leadership capacity development.

While the district managers and their senior management staff did not explicitly apply the Potter and Brough (2004) framework, their actions reflected it, addressing management and leadership (M&L) weaknesses in the district as well as weaknesses in the structures and system at large. Interestingly, the capacity pyramid has been used explicitly as the theoretical and strategic underpinning for an institutional capacity building initiative in Uganda, with the intention to develop institutional capacity, and not only individual capacity. Called the 'Institutional Capacity-Building in Planning, Leadership and Management' project, its overall objective was "to strengthen the planning, leadership and management capacities of the health staff at national level and local government levels" (Balinda et al., 2015, p. 2).

Importantly, across sites, the bottom-up emergent innovations not only enabled and activated management capacity development but also helped to institutionalise structures and systems to support continued capacity development over the long term. Institutionalisation is itself key to enhancing system capacity. Potter and Brough (2004, p. 344) write that "empowering people, whether communities, health support workers, doctors, or managers, means greatly increasing the system's 'capacity' by creating processes that continue through time and are more or less immune to changes of individual staff and outside interference, and setting up structures that 'institutionalize' those processes and involve a much wider range of stakeholders in 'management".

However, M&L development is not well institutionalised in the South African health system. Although both district managers in this study were found to prioritise it, M&L development is typically given very little attention or priority. For example, there are no dedicated governance structures to advance management and leadership development at the National Department of Health level, nor is there a dedicated position to hold this function at district level (Egger & Ollier, 2007). Human resource directorates seem to engage in facilitating basic management training, but do not more pro-actively support M&L development (Schaay et al., 1998). While several health management competency frameworks have been developed (Gilson & Daire, 2011; Western Cape Department of Health, 2016), it is unclear whether any have been formally adopted. Although a process of developing a National Academy for Health Leadership and Management in Health Care in South Africa was launched in 2012, as part of

the NHI piloting process, this did not lead to the establishment of such an organisation, and it is not clear that the process will be re-initiated at the national level (Bateman, 2013). Yet such a governance structure could have acted as the national catalyst for M&L capacity development across the country, including at the district level. The NHS leadership academy in the UK could serve as a useful model in thinking about how to offer national commitment to leadership development (NHS England online).

Indeed, a 'double anchoring' approach has been seen as essential to sustain leadership development in health systems (Accoe et al., 2020). This means that "the district, local and community-level interventions that underpin distributed leadership must be enabled by a central political commitment to health leadership development" (Gilson et al., 2023, p. 682). One of the many reasons that this approach is needed in South Africa is because evidence has shown that unreceptive organisational cultures and the bureaucratic nature of the public health system has stifled the new behaviours and practices that managers have learnt and has limit managers' capacity to be innovative after being part of management and leadership capacity development programmes (Choonara et al., 2017; Cleary et al., 2018). Also, on occasion higher level managers in provincial governments have been unwilling to be part of capacity development programmes that DHS managers have attended – itself stifling systemic capacity development (Choonara et al., 2017; Cleary et al., 2018; Dovey, 2002).

Given similar experiences across countries, there have been several international calls for a systemic approach to M&L capacity development (Doherty et al., 2018; Gilson & Agyepong, 2018; Heerdegen et al., 2020). On the one hand, this means working across the multiple components of the system. For example, Heerdegen et al. (2020) note specifically that without functioning information systems in Ghana, managers cannot perform their role effectively – we need to focus energies on working across the building blocks to effect management capacity development. On the other hand, other experiences demonstrate the value of working systemically by embedding management capacity development within a DHS strengthening initiative. Schneider et al. (2019), for example, report on a district-level quality improvement intervention for maternal, neonatal and child health (MNC), that was focused in improving district level governance. This initiative was not supported by additional resources and drew only on staff and structures that already existed in the district. Although an outside facilitator was the lead expert initially supporting the approach, he was a long-time

South African health system insider, and his role was explicitly to strengthen clinical governance structures for MNC. This initiative represents an embedded approach to strengthening the capacities of managers, and governance is a systems phenomenon (Gilson & Daire, 2011). While Schneider et al. (2019) did not call this a management strengthening initiative, managers were incorporated and embedded into this new clinical governance structure, which enabled better information sharing and decision making. By strengthening the structure, they improved managers' competencies and capabilities, as managers were required to utilise information and share decision making. A key point here is that the improved structures will persist even if individual managers leave – the capacity is thus held by the district within structures and processes, not by an individual person. As noted by Waddington et al. (2007, p. 14):

> Concentrating activities within one dimension [of the conditions for good management and leadership] may not lead to the expected improvements if other dimensions are neglected. In practice, a large proportion of leadership and management development resources are devoted to classroom training, at the expense of work in the other dimensions and on overall competency development.

Implications for future M&L capacity development in health systems

These experiences indicate that formal, individually oriented training programs are simply not enough to sustain systemic change. My study found that locking in capacity development gains by embedding new competencies in routine processes and structures is critical to sustain systemic capacity development. This confirms other studies. Kwamie, Agyepong, and van Dijk (2015) found in Ghana that a leadership development programme (LDP) embedded in a continuous quality improvement initiative for district managers achieved short term outcomes but failed to achieve long term outcomes because managers eventually fell back into routines of organisational control. These authors argue this was because the LDP was "tool driven and not process driven" that is, the new practices and behaviours were not embedded in system processes and so were not institutionalised (Kwamie et al, 2015). In their review of capacity building programs for district health managers, Bosongo et al. (2023) found that institutionalising new leadership and management programs and practices is a condition for sustaining management capacity development gains. Approaches to institutionalisation include aligning training with local academic institutions, as well as aligning with and

strengthening existing stakeholders and structures. For example, Johnson et al. (2021, p. 129), in their review of LDP programmes in sub-Saharan Africa, argue that LDP programmes "must be embedded in health systems structures" and "there should be alignment with broader health system administrative and governance processes" to ensure their integration into the health system and fit with the broader context of education.

To support sustained, systemic capacity development, a cadre of district managers who embrace systems leadership and who work to develop DHS management and leadership capacity is needed. There must also be a national level commitment to districts through sustained resourcing and coordination for long term leadership development (Egger & Ollier, 2007). Foundations are, thus, required at both levels. A key starting point may be recognising the value of management and leadership training required by managers, who are instead often appointed based on their clinical training (Mutale et al., 2017). While managers can and do attend formal training and/or short-term training courses, the public health system in South Africa does not signal value for management diplomas or degrees. For example, such a qualification is not needed to be appointed to a health manager position in South Africa; instead, clinical skills and training are typically more valued (Brooke-Sumner et al., 2019; Daire & Gilson, 2014). In some instances, the national government has supported (through expressions of interest and coordination, not budgetary support) large scale initiatives including a range of external partners that sought both to train managers and to develop university faculty to conduct the training (Van der Berg-Cloete et al., 2020). However, such initiatives have not explicitly addressed the need to develop the health system's own capacity to sustain M&L development and cannot be considered national level stewardship for M&L capacity development. Zambian experience is instructive on this point. The Zambian Ministry of Health developed a Governance and Management Capacity Building (GMCB) Strategic Plan (2012-2016) to address management deficits in the country, including developing a course known as the Zambia Management and Leadership Academy accredited by the national Institute of Public Administration (Mutale et al., 2017). This is an example of stewardship through policy development at the highest level of government.

Another key action that could be taken is explicitly to embed management and leadership capacity development within district level systems strengthening initiatives, as done by Cleary et al. (2018) and Schneider et al. (2019). Cleary and colleagues found that strengthening

management teams and the way managers engage with each other in meetings, is best done in the workplace within the meeting structure. The authors employed principles drawn from a group coaching approach known as the 'Thinking Environment'. They sought to support managerial self-awareness about one's own role in the system and how behaviours impact the software of the system (and ultimately the capacity) of the system at large. These initiatives explicitly took an approach that embraced the health system as a complex adaptive system, embracing systems thinking in the design of the initiative. Designers of systemic capacity development programs benefit from adopting a systems orientation, and they should embrace the idea that management and leadership capacities are themselves systems phenomena (Kwamie, 2015). Heerdegen et al. (2020) note, based on their work with managers in Ghana, that management capacity emerges from the complex interplay at multiple levels in the DHS and therefore strengthening management capacity must be driven from the perspective of multiple levels in the system.

