UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

Exploring the dynamics influencing team functioning of the District Clinical Specialist Teams in KwaZulu-Natal

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"As the candidate's supervisor I agree/do not agree to the submission of this dissertation."

Supervisor: [redacted] Date: 16th July 2025

DEDICATION

To God Almighty.

My strength cometh from the Lord, who continues to guide me and to direct my every step as I walk through the journey of life. On my own, I could not achieve anything, but my continual dependence on God has given me the ability, strength and success.

&

To my family.

My wife, Nondumiso and my children, Luthando, Kwandokuhle and Lethubuhle have been an amazing family. Your support has been incredible. I love all of you. May God continue to keep you happy and healthy and may He keep us together as a family during happy times and challenging times.

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DECLARATION

This study is submitted in partial fulfilment of the requirements for the degree of master's in public health in the School of Nursing and Public Health, College of Health Sciences, University of KwaZulu-Natal, Durban, South Africa.

I, Nhlanhla Marco Gumede, declare that:

i. The research reported in this dissertation is my original research.
ii. This dissertation has not been submitted for any degree or examination at any other university.
iii. This dissertation does not contain other persons' data, pictures, graphs or other information, unless specifically acknowledged as being sourced from other persons.
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v. This dissertation does not contain text, graphics or tables copied and pasted from the Internet, unless specifically acknowledged, and the source being detailed in the dissertation and in the reference section.

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Signature 

Date: 16 July 2025

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DEFINITION OF TERMS

Dyad – a pair of doctor and nurse specialists representing a discipline in the District Clinical Specialist Team. Examples: Paediatrician + Advanced Paediatric Nurse = Paediatric dyad; Obstetrician + Advanced Midwife = Obstetric dyad; Family Physician + Advanced PHC Nurse = PHC dyad

Decentralization: It involves shifting and transferring power and authority from the centre towards the periphery in the health system. This leads to a wider distribution of responsibilities and requires re-alignment of roles and responsibilities for each level of the health system [1].

Primary Health Care Re-engineering: Is a strategy that includes four streams as follows: ward-based outreach teams, integrated school health teams, district clinical specialist teams and contracting of private practitioners. It seeks to shift the primary health care system from being largely passive, curative, vertically and individually orientated to a system that is more proactive, integrated, with a population-based approach [2].

LIST OF ABBREVIATIONS AND ACRONYMS

CEO: Chief Executive Officer

CHC: Community Health Centre

Child PIP: Child Healthcare Problem Identification Programme

DCS: District Clinical Specialist

DCST: District Clinical Specialist Team

DHMT: District Health Management Team

DHP: District Health Plan

DHS: District Health System

EPMDS: Employee Performance Management and Development System

ESMOE: Essential Steps in the Management of Obstetric Emergencies

ETAT: Emergency Triage Assessment and Treatment

HBB: Helping Babies Breath

HPRS: Health Patient Registration System

IUCD: Intrauterine Contraceptive Device

KZN: KwaZulu-Natal

MCWH: Maternal Child and Women's Health

MNCWH: Maternal Neonatal Child and Women's Health

MTT: Ministerial Task Team

NHI: National Health Insurance

NSI: Non-Stock Items

OMN: Operational Manager Nursing

PHC: Primary Health Care

PMTCT: Prevention of Maternal to Child Transmission

PPIP: Perinatal Problem Identification Programme

PTC: Pharmacy and Therapeutics Committee

SA: South Africa

SAM: Severe Acute Malnutrition

WBPHCOT: Ward Based PHC Outreach Teams

ABSTRACT

Introduction: Since 1994, South Africa embarked on a decentralization of the health system, with the adoption of the Primary Health Care approach as a central strategy for delivering health services via a District Health System. The District Clinical Specialist Teams (DCSTs) were part of a PHC re-engineering strategy and were introduced concomitantly during the first phase of implementation of the National Health Insurance (NHI).

Background: DCSTs were conceptualised as a multi-disciplinary team aimed at strengthening the quality of care and health outcomes for mothers, newborns and children. They were meant to first function as a team and second as individuals within their respective disciplines.

Methods: This was a descriptive exploratory qualitative study with the following objectives: to explore understandings of the construct teamwork in relation to the DCSTs; to explore influences on team functioning of DCSTs; and to explore team effectiveness (i.e. team performance and viability) within DCSTs. The study was guided by an adaptation of the ecological framework for analysing work-team effectiveness by Sundstrom *et al*.

Study findings: DCST members from four KZN districts were included in the study. Two district directors and one provincial specialist were also interviewed. The DCSTs constructed the concept of teamwork in their context as having a common goal and each person in the team having their own roles and responsibilities contributing towards the common goal. Cooperation and interdependent collaboration were identified by the DCSTs as key features of teamwork. Joint planning, delegation of activities and mutual accountability were identified as important components of teamwork within the DCSTs. Factors influencing team functioning were reported to be external (i.e. those related to the organizational context), those related to team boundaries, as well as internal (i.e. those related to team development and individual attributes). Team effectiveness explored factors related to team performance and team viability.

Discussion: With teamwork being viewed internationally as an important strategy for delivering quality healthcare services, concerted efforts should be made at all levels to strengthen teamwork interventions within the health system. The organizational context within which DCSTs are functioning exerts influence in a variety of ways. The DCSTs, being an inherently hierarchical multi-disciplinary team, present important dynamics that require a change of culture and commitment at various levels. Limitations of the study included limited achievement of data saturation and limited exploration of the broader health system context and its influence on team dynamics. Recommendations included strengthening of supervision and leadership,

implementation of teamwork strengthening interventions, as well as establishing a platform for regular feedback, monitoring and evaluation of the DCST innovation.

CHAPTER ONE – INTRODUCTION AND BACKGROUND

1.1. Introduction

Since 1994, South Africa (SA) has implemented significant changes in its health policies with the aim of decentralizing the health sector and strengthening the Primary Health Care (PHC). The White Paper for the transformation of the Health System in SA laid out a plan for the development of the District Health System (DHS), which was a critical step in the process of decentralizing of the health system [3]. The PHC approach was adopted as a central strategy for delivering health services via the DHS [3]. District Health Management Teams (DHMTs) were established and tasked with managing the DHS and ensuring effective delivery of health care services within districts [3].

Currently, South Africa is in the process of implementing the National Health Insurance (NHI) as a vehicle for achieving universal health coverage. NHI is being implemented in three phases, of which phase one (2012 – 2017) was focused on piloting various health-systems strengthening interventions in preparation for the full implementation of the NHI [4]. PHC re-engineering was one of the strategies introduced by the National Minister of Health as part of overhauling the health care system and improving its management in the country [2]. District Clinical Specialist Teams (DCSTs) were introduced as one of the four streams of the PHC re-engineering strategy. The PHC re-engineering strategy initially included three streams, but a 4th stream was later introduced [5]. Thus, the four streams of PHC re-engineering currently include ward based outreach teams (WBOTS), integrated school health teams, district clinical specialist teams (DCSTs) and contracting of private practitioners [5]. The main aim for the introduction of DCSTs was to strengthen the South African district health system in order to improve the quality of care for, and the health outcomes of, mothers, newborns and children [6].

1.2. Background

A Ministerial Task Team (MTT) was appointed by the Minister of Health to develop the role, composition and implementation of the DCST stream [6]. The MTT compiled a report, detailing all aspects of the DCST implementation process. The MTT Report mentions that the DCST members are to function first as a "team" and second as individuals within their respective disciplines [6, 7]. The main roles and responsibilities of the DCST as stipulated in the MTT

report are as follows [6]: Improving quality of clinical services; Providing clinical training and monitoring and evaluation; Supporting district level organisational activities; Supporting health systems and logistics; and Ensuring collaboration, communication and reporting and teaching and research activities. Induction and orientation of the DCSTs into these roles was to be conducted as per the guidelines stipulated in the MTT report [6].

To achieve the above-stated goals, the MTT stated that composition of the team should include seven highly specialized members as follows: a Family Physician, Primary Health Care Nurse, Obstetrician and Gynaecologist, Advanced Midwife, Paediatrician, Paediatric Nurse and an Anaesthetist [6]. The MTT went on to recommend that, in cases where the entire team cannot be formed, a dyad (i.e. a nurse and a doctor from the same discipline) will be a minimum requirement for constituting a team [6]. By August 2012, all eleven districts in KwaZulu-Natal already had some members, although teams were largely incomplete [8].

In terms of the reporting lines, the DCSTs were to report at two levels [6]. The first level of reporting was to the District Director. This was in order to ensure that the work of DCSTs is included in the district planning and budgeting processes; that national standards are adhered to; and that service or facility-specific improvement plans are agreed and acted on as problems are identified [6]. The second level of reporting was to the discipline-specific Provincial Specialists. This was to ensure that the discipline-specific standards are defined and adhered to, and to ensure equity across the province [6].

With regard to team leadership, Voce *et al*. stated that co-ordination of team activities and support by oversight structures such as provincial specialists and district directors are critical for DCSTs to be effective [9]. Intra-team leadership and co-ordination could be decided on at local district level, according to the actual composition, experience and qualities of specific DCSTs [9].

Some of the early reports on the functioning of DCSTs in the country included the Genesis Report on evaluation of phase one implementation of National Health Insurance (NHI) interventions [10]. A number of challenges were highlighted in this report, including incompleteness of the teams; failure of DCSTs to achieve the desired results relating to clinical governance at PHC level; as well as the high cost of the DCST intervention itself to the health system, which might render it unsustainable [10]. This report also highlighted lack of uniformity in the implementation of the DCST intervention across the districts and provinces due to differing

capacity needs. It then stated the importance of 'bottom-up' planning of such interventions so as to ensure that their intended functions are responsive to the local contexts [10].

1.3. Research problem statement

Teamwork is an important approach and is necessary for the success of many interventions in the healthcare system. Early reports from the Tshwane DCST highlight successes and strengths of teamwork, if the team truly share a common vision [7]. However, teamwork may not be easily achievable amongst some of the DCSTs. In KZN, even teams that are almost fully constituted do not appear to be functioning effectively as a team. A verbal update by one of the KZN Provincial Specialists highlighted that most DCSTs in the Province do not necessarily function as an entire team, but rather as either dyads or as individuals. There are many factors that could potentially influence teamwork. Understanding the dynamics of team functioning and exploring factors influencing team functioning of DCSTs is therefore important.

1.4. Research question, aim and objectives

The research question underpinning the study was: What are the dynamics influencing team functioning of DCSTs in KZN?

The overall research aim was to analyse the dynamics influencing team functioning of DCSTs in KZN, with the following research objectives:

- Explore understandings of the construct "teamwork" in relation to the DCST stream of PHC re-engineering.
- Explore influences on team functioning of DCSTs.
- Explore team effectiveness within DCSTs.

1.5. Rationale of the study

The SA government has invested substantive resources towards PHC re-engineering and towards the implementation of the DCST innovation. Implementation of the DCSTs was aimed at achieving specific health system goals, towards improving the quality of care and the outcomes for maternal and child health. Failure to achieve effective team functioning within DCSTs is likely to undermine or severely limit progress towards achieving such health goals. Since the inception of DCSTs in the country, many studies have been conducted around the various aspects

of DCST functioning [7-19]. Although teamwork does feature in some of the studies, none of the studies have exclusively focused on the exploration of the conditions or factors influencing DCST team functioning. Understanding the 'teamwork' aspect of the DCST functioning can contribute to instituting processes and interventions to maximise the potential of effective team functioning.

1.6. Structure of the dissertation

The next chapters of the dissertation are structured as follows:

Chapter two is the literature review, which was mainly guided by the study objectives. The literature was sourced from both peer reviewed and grey literature.

Chapter three focuses on the methodology adopted in this study.

Chapter four presents the study findings of this research.

Chapter five includes the discussion, conclusion and recommendations.

CHAPTER TWO – LITERATURE REVIEW

2.1. Introduction

The literature review explored themes pertaining to:

- The construct of teamwork,
- Factors influencing team functioning, including organizational culture, mission clarity, autonomy, physical environment, roles, communication, leadership, individual attributes (i.e. self-knowledge, professional cultures and boundaries, personalities, character and behaviour of team members),
- Team effectiveness,
- The success and impact of teamwork health reforms
- Teamwork in hierarchical multi-disciplinary teams

The type of literature review that was conducted was a traditional narrative literature review. The following databases were used:

- EBSCOhost, with the following selection of databases: Academic Search Complete, ERIC, Health Resource (Nursing/Academic edition) and MEDLINE with Full Text;
- ProQuest; and
- Google Scholar,

Search terms used included the following: teamwork, influences, “clinical governance teamwork”, “clinical governance”, “district clinical specialist team”, “teamwork health reforms”, teamwork health innovation”, “Hierarchical multidisciplinary teams”, “intra-professional hierarchical teams”. Boolean operator used included “and”. Literature sourced was initially limited to scholarly journals/ peer-reviewed literature. Later on, some grey literature was also reviewed. There were no specific limiters that were applied to the search. Reference lists from the above sourced articles were also looked at and some study articles were then selected and downloaded from those lists. Google Scholar Database was the main database used to download these specific articles by entering the full titles of the articles selected.

2.2. The construct of teamwork

In the concept analysis conducted by Xyrichis and Ream [20], teamwork in healthcare is defined as: “A dynamic process involving two or more health professionals with complementary

backgrounds and skills, sharing common health goals and exercising concerted physical and mental effort in assessing, planning, or evaluating patient care". Teamwork requires interdependent collaboration, open communication and shared decision-making and is seen as an important strategy for delivering quality healthcare internationally [20]. Schoultz describes the 10 characteristics of effective teamwork [21] as: a clear direction, which entails that the team's goals and desired outcomes must be determined at the outset; open and honest communication; support risk taking and change; defined roles; mutual accountability; freely communicating; common goals; encourage differences in opinions; collaboration; and team trust [21].

According to Norsen *et al*., the following collaborative skills are essential for effective teamwork [22, 23]: Cooperation: Acknowledging and respecting other opinions and viewpoints while maintaining the willingness to examine and change personal beliefs and perspectives; Assertiveness: Supporting one's own viewpoint with confidence; Responsibility: Accepting and sharing responsibilities, and participating in group decision-making and planning; Communication: Effective sharing of important information and exchanging of ideas and discussion; Autonomy: Ability to work independently; and Coordination: Efficient organization of group tasks and assignments. Mickan and Rodger [24] described characteristics of effective teamwork in terms of organizational structure, which comprises clear purpose, appropriate culture, specified task, distinct roles, suitable leadership, relevant members and adequate resources; individual contribution which comprises self-knowledge, trust, commitment and flexibility; as well as team processes which include coordination, communication, cohesion, decision making, conflict management, social relationships and performance feedback. One of the early reports on DCSTs included a review that was conducted by Health Info Matrix on behalf of the National Department of Health [11]. This was a country-wide review of DCSTs, which sampled at least one district per province in each of the 9 provinces. One of the findings in that report was that DCSTs had stated that they tended to work individually and only came together as a full team on an *ad hoc* basis [11]. Factors influencing teamwork will be looked at in the next section.

2.3. Factors influencing teamwork

Interaction of the above factors is best illustrated by frameworks that clearly demonstrate that teamwork must be viewed and assessed within its context. The ecological framework by Sundstrom *et al.* [25] demonstrates that team effectiveness is a result of interaction amongst various factors under three main domains: Organizational context, team boundaries, and team

development. These domains interact with team effectiveness and vice versa [25]. Work teams therefore are not to be viewed as independent entities expected to achieve outcomes solely through internal processes, as external surroundings also play a role [25]. Figure 1 below shows an adapted ecological framework for analysing work team effectiveness, adapted from Sundstrom *et al.* [25].

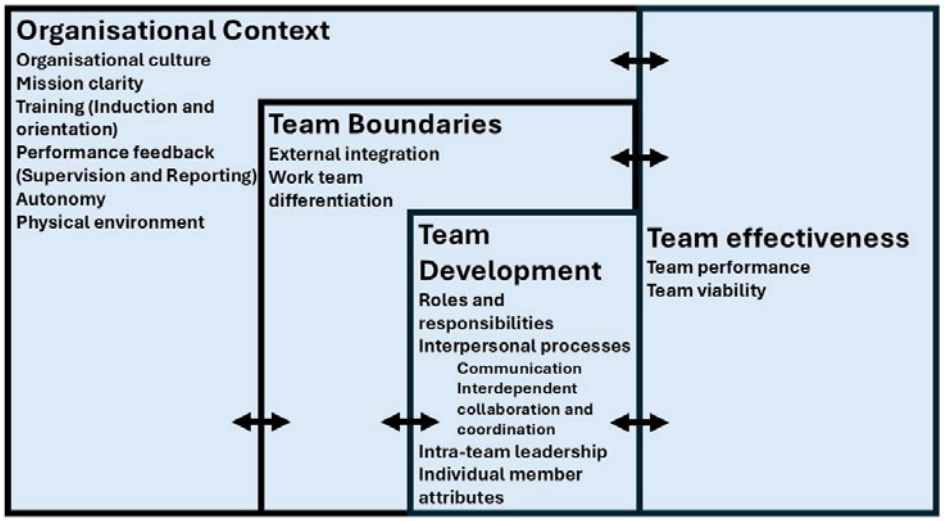

Figure 1: Adapted ecological framework for analysing work team effectiveness

2.3.1. Organisational context

Organisational context, as illustrated in the above framework, includes organizational culture, mission clarity, autonomy, performance feedback, training (including induction and orientation) and physical environment. Supervision and the system of reporting remain an important part of the organizational context and issues of performance feedback, rewards and recognition could come in as part of supervision and reporting. Some of these components of organizational context will be looked at in the sub-sections below.