Point 2: The role of individual drivers of change in developing systemic capacity through bottom-up emergent approaches: what competencies and capabilities do they need?

The key role of senior managers within the emergent bottom-up innovations that I studied demonstrates the important role of individuals and teams as actors at the centre of health systems (Sheikh et al., 2014). There is currently very limited literature on emergent processes taken by managers to build capacity in the DHS. Bosongo et al. (2023) write that this is overwhelmingly because prescriptive approaches toward capacity development are taken by l national governments, and by international funders. There is, however, growing recognition of the critical role of middle managers in mediating between central and local levels, and supporting systemic capacity development, in the wider health systems literature (Brooke-Sumner et al., 2019; Choonara et al., 2017; Cleary et al., 2018; Elloker et al., 2012; Gilson et al., 2020; Marchal et al., 2010). Similarly, the public administration literature recognises the important role of managers in public sector bottom-up innovation (Baker & Nelson, 2005; Borins, 2002).

I argue that the empirical work of this PhD helps identify what competencies and capabilities district managers need to nurture management and systemic capacity development. Even without a national coordinating mechanism for M&L development, district managers can

initiate management and systemic capacity development themselves by leveraging existing human, structural and system resources. Managers in the two case studies applied their agency and positional authority to drive and shape management and systemic capacity development, as also demonstrated in other research in South Africa (Elloker et al., 2012; Gilson et al., 2014; Gilson et al., 2020). The managers in the case studies were actors who responded to top-down policy reforms and were willing to act through expressed commitment and prioritisation, and they showed institutional commitment by setting up the needed structures and processes to institutionalise systemic capacity development. Fox et al. (2011 p. 4) write that "by building up infrastructure and procedures that are hard to undo once established, institutional commitment goes beyond mere proclamations of commitment", it enables the locking-in of a response. As already noted, institutionalisation is key to developing systemic capacity.

Managers seeking to nurture manager and systemic capacity development must also be able to link in wider system resources, such as NGO partners and other district level organisations (such as regional training centres, as in site 2), and call on higher level government officials for support where needed. To take these actions, they must be able to scan the environment and leverage resources from multiple stakeholders and persevere in difficult, complex contexts through the everyday micro-practices of their jobs (Gilson, 2016). Bricolage is an important concept here. In the public administration literature, Andersen (2008) speaks about 'entrepreneurs' who engage in bricolage – through bottom-up innovation they draw on what is at hand, focusing on the recombination and reemployment of existing resources. Bricoleurs can draw on different knowledge forms, including explicit knowledge (know what to do) and tacit knowledge (know how to do). These bottom-up entrepreneurs also draw on the social capital in their wider environment. For example, the DM in site 1 was aware that he had come from a high functioning province with structures and systems that had proved effective, and he drew on his tacit knowledge (know how), and his formal training in management (know what). "The core lesson from these studies [of bricolage] is that the symbolic constructs that actors encounter in their environment represent the very resources that enable organization building, rather than being mere constraints" (Perkmann & Spicer, 2014, p. 1786). Originally, I had not fully considered how managers could shape context. I have now broadened my understanding to acknowledge these managers as explicitly part of,

acting in and acting on the system in which they are working, as reflected in MRT 2. While district managers in South Africa typically experience their context as disempowering (Gilson & Daire, 2011), they could understand their role to include acting on their context.

I also identified several 'mechanisms (from a realist evaluation perspective) that were triggered by district managers in their pursuit of systemic capacity development, including acts of sense-giving and sense-making through the deployment of the hardware and software of the system (Rouleau, 2005). Indeed, critical to the bottom-up emergent innovation in the case studies was the strategic use of both the structural hardware (organizational, policy, legal and financing frameworks) components of the health system and the social software (ideas, interests, values, norms, actors and relationships) to motivate managers (Gilson, 2012; Sheikh et al., 2014). The DM in site 1 drew on the hardware of the system (the Health Management and Information Systems policy) to ensure compliance in the use of data in reporting. In district 2, the manager made leadership development a strategic priority and institutionalised a process of reporting on progress on the leadership strategic priority at the end of each year, to ensure accountability.

Both managers also drew on the existing software in the system. In site 1, the DM built strong relationships with the planning manager who he identified as hard working and self-motivated. He also appealed to public service motivation by employing discourses of public service and appealing to the shared values of PHC (software). Further, the DM triggered the mechanism of self-efficacy in managers by clearly describing the role of senior managers and NGOs in the district and by allowing managers the experience of learning through doing in meetings (Rouleau & Balogun, 2011). Similarly, Braa et al. (2012) used an action research approach to encourage managers to use data more effectively. Through quarterly workshops, in which DHMT members from a range of districts came together to apply new templates, present to each other, and share common challenges, they enabled managers to increase their competency to use data. Over time, as proficiency increased, other DHMT members and programme managers started attending these workshops. The use of these workshops also stimulated efforts for wider system integration of data across data sets and improved teamwork. The employment of software skills illustrates the intersection of leadership and management. Nginza et al. (2018) argue that we need to move beyond thinking of leadership

as embodied by one person, and instead think of it as a collective social process where one navigates politics and inter-professional hierarchies in the health system.

In site 2, meanwhile, as the DM had a long history in the district she had built long standing trusting relationships with members of her district executive management team. Two of the team, who were high performing and shared beliefs about the need for leadership development, were delegated to lead the task team. The relationships and appointments enabled the development of a functional leadership task team, a key foundational structure in implementing the vision of the leadership commission. Relationship management, trust and the affirmation of values (the software of the system) have been found to be key ingredients for the motivation of health workers and can facilitate co-operation among managers and health workers toward common goals (Erasmus et al., 2017; Gilson et al., 2007; Okello & Gilson, 2015).

The two DMs' strategic use of hardware and software health system elements reflects the competency of system thinking they both held. "Systems thinking is, foremost, a mindset that views systems and their sub-components as intimately interrelated and connected to each other, believing that mastering our understanding of how things work lies in interpreting interrelationships and interactions within and between systems" (Adam, 2014, p. 2).

Implications for future management and leadership development programmes

As I discuss above, individuals are important for systemic capacity development as they are embedded within the system, and capacity itself is made up of individual competencies and collective capabilities (Baser & Morgan, 2008). To lead and manage in the DHS, managers need a variety of skills, attitudes and behaviors (Doherty et al., 2018; Quinn et al., 2000; Vriesendorp et al., 2010). These include a practical and explicit understanding of the hardware of the system and the capacity to engage with the software of the system (Sheikh, et al., 2014). In this PhD, I revealed competencies that were particularly relevant to emergent systemic capacity development, including the use of tacit knowledge, systems thinking, and sensemaking and sensegiving (including making sense of triggers in the environment, such as the national Minister of Health's call to action).

These competencies enabled the DMs to work with emergence within their districts, taking advantage of the top-down prioritization of management strengthening by the national

Minister of Health to nurture systemic capacity. As Gilson et al. (2023; 667) note, system leaders "must be able to work with uncertainty, let activities unfold in response to context whilst creating environments that support such emergence, and overlook organizational priorities or needs to benefit the wider collective". It is therefore important to consider how to develop and strengthen the competencies needed by individual managers so that they are better equipped to drive systemic capacity development through emergent bottom-up approaches.

First, the findings of this study show that managers working in the district health system must be equipped to recognize and use their own agency and positional authority and must draw on their tacit and explicit knowledge of the DHS and wider health system. Developing personal confidence, including through reflection on and surfacing participants' own tacit knowledge, should be a core element within formal capacity development programs. More generally, ways of surfacing tacit knowledge toward organizational knowledge creation include the use of metaphors, analogies, exposing the interplay between explicit knowledge and tacit knowledge, gaining experience through doing and sharing experiences with a team of people in the organization "to bring personal knowledge into a social context within which it can be amplified" (Nonaka, 1994, p. 23). Ambrosini and Bowman (2001, p. 23), similarly, have argued that the use of metaphors is useful for researching and/or surfacing tacit knowledge. They also recommend the use of cognitive maps to surface a person's view of reality and or the development of causal maps which allow tacit knowledge to surface through a focus on the process and actions taken that have contributed to organizational success. Such mapping approaches could be integrated within formal training programs both to encourage managers' reflection on their own tacit knowledge and to equip them better to elicit their team's tacit knowledge during everyday work activities.

In addition, such programs could support managers' engagement with wider frameworks and literature that are relevant to thinking about, and leading, systemic change. For example, the systemic capacity pyramid can broaden understanding of the multiple interdependent capacities that are needed to effect systemic capacity development (Potter & Brough, 2004). Other relevant frameworks and approaches include the "Five ingredients for Systemic Change" model and the "Theory U and consciousness-based systems change" (Dreier et al., 2019; Scharmer, 2016).

These two competency areas, the use of tacit knowledge and applying a systems orientation to capacity development, are reflected in a wider set of competencies understood as systems leadership (Belrhiti et al., 2018; Gilson et al., 2023). Systems leadership competencies could be usefully incorporated into leadership development programme design. System change requires leaders who can works across a range of actors and boundaries while drawing on the strength of the collective. Organisational development is then a feature of systems leadership.

Gilson et al. (2023) provide ideas on how to develop systems leadership. These include supporting managers to engage in practical challenges within their work context and so enabling collective action to address real world problems. Kiarie (2023) writes that work-place based learning (WPBL) activities allow managers, who are extremely busy and dealing with routine activities while also managing change, an opportunity to learn and reflect in their workplace. This includes reflection on their personal roles in their context as well as how to address barriers to change in that context. Working in context can also help to embed and sustain new cultures or ways of being and doing (such as team working) that were developed within existing process and structures as part of a facilitated and/or action learning approach – enabling not only personal, but also organisational, development. It is important that managers can think through and act to reshape the contexts in which they work. Context must not only be understood as a disabler to change (Egger & Ollier, 2007). While they may feel disempowered by the context in which they work, they should be supported to seek actively to use their tacit and explicit knowledge to reshape that context as part of systemic capacity development, whether at a structural or systems level (Perkmann & Spicer, 2014). Bosongo et al. (2023, p. 13) noted as a key lesson in their review of developing management capacities in the DHS, that “the alternation of short workshops and on-the-ground follow-up visits, and the use of action learning approach which links training to real-world practice are essential to enable both theoretical knowledge and practical skills”. Car et al. (2018) in their review paper note that e-learning is also an opportunity for continuing collaboration and the sharing of ideas amongst likeminded-colleagues, through for example online forums and chat functions.

Second, developing systems leadership competencies requires new strategies within formal M&L training programs. There are a range of types of capacity development initiatives found in the management and leadership literature, including action learning approaches and on-

the- job training (Bosongo et al., 2023; Johnson et al., 2021). Bosongo et al. (2023, p. 15) note that *"*Action learning features advantages that can help strengthen DHMs' leadership and management capacities. First, it goes beyond knowledge acquisition and enables skills development. It also enables participants to benefit from faculty or supervisor support after having attempted to apply their learning". Gilson et al. (2023) further, provide a summary of formal leadership training in three countries in Africa, including university-based training, training by NGOs and shorter-term training (less than six-months), many of which also included aspects of WPBL.

These authors also provide advice on what is needed to strengthen systems leadership competencies within formal training programs. They suggest that there must be recognition that LDP programs are a strategic lever for HSS, that these programs must incorporate principles and practices of systems leadership so that effects are realized at multiple levels of the system and that they must be linked to some form of WPBL (Gilson et al., 2023). This is supported by (Kwamie et al., 2014) who noted that the LDP in Ghana only focused on tools and not processes and practices – which led to lack of integration of new competencies into the system. LDP programs must also be linked to a wider set of activities that support organizational change (Gilson et al., 2023; Heerdegen et al., 2020; Johnson et al., 2021).

I found some promise for these approaches in the reported South African leadership development experience presented in Chapter 2. While the interventions reported in these papers do not state explicitly that they are targeting systemic capacity, they do embrace systems thinking and employ action learning pedagogies, informed by frameworks such as the Thinking Environment, which proved helpful to build systems thinking in managers (Blanchard & Carpenter, 2012; Doherty et al., 2018; Dovey, 2002; Van der Berg-Cloete et al., 2020). As mentioned previously, a double anchoring approach for LDPs is also needed, stewarded by national government leaders who act as champions of change.

Point 3: Developing systemic M&L capacity at district level benefits from central level prioritisation of management and leadership capacity development

Given my focus on systemic capacity development, it is useful to frame my findings on this point against the health system strengthening (HSS) literature given its systemic orientation. In practice, moreover, the NHI piloting process was effectively a nationally led programme of

health system strengthening. Reviewing this process, Griffiths et al., (2014) noted that "South Africa is doing more health system strengthening than almost any country and a characteristic of the NHI work is that the government is labelling much normal health systems strengthening work as NHI". The range of initiatives that were implemented in the NHI piloting process certainly embodied characteristics of wider, donor-led HSS initiatives. Chee et al (2013, p. 90) define HSS interventions as:

> … (a) …hav(ing) cross-cutting benefits beyond a single disease; (b) they address identified policy and organisational constraints or strengthen relationships between the building blocks; (c) they produce long-term systemic impact beyond the life of the activity; and (d) they are tailored to country specific constraints and opportunities with clearly defined roles for country institutions.

Within the South African NHI piloting process, the Minister's prioritisation of M&L was an important trigger for bottom-up innovation in that it reflected, in some ways, the double anchoring approach to M&L development raised in point 1 as needed (although there is little other national prioritisation of M&L as also argued in point 1). Although top-down health reform processes are often critiqued as being too rigid, bureaucratic, and hierarchical to allow for innovation at the front line of services, in this PhD I found that the top-down nationally directed NHI piloting reforms were in fact a trigger for innovative and emergent bottom-up management capacity development within the district health system The Minister's signalling of the need to strengthen management capacity development, through expressed commitment in policies and speeches and explicitly linking it to a large scale PHC system strengthening initiative, triggered emergent bottom up innovation (Fox et al., 2015; Pillay & Barron, 2012). The Minister played a key role in championing the NHI piloting process during visits to the district pilot sites, and he explicitly emphasised the importance of management (especially at hospital level), providing legitimisation of the DMs' attention to M&L development. Meanwhile, district managers with a clear strategic vision and set of systems thinking skills saw and used the opportunities within nationally driven HSS initiatives, even with no additional budget allocation for their management strengthening initiatives.

Because management capacity development was prioritised in the context of a larger HSS initiative and triggered emergent management capacity development, I argue that this suggests there is an opportunity to leverage benefit for capacity development programs

through HSS initiatives. And there is likely a double benefit: management capacity development that takes a systemic approach (as outlined in point 1) can itself be a lever for health system strengthening.