2.3.1.1. Organisational culture

Organisational culture refers to the collective values and norms in the organisation [25]. There are challenges in our healthcare system that seem to have persisted from the time of establishing the District Health System in SA. McCoy *et al*. talk of vertical lines of authority and management at national and provincial level that result in duplication of activities and confusion at district level [26]. Figure 2 below [27, 28] shows that lack of integration at higher levels of the healthcare

system results in front line managers and providers being inundated with multiple, often conflicting demands from individual program managers at higher levels [28].

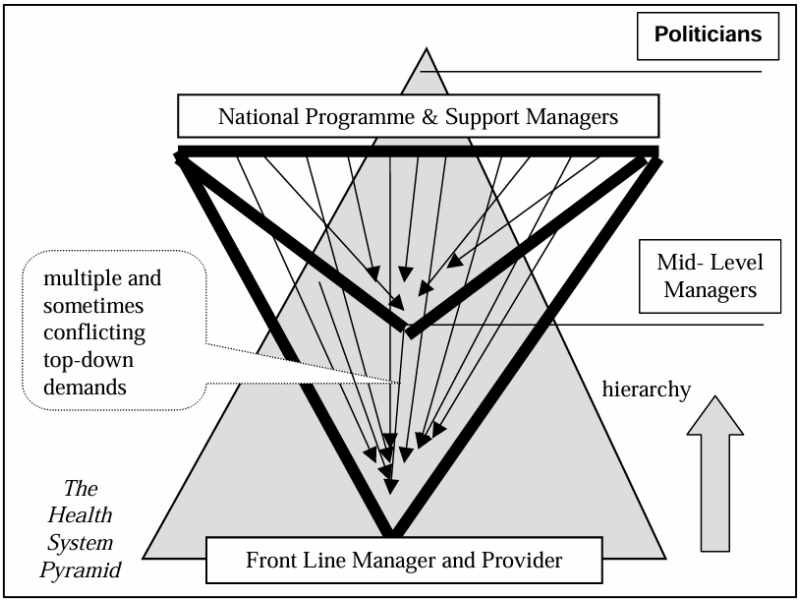

Figure 2: The inverted pyramid within the SA health system [27]

This hierarchical, top-down system promotes fragmentation and the culture of working in silos for mid-level managers [2, 28]. Also, authorities from the national and provincial departments of health often organise meetings and workshops requiring district directors or district level program managers to attend at short notice [2, 29]. This causes disruptions in the functioning of districts and the frequent occurrences of such can lead to inefficiencies and poor performance at district level.

2.3.1.2. Mission clarity

A clearly defined mission or purpose is necessary for effective teamwork [23, 25, 30]. Focusing on a clear goal and vision for the team will bring about joint responsibility. This will in turn facilitate collaboration and a common language between the team members [23, 31]. It must be clearly communicated as to how each professional will contribute towards the achievement of the set goal and there must be effective delegation of work [32]. Such collaboration will assist to soften professional boundaries and role conflicts [32, 33]. For the teams whose work is closely linked to other work units, their mission must be widely communicated throughout the organization [25].

2.3.1.3. Training/Induction and orientation

The MTT recommendations emphasized the importance of having an adequate induction and orientation for the DCSTs. They particularly highlighted the fact that specialists such as obstetricians and paediatricians are normally trained to do clinical work at regional and tertiary hospitals. Thus, having to assume roles in the district health services would require thorough preparation of these health care professionals [6].

2.3.1.4. Supervision and reporting

According to the MTT report, DCSTs should be accountable to the provincial specialist clinically, with administrative accountability to district management teams for their work [6]. It also states that district management teams need to be strengthened to ensure that they have sufficient capacity to provide supervision and oversight [6]. In terms of reporting, DCSTs are expected to report quarterly to the district management, provincial management and National Department of Health on their activities [6].

2.3.1.5. Autonomy

Autonomy has been reported to be an important element of team functioning [34]. Limited ability to accomplish tasks independently or autonomously may render the team member incapable of contributing meaningfully to the team [34]. Allowing professionals (team members) to have autonomy is giving them respect for their professional competence [34].

2.3.1.6. Physical environment

Various studies have shown that there is better interaction and communication when team members are located in close proximity to each other [25, 34, 35]. Easy physical access to one another creates opportunities for both formal and informal communication [25, 34, 35]. This also improves relationships amongst team members and gives them a sense of being 'part of the family' [35]. Availability of designated spaces for formal meetings (e.g. board rooms), as well as for informal meetings (e.g. common staff dining rooms) provides an enabling environment. Regarding informal meetings, e.g. having lunch in a common dining area, Oandasan *et al.* share the lived experiences of health professionals who initially worked in an area that enabled them to eat together during their lunch time, who then so happened to move to an area that did not allow this to happen [35]. This study clearly demonstrated the change in terms of relationships and level of collaboration amongst team members as a result of the different working environments [35].

Another study by McNaughton *et al.* compared two teams, one with team members that were located in close proximity and another where team members were located farther apart [34]. The team that was farther apart reported that their physical distance had an impact on their ability to interact with each other [34]. These studies demonstrate that physical environment does have a significant impact on the team functioning. However, it is also important to note that the physical environment itself does not act as an independent factor in influencing teamwork. Other factors that come into play are time, team composition and size, duration of time worked together, as well as other factors [35]. The MTT report states that options for the location of DCSTs should consider the need for DCST members to maintain their clinical relevance and acumen, which are critical to the credibility of the individual specialist and his/her authority, and to avoid the risk of isolation from the clinical context and their peers [6].

2.3.2. Boundaries

Team boundaries refer to features that (a) differentiate a work unit from others (work team differentiation) [25]; (b) pose real or symbolic barriers to access or transfer of information, goods, or people; or (c) serve as points of external exchange with other teams, customers, peers, competitors, or other entities (external integration) [25]. They serve to both separate and to link work teams within their organization. The demands for external integration and differentiation are inherent in the relationship of a team and the surrounding organization and can be seen as partly defining what constitutes team effectiveness [25]. However, these boundaries must be well balanced. If they become too sharply delineated, the team might become isolated and if they become too permeable, the team might lose its identity [25].

2.3.2.1. Work team differentiation

A team can be differentiated from other work units through exclusive membership, a unique task, extended working time, team life span, or exclusive access to certain physical facilities [6]. In longer lived groups, particularly those comprised of skilled specialists, the loss or gain of a member might require substantial adjustment by the group. Socialization of new members is necessary [25]. For these teams, effectiveness may be related more to personal compatibility among members [25]. In certain groups, performance declines with the addition of extra members. This could reflect added difficulty of coordinating more members [25]. Team cohesion has also been reported to sometimes decline with increasing group size [25]. According to the MTT report, the complete team for the DCSTs should consist of seven members, which include a

family physician, PHC nurse, paediatrician, paediatric nurse, obstetrician, advanced midwife and an anaesthetist [6]. In cases where the entire team could not be established, the MTT also defined preferred options in terms of a minimum composition for effective teams. They recommended that a team should at least include a nurse-doctor dyad from a single discipline, e.g. a paediatrician and a paediatric nurse, family physician and PHC nurse, as well as an obstetrician and the advanced midwife [6]. An alternative option proposed was that a family physician and PHC nurse be supported by an advanced midwife or paediatric nurse on site in the district and supported by an obstetrician or paediatrician providing support from a DCST in an adjacent district [6]. Where a district has the option to appoint a midwife or paediatric nurse without an obstetrician or paediatrician this is only considered feasible where medical support for the nurse is available from both a family physician within the district and an obstetrician or paediatrician respectively from outside the district [6].

2.3.2.2. External integration

The MTT report defined target audiences for members of the DCSTs [6]. For the family physician and the PHC nurse, the primary audience was the non-hospital district level services in community health centres (CHCs), primary health care clinics, and ward-based outreach teams [6]. For the anaesthetist, obstetrician and gynaecologist, advanced midwife (ADM), paediatrician and paediatric nurse, their primary audience was said to be the family physicians, medical officers, and nurse specialists in their respective disciplines at the district hospitals [6]. DCST members were to also engage with facility based specialists in their disciplines in order to develop a partnership to strengthen specialist services in their discipline and clinical support to the referring institutions and the catchment population [6]. Another audience stated in the MTT report is the district office management and programme teams regarding surveillance, monitoring and evaluation, improving administrative and logistical support and the mobilization of resources [6].

2.3.3. Team development

Team Development reflects that over time, teams change and develop new ways of operating as they adapt to their context [25]. Factors influencing team development normally include team roles and responsibilities, interpersonal processes (such as communication, interdependent collaboration, shared decision making, social relationships, conflict management, etc.), team

cohesion and norms [25]. Individual attributes of team members may determine the nature of interaction within the team and thus also influencing team development.

2.3.3.1. Understanding roles

Fully understanding your professional role and being confident [33], combined with understanding the roles of other team members are critical to effective cooperation and collaboration within the team [32, 36]. Team members often have areas of overlapping competencies, and therefore some of their roles and responsibilities may overlap [23]. Clear understanding of each other's knowledge and professional expertise, combined with effective communication and sound relationships within the team will enable successful teamwork [32]. With lack of understanding and poor communication, such overlap of roles may be perceived negatively, and a colleague/team member may be viewed as "taking over" one's role. Such perceptions may then create tensions within the team and may lead to team members being protective of their territory and to resist collaboration [32]. Lack of understanding of roles may also lead to underutilization of available expertise within the team on one hand [32], but also on the other, it may create wrong expectations from other team members. It takes time and experience to understand another professional's world view in terms of their specialisation and function [36], and it therefore requires willingness and patience. However, genuinely understanding each other's differences could be quite difficult [36].

In terms of roles for the DCSTs in SA, as much as their main focus was on maternal and child health (in line with their professional disciplines), the MTT report further stated that it was anticipated that improved clinical governance will result in improved systems and better quality of care across all disciplines [6]. On implementation of DCSTs in the country, the focus of their activities was going to be on facilitation, integration and coordination of staff, services, programmes and packages of care as well as surveillance, monitoring and evaluation [6]. The actual implementation of these activities remains the responsibility of the relevant management, staff or structures in each facility [6]. The primary role of the district clinical specialist is thus supportive supervision and clinical governance and not the direct delivery of clinical services [6]. Lastly, the MTT report then stated that participation of DCSTs in clinical care was however essential in order to maintain their clinical competence, remain cognisant of the context in which services are delivered and retain their individual credibility and authority in the field [6]. In KwaZulu-Natal, Clinton Health Access Initiative (CHAI) recently conducted a study on behalf of the KwaZulu-Natal Department of Health, the results of which were presented to the KZN Head

of Health in March 2023 [37]. The study revealed that DCSTs were themselves clear about their overall responsibilities. However, there was a poor understanding of DCSTs roles among some of the district officials and facility staff [37]. It also stated that DCST members are often given responsibilities for other district activities that fall outside of their scope of work [37].

Family Physicians are part of DCSTs and there has been a number of papers written around the role of Family Physicians [14, 18]. The position paper on family physicians in the country clearly demonstrated that the role of family physicians goes far beyond maternal and child health [14]. This is explained by the many clinical domains in which family physicians are trained as seen in the figure below [14]:

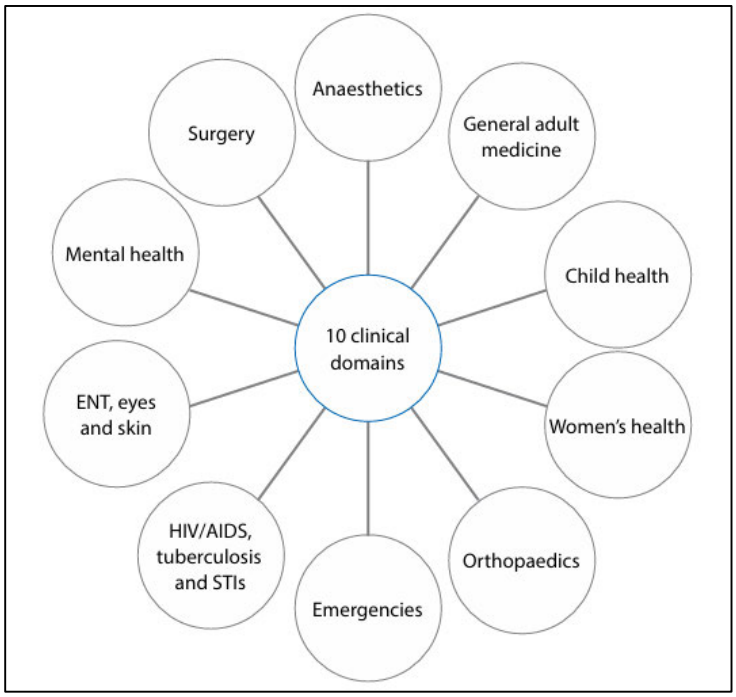

Figure 3: The clinical domains included in the training of family physicians [14]

Also, the skills imparted in the training of family physicians enable them to play a number of roles across the different levels of care [14].

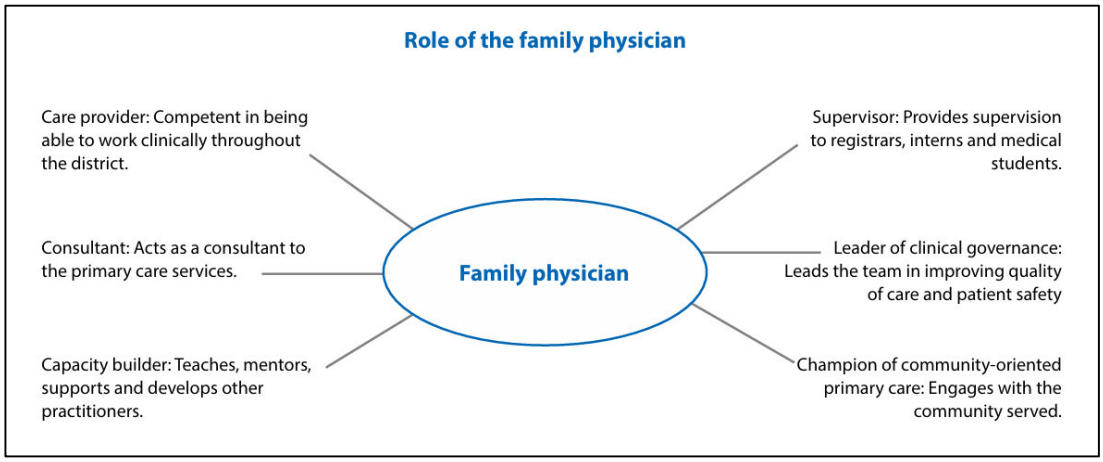

Figure 4: The six key roles of a family physician [14]

The above illustrates that family physicians are able to play a number of roles in the health sector. The CHAI study reported family physicians in the KZN DCSTs as being 'the jack of all trades'[37].

2.3.3.2. Interpersonal Processes: Communication & Collaboration

Effective communication is one of the key components that are necessary for teamwork and collaboration. Both formal and informal meetings have been reported to facilitate communication and strengthen relationships. Teams that are able to meet regularly, whether through formal (e.g. weekly team meetings) or informal means have reported good relationships and effective collaboration [33, 35]. Regular team meetings allow the team to properly plan their work together and to evaluate their progress in various tasks [33]. So, team meetings must be a priority for building effective teamwork. Informal lunchtime conversations between team members have been reported to be valuable in building relationships amongst team members [35]. Such opportunistic social interaction has been reported to foster a collaborative environment [35]. The MTT report stated that it is crucial that the DCST works as a team, and is encouraged to do so with face to face meetings at least once a month, and progress reports prepared jointly [6].

2.3.3.3. Intra-team leadership

Leadership is important for effective teamwork. Team leaders can create opportunities for interaction and collaboration within the team by facilitating schedules for team meetings and other forms of interactions [34]. Leadership can also influence the distribution of responsibilities within the team [34]. Leaders can play a key role in the integration of new members within the

team and creating a sense of belonging [34]. Leadership can support innovation within the team and ensure that new ideas are being carried forward accordingly [34]. For many health professional teams that involve doctors and other health professionals, it is often expected that the doctor will automatically take the leadership role for the team [33]. Such traditional hierarchies may hinder effective teamwork and collaboration. Having an individual within the team who is perceived to be more dominant may suppress other members of the team from contributing ideas that could take the team forward [33]. Having a collegial relationship where all team members are perceived to have equal value within the team is likely to yield a positive and productive interaction amongst team members [33]. So, leadership of the team must be carefully handled, and such team dynamics should be taken into consideration.

2.3.3.4. Individual attributes

Team members often come with a variety of personalities and experiences. It therefore could be quite challenging to establish and manage relationships within teams [24]. Tolerance is therefore required as team members adjust to each other's personalities and communication styles [36]. There has to be an appreciation of individuality as the success of the team may require different approaches [36]. Some of the important individual attributes include self-knowledge, professional cultures and boundaries, and individual personalities and behaviour [24].

2.3.3.4.1. Self-knowledge

For individuals to be satisfied, productive and respectful of others in the team, they need to be self-aware of their unique personality and position within the team [24]. Knowing one's strengths and weaknesses, including one's professional abilities and skills is also important. The MTT report states that the authority of persons occupying DCST posts will arise more from their individual credibility based on their knowledge, experience and track record [6].

2.3.3.4.2. Professional cultures and boundaries

Professional cultures may cause professional differentiation and thus become a barrier to teamwork [23, 32]. The training of healthcare professionals is often focused and limited to their own profession/discipline. Their 'world-view' may therefore be very limited and profession-specific [23]. They may therefore lack the necessary skills for inter-professional collaboration with professionals from other disciplines in the workplace.

2.3.3.4.3. Personalities, character and behaviour of team members

A positive attitude and willingness to collaborate are seen as antecedents for collaborative practice [32]. Mutual trust, respect, ability to reflect and to learn, as well as the ability to resolve conflict are also important requirements for effective teamwork and collaboration [32]. Individuals who are part of the team bring along personalities and experiences, which could contribute positively or negatively towards teamwork. Some might have strong personalities that could completely dominate and suppress the ideas and creativities of the other team members.

2.4. Team effectiveness

Team effectiveness could be measured in terms of team performance and team viability [25]. Performance refers to the acceptability of the output from the activities of the team [25]. Team viability entails members' satisfaction, participation and willingness to continue working together [25]. Clear norms and roles, mature communication, inter-member coordination, cohesion and good problem solving are some of the factors that could be identified as the team matures and they contribute to team viability [25]. According to the MTT report, the annual performance assessment of DCSTs should be based on the following areas (which the DCSTs are responsible for): quality of clinical services; clinical training; monitoring, evaluation and improving clinical services; supporting district level organizational activities; supporting health systems and logistics; collaboration, communication and reporting; teaching and research activities [6]. Oboirien [19] highlighted that assessing team effectiveness objectively in a complex healthcare environment with multiple actors and processes contributing to health outcomes may be a challenge. The CHAI study [37] showed improvements in maternal and child health indicators in KZN, but could not directly link these to DCSTs due to other interventions that could also be contributing to the changes observed. Other studies reported a positive impact of DCSTs, while also highlighting the difficulty in making the direct link of these to the DCSTs due to similar reasons [7, 12, 38]. This study also highlighted that DCSTs have no line authority over facility staff, thus making it difficult for them to ensure that their recommendations are implemented by health facilities [37].

2.5. The success and impact of teamwork health reforms

Harris *et al* examined the impact of teamwork reform policies and interventions on professional communication, relationships, roles and work satisfaction by looking at studies in three countries (Canada, USA and Australia) [39]. Their findings were that there was a wide variation of impact,

which was mainly influenced by local contextual factors [39]. One of the factors highlighted by Harris *et al* was the importance of clear and consistent leadership. Also, hierarchical teams and teams where there was a lack of knowledge of other team members' roles were said to be more likely to report frustration of expectations and dissatisfaction [39]. Harris *et al* lastly highlighted that teamwork reforms require flexibility for local adaptation and establishment of mechanisms to monitor the impact across different contexts.

2.6. Teamwork in hierarchical multi-disciplinary teams

The DCSTs are multi-disciplinary teams made up of health professionals from the medical disciplines of Paediatrics, Obstetrics and Gynaecology, Anaesthesia, Family Medicine and nursing disciplines of paediatrics, midwifery and primary health care. Hierarchies are inherent within the composition of the teams, both intra- and inter-professionally. The ability of these teams to handle issues of diversity and hierarchy will determine the success or failure of teamwork. Each one of these health professionals comes with his/her professional culture which could be a barrier and a source of conflict for inter-professional teamwork [23]. Also, power hierarchies within the teams could lead to the undermining of contributions from professionals with lower power status [40, 41]. Skyberg and Jenssen [42], in their study of inter-professional teams working in mental health and substance use in Norway, examined the concepts of egalitarianism versus hierarchy in terms of how these are communicated and practiced within these teams. This study showed that egalitarian team discussions enabled professionals involved to feel useful and important as they play their roles in the teams [42]. Skyberg developed a threefold model of inter-professional team dynamics, which included diversity, friction and harmonization [43]. This study demonstrates how these three aspects operate within a multidisciplinary team in order to bring about effective inter-professional teamwork. Comeau-Vallee *et al.* [44] demonstrated both competitive and collaborative boundary work in inter and intra-professional multidisciplinary teams. The interplay and outcome of these dynamics appeared to be determined by the social positions of team members [44]. Team members with higher social positions appeared to have more power and intra-professional competitive rivalry is likely to happen when there are more than one such persons within the team [44]. Sometimes heated arguments may be observed between such individuals and may result in awkwardness within the team. This study also demonstrated intra-professional collaboration amongst members with lower social positions with the aim of strengthening and asserting their views and perspectives within the team [44].

2.7. Summary

The literature review adopted a traditional narrative literature review approach. The construct of teamwork was explored, as well as factors influencing teamwork, as guided by an adaptation of the ecological framework for analysing work team effectiveness. Factors influencing teamwork fell within the external, inter-team and intra-team domains of organisational context, team boundaries and team development. The success and impact of teamwork as experienced in other settings was looked at. And lastly, teamwork in hierarchical and multi-disciplinary teams was addressed.

The next chapter will describe the methodology adopted in this study.

CHAPTER 3 – METHODOLOGY

3.1. Introduction

This chapter will cover the following aspects pertaining to methodology: the conceptual framework underpinning the study, type of research, study setting, study design, sampling strategy and sample size, recruitment strategy, data generation techniques and tools, data management and safety, data analysis, measures to ensure trustworthiness and ethical considerations.

3.2. Conceptual framework

This study was guided by the conceptual framework presented in figure 1 in the previous chapter, which was adapted from the ecological framework by Sundstrom *et al.* [25]. The components and details of the framework are presented in section 2.3 of the previous chapter.

3.3. Type of research

This study falls within health policy and systems research (HPSR) [45]. The HPSR is a field that seeks to understand and improve how societies organise themselves in achieving collective health goals, and how different actors interact in policy and implementation processes to contribute to policy outcomes [45]. HPSR can be used either to get an issue into a policy agenda or to evaluate and learn from policies that have already been implemented [45]. It supports effective implementation of health interventions and programmes [46] and may make it possible for health system interventions to attain greater value for money [47]. Local actors that are well-versed in their own health systems and the difficulties they encounter must spearhead HPSR [48].The purpose of this study was to understand issues that affect team functioning of DCSTs, an innovative intervention implemented as part of PHC reengineering in South Africa, aimed at improving the functioning of the health system in respect of the quality of care provided to mothers, newborns and children [6, 9].

3.4. Study setting

The study was conducted in KZN, which has eleven districts. KZN DCSTs were some of the first teams to be appointed in 2012 and to receive, over the period of 18 months, induction and orientation to their purpose, roles and functioning [9]. New members that were later

added to the team did not receive formal induction and orientation. A handbook for DCSTs [49] was published to assist with providing detailed information on all aspects that were covered during the induction. This handbook was to be used by both the new members and the older members, both as a guide and also as a reference [49].

At the time when the study was conducted, none of the DCSTs in KZN had the full complement of 7 members. At most, two DCSTs in the Province had a maximum of six members, and all others had less. Districts that struggled the most to attract DCST members were the ones which are most rural. The more urban districts tended to have higher numbers of DCST members. DCSTs with the least number of members would normally comprise nurse specialists only (about two or three nurses) and no doctor specialists. There were a few (2 – 3) DCSTs who had three nurses plus a family physician. Only one DCST in KZN had an Anaesthetist. None of the DCSTs had an intra-team leader at the time of conducting the study. District directors were the district level DCST supervisors in all the districts that participated in the study (with the exception of one district, where Clinical and Programs Manager was the DCST supervisor). KwaZulu-Natal had two provincial specialists (one obstetrician and one paediatrician) who were responsible for providing the technical support to the DCSTs in all districts within the province.

3.5. Study paradigm and design

This study is located within an interpretive paradigm. The interpretive paradigm is based on the understanding that reality is subjective, multiple and socially constructed, shaped by individual and contextual influences [50]. Therefore, the research methods must elicit rich textual data, descriptive of subjective experiences [50]. In this study, qualitative research methods were employed, where the subjective experience was sought of DCSTs themselves, as well as role-players who had a close association with the work of the DCSTs. The design for this study falls within descriptive exploratory qualitative research [51].

3.6. Sampling strategy and sample size

A purposive maximum variation (heterogeneous) sampling strategy was used. Participants selected in the study were deemed to be information-rich in relation to the study phenomenon. To answer the research question, it was important to elicit a variety of perspectives in order to

identify patterns that emerge across different contexts [52]. Common patterns that arise from diverse contexts may capture core shared experiences that could also better explain the phenomenon [52].

The heterogeneous sampling criteria used were as follows:

- In terms of DCST composition, teams with fewer members, as well as teams with more members
- DCST members who were part of a dyad and those who were not
- District Directors (DCST District Level Supervisors)
- Provincial Specialists (DCST Provincial Level Supervisor)

In terms of the sample size, there has been a lot of debate in the literature regarding the appropriate sample size for qualitative research. However, saturation seems to be the most commonly used principle for determining sample size [53-55]. Saturation originates from grounded theory, where data collection is governed by emerging theory through an iterative process of data collection, data analysis and theory development [53, 54]. Theoretical saturation is the point where all the theoretical categories have been exhausted and there are no additional issues or insights that are emerging from data [53, 54]. Hennink *et al.* [53] differentiate between code and meaning saturation. Code saturation refers to the point where no new codes are identified. Meaning saturation is "defined as the point when we fully understand issues, and when no further dimensions, nuances, or insights of issues can be found" [53]. Hennink *et al.* [53] have found that code saturation is reached within 9 interviews, and meaning saturation is reached between 16 and 25 interviews, depending on the purpose of the study and the depth of saturation required.

So, qualitative studies focus more on the quality and richness of data rather than the number of participants [53, 54]. Studies with homogeneous samples and whose research aims are more focused are likely to reach saturation sooner than those studies with heterogeneous samples and that cover a broader scope [54, 56]. So, with heterogeneous sampling, one may eventually require a relatively larger sample before reaching data saturation. Also, it has been indicated that the order in which interviews are analysed can influence the saturation threshold, depending on the richness of data [54].

In this study, the initial target was to sample a total of six DCSTs. Two of these were going to be those DCSTs with the highest number of members, two with the smallest number and another two with 4 – 5 members. Dyads within these teams were also going to be sampled. However, a total of four teams were finally selected. The size of the teams ranged from 3 members up to 5 members. Three of these teams comprised at least one dyad.

Some district directors (i.e. DCST district-level supervisors) and both KZN Provincial Specialists (DCST provincial-level Paediatric and Obstetric supervisors) were intended to be sampled. However, only one provincial specialist and two district directors were interviewed.

A total of 10 individual in-depth interviews and 2 small group interviews were conducted. Redundancy contributed to reaching code saturation. However, due to resource constraints guiding the final number of interviews, it is unlikely that meaning saturation was reached.

3.7. Recruitment strategy

The initial communication with each district was made through the District Directors, who granted permission for interviews to be conducted with themselves, as well as with the DCST members within their districts. I then contacted each DCST member, either via an email or telephonically. The purpose of the study was explained to each DCST member and their willingness to participate in the study was established. A specific appointment for the interview was then made with each member. For those who were available to be interviewed together in a group, a suitable date, time and venue was agreed on. District Directors also indicated their availability in terms of date, time and venue for their individual interviews. As for the Provincial Specialists, I was already in possession of their contact details as I had consulted with them during the development of the research proposal. I then contacted one of the Provincial Specialists to establish his willingness to participate in the study. Having expressed his willingness, a specific appointment for the individual interview was then made.

3.8. Data generation: techniques and tools

Data generation was by semi-structured interviews that were guided by the conceptual framework that was adapted from the ecological framework by Sundstrom *et al.* [25]. Data generation started on the 30th of July 2021, and due to work-related time constraints and other challenges, it was only concluded on 1st of November 2024. Data was generated through ‘small group interviews’,

as well as through individual in-depth interviews. At the time of commencement of data collection, the initial plan was to first conduct focus group discussions (FGDs), which were then going to be followed up by individual interviews with selected participants, who had also participated in the FGD. However, due to the unavailability of some participants to participate in the FGDs, criteria for conducting FGDs were not met. Thus, 'small group interviews' were then conducted, with each group interview comprising 2 or 3 individuals. None of the participants that participated in these group interviews were also interviewed individually. Individual interviews were therefore now only directed at participants who were not available for the small group interviews.

Two small group interviews were conducted, each with participants drawn from the same DCST, one with three participants, and the other with two participants. The main aim for conducting these group interviews was to elicit experiences and opinions of DCST members belonging to the same team within a short space of time. The small group interview with three participants was conducted virtually using the zoom platform, while the one with two participants was done in person. The interview done through the zoom platform was recorded using the zoom platform and the one that was conducted in person was recorded using a voice recorder.

In-depth individual interviews explored perspectives of individuals, divorced from the group norms. Participants were able to freely and honestly talk about their experiences, feelings, and opinions. Interviews were held with DCST members, DCST supervisors and one provincial specialist. The total number of individual in-depth interviews conducted was ten, seven of which were with DCST members, two with district directors and one with the provincial specialist. Some interviews were conducted in person, but most were conducted virtually through the zoom platform. Interviews were recorded primarily using the zoom platform. Those that were conducted in person were recorded using a voice recorder.

All interviews were conducted with the aid of an interview guide (see Appendices D1 – D4: Data Collection Tools). The topics covered in the interview were about the concept of teamwork, organizational context, team boundaries, team development, and team viability and performance. Under each of these topics were questions that sought to obtain the in-depth perspectives of participants. Transcription of recorded interviews (both small group and individual interviews) was done by the research assistant.

Data collection was an iterative process. Data was collected and analysed, and the analysis itself pointed out issues that needed to be better understood in subsequent rounds of data generation. Two or three interviews were conducted in each iterative round in between analysis. In the process, there were adjustments to the interview guide, as an *aide memoire*.

3.9. Data management and safety

All interviews were recorded, either using the zoom platform or using an audio recorder. Each interview recording was then transcribed by the research assistant. After transcription, each transcript was reviewed and data cleaned by me (the researcher). The cleaning of data involved correction of spelling and typing errors and inserting punctuation. The cleaning process at times required re-listening to the recordings to ensure a more accurate transcription. All transcripts (both original and reviewed/cleaned transcripts) were saved, both in my personal computer, as well as in a separate hard drive. Zoom and audio recordings were also saved likewise in these two locations. The hard drive was then kept safe separately, while the researcher's personal laptop was being used as usual.

3.10. Data analysis

An iterative process of data generation and data analysis was implemented. Concepts emerging through the first rounds of data generation led to the modification and rearrangement of some of the questions in the in-depth interview guide. Some new questions were also added and others removed from the interview guide (See Appendix D2 - For the final version of the interview guide).

Coding and thematic analysis began with data immersion where I read and re-read the data. *A priori* deductive codes were developed mainly from the conceptual framework. Excerpts relevant to the codes were then extracted from the reviewed/cleaned transcripts and linked to the respective codes in the code book. Inductive codes also arose during the analysis of data. Due to the predominance of deductive codes from the conceptual framework, headings and sub-headings from the conceptual framework automatically formed most themes and sub-themes. The theme 'construct of teamwork' originated from the study objectives. Creation of themes from the inductive codes followed the path of coding sorts, where similar codes were grouped together. This grouping led to the formation of thematic areas, and sub-themes arose from within the thematic areas.

3.11. Measures to ensure trustworthiness

The four dimensions of trustworthiness that were applied in the study included credibility, dependability, confirmability and transferability. Also, a reflexive statement has been included as an added layer of ensuring trustworthiness.

Credibility: Verbatim quotes have been provided in the results section. Looking at negative cases for emerging hypotheses, testing rival explanations and seeking explanations for inconsistencies arising from triangulation of respondents. I implemented triangulation of respondents by interviewing members of the same DCST or the same dyad separately.

Dependability: The method and process of this research has been clearly documented and is deemed to be logical and traceable.

Confirmability: Zoom and audio recordings from interviews, original transcripts, coded transcripts, data collection tools, as well as the original research proposal have been kept and are all available to provide an audit trail.

Transferability: The lessons learned in this study context may be transferred to other similar contexts. Contextual descriptions have been provided to facilitate the assessment of contextual similarities.

3.11.1 Reflexive Statement

Firstly, I would like to point out that, as a researcher in this study, I am personally involved and have my own lived experience regarding the study phenomenon. I am currently working as a Paediatrician in a DCST in KZN. I was appointed to this post in November 2019. My appointment coincided with the commencement of the data generation phase of my research project. So, my positionality posed a potential risk of influencing the data generated, as well as interpretation of the research findings.