For example, strengthening management as part of HSS interventions could be an important horizontal approach that benefits the implementation of specific health programmes, such as the integrated management of childhood illnesses and the health system as a whole. (Doherty et al., 2018) write that strengthening district management was a critical missed element in the implementation of IMCI programmes. Managers, like frontline staff, received clinical training, rather than training on management nor leadership. This training was reliant on donor funding, which meant that it was not sustained over time. Yet, as noted by Witter et al. (2019 p. 1987) "system strengthening entails concern for how a specific intervention is adapted to and institutionalised within the existing system, not only to ensure its long-term sustainability but also to support, rather than undermine, system resilience". Bradley et al. (2015) meanwhile, argue that as management is a function cutting across the building blocks of a health system, it is a key lever for health system strengthening within existing technical, financial and human resources. Also, as managers are deeply embedded in the system across the hierarchy (e.g. facility, district, regional), they are well placed to support HSS. Yeager & Bertrand (2016), therefore, also argue for incorporating management capacity development into HSS initiatives as a key lever in system strengthening. In addition, Swanson et al. (2012) argue that those who lead HSS initiatives must focus on strengthening organisational capacity while implementing them. They point to the importance both of a system orientation within HSS initiatives, and of supporting participatory leadership as it is a key system priority.

Implications for future HSS initiatives

HSS initiatives generally have considerable resources, and international and national partners could better leverage these funds for broader systems development, including M&L capacity development within the DHS (Doherty et al., 2018). The initiatives could fund participants to attend formal training programs within the country settings or embed work-place based learning opportunities into their activities (Gilson et al., 2023). Yet, to be successful, HSS interventions that aim at developing or strengthening M&L capacity would need to adopt long-term approaches, be doubly embedded in the local and national context and target the competences I have already described in point 2 (such as systems thinking).

One example of relevant experience is the Mozambican Population Health Implementation and Training (PHIT) Partnership. This seven-year partnership, driven by a consortium of local and international partners focused on (1) improving the quality of routine data to improve decision making by managers; (2) strengthening management and planning capacity and funding district health plans; and (3) operations research that would enable HSS over time (Sherr et al., 2013). In addition, there is some evidence that the implementation practice within this partnership underpinned the success of interventions such as routine data use and was likely an important enabler for the institutionalisation of the new capacities developed (Cleary et al., 2018). Embedded and long-term HSS approaches can enable the strengthening of health systems from within.

Future research recommendations

My first personal reflection based on this PhD work is that more research is needed on emergent approaches to capacity development by managers on the ground, who support capacity development through their everyday micro-practices of managing and leading. Such research can provide rich information about how managers in the DHS are developing the competencies and capabilities of their staff within everyday routines and structures. It will also assist in understanding, in more detail, the link between strengthening individuals and structures and systems. This call is supported by Heerdegen et al. (2020, p. 8) who write that "future research may look into approaches to strengthen management and leadership that build on structures and capacities that already are in place".

Understanding how emergence plays out in the real world in complex contexts requires particular evaluation types – methodological approaches and study designs that are flexible. I was able to identify the bottom-up processes because I adopted realist evaluation and used a case study design. This allowed me to follow the study sites and the actors over time, to develop a close engagement with the district actors and to use theory to develop and test the initial programme assumptions, as is prescribed for high quality case study work and realist evaluation (Gilson, 2012; Marchal et al., 2012). Testing theory is a particularly useful strategy to contribute to better knowledge and to draw lessons across cases.

There are also a variety of recommendations in the literature on the research that is required in relation to management and leadership capacity development.

Johnson et al. (2021) question the universality of leadership concepts and frameworks developed in higher income settings. They recommend research for developing a set of leadership concepts relevant for sub–Saharan Africa considering context and wider socio-cultural characteristics. Bosongo et al. (2023), meanwhile, are concerned about the lack of theory employed in the development of capacity building programmes as this affects programme design and evaluation. I recommend, second, that these two gaps could be researched together: what concepts and frameworks are appropriate for LDPs in the sub-Saharan context and how might they help to develop appropriate hypotheses and/or theories for explaining the link between context, mechanisms, actors, inputs and outcomes in developing leadership and management capacity at district level?

Evaluation of leadership and management programmes has, meanwhile, been critiqued for adopting a wide diversity of evaluation designs, leading to problems with comparing studies and uncertainty about results. Some call for study designs that show effectiveness of programmes, while others call for designs that enable an understanding of the conditions of success - which require a clear theory that can be tested, and takes account of context (Bosongo et al., 2023; Car et al., 2018; Johnson et al., 2021; Seidle et al., 2016). I suggest, third, that approaches that build and test theories on the basis of evaluations that combine assessment of effectiveness with analysis of causal processes are essential.

I also call for more health policy research addressing how to conceptualise national governments as stewards of management and leadership capacity development and what roles, structures, systems and processes this might entail. Policy implementation research on how to monitor and implement such a stewardship function across the health system is also important.

Finally, I call attention for research on understanding how and why M&L capacity development leads to broader health system strengthening. Travis et al. (2004, p. 902) note that research is needed on “the extent to which vertical versus more integrated approaches contribute to sustained overall system strengthening—and in what circumstances”. They make the point that “although we do not yet know for certain whether (and when) broader architectural responses are necessarily better than disease-specific ones, the imposition of a disease-specific lens means that broader health systemwide responses are not even part of the solution set considered” (Travis et al., 2004, p. 903).

Final recommendations for key groups supporting DHS management and leadership capacity development

Recommendations for district managers

- Recognize your own tacit and experiential knowledge as vital organisational knowledge that you can draw on to strengthen the capacity of your staff, as well as the structures and systems in the DHS. Draw on techniques to surface your tacit knowledge to enable you to share it with others.
- Recognize the different strengths of your team members and leverage their tacit and explicit knowledge in helping you to develop the capacity of the structures and systems in the DHS.
- In your work of capacity development, intentionally employ systemic capacity development approaches, including systems thinking and systems leadership - use this to your long-term advantage so that when you leave, your successors have well-functioning structures and processes in place.

Recommendations for national policy makers

- Large scale HSS initiatives provide an opportunity to strengthen DHS management capacity if it is prioritised and/or embedded into their design.
- A double-anchoring approach is needed. There need to be explicit foundations for management strengthening in districts to support DHS managers to strengthen the capacity of their managers, and of the structures and systems in which they work.
- When donors or researchers seek to implement new interventions, question how they are building horizontal capacity in the system (e.g. enquire about the key horizontal levers that will support systems change, especially asking about managers).
- Give senior managers in districts the requisite authority and power to make change and to support emergent innovations.
- Understand that the capacity strengthening of roles, structures and systems serve as markers of progress toward longer term HSS goals.

Recommendations for those designing training programs for managers in the DHS

- Enable managers to understand that they can change the conditions in which they work through a focus on tools, skills, role definition, structures, and systems. Managers are not only subject to context, but it is also possible for them, through their actions, to reshape the conditions in which they work. This will require skills to read and change (where needed) the organisational culture.
- Managers will need to understand themselves as systems leaders who can apply a lens of systemic capacity development and employ systems thinking and systems leadership skills.
- Reflect with managers about the priority of management capacity development in their workplaces and what foundations exist (budgets, resources, coordinators, structures) to support and hold leadership and management capacity development.
- Through formal training and workplace-based learning, show managers how to leverage existing resources in their context for change.

Recommendations for donors and international project funders and national governments supporting HSS and DHS development:

- Explicitly including management and leadership capacity development within health system strengthening reforms at the district level can support systemic capacity development, given the cross functional nature of district managers roles.
- Strengthening the general strategic management capacity of managers should be targeted by all CD programmes, rather than only focusing on the selective capacities needed for specific programmes - as this will benefit the implementation of all large-scale reforms and as managers can utilise these competencies and capabilities across other programmes and services.
- To support M&L development, large scale reform/ health system strengthening initiatives could draw on relevant, formal training programmes within countries and/or design workplace-based initiatives for management CD together with country partners.
- Priorities for DHS M&L development should be co-decided with district managers - drawing on their contextual understandings and tacit knowledge to identify target

areas for systemic capacity development in the existing context. This will ensure institutionalisation of capacity when funding comes to an end and/or individuals leave.