On or prior to my appointment to the DCST post, I had not attended any formal induction and orientation like that which was attended by the DCST members appointed at the start of the

DCST innovation in 2012. During the month before the date of my appointment as a DCST member, I had an orientation meeting with the KZN Paediatric Provincial Specialist. During that meeting, we basically went through my job description. During my first month in the DCST I was further orientated by the Chief Director of the District Health Office to which I was appointed, who also pointed out and emphasized certain aspects of my job description.

The DCST to which I was appointed, at the time of my appointment, had a total of 5 members, which included the Obstetrician, Midwife, Paediatric Nurse, PHC Nurse, and myself as the Paediatrician. There was no Family Physician and no Anaesthetist, and to date these two posts have not been filled in our DCST. From the beginning, the absence of a family physician in our team for me posed a big frustration. Many primary care issues that required attention needed the expertise of a generalist family physician, for which I was not equipped as a specialist paediatrician. The lack of a family physician and the unattended service needs did not become a team concern. To meet the service demands best fulfilled by a family physician, I reached out and forged relationships with family physicians working in various health facilities in the district. Through these relationships, some of the goals for the district were achieved.

I started with a lot of energy and motivation to contribute positively towards improving the quality of care and to decrease maternal and child morbidity and mortality in the district. As much as the team (DCST) was there, 'team functioning' was not evident. Yes, members of the team were getting along well, there was a good collegial relationship amongst all of us, but there were no formal team meetings and team members were functioning more as 'individuals' rather than as 'a team'. I had my own frustrations with this kind of setting. Furthermore, just a few months after my appointment to the DCST, in March 2020, the COVID-19 Pandemic began to intensify in the country. The focus of my work shifted to activities that were being carried out in the district aimed at responding to the pandemic, in line with regulations that were being implemented in the country. I could safely say that the COVID-19 pandemic itself almost completely nullified the 'team' (DCST) because each one was being pulled in all sorts of directions.

Post pandemic we made attempts to hold regular meetings and to do joint planning. We even executed some of our joint plans and were able to make some progress. I was also functioning well within my dyad, with the Paediatric Nurse. The functioning of my paediatric dyad was enhanced by the support from the Provincial Specialist, who organised regular gatherings of the

paediatric dyads throughout the Province and provided substantive material to guide our work. However, overall team functioning does not seem to have been sustained, with the reasons not being entirely clear to me, deepening my desire to understand the conditions that influence team functioning.

During my data collection interviews, I explained to participants my positionality as a DCST member, but that in the research setting I was adopting the position of a student who was coming to learn from what they had to share. I resisted sharing my views and opinions when solicited, and assured participants that information shared by them was not being judged in any way. During the entire process of data collection, I kept a journal as part of my reflexivity. In my engagements with my supervisor, I did identify experiences reported to me by study participants that were familiar to me. However, I was reminded to remain rooted in the data.

3.12. Ethical Considerations

This study was underpinned by the ethical principles of respect for autonomy, non-maleficence, beneficence and justice.

The study proposal was submitted to and approved by the UKZN Biomedical Research Ethics Committee (BREC) before commencement of data collection (ref. no: BREC/00000099/2019) (See appendix A1). Soon after securing BREC approval, the COVID-19 pandemic broke out in the country. The BREC requirement at this point was to send an application for amendment to include the following:

- Standard operating procedures to be followed during data collection in view of the COVID-19 pandemic
- Details of the changes that had to be made in the research proposal because of the COVID-19 pandemic.

The BREC amendment approval is included in Appendix A2.

Permission to conduct the study was obtained from the KZN Department of Health's Health Research and Knowledge Management Division (See appendix B1). Individual District Directors were contacted in preparation for data collection (as per the conditions that were stipulated in the gatekeeper permission letter by the KZN Department of Health). Approval by each district was then obtained and approval letters have been included in Appendices B2 to B5.

At the time of recruitment, information about the study was communicated to participants both verbally, as well as via the provision of an information sheet to each participant (See Appendix C1). I ensured that the following information was made available and explained to every participant:

- The purpose of the study
- How they were chosen to participate in the study
- The data collection procedures
- The possible risks and benefits of the study
- That participation in the study was completely voluntary and each participant had a right to refuse to participate at any time without any negative consequence ensuing
- That confidentiality and anonymity of all participants would be ensured
- Whom to contact if they had any questions or concerns

At the time of the interview, the signed informed consent (see Appendix C2) was collected from participants.

3.13. Summary

The type of the study conducted falls within the Health Policy and Systems Research and is located within an interpretive paradigm. Descriptive exploratory qualitative research was implemented and the study was guided by the conceptual framework adapted from the ecological framework by Sundstrom *et al*. A purposive heterogeneous sampling strategy was used and a total of 10 individual in-depth interviews and 2 group interviews were conducted. Semi-structured individual and group interviews were conducted with the aid of an interview guide. The topics covered in the interview were about the concept of teamwork, organizational context, team boundaries, team development, and team viability and performance. An iterative process of data generation and data analysis was implemented. Codes were identified through deductive and inductive analysis. Code sorting and thematic analysis was conducted. Four dimensions of trustworthiness applied included credibility, dependability, confirmability and transferability. A reflexive statement was also included as an added layer of ensuring trustworthiness. The study was underpinned by the ethical principles of respect for autonomy, non-maleficence, beneficence and justice. The study proposal was submitted to and approved by the UKZN Biomedical Research Ethics Committee (BREC) before commencement of data collection. The necessary gatekeeper permissions were obtained from the KZN Provincial Department of Health, as well as from individual districts where DCST members were interviewed. Individual and group

participants were taken through the information sheet and consent form, and they granted informed consent before commencement of the interviews.

CHAPTER 4 – STUDY FINDINGS

4.1. Introduction

The study focused on exploring the conditions influencing team functioning of DCSTs in KZN, with the objectives of understanding the construct "teamwork", exploring 'influences on team functioning' and exploring 'team effectiveness' within DCSTs.

This chapter begins with a section that describes the participants. Then the findings are presented following a thematic sequence aligned with the objectives of the study. Sub-themes generally align with the conceptual framework of the study. However, some sub-themes were derived inductively from the data. The first thematic area is 'the construct of teamwork', followed by the theme 'influences on teamwork', the latter including organizational context, team boundaries, team development, and individual team member attributes. The last theme on team effectiveness, has sub-themes on team performance and team viability.

4.2. Description of the participants

Participants were drawn from four DCSTs, as per maximum variation criteria. Two District Directors (DCST district-level supervisors) and one Provincial Specialist (DCST provincial-level supervisor) were interviewed.

Table 1 below displays the description of study participants, who were drawn from four districts. The table presents contextual information for each participant – the number of members in the DCST; whether the participant was part of a dyad or not; whether the participant had participated in the induction and orientation programme run at the inception of the DCST component of PHC Reengineering in KZN; and the duration (number of years) the participant had been a DCST member on the day of the interview.

Further to what is presented in the table, and to provide additional contextual information:

- District 1 had a DCST composed of 3 members, one of whom was acting as a district director at the time. Two DCST members were interviewed individually. The DCST supervisor in this district was the Clinical and Programs Manager, as opposed to the district director.

Table 1: Description of study participants

District #	DCST Composition	Participant #	Member of a dyad (Yes/No)	Participated in induction and orientation	Years as a DCST member at time of interview
1	3 members	1	No	No	2
		2	No	Yes	9
2	5 members	1	Yes	Yes	9
		2	No	No	3
		3	No	Yes	9
		4	Yes	Yes	9
		5	No	Yes	12
3	4 members	1	No	Yes	8
		2	Yes	Yes	10
		3	Yes	Yes	10*
4	5 members	1	Yes	Yes	12
		2	Yes	No	9
	District Director	1	N/A	Yes	N/A
		2	N/A	No	N/A
	Provincial Specialist	1	N/A	No	N/A

* 10 years as a DCST member, but 1 year in the current team

- District 2 had a DCST composed of 5 members. Three of these members were interviewed together and the other two members were interviewed individually.
- District 3 had a DCST composed of 4 members. Two DCST members were interviewed together and one DCST member interviewed individually. The fourth member was not available for the interview.
- District 4 had a total of 5 members, and two members were interviewed individually. The other three members were not approached for interview.
- The District Directors were drawn from two of the four districts and were interviewed individually.
- The Provincial Specialist was interviewed individually.

What follows is a description of the findings. The themes and sub-themes presented below are guided by the study objectives and the conceptual framework, as well as those that arose inductively during data analysis. The main sections presented include the construct of teamwork

(arising from the study objectives), influences on teamwork (mainly guided by the conceptual framework), and team effectiveness (guided by the conceptual framework).

4.3. The construct of teamwork

In their context, the DCSTs constructed 'teamwork' as members of the team having a common goal, with each person in the team having their own roles and responsibilities contributing towards the common goal. They also highlighted that team members come with individual skills and knowledge necessary to tackle the different aspects of a problem or task at hand. In a team, individual capabilities and contributions are valued and respected regardless of one's area of expertise or training.

> *"I used to do this analogy [of teamwork] when we started …. it's like we are in a field, soccer field, and everybody has got a role to play, a position to take. As much as you are a striker, I'm a middle fielder and somebody is playing at the back, and we are passing the ball to each other, but at the end of the day our goal is to score a goal and win as a team."* – District 2 Participant 4

> *"It is working together with clear understanding to achieve a common goal, basically it's that, to achieve a certain goal"* – District 1 Participant 1

> *"For me it's about using the people's skills and knowledge that individuals have, bringing it together to tackle different parts of the problem, [and] to solve the problem. The principle of teamwork is to acknowledge everybody that is in the team and [allowing them to] make a contribution, even if it is not their speciality. So, for me it's about using the skills and knowledge that individual members have from their expertise to solve the problem"* – District 3 Participant 3

Cooperation and interdependent collaboration were identified by DCST members as key features of teamwork, both within the DCST, as well as with teams in health facilities they are supporting. They also highlighted that teamwork is not about doing the same thing together or in the same way, but it is about joint planning, individually executing the various tasks, and then reconvening for sharing reports, analysis of progress achieved, and further planning.

"... It's planning together, analysing things and rolling them out together.... [you may] roll them out differently. But then you need to bring it all together, you know. For example, if there's a neonatal death due to congenital syphilis, and this case is looked at, everybody concerned should be present and should agree on the way forward: what needs to be implemented and then roll it out according to their respective roles. So, I'm just giving you that one example. But it's, I think it's a lot of analysing and planning together and then breaking it down into the different disciplines and then the people in the different disciplines going with it. And then coming back at the end and reporting to each other. [It's] not everyone going out to [the same] facility ... because then you're going to have three or four people going and asking the same question. So, I think it's doing your job in your area, to the best you can, but then bringing it back to the team and saying: 'This is what I did.' And then the next person says: 'Well, this is what I did. And this is what's left to do'. And then you look and see whether that's been effective. And if it's not, then you need to sit and decide: 'Well, what can, how can we do it differently?'" – District 4 Participant 2

The concept of 'a team within a team' was highlighted. This was to say that DCSTs do not work alone in a vacuum, but they work in the context of a bigger team. This was said to be another important aspect of team functioning.

"But there is also [the] aspect that we work in a broader team. ... So, the team is within us. But also, in a broader aspect, we are a team that works within a broader team, which is the health system we are working in – [there is] district management, and there is hospital management, and clinic management. I think the broader team aspect is essential, because as soon as you work in isolation it becomes less effective." – District 2 Participant 2

Teamwork was also viewed as interdependency, complementing each other and bringing about collective contribution to maximise impact. The team functioning of DCSTs could also be seen as being unique in a sense that their contribution is along a continuum of human development, with some specialists within the team managing and caring for the mother and the baby while the baby is still in utero, while the other specialists caring for the mother and the baby/child postnatally. So, in order to have an outcome of a healthy mother and child, one needs the contribution of the entire team.

"I think it is the concept that you cannot work in isolation, on an island. As specialists, we need one another. All my indicators are dependent on all specialties. For instance, I need the midwife because the developmental stages of the child start from conception, so I need some advice from a midwife until the child is born. And for the start of the child services, they all start at PHC level. So, we need to work as a team we need each other" – District 1 Participant 1

"... And as a team we are supposed to assist each other ..., and ... are interdependent. When you work in isolation you often are repeating and duplicating work. The team aspect allows us to develop synergy ...and provide these services better." – District 2 Participant 1

"For me, teamwork is about complementing each other and being a team player. When you are in a team, you are not competing amongst each other, but you are always saying, now that you have done 1, 2, and 3; how about that I come and do 4, 5 and 6. That is what teamwork is about. There is no competition in teamwork" –District 1 Participant 2

"Teamwork is a group of people working together with more benefit coming out of it than if it was just adding up individual work. Because health is such a complex issue, it is always good to have a number of people giving wisdom into a situation" – District 2 Participant 1

When DCST members attend clinical governance, perinatal mortality, and district performance review meetings together, each member identifies his/her tasks emanating from the meetings based on his/her role in the team as representing his/her speciality.

"We come together... we converge in clinical governance [meetings], where all of us are expected to be part of the perinatal [mortality] meetings in the institutions. All of us should be there and when the issues are raised, all [each] of us should be able to identify that part of the issue must be attended by myself, because that's my area of specialization. We also meet when we sit on the district performance review meetings, again for the same reason. When we sit in the district [level] maternal and child review meetings, that's where we converge as a team ... And while we are in that

setting, we take note of the specific activities that are related to my specialization." – District 2 Participant 4

Joint planning and strategizing, which is informed by data, was regarded as an important part of teamwork. Delegation of activities, giving feedback to team members, and mutual accountability within the team were also reported as constituting teamwork.

"... we would have meetings together to inform each other. To say, we have looked at the data, then we see this facility is not doing well, and then we split up, to say A will go to this facility, then B will go to that facility. If they did not go to the perinatal meetings, if they do not go to maternal review meetings, because I am the one who is going there, I will come back and give the report to the team, to say: 'We had a maternal meeting in this hospital, this what transpired, and these are the gaps I have identified.' If it is pertaining PHC, then she [PHC Nurse] will have to go back to that clinic and address the issues that were raised." – District 3 Participant 1

"... We come back and say: 'Okay, how far are we?' To say: 'I have done this and that.' And there should be our names written next to an activity so that we will know that it was Dr So and So who was supposed to engage with hospital A on this issue; or So and So will be working with Mrs So and So to go to facility B, to do this and that, by this date. So that when you come back, we will be saying: 'Have you been? What have you picked up? Are we carrying this one forward as a team?'" – District 2 Participant 4

DCST members also viewed teamwork as giving each other moral support and guidance when conducting district level meetings.

"If you refer to teamwork, ... we have a Paeds nurse in our team who also has her own expert meetings, like Child PIP meetings at a district level, where me and the DCS Advanced Midwife we need to be there and render our guidance. That is how teamwork comes into place. At the same time the very DCS [Advanced] Midwife at the perinatal [mortality] meetings, ...we will also be there as a team... So, with these meetings, they assist us to work as a team ... So, that is how it goes when you mention the aspect of teamwork" – Participant 2 District 1

Given the DCST members' conceptualisation of teamwork above, the findings on teamwork practices and influences on teamwork follow in the subsequent sections.

4.4. Influences on team functioning

Exploring influences on team functioning was mainly guided by the conceptual framework and included influences related to the organizational context, to team boundaries, to team development, and to individual attributes. Sub-themes that arose under each of these themes are further explored in the sub-sections below.

4.4.1. Organizational context

The introduction of DCSTs did not come in a vacuum. They were introduced as a health innovation within a health system with its own strategic and operational context. There are various aspects of the organizational context that DCSTs reported as having an influence on their team functioning. Issues that emerged under organizational context were as follows:

- Organizational culture
- DCST mission clarity
- Induction and orientation
- Supervision and autonomy
- Support,
- Reporting
- Physical environment

4.4.1.1. Organizational culture

The DCSTs and District Directors perceived the health system as having a prevailing culture of operating in a very vertical and hierarchical approach. For example, at provincial level, each health programme manager was perceived as focusing on programmatic priorities and giving directives that did not consider other health programmes. This pattern was reported to be repeated at district level, and it resulted in fragmentation and duplication of activities.

> *"And then with provincial programmes, what we have been saying is that they are also working in silos because the programme manager will just go down to the district and*

want something or do whatever. They [provincial programmes] are also not integrated, … so there is duplication and fragmentation." – District 2 Participant 5

"The health system has this problem: they talk integration, but the practice is different even from the highest levels. We have got a lot of directorates, this one pushing this directive and that one pushing the other." – District 3 Participant 3

"I think there was this break in communication across the board. … because I think each [programme manager] … was focusing on their own programme and not looking at how one programme impacts on the other. Yeah. So, I think that we were brought in and made to work together as a team and see how we can improve outcomes as a team". – District 4 Participant 1

This kind of vertical approach was reportedly being experienced even by the way the DCSTs were being supported at provincial level. For example, the Paediatric Provincial Specialist would focus on supporting the Paediatric Dyad and likewise the Obstetric Provincial Specialist would focus on obstetric issues. This caused the other members of the DCST who do not belong to these specialities to somehow feel left out.