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Appendices

Appendix 1a: Link to published paper (Chapter 5) and related data sheet

This qualitative study research report is available online at

https://equityhealthj.biomedcentral.com/articles/10.1186/s12939-019-0952-z. The

Additional File is available at:

https://equityhealthj.biomedcentral.com/articles/10.1186/s12939-019-0952-z#Sec31.

Orgill et al. International Journal for Equity in Health (2019) 18:53
https://doi.org/10.1186/s12939-019-0952-z

International Journal for Equity in Health

RESEARCH Open Access

A qualitative study of the dissemination and diffusion of innovations: bottom up experiences of senior managers in three health districts in South Africa

Marsha Orgill[1*], Lucy Gilson[1,2], Wezile Chitha[3], Janet Michel[4], Ermin Erasmus[1], Bruno Marchal[5] and Bronwyn Harris[6]

Abstract

Background: In 2012 the South African National Department of Health (SA NDoH) set out, using a top down process, to implement several innovations in eleven health districts in order to test reforms to strengthen the district health system. The process of disseminating innovations began in 2012 and senior health managers in districts were expected to drive implementation. The research explored, from a bottom up perspective, *how* efforts by the National government to disseminate and diffuse innovations were experienced by district level senior managers and *why* some dissemination efforts were more enabling than others.

Methods: A multiple case study design comprising three cases was conducted. Data collection in 2012 – early 2014 included 38 interviews with provincial and district level managers as well as non- participant observation of meetings. The Greenhalgh et al. (Milbank Q 82(4):581-629, 2004) diffusion of innovations model was used to interpret dissemination and diffusion in the districts.

Results: Managers valued the national Minister of Health's role as a champion in disseminating innovations via a road show and his personal participation in an induction programme for new hospital managers. The identification of a site coordinator in each pilot site was valued as this coordinator served as a central point of connection between networks up the hierarchy and horizontally in the district. Managers leveraged their own existing social networks in the districts and created synergies between new ideas and existing working practices to enable adoption by their staff. Managers also wanted to be part of processes that decide what should be strengthened in their districts and want clarity on: (1) the benefits of new innovations (2) total funding they will receive (3) their specific role in implementation and (4) the range of stakeholders involved.

Conclusion: Those driving reform processes from 'the top' must remember to develop well planned dissemination strategies that give lower-level managers relevant information and, as part of those strategies, provide ongoing opportunities for bottom up input into key decisions and processes. Managers in districts must be recognised as leaders of change, not only as implementers who are at the receiving end of dissemination strategies from those at the top. They are integral intermediaries between those at the at the coal face and national policies, managing long chains of dissemination and natural (often unpredictable) diffusion.

Keywords: Innovation, Diffusion, Dissemination, Communication, District manager, Bottom up, Health system, Policy analysis

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Appendix 1b: Link to published paper (Chapter 6) and related data sheets

This qualitative study research report is available online at https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-021-10546-w. The Additional Files: 1, 2, 3, 4 & 5 are available at: https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-021-10546-w#additional-information.

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https://doi.org/10.1186/s12889-021-10546-w

BMC Public Health

RESEARCH ARTICLE Open Access

Bottom-up innovation for health management capacity development: a qualitative case study in a South African health district

Marsha Orgill[1*], Bruno Marchal[2], Maylene Shung-King[1], Lwazikazi Sikuza[3] and Lucy Gilson[1,4]

Abstract

Background: As part of health system strengthening in South Africa (2012–2017) a new district health manager, taking a bottom-up approach, developed a suite of innovations to improve the processes of monthly district management team meetings, and the practices of managers and NGO partners attending them. Understanding capacity as a property of the health system rather than only of individuals, the research explored the mechanisms triggered in context to produce outputs, including the initial sensemaking by the district manager, the subsequent sensegiving and sensemaking in the team and how these homegrown innovations interacted with existing social processes and norms within the system.

Methods: We conducted a realist evaluation, adopting the case study design, over a two-year period (2013–2015) in the district of focus. The initial programme theory was developed from 10 senior manager interviews and a literature review. To understand the processes and mechanisms triggered in the local context and identify outputs, we conducted 15 interviews with managers in the management team and seven with non-state actors. These were supplemented by researcher notes based on time spent in the district. Thematic analysis was conducted using the Context-Mechanism-Outcome configuration alongside theoretical constructs.

Results: The new district manager drew on systems thinking, tacit and experiential knowledge to design bottom-up innovations. Capacity was triggered through micro-practices of sensemaking and sensegiving which included using sticks (positional authority, enforcement of policies, over-coding), intentionally providing justifications for change and setting the scene (a new agenda, distributed leadership). These micro-practices in themselves, and by managers engaging with them, triggered a generative process of buy-in and motivation which influenced managers and partners to participate in new practices within a routine meeting.

(Continued on next page)

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Appendix 2: Guide to eliciting programme theories

- What is your overall vision/goal?
- What are the key activities you will implement to achieve that vision/goal and who will be involved in implementing them and in taking action to achieve that vision/goal?
- What assumptions underpin the selection of these activities in relation to this vision/goal?
- What assumptions underpin the actors you will involve, or expect to play a role, and the expectations you have of their role in taking action towards the vision/goal?

Vogel (2012)[30] writes that getting depth and critical thinking on assumptions is widely agreed to be the crux of a theory of change process. Vogel (2012, p. 14 & 20) provide practical guidance in eliciting assumptions during the development of a theory of change:

Practical steps for a simple theory of change process are provided:

- A group discussion: 'What are the main types of changes that we want to support?'
- What are the main 3-5 development conditions that need to be in place for change even to be possible?'
- Identify the three most important relationships between these conditions and write them as affirmative statements
- Discuss in the group, use drawing cards to develop the discussion

Vogel (2012) writes also that one can look at the programme from the perspective of the intended beneficiary in order to elicit assumptions and ask:

- How would they know about your programme?
- How would they understand it?
- Why should they participate?
- What are the costs and benefits from their point of view?
- Will they really benefit? What are the risks to them if they do/ do not participate?

[30] Vogel, I. April 2012. Review of the use of Theory of Change in International Development. UK, DFID.

Appendix 3: Interview guide for NGO partners

General

- Please state your organisation and your role in this organisation
- How long have you worked for this organisation in this role / and in this district
- Please describe the goal and objectives of your organisation in district X
- Are you aware that District X is an NHI pilot site / is this the reason your organisation works in District X

Prompts: (own internal organisation context; DMT number and competency of managers; support systems – use of information, environment – hierarchies; Province; National etc.)

- Could you reflect on your understanding and experience of the context within which you work in District X

Coordination and collaboration

- Please discuss your engagements with the district X management team
- Who do you work with and on what issues?
- What meeting spaces do you engage with members of the DMT
- Do you have the sense that you share a common vision for the district with the DMT?
- Are there any challenges or opportunities you would like to reflect on in this regard?

Note to participant: In 2014 the District manager tried to institutionalise mechanisms to strengthen coordination and collaboration between the DMT and the partners in the district; are you aware of any of these mechanisms and did you participate in them, if so how and why? Is there a functioning coordination mechanism in the district to ensure good coordination and collaboration in the district (reflect on pre and post 2014)

Prompts: invitations to DMT meetings; mapping all partner activities in the district, appointed a coordinator for all partners; joint planning of the District Health Plan including province.

- Do you share information with each other? What type, with whom and for what purpose?

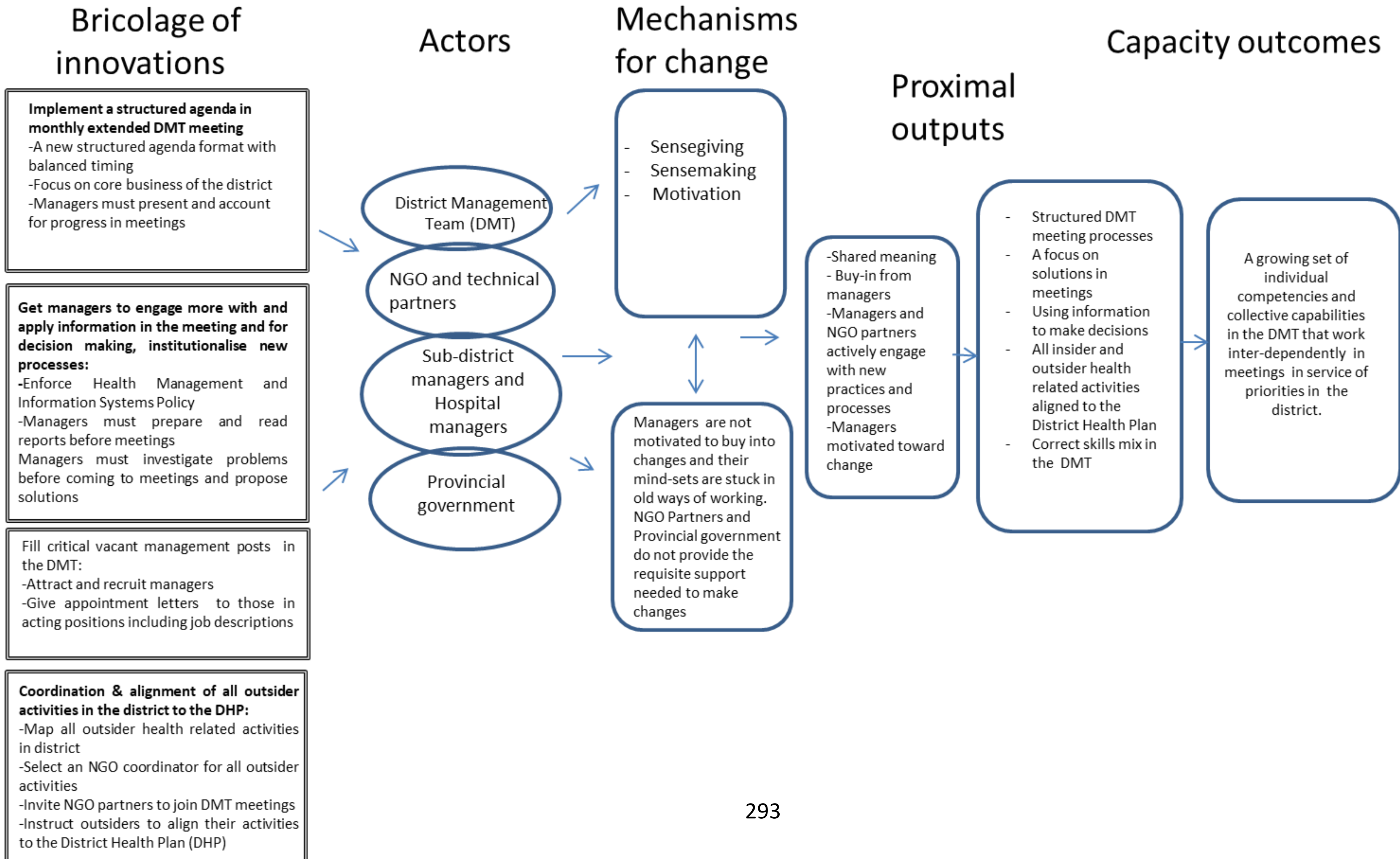
- Do you share resources (e.g. monetary or skills etc.) What type, for whom and for what purpose?
- Do you partake in any joint action with the DMT for the benefit of the district? What type, with whom and for what purpose?
- Could you discuss any key challenges or opportunities these activities present? Please describe why and how these challenges present themselves.
- Has working with the DMT in any way affected your autonomy in the District?
- Do internal or external hierarchies come into play in your work with the district?
- Are you always able to reach task consensus? If yes, how?
- If you feel that in 2014 coordination and collaboration improved between the partners and the district, could you please describe why you feel this way? What has changed and to what do you attribute these changes to?
- Are you now regularly (monthly) invited to participate in DMT meetings?
- Are you regularly invited to attend planning meetings jointly with the district? Do you collaborate on the joint development of business plans or strategies? If yes when and on what topics?
- Are the formal structures (routine meetings, institutions or bodies) that enable you to participate in the DMT activities?

Institutionalization questions:

- Is it now standard practice to participate in these activities? When and where?
- What spaces (geographic and temporal) are used to facilitate these activities?
- Are invitations sent out to participate routinely? Are the same actors always involved?
- Why do you participate in this activity, what motivates you to be a part of it?
- Are there sufficient resources / staff to carry out this activity? (Find out if there are any resources allocated for this, often is an indication of its importance).
- Has there been any communication strategy about this activity? How did you find out about it?
- Who sends out notifications? Who do you see as the lead person on this in the district?
- Are events / spaces of engagement well organized and facilitated in a structured manner?

- Do you sense that in the current contextual environment that this activity is needed within the district context (district fit)?
- Do you have any comments on the target audience of this activity / and or the implementers of this activity
- Would you say these activities are now part of the normal day to day business of the district (sub district) or are there still some teething issues?
- What underlying mechanisms enabled the institutionalization of this activity?

Appendix 4: Initial programme theory for strengthening management capacity



Appendix 5: Information sheet for participants

Introduction and background

Hello. My name is .... and I am a member of a research team from the Health Economics Unit, University of Cape Town, the Centre for Health Policy, University of the Witwatersrand and the Africa Centre for Health and Population Studies, University of KwaZulu Natal. I would like to invite you to participate in a research project, entitled Universal Coverage in South Africa: Monitoring and Evaluating progress.

The specific research is part of a broader international project entitled Universal Coverage in Tanzania and South Africa: Monitoring and Evaluating progress. In both countries, we seek to track the process through which new policies and programmes aimed at improving the performance of the health system are implemented. We aim to compare these experiences within and across countries to learn about the sorts of factors that influence how implementation occurs and what achievements result from these policies. We also hope to draw conclusions about how to support their implementation in the future.

In South Africa we are working in selected National Health Insurance pilot sites. We are particularly interested in understanding the challenges and successes that those responsible for implementation face and by working together hope to support the implementation of the new policies and programmes. We also intend to talk to health managers and policy makers at provincial and national level about what we observe and learn about these experiences, and also to share South African experiences with colleagues working elsewhere.

As part of this work, we would like to talk to you now about your work and understanding of some of the new policies and programmes that have been introduced as part of PHC re-engineering and NHI. Specifically, we would like to talk to you about XXXX (insert innovation / reform) today.

We also hope it would be possible to talk to you again – by yourself, and perhaps in discussions with others, as well as possibly accompanying you in your work at some times. This will allow us to better understand what happens in implementing these policies or programmes.

From time to time we will share some of our observations and reflections on these experiences with colleagues in this district. We hope this sort of feedback will help us check if our understandings reflect those of colleagues in the district, but also may help the district managers in thinking about how to take forward implementation.

I am inviting you to participate in this research and hope that you will agree to be a participant of the research, thereby contributing to efforts to monitor the progress of different innovations.

Confidentiality and consent

If you agree to take part, you will be invited to be part of a group discussion or be interviewed by me face-to-face or telephonically, as you prefer. If you consent to take part, I would like to tape record the engagement. In order to ensure confidentiality, I will download the audio tape to my computer, which is locked by a password. I will then erase the material from the

tape recorder. When I type out the notes from the audio tape, I will not use your name. Instead, I will use an invented name or a number so that nobody can identify you. After notes have been made from the audio tape, the audio recording will be securely stored in a password protected file and destroyed two years after publication of findings or six years if no publications. Any hard-copy documents relating to the research (e.g. printed out interview notes), will also only be accessible to the research team and kept in a secure location. In order to preserve confidentiality, your name or other personal identifiers will also not be used in reports of the findings of the research.