"But also, it lies on the head office specialists... You know even if they call their meetings, they call them separately. So, … for instance [the] Paeds and Obstets [DCST members], … it's very rare that you will hear that they have been invited in one meeting, under one roof. So, that is what we are experiencing at the district level" – District Director 1

"Barriers at times could be when at a provincial level some meetings are convened and the specific person will want to have their own dyads, not including all the DCST members. … The fact that we work together as a DCST, we must be called together. So, I think that is what one would appreciate. … Even when it comes to MCWH, there are these quarterly meetings that are convened where there is a midwife, the MCWH [district programme coordinator]and maybe the PMTCT [district programme coordinator], but there is no mentioning of PHC in that kind of a meeting. So, those are the barriers where it makes people to work in silos. So, it disturbs and becomes a barrier in a way" – District 1 Participant 2

4.4.1.2. DCST Mission clarity

DCST members felt that from the time they were introduced in the country in 2012, there were a lot of uncertainties as to what were their roles. So, they had to repeatedly explain their roles. The uncertainties were reportedly both at district office level, as well as at health facility level, and the uncertainties seemed to have persisted for some time, becoming one of the biggest challenges that DCSTs had to overcome. DCSTs themselves reported to have been clear about their roles. The lack of clarity amongst other role players, especially the District Directors (DCST District Level Supervisors) was reported to have created conflicts between DCST members and their supervisors. Some District Directors were however reported to be very understanding and supportive of the mandate and the core responsibilities of the DCSTs.

> *"So yeah, it was quite stressful in the beginning because nobody understood us. It took a very long time. ... [Also], the new ones that come in, who have not had [experience of] DCSTs wherever they come from [did not understand us]. ... So, as new people come in or [as] the new management comes into the facilities or into the district office, we have to re-explain ... And of course, we don't get tired of explaining our role because we know what we have achieved from 2012."* – District 4 Participant 1

> *"... I think the DCST members are clear about their roles... But that's come at a price, because the district director and other senior managers were far from clear about the role of DCSTs. The price that we've paid is [that] we've had lots of fights, and we still have lots of fights and disagreements about where we should be on a particular day. So, for example, when there's a politician coming into the district, they want you to drop what you were doing, like attending a CHIP meeting, and go and sit in a hall and listen to politicians debating for the whole day. And we've had lots of serious arguments about this. But fortunately, we've got a district director who's willing to listen, she's very reasonable and accommodating and willing to listen to what could be more important for us to do"* – District 4 Participant 2

In the beginning some of the district level health programme coordinators were reportedly unwilling to cooperate with DCSTs, as they felt threatened that DCSTs would take over their jobs. However, over time this slowly began to improve. The improvement was brought about

for two main reasons: DCSTs had to repeatedly explain their roles; and natural changes in staffing with newer staff better understanding the role of DCSTs.

> *"... over time from 2013/14/15 People were getting to know who we were, and [we] made our presence felt, because whenever we would facilitate a function [or offering] training of some sort, we will introduce the team, that the team comprises of So and So, this portfolio and that portfolio. So, over time people then understood who we were. Then they started to give us the respect that was due to us."* – District 2 Participant 4

> *"There was a bit of confusion as to what is our role, what is the difference, I would say, between [us and] the MCWH coordinator, the PMTCT coordinator, TB health manager, because our support as DCSTs would infiltrate everything that they were doing because, you know, children have HIV, children get TB. So, in the beginning it was [distressing]. I even remember crying once because we had a TB coordinator who couldn't understand why it was important for me to be following up with the children who were exposed to TB and, you know, putting them on anti-TB treatment. He says, no, but that's my department, why are you interfering? ... And then when he retired, ... and the younger TB managers joined, you know, they understood. They understood that we are their support, and we are there to ensure that, you know, their outcomes are also met because it assists with our paediatric or neonatal or maternal outcomes"* – District 4 Participant 1

One of the District Directors felt that the purpose of DCSTs was also unclear amongst some district health programme managers and also at hospital level. The District Director also questioned the need for the DCSTs to engage tertiary/regional hospitals since there are already specialists there, revealing both the misguided expectations of tertiary/regional hospital specialists and the lack of clarity among district directors themselves on the role of DCSTs in clinical leadership, clinical governance, and health system strengthening.

> *"Let's take the DCST advanced midwife; there is a person [the MCWH programme coordinator] in the district who is looking at MCWH. I remember the roles were not clear and I think they are still not clear because when the [DCST] specialist came, the programmes felt they were taking their work. ... So, it is worse at the facility level. I*

know that the former national minister [of health] wanted to put them at the district office as technical experts. But these people they will go to, I'll give you an example of [names of regional/tertiary hospitals], where they have their own specialists, isn't it? … But they [the hospital specialists] will not do what they are supposed to be doing and expect the DCSTs to come in. It's what we are arguing even today, to say: 'Why do the [DCSTs] have to go to [regional/tertiary hospitals] while they have so many specialists?' And they [hospital specialists] will not do things until somebody in the district office comes in. Why? Does it mean that now these DCST must go and be at an operational level? We know they are not managers; they are clinicians; they are placed at a district level to support the district facilities – District Director 1

According to the Provincial Specialist, challenges began at provincial level where there seemed to be disagreements regarding the purpose and the area of focus for the DCSTs. Reportedly, there is agreement between the Provincial Specialists that the DCSTs were to strengthen the health system by focusing on maternal and child health. However, District Health Services wanted the PHC dyad to focus on ideal clinic realisation and on the functioning of the whole primary care clinic. Challenges also exist at district and health facility level. For example: within facilities, healthcare workers/clinicians abdicate their responsibility to implement facility level and catchment area interventions to improve the quality of maternal, perinatal, neonatal, and child care, by inappropriately expecting the DCSTs to fulfil these functions for the facility, which is not aligned with the purpose of DCSTs which is primarily to provide facilitatory leadership, ensure clinical governance, and guidance regarding health system wide interventions.

"I think we've got to start one level up, and that is at a provincial level. Because right at a provincial level I think is where the problem in KZN starts. Because at a provincial level there is not agreement on a common purpose. You've got district health services saying: 'We want the DCST family physician and primary health care nurse to focus on ideal clinic.' You've got the maternal and child health programmes saying: 'No, we want them to focus on what they were appointed to do, and that is maternal and child health services.' So, at a provincial level, they [DCSTs] are seen as a highly skilled resource to be used to strengthen health services. And that's exactly what they are. But which health services is where you run into trouble. … So, the idea that they are there to strengthen the entire health system is correct, but to strengthen it by focusing primarily on maternal and child.

You then go down to the district level, and that lack of provincial consensus begins to spill out in the district office. Because the district office then sees them as a resource. And they get used to plug gaps in the district management team rather than to focus on their core function because their core function is not a single core function. There's a core function for the PHC [dyad] and there's a different core function for the obstetric and paediatric dyads. So, then the district director can add an additional core function.

If you go back to the job description and the original concept, it was about coordination, facilitation, not implementation. Nowhere are DCSTs supposed to implement a program. They're supposed to facilitate the development of skills. They're supposed to facilitate the strengthening of the service platform. The strengthening, the actual work, must be done by the management of the hospitals. And what we get at a facility level is default withdrawal: 'You're the district specialist; you fix the systems in the ward.' So, it's passing the buck, and the [health facility] management almost washes their hands of maternity and child health services, because the district specialist is going to sort that out. It goes to the extent of equipment. The district specialist must [arrange for the] replacement or repair of faulty equipment, not the management team. The district specialist must go to the stores to make sure that the NSI [nonstock item] is filled in for the ordering of consumables or surgical sundries. That is the job of the hospital management, the operational management, not the district specialist... So, depending on the level, there seem to be very different perspectives as to what they should be doing." – Provincial Specialist

4.4.1.3. Induction and orientation

The first group of DCSTs were recruited and appointed in 2012 and went through a process of induction and orientation, which lasted a period of about 18 months in total. Most DCST members felt that this induction and orientation was quite important, and it equipped them well for their function as DCSTs. As a result, when they started, they were very clear regarding their roles and responsibilities. They also reported that induction and orientation also assisted them to practice teamwork. Subsequent groups of DCSTs recruited and appointed in later years, were not exposed to induction and orientation. Existing DCSTs members were expected to induct and orientate new members.

"It was really helpful, mainly because it was giving us clarification of our role. ... We were all new in this DCST programme and we didn't know what was expected from us. We were confused at first, even the district directors and the programmes [district health programme coordinators]. Hence bringing us together in one room, it then clarified that we are not here to be bosses, but we are here to achieve one goal and one vision" – District 2 Participant 3

"I think there were different aspects, [including] clinical aspects, management skills, problem-solving skills, how you work together as a team, ... and how you motivate people. And of course we were doing these together as teams, the team sitting on the table and doing the exercises together. It also promoted the idea that we are doing this thing [DCST work] together and everybody had the same things at the same time [Meaning: we were all exposed to the same content at the same time]. With [all of] that information it becomes difficult to give it to someone else." – District 3 Participant 3

Some DCST members felt that as much as the training equipped them as far as maternal, child and neonatal health is concerned, it did not really equip them when it comes to primary health care.

"It was very helpful. For example, we learned about all these new things, like ESMOE and ... we got extra training with neonatal resus, and those sorts of things. So, it really equipped us to do the job. But it was very much maternal and child and neonatal oriented. There wasn't really much on PHC, which I really think the family physician should be responsible for with the PHC nurse specialist. So, it was purely maternal, child and neonatal. But it was very helpful indeed and it made me see things that I need to work on... So, it really equipped us to become confident when running ESMOE fire drills, ETAT and helping babies breath [HBB], anaesthetic updates and things like that." – District 2 Participant 1

One of the district directors that was interviewed also reported that there was a deficiency in terms of the content covered during DCST induction and orientation in that the roles for PHC dyads were not covered.

"The orientation and induction that was done for these specialists, because I was there, it was mainly maternal and child health. I think it's where the problems emanated. So, there are specialties that were just left on their own and they had to figure out what is expected of them because their induction and training was only on maternal and child health. … They need re-orientation" – District Director 1

Some DCST members expressed some reservations because of the differing onsite mentoring provision to DCSTs in between the monthly induction and orientation workshops. One of the DCST members, when asked whether the induction and orientation prepared her adequately for her role as a DCST, she stated the following:

"… to a certain extent, not everything, because we were supposed to get an onsite orientation, which never happened for some [DCSTs], but others got it" – District 1 Participant 2

With regard to the impact of induction and orientation in preparing the DCSTs for teamwork, some members were convinced that it fully prepared them for teamwork.

"I would say it 100% prepared us for teamwork. We knew exactly how we are supposed to work as a team. I said to you, it was very difficult for somebody who has not attended the original orientation to now come and be told by somebody else how to work together as a team" – District 4 Participant 1

"The teamwork is not always there. The people that did the orientation together, at least know the teamwork very well, and we are kind of in the same page. But putting that into the next generation is not easy" – District 3 Participant 3

Another participant felt that induction and orientation provided a common perspective for diverse individuals:

"It was really helpful, mainly because it was giving us clarification of our role, but looking at one goal; that there is PHC, there is an obstetrician and there is Paeds, but how do we really meet to achieve one goal while looking at our separate specialties; how do we fit our specialties to achieve this one goal" – District 2 Participant 3

However, there were some DCST members who reported that the induction and orientation did not really have an impact in preparing them for teamwork. Having completed the induction and orientation, team members remained very individualistic and showed no willingness for interdependent collaboration. One participant stated the following:

> *"... the impact was not felt, especially with us. I am not sure about the others. It was a buzz word with all the facilitators mentioning team, but I don't think it reached home. It did not reach home, if I may say so, as much as it was mentioned throughout the orientation. It did not have an impact. I don't know how I can say this best, because after a year we all came out knowing what was expected from us, everybody knew their roles. But we were adamant that we were individuals. You find that in some of the teams members would be even referring a task to someone: 'It's your thing.' Someone would even say: 'No ways, you must attend to X.' When you thought we were a team, they will just say: 'No, you must go there.' So, that is where one realized that even though we were taken to an orientation, the aspect of teamwork didn't work"* – District 2 Participant 4

The Provincial Specialist felt that the influence of induction and orientation on teamwork was limited by the fact that the teams were largely incomplete. Some teams had very few members, with some comprising only the nurse specialists and no doctor specialists. So, representation for each team was barely sufficient for the training to effectively instil teamwork.

> *"... I think it may not have been as effective as one would want as far as teamwork goes because they were limited teams. You know, you can only create a team if you've got all the members there and right up front, we lacked that. We had the nursing side, but we haven't had the medical side. You know, you had a doctor here and there, but if you start looking at how many districts have five or more DCSTs, very few. So, the potential of the orientation and induction to create teamwork was there but not fully realised because we didn't have [all the] members to create teams with. Whether you're talking about a full team or a team within a dyad, same principle applies."* –Provincial Specialist

DCST members reported that the biggest gap was when new members were subsequently being recruited and appointed to the DCSTs without receiving that initial induction and orientation. The

expectation generally was that the existing DCST members would be the ones to orientate all the new members as they join the teams. DCST members reported this to be problematic. They felt that they did not have the capacity and agency to adequately and fully transfer the necessary knowledge and skills to new members. Members of DCSTs are highly experienced individuals (specialists) in their fields, and they join the teams with established expectations with regard to their clinical roles, and not necessarily to their roles as members of the team. So, this proved to be a challenge for some existing team members to effectively and fully orientate their colleagues.

> *"So, I think it is very, very unfair that DCSTs were employed, and they didn't go through that orientation session like we did. And we were expected now to orientate the DCSTs that come on board. Like, for instance, with my dyad, I [as a paediatric nurse] could [orientate the paediatrician], because we are both in the paediatric field. [But] it's a bit difficult for one person to actually [orientate new members]. Or even for us to sit together as a group [and orientate new members]. Some others [new members] will come in with their own expectations of what they are supposed to do. How do you change that? That's a highly trained, highly professional, highly educated somebody."* – District 4 Participant 1

Some DCST members who had newly joined the teams expressed that they had received very scantly orientation from the existing fellow DCST members. Such orientation certainly did not prepare them for what was expected of them, thus they seemed to be failing to meet some of their job expectations.

> *"With me, I didn't receive the required orientation. I found a handout that was used by the former DCST here and it says orientation for DCSTs must be done provincially. But I didn't receive that orientation. The orientation I got was from the other DCST, the Advanced Midwife. Even my supervisor, when I got here, she was on leave. So, there's no orientation I got from the district management or from province. I was orientated by DCST advanced midwife… It was not that adequate because I learned some things as time went on … I just got oriented on the admin work for the district, as well as the HR processes, on how to claim, when and how. So, when it comes to writing reports, it was like I was not complying with my work, because the province would phone me that I didn't submit my work whereas I was not aware what was really expected of me."* – District 1 Participant 1

Below is a comment by the Provincial Specialist, highlighting the richness of induction and orientation itself, but also emphasizing the point that the new members who joined the teams after the induction and orientation were seriously short-changed. He pointed out that some of the aspects that were covered in the original induction and orientation included teamwork, leadership, management, communication and health systems and programs. However, the newly appointed members missed out on all that important training. He stated that some training material and guidelines were made available for the new members to educate themselves. However, this certainly could not make up for the full and proper induction and orientation.

> *"We had a very good induction and orientation programme for them. What happened after was that you had a little bit [of a] loss from the teams and ad hoc appointments to replace people who had left. And there was never any formal induction or orientation for the newcomers. The expectation was that the existing team members would provide them with induction and orientation. But that induction and orientation has never had the comprehensive overview that was provided to the initial group where things like teamwork, management, leadership, communication, as well as health systems and programs were covered. What happened to the next group was the focus seemed to be primarily on day-to-day roles and responsibilities rather than the softer issues like leadership, communication, etc. So, the newcomers have been horribly short-changed compared to the original group. There have also been a number of documents from National [Department of Health] that have looked at things like clinical governance, which is a core function of the teams. And all of that was covered as part of orientation. But here people were expected to educate themselves, which is well and good. You can read a book, but you also need to discuss what you're reading, seek clarification. So ongoing orientation and induction was very poor."* – Provincial Specialist

Some newly employed paediatric specialists did receive some orientation from the Provincial Specialist. So, the orientation that they received from their teammates in the DCST was in addition to the provincial orientation.

> *"... That is where she [the Paediatrician] came in... she had an orientation with ... [Provincial Specialist]. And then as we went along, you know, I orientated her as the*

months went by, to each hospital. We went together, and we would be working together as a team." – District 4 Participant 1

DCSTs also reported that if newly employed DCST members had been working closely with DCSTs in their district of origin, it would be easy to orientate them.

"… And then, as the other members of the team came in, of course, we had to understand them, and we had to also kind of orientate them because they had no orientation. But what we realised, especially with our PHC nurse, she came from a district where she was working with DCSTs. So, she had an idea. So, she came with that knowledge of: 'This is what a PHC DCST is supposed to do.'" – District 4 Participant 1

DCST members felt strongly that there should be formal induction and orientation for all new members, almost similar to the one that was held for the first group of DCSTs. One participant suggested that perhaps orientation could simply be done on a regular basis, e.g. every two years.