Your participation is completely voluntary; you are not obliged to participate. A consent form will be given to you to ask whether you consent to partake in the research and whether you consent to the recording of interviews. If you do not wish to be recorded, notes will be written by hand. If you do consent you may refuse to answer a question during our engagement or you may end our engagement at any point if you would like to. There will be no follow up on this matter.

For group discussions: There is no confidentiality in group discussions because there are a number of people involved. However, once the group discussion has happened, we will follow the same procedure as for interviews: your name and other personal identifiers will not be used; and recorded material (until it is destroyed) and hard-copy documents will be stored on a password protected server, available only to members of the research team.

Approval for the Study

Permission to carry out this project was sought from the:

- London School of Hygiene and Tropical Medicine
- South Africa - University of Cape Town Human Research Ethics Committee: +27 21 406 6338
- University of the Witwatersrand, Human Research Ethics Committee: +27 11 717 1234
- University of Kwazulu Natal Biomedical Research Ethics Committee +27 31 2604769

Contact details

This research has been approved by the University of the Witwatersrand, Human Research Ethics Committee. If you have any questions about your rights as a study participant, or questions or concerns about any aspect of the study, you may contact the Committee's office on +27 11 717 1234. We will also be happy to answer any question you have about this study. If you have any questions, please contact the principal investigator: Prof. Lucy Gilson, Department of Public Health and Family Medicine, University of Cape Town. E-mail: lucy.gilson@uct.ac.za. Telephone: (021) 406 6272.

Appendix 6: Consent form for individual interviews

Title of Research Project: <u>Universal coverage in Tanzania and South Africa: monitoring and evaluating progress</u>

The project seeks to understand the progress of policy implementation at both the national and district levels in South Africa and Tanzania, with an emphasis on identifying implementation problems and serving as an 'early warning system' for policy makers and implementers.

The study has been described to me in a language that I understand, and I freely and voluntarily agree to participate. My questions about the study have been answered. I understand that my identity will not be disclosed and that I may withdraw from the study without giving a reason at any time and this will not negatively affect me in any way. I understand there will be no reimbursement for participation.

At all times, the researcher will keep the source of the information confidential and refer to me and my words by a number or invented name. The written transcripts or notes of the actual interview will only be released to co-researchers who will assist in the data analysis, the number or invented name will be used in these transcripts.

If you consent to partake in the study please sign here:

Participants name ………………………..

Participants signature…………………………….

Date………………………

Witness name………………………..

Witness signature…………………………….

Date………………………

Should you have any questions regarding this study in South Africa or wish to report any problems you have experienced related to the study, please contact the study coordinator at the University of Cape Town: Prof. Lucy Gilson, Department of Public Health and Family Medicine, University of Cape Town. E-mail: lucy.gilson@uct.ac.za. Telephone: (021) 406 6272.

CONSENT TO TAPE INDIVIDUAL INTERVIEWS

If you consent to partake in the study could you please tick an option regarding audio tape-recording:

I have read the project information sheet, and it has been properly explained to me and I understand that it is up to me whether or not the interview is tape-recorded.

The purpose of recording the interview is to capture accurately all the information that will be given.

It will not affect in any way how the interviewer treats me if I do not want the interview to be tape-recorded.

I understand that if my participation is tape-recorded that the recording will be destroyed 2 years after publication of findings or 6 years if no publications.

I understand that I can ask the person interviewing me to stop tape recording, and to stop the interview altogether, at any time.

I understand that the information that I give will be treated in the strictest confidence and that my name will not be used when the interviews are typed up.

___ Yes, I agree to be **audio taped** during my participation in this study.

___ No, I do not agree to be **audio taped** during my participation in this study.

____

Interviewee's name and signature

____

Interviewer's name and signature

Date:______________________________

Witness consent (in the case that the interviewee is illiterate)

I ______________________(witness name) hereby confirm that this information sheet has been read and explained to ________________________(interviewee name) and that the interviewee hereby gives their consent, willingly and freely for the interview to take place and for it to be tape recorded.

____

Witness name and signature

Appendix 7: Ethics Approvals

UNIVERSITY OF CAPE TOWN
Faculty of Health Sciences
Human Research Ethics Committee

Room E52-24 Old Main Building
Groote Schuur Hospital
Observatory 7925
Telephone [021] 406 6338 • **Facsimile** [021] 406 6411
Email: sumayah.ariefdien@uct.ac.za
Website: www.health.uct.ac.za/fhs/research/humanethics/forms

04 December 2015

HREC REF: 746/2015

Prof L Gilson
Health Economics Unit
Public Health & Family Medicine
Falmouth Building

Dear Prof Gilson

PROJECT TITLE: STRENGTHENING DISTRICT MANAGEMENT AS A KEY LEVER IN HEALTH SYSTEM STRENGTHENING: BOTTOM UP INNOVATION IN TWO DISTRICT HEALTH SYSTEMS IN SOUTH AFRICA (Sub-study linked to 255/2013) PhD candidate – Ms M Orgill

Thank you for your response letter dated, addressing the issues raised by the Human Research Ethics Committee (HREC).

It is a pleasure to inform you that the HREC has **formally approved** the above-mentioned study.

Approval is granted for one year until the 30th December 2016.

Please submit a progress form, using the standardised Annual Report Form if the study continues beyond the approval period. Please submit a Standard Closure form if the study is completed within the approval period.
(Forms can be found on our website: www.health.uct.ac.za/fhs/research/humanethics/forms)

We acknowledge that the following student: Marsha Orgill is also involved in this project.

Please quote the HREC reference no in all your correspondence.

Please note that the ongoing ethical conduct of the study remains the responsibility of the principal investigator.

Yours sincerely

Signed by candidate

PROFESSOR M BLOCKMAN
CHAIRPERSON, FHS HUMAN RESEARCH ETHICS COMMITTEE
Federal Wide Assurance Number: FWA00001637.
Institutional Review Board (IRB) number: IRB00001938
This serves to confirm that the University of Cape Town Research Ethics Committee complies to the Ethics Standards for Clinical Research with a new drug in patients, based on the Medical Research

Hrec/ref:746/2015

Council (MRC-SA), Food and Drug Administration (FDA-USA), International Convention on Harmonisation Good Clinical Practice (ICH GCP) and Declaration of Helsinki guidelines.

The Research Ethics Committee granting this approval is in compliance with the ICH Harmonised Tripartite Guidelines E6: Note for Guidance on Good Clinical Practice (CPMP/ICH/135/95) and FDA Code Federal Regulation Part 50, 56 and 312.

UNIVERSITY OF CAPE TOWN

FACULTY OF HEALTH SCIENCES
Human Research Ethics Committee

FHS016: Annual Progress Report / Renewal

HREC office use only (FWA00001637; IRB00001938) **This serves as notification of annual approval, including any documentation described below.**			
☑ Approved	Annual progress report	Approved until/next renewal date	30.11.2024
☐ Not approved	See attached comments		
Signature Chairperson of the HREC/ Designee	[signature]	Date Signed	3/12/2023

Note: Please email this form and supporting documents (if applicable) in a combined pdf file to hrec-enquiries@uct.ac.za.
Please clarify your plan for research-related activities during COVID-19 lockdown.
Please use the latest form found on our website:
http://www.health.uct.ac.za/fhs/research/humanethics/forms

HUMAN RESEARCH ETHICS COMMITTEE
- 1 DEC 2023
HEALTH SCIENCES FACULTY
UNIVERSITY OF CAPE TOWN

Comments to PI from the HREC

Principal Investigator to complete the following:

1. Protocol information

Date (when submitting this form)	28/11/2023		
HREC REF Number	746/2015	Current Ethics Approval was granted until	30/11/2023
Protocol title	Strengthening district management as a key lever in health system strengthening: bottom up innovation in two district health systems in South Africa.		
Protocol number (if applicable)			
Are there any sub-studies linked to this study?	☐ Yes	☐ ✓ No	
If yes, could you please provide the HREC Reference number for all sub-studies? **Note:** A separate FHS016 must be submitted for each sub-study.			