"We really should be having at least an orientation session for them maybe every two years, ... And maybe for us, the original DCSTs, we don't have to be a part of [that orientation., But maybe we can attend a few sessions, um, like to give our input on how we worked and how we learned to work together, because I mean, it's not, it's not easy to work together as a team, but we manage, we work together. We found our common points and we work together as a team" – District 4 Participant 1

4.4.1.4. Supervision and autonomy

Generally, District Directors were the DCST district level supervisors. However, in one of the districts, district level supervision of DCSTs was the responsibility of the District Deputy Director Clinical and Programs.

The nature of the relationship between individual DCST members and their district level supervisors varied. Some DCST members reported having a generally trusting relationship with their supervisors and were working independently and were autonomous regarding their day-to-day work.

"The nature of supervision between the supervisor and supervisee - there is that element of trust that work is being done. It is not micromanaging; it is not policing in nature. It is that kind of a supervision where the supervisor trusts that the supervisee is doing the work. It goes back to autonomy to say: 'I am independent in my doing. I am self-dependent in what I do on daily basis, weekly, monthly … I am myself and I am able to work with everyone at lower levels and higher levels.' I think the level of autonomy is quite high amongst us as well, all of us." – District 2 Participant 4

"I feel like I've got a lot of autonomy in what I do with my time and how I spend my time." – District 2 Participant 2

As highlighted above, having autonomy was generally viewed positively by DCST members. However, some also expressed a feeling that complete autonomy sometimes feels like district directors are not providing enough support and guidance and they are not holding the DCSTs to account. So, DCST members are mainly self-driven, with their activities and the outcome thereof not being adequately monitored and questioned.

"… If maybe, you know, if [at some point] a district director can ask DCSTs: 'What is your plan? What is your project?' … There's [just] no support and supervision, [there's] nothing like that. The only thing is just that the passionate DCSTs will continue working, those who've got a goal, they will continue working. Because I think the district management, they trust us, they trust the DCSTs are matured; they are old enough; they are knowledgeable; they are people who can be able to direct themselves. So, we have been left to manage ourselves. Whether you are bringing the results at the end of the day or not, it's up to us as DCSTs" – District 2 Participant 6

One of the district directors stated that the DCSTs in her district are completely autonomous. She, as the district level DCST supervisor, just provides the necessary support and guidance. She stated that she believes that autonomy will enable the DCST members to grow and she expressed confidence in them since they are specialists.

"I know they were placed under us in terms of authority. But for me they are autonomous because they work on their own. I don't know, perhaps it's my making, my personality because I want people to run with what is entrusted in them. Of course, I would be there

to support, I would be there to guide, but I believe in autonomy a great deal. Because it's how people must grow. You know, and these are experts. For me specialists have that specialist knowledge and expertise, so, let them be. But not that they should dodge; no, no dodging. Because I will let them become what they want to become, to grow and to try something." –District Director 1

Some DCST members stated that, as much as autonomy is good, it might make it difficult for the supervisor to know when people are not doing their job as they should. If the district director only depends on the reports submitted by the DCST members without ever checking the veracity of what is reported, what is overstated in the reports may not be detected.

"Autonomy is when you can just sit down and plan what you want to do this week. There is a lot of freedom. And also, there is a bit of a challenge in that you can also hide and not do your job properly. ... Like the district director, she has to rely on reports that people submit… I think it [autonomy] is a good thing, but it's a challenge for the management to make sure that you do not get into the clinic for 2 hours and then go home. There is a high element of trust involved there. So, I think from my side it is good, but then thinking on the managers' side, I do not know how it feels because you will want people to do their job... You know the obstetrician would go to the clinics and teach the nurses how to do IUCDs and that was the job for the day, and it sounds like a productive day." – District 3 Participant 3

One district director expressed that she did not have the capacity to supervise the DCSTs properly because she is mostly office-based, whereas the DCSTs are mainly in the clinical areas (health facilities). She indicated that it would be better if there was a public health specialist in the district that could support and guide the DCSTs.

"I would say that it [supervision] is not going well, because they [DCSTs] need to be supervised by myself, and I am mostly office based, and they are in their clinical areas. So, I would say that there must be a system [developed] on how we support them. Someone that we are not having in the district, we do not have a public health specialist in the district. So, maybe that would provide them [with] support and guidance. … I am not having that capacity to do that [to guide them and coach them]" – District Director 2

One DCST member indicated that she currently has less autonomy than before. However, she prefers it this way because of the value and benefit she sees in the type of meetings her current district director wants her to attend. Having been in the DCST post for some time, she has now grown and is able to look at things from a different perspective.

> *"... I would say ... [previously] it was probably like 80% autonomy, and now it's less autonomy. But... I think it's better. You know, I would say when I did my itinerary in 2015, 16, 17, I could dictate what I wanted to do 80% of the time, right? But now there's a new District Director, and I've also grown in terms of my outlook and my perspectives. So, I'd say there's 60% autonomy, because I now have to attend more meetings, but I see the value in them. Yeah. So, although I'm saying there's less autonomy, I think it's for the better."* – District 4 Participant 2

One of the DCST members, recently appointed, and who had not attended the induction and orientation programme, reported having very limited autonomy. This made her feel very restricted because of being unable to make decisions independently.

> *"It is limited because we always need to report to someone. And you will work according to their plans and schedules. So, everything must go through them first and sometimes you are denied [being able to] act independently. So, it is not conducive, because I cannot work independently. I know that I must be having a supervisor, someone to monitor how I do my work. But I feel restricted when it comes to decision making because I have to pass through someone, to get their permission."* – District 1 Participant 1

However, another DCST member in the same district, appointed in the first group and who had attended the induction and orientation programme, described the relationship between her and the supervisor as being supportive.

> *"The nature [of supervision] is supportive."* – District 1 Participant 2

Some DCST members reported a frequent change in the District Director position, causing a lot of instability and affecting continuity, given a different focus of each new district director. Because of the situation in this district DCST members have had to make a lot of changes, which caused them to lose focus.

"What the DCSTs should be doing is well defined in the ministerial handbook. But in terms of the organizational context, specifically at our district, I don't think it [supervision] has been optimal. Because we have had 5 or 6 district directors in the last 3 years. And when your organization is run by a leader that is constantly changing, it's very difficult to get any continuity and a vision that we all understand and get behind. Because, with each person that is coming in, we have a different focus. … I feel that a clear vision of what the DCSTs should be doing has been hampered. It is not the problem of the individuals, but it's the problem of the fact that we have had changing leadership ... I think that influences the clarity of the vision that we have as a DCST. Each new leader has given us different priorities, and we have to chop and change… Having to suddenly change directions we have lost that focus a little bit. I think it will be much better once we employ a full-time permanent district manager, so we can then all get on the same page. So, I think our organization context is being disrupted by the lack of stability within our organization." – District 2 Participant 2

4.4.1.5. Support

DCST members reported that they sourced technical/clinical support mainly from the Provincial Specialists, but also from various other sources and institutions.

"… for obstetric problems, I find Dr [Provincial Specialist] very helpful and very approachable. For paediatric problems I can approach Dr [Provincial Specialist] about any issues. But also, from people within the district. And then the university … I am part of that department... and I do approach them if I have issues that I feel they can help me with" – District 2 Participant 1

However, the provincial support was changing, mainly for the paediatric dyads, since the provincial paediatric specialist had retired. One of the DCST members interviewed post-retirement of the provincial specialist stated the following.

"But at Provincial level I don't think there is that support and supervision for us now that was there when [Provincial Specialist] was around." – District 4 Participant 2

District Directors were reportedly providing mainly administrative support to the DCSTs and monitoring their performance through the Employee Performance Management and Development System (EPMDS). Some district directors were reported to be very supportive and always available to be consulted by the DCST members through various means of communication, including phone calls and WhatsApp messages. Two participants from the same district emphasized the commitment shown by their district director in trying to solve whatever challenges the DCST members could be reporting to her.

> *"... administratively, it is the district director [that supports us] even with the EPMDS, they sign them, looking at the indicators. ... For administrative support, if I need something, she [District Director] helps me with anything, perhaps if I need a computer and other things"* –District 2 Participant 3

> *But from the district itself, we have a very supportive district director. If you have that open door, we can go to her at any time, we can WhatsApp her, we can call her, whether it's hours or after hours, she's there."* District 4 Participant 1

> *"The District Director is very supportive. If you have an issue, she will listen. And if she can't solve it, she'll contact Mr. [Chief Director, District Health Services]. Our District Director is new, so she's been around for two and a half years. The previous District Director was okay. This District Director is growing in her job, so she has, yeah, she has learned a lot and she's far more supportive now that she knows more. So, it's getting better all the time."* – District 4 Participant 2

4.4.1.6. Reporting

There appeared not to be a standardized system of reporting and maintaining accountability across all the DCSTs. There were varying expectations about which members of the DCST should report. There were different requirements about what should be reported, to whom, in what format, and when. There were different types of reports required at district level compared to the provincial level. Reporting was considered to be inconsistent and incomplete. Commonly, no feedback was provided on the reporting.

Regarding which DCST members were required to report, one medical specialist reported that she was aware that some of her colleagues (nurse specialists) were required by the district

director to submit monthly reports, which she wasn't requested to submit. She was then committing to voluntarily submitting her own monthly reports to the district director since she felt that such reports are important. This then demonstrate inconsistencies in the DCST reporting requirements within the same district.

> *"But I know that [nurse specialist] colleagues have been doing monthly DCST reports, which I was not requested to do. But I am going to, I'm doing [it] from this quarter, because I think it's better to keep that kind of a report. So, [that] at the end of the quarter you know exactly what you've done. ... So, they [nurse specialist colleagues] have got a formal, DCST monthly report template. It's the one that's on the intranet. Yeah, but I haven't been requested to do that."* – District 4 Participant 2

Regarding what should be reported, to whom, in what format, and when, DCST members compile activity and site visit reports for the facilities they visit, and these are also submitted to the district level supervisor. Generally, there is no standardised format for these reports, and they are compiled *ad hoc*, as activities and site visits occur.

> *"So, every time that I go to a facility, you know, on a support visit. So, just to say, yeah, I went to [health facility] today, and I did ward rounds, etc. So, I do [that kind of] a report. It's not on a template or anything. It's just on a word document with a letterhead on it, and [I do it] just in point form. And generally, it's just on one page, not more than that."* – District 4 Participant 2

DCST members stated that the reports generated from facility visits are shared, not only with the District Directors, but also with the management at health facility level. Reporting may initially be in a form of verbal feedback, followed by a written report.

> *"…Of course, after having engaged in a task, there should be an output in the form of a report or an action plan. That is something that you present just to the District Director, maybe via an email, so that she can attest that you have attended to something, and you have engaged, you've facilitated a training, or you've done whatever work that needed to be done… The reporting [also] takes place at a local level, that is the facility or an institution, where the DCST member would engage directly with facility managers. There*

are sometimes verbal [reports], just to give quick feedback, which will then be followed by a written report ..." – District 2 Participant 4

There are DCST members who don't only submit *ad hoc* reports, but who do submit regular reports on a quarterly basis. *Ad hoc* reports are generally sent to a variety of stakeholders at different levels, including District Office level (to District Director), Sub-district level, facility level (to the CEO), and PHC level (PHC managers).

"I provide the District Director with the report on a quarterly basis. But if there's something urgent, I discuss it first and then [I write my] report. ... You are writing your reports for the facilities that you have supported, [documenting] some action plans to be done. Yes, you report it to the District Director, you report it to the CEO, you report to the PHC [Manager], Sub-district Managers, whatever [your] findings [are]. ... So, we work like that." – District 2 Participant 5

The paediatric dyads have to submit quarterly DCST Neonatal and Paediatric reports which reflect on different dimensions of the health care facility *e.g.* the infrastructure, human resource availability, availability and status of essential equipment and medication, and leadership in the facility. The report is compiled against a checklist and template. However, these reports are not always complete. Furthermore, the paediatric dyads must submit quarterly reports on the essential packages of care (EPOC), on dashboard templates. Both DCST Neonatal and Paediatric and the EPOC reports are submitted to the provincial level via the office of the District Director.

"Then on a quarterly basis, we have, uh, I'm talking about our paediatric dyad now, we submit our DCST neonatal and paediatric reports, which we submit via the District Director to province. And again, on a quarterly basis, we have our essential package of care [EPOC] reports, which I collate, and we submit to province via the District Director [as well]. So, those are the reports that we have at the moment." – District 4 Participant 1

DCST members indicated that monthly reports were compiled because reporting was requested through the performance management review process. DCSTs also spoke to how they used the performance management review process to guide their work.

"It's a DCST monthly report template. … At the last two EPMDS assessments [it was stressed] that they should … So, they've started filling in those." – District 4 Participant 2

"But I think the reporting is important … [Name of colleague] touched on the EPMDS which I also think is helpful... So, when I draw up the EPMDS I keep an eye on my targets and make sure that I achieve those as best as I can by the end of the year and according to the timeline." – District 2 Participant 1

Some DCST members reported only keeping brief reports of day-to-day activities, just for personal records, without routine submission of any reports to the District Directors.

"When I'm sent to a facility I might as well make my reports, and I keep those. I keep medical legal reports that arise as part of my district job, privately, I don't email them. But I just tell them [in the facility and in the district] what I've done, I don't send those [reports] out. Within my own job [my specialisation], we have monthly outreach reports that we keep, but I am not required to submit them, but I do when I'm asked" District 2 Participant 2

Some DCST members indicated that they only compiled activity reports for the purposes of claiming subsistence and travel allowances.

"So, if you were to write a report, it's basically more for claiming purposes. Those reports [showing] that you have gone to the facility, [and report on] what did you do and the outcomes. So, we are doing that. That is mainly to claim for your allowances to say: 'I was doing something.'" – District 3 Participant 3

Commonly, DCST members reported that no feedback was received in response to the submission of reports, contributing to discontinuation of reporting systems.

"We initially had to submit reports to [the] Maternal and Child Health [director at] head office on quarterly basis and it was very difficult to do that. The format was problematic, and we did not even get feedback. So, it was like a one-way street and that is how it has fallen by the way, unfortunately." District 2 Participant 1

The current nature of the Provincial Maternal Child and Women's Health (MCWH) meetings was reported to have contributed to the lack of DCST feedback and had also taken away the opportunities for the DCSTs to learn from each other's practices and experiences.

> *"If you send [the report] to the provincial level, you are not getting any feedback that much. And it's worse now. The provincial meeting, the way it's structured, the MCWH provincial meeting, it's mostly on the performance of the district. And then they bring in now the different managers that supports the MCWH. So, there's little time [for DCST reporting], because we used to have at least two days away for MCWH issues, whereby you will be able to look at your performance, and then you share best practices, and then benchmark from one another. So that has faded away..."* District 2 Participant 5

4.4.1.7. Physical environment

In KZN, most DCST office spaces are located in their respective District Offices. DCST members reported various advantages and disadvantages about their office spaces being located at the district office.

The advantages included being able to interact easily with people who were relevant to the nature of the DCST work. Also regarded as advantageous were DCST offices located in close proximity to each other, as it promoted DCST members meeting with each other, whether formally or informally.

> *"What is nice about [being in] the district office is that you get to [build] the relationship with the people that can help you; and you get to figure things so easily because all your go-to people are very close to you, and all the managers are here."* – District 3 Participant3

> *"When we moved into these new district offices, they tried to put all of us together. So, the DCST is in the same place [with] two maternal and child health managers. And we are doing well with them. So, we see each other in the corridor, we ask each other questions, and it is quite helpful to being geographical close."* – District 2 Participant 1

In one of the districts, three DCST members, two nurse specialist and one medical specialist, all female, shared one office due to the unavailability of office space for the allocation of individual offices. These three team members described themselves as 'the micro team', and they reported getting along quite well with each other. The other DCST members were located in two separate offices, each sharing with other district level programme coordinators. Being in a separate office space was said to facilitate the other one DCST member being involved in many other responsibilities allocated by the District Director, not related to the DCST role, frustrating the DCST teamwork.

> *"Within the team, there's a micro team. So, like, three of us share an office, and we function as a smaller team. Whereas the other two have different offices and do very little as part of the team. ... For those two DCST members, they're not part of 'the team'... But I don't think sharing an office has got anything to do with it. I think it's just, for example, the family physician has got his roles and responsibilities cut out, you know, by the district director. So, he does a whole lot of things that were not even in [part of] that DCST handbook. So, he's like a jack of all trades, you know. So, I don't think he's got much choice about what he does. And then you've got to remember that I'm always comparing the team to [the time] when [previous family physician] was here. And [previous family physician] was very much part of the team"* – District 4 Participant 2

One member of a different DCST whose office was based at a hospital, away from the rest of the team members based in the district office, seemed to like the environment he was located in stating that it was conducive for his work. However, the mere fact that he was now away from the other team members meant that he had less contact with them. So, he somehow feels that he is functioning more independently rather than being part of the team.

> *"I initially was against being located at the hospital because I was concerned I would get sucked into doing clinical work where I should be doing district work. But in fact, my move to a hospital setting from my office has been very positive. I enjoy being around the department, I am getting more contact with the [discipline/department] I'm supposed to be supervising, and I haven't infringed on my ability to do my district job to the degree that I thought. It has been a very positive experience for me, and I am not sure whether that is a model that should be applied to all district positions everywhere. Being closer to the action has helped me. You also get work from the [hospital] that you not expecting,*

but the work that I pick up is linked to my job when I'm in the hospital setting. When I was at the district office, I would find myself writing and doing things that were outside of my job description. So, in fact, I have been more effective in my primary job, but probably less effective within a team. I have ended up a little bit more insulate looking after my speciality, but probably less involved in a team aspect. So, if the model were to move to ask us to go into institutions, it would have been much better but insisting that our monthly meetings are still happening so that we can keep contact with each other, that's my feeling." – District 2 Participant 2

However, the above participant went on to suggest that close geographic location of DCSTs should be an important consideration going forward as it will create an opportunity for team members to meet more often.

"And I think considerations of the geography of the infrastructures are important. Teams work better when we are crossing each other's paths more often, and I think that would be enough for me, to know that we are meeting regularly and that we are crossing paths regularly. That would be a fundamental shift for us as a team" – District 2 Participant 2

Some DCST members felt that being located at the district office limited them in terms of exposure to clinical work. An opinion was expressed that some medical specialists who were previously part of the team decided to leave the DCST because of the district office environment which detached them from the clinical environment.

"Well, I think one thing I would like to say now is that I miss clinical work. I like the clinical side of my work, but I also like the developmental side of it. So, being in a district office is a little bit taking one away from the clinical side. And I think certainly the obstetrician that was with us, I think he missed being in a clinical setting, that's why he left. But I think there were other reasons as well, but it [lack of proximity to a clinical setting] can be an issue for recruitment and retention of DCST members." – District 2 Participant 1

One of the district directors felt that the DCSTs should perhaps be located at the sub-district level instead of being placed at the district office for ease of access to the clinical areas.

"I think they should be allocated or placed in the sub district not in the district office where they would be easily accessed just in case, they would be having some challenges in the clinical areas." – District Director 2

Regarding the nature of the office environment, the conditions vary per district. Some DCST members were completely satisfied with their office environment. They reported having well-furnished offices with adequate office space, adequate working tools and a boardroom for holding their team meetings.

"With us, we are well catered for. We've had every gadget that is needed. I don't share my office with anybody ... And then we even have a boardroom that was specially made for the DCSTs to sit [and have their meetings there]. But later on, it was taken and then it was used for something else. But at least you can get a boardroom wherever you want within the district if you are planning any meeting. So, I don't think there's any physical barrier that we had..." –District 2 Participant 5

"I have all the necessary working tools. Like, I am well resourced, and the office is well structured" – District 1 Participant 1

However, there were DCST members who felt that their office environment was really not conducive. They reported very small office spaces, which were also in bad condition and totally not suitable for use with poor ablution facilities. They also reported absence of administrative assistants, lack of meeting spaces, such as boardrooms or even a small meeting space, as well as lack of parking for their vehicles.

"It would have been great if we had one office space, which was big enough as well, because now we're kind of crammed into one office… It would have been [better] if we had a personal assistant... and if we had our own little boardroom where we could meet together, you know. Maybe the office space and the building and all of that will still be an issue, but it would have been great if we had like our own little space where we [could] come together. Every Monday morning, we meet in here at eight o'clock." – District 4 Participant 1

"It's a horrible, horrible office. It's like in a basement. It's shared space that's really small. There's often no water. There's no air conditioning. The toilets are filthy. There's no proper parking. You got to park on the road. It's just horrible. There's nothing enabling about it. It's very disabling." – District 4 Participant 2

"These are just finer things, like no parking because we need to park outside the streets. And another thing we are having is that this building does not have a backup power" – District 3 Participant 3

One of the district directors indicated that DCSTs are well supplied with working tools. However, when tools get lost it is a challenge to get them replaced.

"We provide them with the laptops and the 3Gs … However, as time goes on the advanced midwife lost her computer, but she has been having a cell phone, and we have not yet managed to replace that laptop." – District Director 2

4.4.2. Team boundaries

4.4.2.1. External integration

DCST members reported having an understanding that their teams cannot function in isolation. They indicated that their teams (DCSTs) work with and within the broader teams, which include district management, and hospital and clinic management teams.

"But there is also a team aspect that we work in a broader team. … our primary call is district management and there is hospital management and clinic management. I think the broader team aspect is essential, because as soon as you work in isolation it becomes less effective" – District 2 Participant 2

"I am really satisfied now; I'm really satisfied and confident that I am not alone. We are a team, with all the levels, including clinical programs and the doctors in the hospitals, we are together" – District 2 Participant 3

Some DCST members reported being part of the Executive Committee Meetings and the Senior Management Team at district office level. Some reported being included in the group WhatsApp

communication with the District Health Management Team (DHMT). These DCSTs reported being quite satisfied with how the district director ensures open communication within the district.

> *"The DCST in our district forms part of the executive exco, we are members of the executive committee. We sit in the executive committee meetings which happen every week, and we used to do that before COVID."* – District 2 Participant 4

> *"Look, with district directors, you know, I think the district directors' managerial skills are very different. [With] our current District Director, we have a senior management team meeting, which sits once a week, sometimes a couple of weeks will pass, and we don't have it. But it's a very good way of touching base so that everybody's on the same page. We even have a district health management team group chat now, where things are posted, everybody's on the same page. I think there's much more openness now and transparency in the running of the district than there was previously. And whatever's said at the top or provincial level, gets to the district director and gets cascaded, and it just improves everything because then everybody knows what's going on"* – District 4 Participant 2

In some of the districts DCST members reported health programme coordinators to be very supportive and cooperative with the DCSTs. They stated that even when visiting health facilities, they often go together with the programme coordinators and share visit reports with them so that everyone is updated.

> *"So, I think, yeah, we actually work quite closely with the [broader] teams. We haven't had a problem because, I think, MCWH, PMTCT, TB, Nutrition Coordinators, they are all very supportive and actually appreciate the work that we do because we work with them. You know, even when we go out to a facility, we go with them. We don't go alone. We go with pharmacy. We go with whichever of the managers. So, like, if they are not available, then we would go out on our own. And in our reports, obviously, we always include them, so that it keeps them up to date on what's happening."* – District 4 Participant 1

> *"As a DCST [member] I work hand in hand with MNCWH coordinator, PMTCT coordinator. So, there is a good integration because [I work] even with the community health care worker. I am working with the dietitian, and the health care promoter practitioner. There is an integration with all of them"* – District 1 Participant 1

The provincial specialist felt that district directors were somehow hindering the integration of DCSTs with health program coordinators.

> *"Just as they [the district directors] undermine the creation of teamwork by using different DCST members for non-DCST roles, I think the same thing happens. You know, they remove maternal and child health issues from ordinary programs and put them with the DCSTs. So, they undermine the development of integration."* – Provincial Specialist

4.4.2.2. Work team differentiation

None of the DCSTs were complete as per intended composition in the MTT Report. Most teams had not been complete from the very inception. The impact of completeness or incompleteness of the teams was experienced differently. Some DCST members reported that the absence of medical specialists within a DCST was a hindrance in terms of fulfilling certain tasks. Some nurse specialists felt that doctors working in health facilities were more likely to be cooperative with another doctor than with the nurse DCS.

> *"Yeah. I'm saying in terms of limitations, I think at times you do feel that as a midwife, there are some limitations. We cannot run away from the fact that for midwifery, you really need the [obstetric] consultant who is available, so that you can have a backup. I'm in a district with regional and tertiary [health] services. … We also oversee them, because if there are challenges that they are facing, we should be able to assist and be able to [influence] other [regional and tertiary health service] consultants. I think it will be better, much better, if it's [one consultant to] another consultant. Though I can't lie, because of the way they [regional and tertiary health service consultants] are working with me, they are recognizing my presence. We are working very well with the consultants that are around my district. But at times you wish that maybe we can be guided and be lead from the front. Because of the limitations of not having a [DCST obstetric] consultant, I think it does cause some problems at times"* – District 2 Participant 5

"Yeah. The paediatrician came along. Well, that took a huge stress out of my shoulders. Because remember, we've got regional [hospitals]. Doctors don't listen to nurses. So, it was like, especially when it came to the clinical management of children, you know, when it comes to looking at the health systems [that affect the clinical management of children] and how the medical managers [need to intervene], the paediatricians can get more involved with the implementation. That is where [the DCST paediatrician] came in" – District 4 Participant 1

"We need the paediatric [DCST] specialist or the family medicine DCST specialist because sometimes it is difficult to address some of the things that concern the doctors, because they just feel like they cannot be told by the nurse. So, if we had other specialists who can be a doctor, we would be able to address issues that relate to doctors in the sub-districts and hospitals. Maybe it was going to be easy and help us work better" – District 1 Participant 1

However, some DCST members felt that it was not necessary to have some of the specialists in the team, such as the paediatrician and obstetrician. One DCST member stated that these specialists aren't fully utilized in some of the districts, and they may be feeling 'trapped' in the DCST. Another member felt that DCST paediatrician and obstetrician would have no role to play in a district that mainly has PHC clinics, with no district hospitals or community health centres.

"Even if we are unable to recruit the other specialists, it is fine. The DCST can still work perfectly with the family physician and the three nurses. So, like I'm saying, even if we don't have a paediatrician, or we don't have an O&G specialist we still are perfect. … And you find that in other districts, the O&G and the paediatricians find themselves not fully utilized, they find themselves trapped in a DCST, where[as] they should be flying and spreading their wings at another level other than where they are, whereas a family physician is okay with that" – District 2 Participant 4

"I do not think there will ever be a paediatrician and an obstetrician [in this DCST] because if they were here, they would have to work in another district because there is not district hospital here [in this district], there is only a regional hospital. So, it's a bit of an abnormal district" – District 3 Participant 3

In a district where the obstetric and paediatric nurse specialists only visited the regional hospital, and the PHC nurse specialist visited the clinics, the district directors felt that there was no need for the anaesthetic, paediatric and obstetric specialists to be hired. She felt that they might also only be hospital-based in the regional hospital, and thus there would be no value-add for broader district health services.

> *"Let us say their roles [of the obstetric and paediatric nurse specialists] are redefined [not to just be hospital-based] to include the areas where we are having gaps in a district, I then think these four members [three nurse specialists with a family physician] are okay. If the anaesthetist is going to support the regional hospital, as well as the O&G [DCST specialist], then we are going to have a problem. Because what would they be supporting [in the regional hospital] since there is [already] an anaesthetist there. And it is also the same thing [for the obstetric specialist] because if he is going to support the regional hospital then it is not necessary."* – District Director 2

One of the DCSTs previously had an experience of an almost complete team, as only the anaesthetist was missing in the team. However, their DCS PHC nurse had recently retired and was not replaced. In her absence there was now an increased workload which was putting much pressure on the remaining team members, affecting the quality of work.

> *"We are short of our primary healthcare nurse at the moment. She retired at the end of 2022 and was never replaced. So, at the time [while she was here], we used to work very well as a team. You know, we were like a well-oiled machine, you know, where I would report to her regarding the primary healthcare issues as far as child health is concerned. And she would take it up. Or if there's something that she needed me to work with her, then we would go together to the primary healthcare facility. But at the moment I've got to take up all of those. So, like if there are challenges in primary healthcare, let's just say we are doing an audit and there were issues at primary healthcare, then that would mean that the paediatrician and I would have to go to primary healthcare [clinic] and, you know, address what are the gaps, what are the challenges, assist them wherever we can. Yeah, so not having just the one member from our team actually, you know, puts a lot of pressure on the rest of the team."* – District 4 Participant 1

"In terms of [the absence of the] PHC nurse [who retired close to 2 years ago], it does impact greatly on our functioning, on the quality of what the rest of us are offering, because we've sort of absorbed the duties of the PHC-DCST nurse. … So, especially, you know, when we audit cases or cases are presented at a CHILD PIP or a perinatal meeting, and we trace it [the case] all the way back to the community level and the PHC clinic. Then [Paediatric Nurse] has to sort it out now at PHC level. Whereas when there was a PHC nurse, and especially with the SAM [severe acute malnutrition] patients, it really helped." – District 4 Participant 2

Some teams were progressively being joined by new members, while other members were leaving, moving to other positions or because of retirement. Some teams with medical specialists reported a high turnover and attrition of these team members.

"There are [currently] three nurse members… At the beginning we did have a paediatrician, who lasted about a year and then he left. And we did have an obstetrician briefly; he spent about two years, and he also moved on." – District 2 Participant 1

"But around 2015, 2016, we had obstetrics and gynae [DCST specialist]. But there were quite a few obstetrics and gynae [DCST specialists], because I think they were at the age of retirement, and they had to leave. And so, we had two, and then now we've got the third one that joined us. She's a bit on the young side, so I'm sure she'll stay for some time, unless she needs to study and grow, you know." – Participant 1 District 4

4.4.3. Team development

Many dynamics pertaining to team development were reported by the DCST participants in this study, from the time the DCSTs were implemented in 2012. Over time, changes were reported in the expectations of the DCST roles and responsibilities. Changes also occurred in communication patterns; in coordination and interdependent collaboration processes; in social relationships, conflict management and team cohesion; and in team leadership.

4.4.3.1. DCST roles and responsibilities

DCST members reported having been required to perform tasks and duties that were not related to their job description. They stated that sometimes they were required to act in positions that

became vacant within the district office. Some DCST members reported finding themselves completely swamped with other district responsibilities and thus neglecting their core duties. DCSTs also reported that they were often expected to attend long meetings, sometimes taking the whole day, but which had no direct relevance to their core functions. According to the DCST members, this was a hindrance to team functioning of DCSTs and the DCST work itself getting 'diluted'.

> *"I would say the broader district office often assume we are there to do things we are not there to do. So, we are often given functions that are outside of the initial job description of the DCST. And I think that is the nature of the district office: things fall down, and you pull people out of their jobs to assist. So, I am not saying that we are dragged screaming and kicking to this, but I find our [DCST] functioning is getting diluted, and we often end up taking tasks that are outside of our job description"* – District 2 Participant 2

Expectations and instructions form the District Directors (at district office) were reported to be sometimes contrary to the expectations of the provincial specialists, who generally expected DCSTs to function according to the original plan. DCST members found themselves having to spend more days of the week attending meetings at the district office instead of spending only one day of the week for office work and office activities.

> *"So, at times I get instructed and feel compelled to do something that I am not supposed to do because my supervisor would have said so. ... The same goes with my working days. My office day is a Monday; hence I must be at the clinical area from Tuesday to Friday. So, the district management has ordered that I attend meetings on Wednesday and Fridays. So, I am now confused who to listen to and what to do because at the province I was told I am the clinical specialist and my office day is only Monday, and must spend the other days working on the clinical area, supporting the sub district"* – District 1 Participant 1

> *"You can't have an entire team of DCST members sitting in, for example, a district PTC [pharmacy and therapeutics committee] meeting, right? Or these nerve centre meetings. You can attend the nerve centre meeting sometimes for an entire day, and there won't be a single thing that's paediatric related. But then the district directors [in some districts] are adamant that the DCST members must be in attendance. There's lots of these*

meetings, right? That have no relevance to maternal and child health, but people are expected to attend." – District 4 Participant 2

DCST members also reported that, with the introduction of new national and provincial initiatives, such as the Ideal Clinic Realisation and Maintenance Programme, they were drawn away from their primary roles and responsibilities. District Directors concurred with this commonly held perspective.

"Honestly, I think with the implementation of the ideal clinic … [which is] the ideal for primary healthcare; and then with ideal hospital implementation as well, you know, there was a lot that took us away from each other. Our roles, yes, we were playing our roles, our responsibilities as DCSTs, but we also had some added responsibilities as well." – District 4 Participant 1

"And also, what I think compounded this matter or concern was the ideal clinic, because the PHC nurse within the DCST saw themselves as driving ideal clinic, nothing else but ideal clinic. So, that limited the scope. I remember there was a very clear handbook of the DCSTs, very clear that was developed during their inception." – District Director 1

However, a dissenting perspective was that the DCS PHC Nurse responsible for championing the ideal clinic implementation, and with the support of the wider DCST, was able to continue being effective as the DCST member. Furthermore, she was able to integrate components of the ideal clinic with her role as a DCST member.

"Remember, ideal clinic came in then. So, she was kind of championing and spearheading and getting ideal clinic off the ground for our district as well. So, there were quite a few of our perinatal meetings that she couldn't attend. And we would just give her feedback to say: 'You know what, this is what happened.' This is where we need to follow up on these cases. And she would like, especially with SAM [severe acute malnutrition] cases, [do] the household profiling. She made sure that, you know, the necessary referrals were made, and the report was sent back to the hospital before the child got discharged. Yeah. So, and even with the implementation of the child health dashboard, there was quite a few clashes when it came to ideal clinic. But the one thing that she said was that we needed, as a matter of urgency, to implement this oral

rehydration corner, registers, audits and the checklist. Let's start there as a starting point, because there is nothing in ideal clinic regarding that. And then from there, we went on to the road to health booklet because she says, in ideal clinic, there is just a small section about the road to health booklet." – District 4 Participant 1

The medical specialists reported feeling more vulnerable to having to respond to the urgency of responsibilities imposed by the Provincial Department of Health, exacerbated by being placed in the district office. DCST members stated that sometimes it could be almost impossible to focus on the main DCST responsibilities.