(Note: Please complete the Closure form (FHS010) if the study is completed within the approval period)

UNIVERSITY OF CAPE TOWN

FACULTY OF HEALTH SCIENCES
Human Research Ethics Committee

Principal Investigator	Professor Lucy Gilson
Department / Office Internal Mail Address	Health Policy and Systems Division in the School of Public Health

1.1 Does this protocol receive US Federal funding?	☐ Yes	☐ ✓ No
1.2 If the study receives US Federal Funding, does the annual report require full committee approval? **Note:** Any annual approvals for **Full Committee** review MUST be submitted on the monthly HREC submission dates. (Please send electronic copy for full committee review to hrec-submission@uct.ac.za)	☐ Yes	☐ No

If yes in 1.2 please complete section 1.3 below for invoicing purposes

1.3 Ethics Renewal Fee

Please **(tick ✓)**appropriate box for billing purposes:

Submission Type	***Description***	***New fee (Vat Incl.)***	***tick ✓***
Research funded solely from UCT departmental/ divisional/group budget	Annual evaluation of research progress report for re-certification	**R0,00**	☐
Non-sponsored student research for degree purposes at UCT/Other Universities & Colleges	Annual evaluation of research progress report for re-certification	**R0,00**	☐✓
Annual re-certification / Progress report (FHS016 Form)	Clinical Trial & International Grant Funded Research - Annual evaluation of research progress report for re-certification for Full Committee Approval	**R7000,00**	☐
Annual re-certification / Progress report (FHS016 Form)	Clinical Trial & International Grant Funded Research - Annual evaluation of research progress report for re-certification for Expedited review	**R3 710.00**	☐
Annual re-certification / Progress report (FHS016 Form)	National grant funded research - Annual evaluation of research progress report for re-certification for Full Committee Approval	**R6000.00**	☐
Annual re-certification / Progress report (FHS016 Form)	National Grant funded research for Annual evaluation of research progress report for re-certification for Expedited review	**R1 500,00**	☐

NB: Protocols funded by UCT (e.g. departmental funding / student research) and by certain grant funding organizations (e.g. MRC, NRF, CANSA,) are exempt from these charges.

Please provide details for Invoicing, either complete section 1 or 2 :

1. **Invoice billing – Directly to Sponsor**

Sponsor's name	

(Note: Please complete the Closure form (FHS010) if the study is completed within the approval period)

Billing Address of Sponsor:	
Vat Number:	
Contact person	
Telephone number	
Email Address	
2. **Internal Journal Billing:**	
Fund Number:	
Cost Centre Number:	
Account Holder Name:	
Division of Account Holder:	

2. List of documentation for approval

3. Protocol status (tick ✓)

☐	Open Enrolment
☐	Closed to enrolment (tick ✓)
☐	Research-related activities are ongoing
☐	Research-related activities are complete, long-term follow-up only
☐✓	Research-related activities are complete, data analysis only
☐	Main study is complete but sub-study research-related activities are ongoing
☐	Study is closed → Please submit a Study Closure Form (FHS010)

4. Enrolment

Number of participants enrolled to date	150
Number of participants enrolled, since last HREC Progress report (continuing review)	0
Additional number of participants still required	0

(Note: Please complete the Closure form (FHS010) if the study is completed within the approval period)

5. Refusals

Total number of refusals (participants invited to join the study, but refused to take part)	0

6. Cumulative summary of participants

Total number of participants who provided consent	**150**
Number of participants determined to be ineligible (i.e. after screening)	0
Number of participants currently active on the study	0
Number of participants completed study (without events leading to withdrawal)	N/A
Number of participants withdrawn at participants' request (i.e. changed their mind)	0
Number of participants withdrawn by PI due to toxicity or adverse events	N/A
Number of participants withdrawn by PI for other reasons (e.g. pregnancy, poor compliance)	0
Number of participants lost to follow-up. Please comment below on reasons for loss of follow-up.	0
Number of participants no longer taking part for reasons not listed above. Please provide reasons below:	0

7. Progress of study

Please provide a brief summary of the research to date including the overall progress and the progress since the last annual report as well as any relevant comments/issues you would like to report to the HREC:
This study is a qualitative study for PhD purposes. All the empirical chapters are complete, some have been published already and others are out for review. The student is finalising to submit in Feb 2024.

8. Protocol violations and exceptions (tick ✓ all that apply)

☐✓	No prior violations or exceptions have occurred since the original approval
☐	Prior violations or exceptions have been reported since the last review and have already been acknowledged or approved
☐	Unreported minor violations that have occurred since the last review, as well as significant deviations not yet reported, are attached for review

(Note: Please complete the Closure form (FHS010) if the study is completed within the approval period)

9. Amendments (tick ✓ all that apply)

☐✓	No Prior amendments have been made since the original approval
☐	Prior amendments have been reported since the last review and have already been approved
☐	New protocol changes/ amendments are requested as part of this continuing review (See note below)

Note: If new protocol changes are being requested in this review, please complete an amendment form (FHS006).
Specific changes in the amended protocol and consent/assent forms must be **bolded**, *italicised* or tracked and all changes must include a rationale.

10. Adverse events

10.1 Please provide below or attach a narrative summary of serious adverse events and/ or unanticipated problems since the last progress report. Please indicate changes made to the protocol and informed consent document(s) as a result (if not already reported to the HREC). Please comment on whether causality to any study procedure or intervention could be established.
N/A

10.2 Have participants received appropriate treatment/ follow-up/ referral when indicated (e.g. in the case of abnormal or incidental clinical findings, distress or anxiety)?		
☐ Yes	☐ No	☐✓ Not applicable
If yes, please describe:		

11. Summary of Monitoring and Audit Activities (tick ✓)

11.1 Was this study monitored or audited by an external agency (e.g. SAHPRA, FDA)?		
☐ Yes	☐ No	☐ ✓ Not applicable

11.2 Did a Data and Safety Monitoring Board publish a report?		
☐ Yes	☐ No	☐ ✓ Not applicable

11.3 If yes, please identify the agency and attach a summary of the findings.					
Agency Name		Report attached	☐ Yes	☐ No	☐ Not applicable
		DSMB report attached	☐ Yes	☐ No	☐ Not applicable

11.4 Has there been any agency, institutional or other inquiry into non-compliance in this study, or any finding of non-compliance concerning a member of the research team?

(Note: Please complete the Closure form (FHS010) if the study is completed within the approval period)

☐ Yes	☐✓ No
If yes, please explain:	

12. Level of risk (tick ✓)

12.1 In light of your experience of this research, please indicate whether the level of risk to participants has:	
☐	Increased
☐	Decreased
☐✓	Shown no change
If there has been a change, please explain:	

12.2 Please provide a narrative summary of recent relevant literature that may have a bearing on the level of risk.

13. Insurance

Please confirm that valid no fault insurance is still in place? (tick ✓)			
☐ Yes	☐ No	☐ ✓Not Applicable – N/A	
If yes, please complete the following:			
Insurer's name:			
Policy no.		*Coverage Period:	
For UCT sponsored studies please liaise the Insurance office via fhs.sponsorship@uct.ac.za regarding the required documentation and information required obtain a renewed UCT No-fault Insurance Certificate.			

14. Statement of conflict of interest

Has there been any change in the conflict of interest status of this protocol since the original approval? (tick ✓)	
☐ Yes	☐ ✓ No
If yes, please explain and if necessary, attach a revised conflict of interest statement (Section #7 in the New Protocol Application Form FHS013):	

(Note: Please complete the Closure form (FHS010) if the study is completed within the approval period)

15. Signature

My signature certifies that the above is complete and correct.			
Signature of PI	Signed by candidate	Date	28/11/2023

(Note: Please complete the Closure form (FHS010) if the study is completed within the approval period)