"I think it's a problem being a doctor in the district office. I think it's a very difficult catch 22 situation as to where should the DCSTs be placed. The district office is not a bad place because you get to oversee the whole district. But as soon as everything comes from the head office, and it smells of doctor information, it comes to me… And this is a real culture in the DOH and its really smashing the employees. As soon as anything is not done like yesterday, there is extreme criticism, [everything is done in an] extreme kind of a rush. I recall going to a meeting about medical male circumcision, and really that is not something I should be asked to go and do. But if I didn't go, I'd be smashed about it. … So, it is very difficult to get that 80% clinical governance. It's so much impossible to get that done." – District 2 Participant 1

"The family physician has got his roles and responsibilities cut out, you know, by the district director. So, he does a whole lot of things that were not even in that DCST handbook. So, he's like a jack of all trades, you know. So, I don't think he's got much choice about what he does." – District 4 Participant 2

However, there are DCST members who indicated that they are never forced to do tasks or duties that are outside their job description as DCSTs. For some, this was not always the case, but they had to persistently resist being pressured until things eventually improved.

"So, I would say for us as a team, we're functioning as DCSTs. We are not pulled away to other areas. I think over the years we've become assertive to say: 'No, this is not me as DCST. I can support you, but this is what you need to do.' And we go on that way. But as

DCSTs … we are functioning as DCSTs. Whatever we are supposed to do as DCSTs, we are doing it." – District 4 Participant 1

"They're always having these [nerve centre] meetings. If there's something that's paediatric related, and I'm doing it that day, then I'm not questioned. My itinerary gets signed anyway, because I think the district director knows that we know what we're best suited at doing … But that's come at a price, because the managers, the district director, and other senior managers were far from clear about the role of DCSTs. So, the price that we've paid is we've had lots of fights and disagreements about where we should be on a particular day." – District 4 Participant 2

Some DCST members indicated that they are not necessarily forced to do other tasks. However, they themselves sometimes feel the need to participate in what is being done at a particular time, even though it may be pulling them away from their core responsibilities. So, striking a balance sometimes can be a huge challenge.

"I don't want to lie. In our district, we are not forced to do something. You will excuse yourself if you've got something pressuring you. But at times, it's as if you are isolating yourself from other people. And at times, you feel that you ignore some of the areas that may also be of benefit to you, just because you are prioritizing your own work. … So, you end up being torn in between." – District 2 Participant 5

DCST members highlighted that the roles of family physicians within the DCST extended beyond what was originally stated for the DCSTs. They stated that it was impossible for a family physician to visit a PHC clinic and focus solely on maternal and child health issues and leave other aspects of the clinic functioning unattended. So, family physicians, by nature of their work therefore must look at the functioning of the entire PHC Clinic and management of all categories of patients.

"For the PHC [dyad] there is a problem because if you ask [Provincial Specialist], he will say DCST is about children and mothers and that is what it [the DCST initiative] was created for and that is what you are supposed to do. However, it is a problem for the PHC [dyad] because at PHC [level] work is integrated. You cannot get into the clinic and say: 'I'm only going to do this.' Because whatever you do [for] the clinic functioning,

actually improves the care for everybody, including mothers and children… You can't expect the family physician to restrict his work only to certain patients. So, I think that's what causes some tension and for the family physicians we've always said we going to care for all patients. So, it ends up being TB, HIV, psychiatric, and whatever else that comes to the doctor who is a DCST, which in most districts it's a family physician." – District 3 Participant 3

One DCST member (a family physician) stated that functions of family physicians may also vary from one district to another, depending on the local circumstances as well as the personalities of family physicians.

"But the family physicians have obviously been doing a lot of the obstetrics and the paediatric care as well, and I am comfortable with that. … What I'm finding very useful at the moment, for example, is going around all the clinics. I have started mainly with the busy clinics and giving presentations on the new hypertension disorders in pregnancy and then I spend the rest of the day in antenatal clinic. I'm going to [name of] Clinic once a month and [name of] Clinic once a month to do high risk clinics. … I think the family physicians have different functions in the different districts. ... So, there is quite a difference on what we do in different districts, perhaps with the need and our personalities." – District 2 Participant 1

4.4.3.2. Communication

Most DCST members expressed the need to have regular team meetings to facilitate better communication amongst themselves. However, none of the teams reported having been able to achieve this. Their communication had been mainly on an *ad hoc* and informal basis.

"There are no formal meetings. If there is something that we need to discuss, there is no scheduled meeting for the team. We just meet when there is a need where you would find that one would call and request a meeting. So, there is no formal meeting scheduled" – District 1 Participant 1

"We do not hold meetings, because the meetings that we kind of have are meetings that include the programmes. We never hold our meetings as DCST, looking at our own responsibilities." – District 1 Participant 2

Some team members expressed the desire for, and had previously made attempts to have regular team meetings. However, these attempts were unsuccessful; and this seemed to have caused them a lot of frustration.

> *"I've tried to get the team to meet just even once a month, on a first Friday of the month. Not even once has it happened that we get to all meet together, which is extremely frustrating. But we do agree on things, we discuss where there are issues, we consult each other and that is always done in a collegial way, and we make progress. But I do wish that we could meet at least once a month at a minimum."* – District 2 Participant 1

One DCST member felt that their *ad hoc* communication as DCST members somehow did demonstrate teamwork. She further stated that DCST members often report time constraints and are generally overwhelmed by workload such that there often isn't enough time for the whole team to convene on a regular basis. However, the need for meeting on a regular basis as a team was highlighted by most DCST members.

> *"To add on what has been said, I can say yes, although we don't meet, but we work as a team because there is communication. As he mentioned that if there is an issue in the clinic, we communicate, even if I do have the guidelines, I email them. It is very difficult, as he said, to meet and to sit together. We try, and I think it [not meeting] is because we are so overwhelmed and we couldn't really continue with the meeting, but we do communicate to each other. ... So, when we started, we tried holding meetings, but people had many excuses such as time constraints. Some would say they did not get an email [informing them of the meeting]. As he has mentioned, we really need to be together because there are other things that we need to discuss together. ...We need to have meetings so that we see how we are really working. And we really need support from each other. ... So, whether we communicate, or we meet together, or visit together in one of the hospitals whenever there is something to be dealt with, that would be great for me. We need each other. As [name of DCST member] has said, let's start with the meetings"* – District 2 Participant 3

"… I think it's important to have regular meetings where all of us are talking to each other… So, I think personally just giving time to at least once a month meeting. It doesn't have to be formal, just to report back on how we are doing." – District 2 Participant 2

4.4.3.3. Joint planning, coordination and interdependent collaboration

When DCSTs had just been implemented, some teams had two or three members, most of which were nurses. DCST members reported that at that time, within these small teams, there was good communication and collaboration, joint planning and mutual accountability. They had a lot in common, including that they had just completed the induction and orientation together.

"Okay, so in the beginning where there was just the three of us. We were just like quite a well-jogged team, because all three of us attended the orientation and we knew what was expected of us." – District 4 Participant 1

As they were working together to 'find their feet' in their new roles, DCST members reported joint planning and sharing their itineraries. They were also giving each other regular feedback on the outcome of their activities, discussion of their way forward and the division of responsibilities.

"We were both learning the loops of the trade and our itineraries were informed by both of us. We would sit down and discuss where we were going to go because we had to do a situational analysis of the district. Most of the activities we used to do together: the assessments of the clinics, the assessments of the hospitals, and support visits. So, when we go to the clinics, I would know my role as a PHC, and she will also do her ADM part, interacting with the midwives." – District 3 Participant 2

"So, we were sharing the itineraries, and we would have those meetings also, maybe in the morning to feedback to each other on how our week has been, what has been our challenges as we go, … and see what we need to channel ourselves in. … To say, we have looked at the data then we see this facility is not doing well and then we split each other, to say: 'Participant A will go to this facility, then B will go to that facility.' Even if they did not go to perinatal meeting, even if they did not go to maternal review, because I am the one who is going there. So, I will come back and give the report to the team, to say: 'We have a maternal meeting in this hospital, this what transpired, and these are the gaps

I have identified.' If it is pertaining to PHC, then she will have to go back to that clinic. Whoever amongst us will go back to that clinic and then we address the issues that were raised. So, sometimes she will not be able to go and attend the perinatal meeting. But when I come back, she knows exactly how many issues were pertaining PHC. However, with the family physician, we go together to perinatal meeting and maternal death review and with the perinatal meeting the paediatric [nurse] is attending as well." – District 3 Participant 1

"I remember when they started, they were planning together. I started with the 3 nurses at [name of district], they were planning together and on monthly basis they would report on what they have accomplished as a team" – District Director 1

However, in larger DCSTs and in DCSTs where new members were added and team dynamics changed, a lack of coordination and lack of interdependent collaboration within the teams was reported. Commonly it was reported that the teams almost never sat together for joint planning as a 'whole team'. As a result, there was a lot of duplication of activities.

"There is something that makes you to feel [that] we need to work together, at the end of the day. We may be working together, but in different directions. We are working for the same goal, but not in a well-coordinated way or fashion." – District 2 Participant 5

"Because we don't communicate amongst each other, we don't have an activity plan that's common for all of us, we are not even monitoring our activities. I will go sign my itinerary and give it to the supervisor who is the district director. I will get into a car, go to a certain district, work with the teams and the OMN [Operational Manager Nursing] there. I come back; I don't communicate. It happens from somebody else as well. He or she goes out there and you will hear in a meeting that Dr so and so went to a mobile team to do xyz. And you are a nurse. The doctor went and attended to the nurses' issues, but you were not put on board. …. And because you are not sharing with your co-DCST member, he or she will do what you have done 3 months down the line. Then you are confusing people on the ground, because people on the ground will say: 'So and so was here with us, we were doing xyz, and you are coming again.'" – District 2 Participant 4

DCST members reported that they do not have an integrated plan for the DCSTs.

"If you come into our district and say: 'Can I see the DCST integrated plan for this?' you will never find it. You will just find the DHP [District Health Plan] that we are working on. Okay DHP is there. And what about you as specialists? And are you looking at critical indicators?" – District 2 Participant 4

Some DCST members pointed out that their colleagues are more likely to communicate and collaborate better with other role players who are not part of the DCST than with members of their own team.

"So, then you push that on your own, of course working with other stakeholders except a DCST stake holder. Do you understand that you will work with all other people; you will work with the CEOs; you will work with the coordinators of the programme; you will work with PHC coordinators; operational nurse managers; and everyone else except the members of the DCST. … Then you find that as a DCST member, your colleague has gone a mile with other people, and you are left behind. … We don't share, we don't have an integrated plan, we can't even monitor our own progress, we depend on the district performance."" – District 2 Participant 4

"So, at times you will gel more with the other disciplines rather than us as the DCSTs. Because we were moving in different directions. Except when we are sitting down, maybe compiling a report or having to go and do something" – District 2 Participant 5

One of the district directors reported that she hadn't seen teamwork amongst DCST members in her district as DCST members were mainly working in silos.

"For me a team comprises of people that plan together, that work together, you know even if they do support [visits] to facilities [separately], they integrate everything they do. But, for me they are just working in silos or perhaps two or just working individually. So, for me I haven't seen that teamwork within them and it's what I'm looking for." – District Director 1

Some DCST members reported that collaboration in the team does happen in response to external pressure.

"Coordination does not happen as it should. It is only when there is a task at hand. Sometimes the [district] director would actually mention the names, so and so and so and so, can work on this. And then that's when you will come together. We work on that and then we play our parts after that. So, the coordination, the cohesion, problem solving is halfway done." – District 2 Participant 4

Looking at teamwork within dyads, communication, coordination and collaboration seemed to be happening within most dyads. Dyads reported good and respectful engagements and collaboration with each other, allowing each other leeway in terms of their day-to-day work plans. They had an understanding that teamwork does not necessarily mean that they had to be physically together or visiting one facility at the same time. They also reported practicing habits of acknowledging each other's abilities and skills and complementing each other well in areas of individual strengths and weaknesses. Open communication, frequently touching base, and consulting with each other was also reported.

"Right now, because there is my dyad [with] the family physician, we do plan. Even though we have other responsibilities, but we do sit down and plan our itineraries for the week, and we share it. Sometimes we will plan it together and sit or else if I am not around, he can send me his plan and then I will have a preview of it and maybe we will adjust there and there and then I will confirm our plan because we share our responsibilities." – District 3 Participant 2

"The dyad in terms of coordination, he coordinates our functions. There's cohesion, we send WhatsApp messages between ourselves. When there is a problem, we try to solve it together. He will indicate that I went to clinic A, and I found this, I have attended to this, and I would say to him as well: 'I went to facility B, can we work on this?'" - District 2 Participant 4

"And freedom to do things the way you want to. So, we don't [necessarily] do itineraries together. … We don't have to be at the same facility on the same day. So that's the kind of freedom I'm talking about… What else makes us work together? That we, we have shared skills, and we've got different skills, that complements each other. So, I have several shortcomings. And fortunately, [name of DCST member] is strong in those aspects. And

she may have some shortcomings. But I don't think she's got too many. I just think that, you know, maybe I'm, you can't call them shortcomings. Basically, it's because I'm a doctor, and she's a nurse. So that's where I fill in, you know, the added detail. So, for example, if there's a case audit, and she looks at it from the nurse perspective, and then she'll ask me to fill in what she has missed out from the doctor perspective. So, there's not really a shortcoming on her part." – District 4 Participant 2

DCST members reported mutual respect and valuing each other's opinions as a dyad.

"Okay, so with us, what's made things work as a team is that I think we give each other the freedom to express ourselves. Like, so sometimes I'll tell [name of DCST member]: 'Look, you're not going to like what I'm going to say, but this is it. Why don't we do it like this?' You know, and she'll either agree or disagree. And then I'll ask her: 'Well, why are you disagreeing?' And she'll explain it to me. And we have a constructive discussion. So, we give each other that leeway. Like, you know, we listen to each other. ... Then I think it's respect. So, I respect that she's a very good paediatric nurse, and she's a very good teacher. And she [also] respects me that, you know, I'm a good clinician And I'm a good teacher." – District 4 Participant 2

4.4.3.4. Social relationships, conflict management and team cohesion

Varying quality of social relationships were reported amongst DCSTs. There were teams reporting good relationships amongst their members and there were teams reporting very poor social relationships.

"Okay. So, as I said, originally, we were the paediatric nurse, advanced midwife and the family physician. So, our family physician was kind of an all-rounder. We were very blessed to have him. So, we worked well, ... we knew each other quite well. So yes, ... we had to work very hard, but we each understood what our responsibility was, and we always came together as a team at our team meetings. Well, in actual fact, in the beginning, we would even do our surveys together. We would go to a facility together as a team, you know, three of us together. So, we split up when we're in that facility and we'd each take a section and do those sections, come back, consolidate our report and write our reports." – District 4 Participant 1

"I think the team itself, there are very good relationship between everybody, I do not think there are limitations… There have not been really any conflicts yet from the team" – District 3 Participant 3

Some DCST members reported issues such as attitudes, personality clashes, lack of tolerance for each other, and sometimes power struggles between nurses and doctors, as some of the reasons for the conflicts within the teams. They indicated that there are instances where social relationships have deteriorated such that healthy communication between certain individual members in the team becomes almost impossible. Such situations cause fragmentation and become a barrier to teamwork. The following quotations illustrate such situations:

"You know you will find that probably one of us would not even come into the office to say hi, instead you'd just hear the footsteps, the voice and the laughter and think that the person would knock on the door just to say hi. We are not interacting in that fashion/way. Sometimes, you will be in the office, and you will only get to see a person when you go home at the parking lot or maybe you see a car that she's in or he's in ad that's it, until you meet in the boardroom." – District 2 Participant 4

"In terms of the [absence of] cohesion in the team, I think it's mainly due to personality clashes and personality issues. I don't want to use the word egos. But, yeah, look, there are personality clashes, and therefore teamwork really does suffer. … There's always power struggles between nurses and doctors. … And I just feel that, you know, if somebody thinks they're more important, fine, let them think that, as long as the work's getting done, and you can actually use that to your advantage, you know. So, overall, the team is, in terms of functioning, fragmented, definitely. Okay. And in terms of the dyads, one dyad is in complete breakdown. The other dyad, we have differences as well, … and I definitely have differences, but I'm always willing to listen, and, you know, it's a matter of give and take." – District 4 Participant 2

"I think it was upsetting when the first people started. One of the doctors suddenly got very aggressive in one of our meetings and it was terrible. So, it really shocked me, and really it was shocking to see someone behaving in such a bad way like that. I think we are struggling to work as a team." – District 2 Participant 1

DCSTs reported poor social relationships to be the result of poor communication and lack of involvement of the district directors in terms of managing conflicts arising amongst the DCST members.

> *"I think it's communication. Besides personalities, I really think its communication. Misunderstandings … just then spiral out of control to a point where they start disliking each other and they can't get on. And, I think with some individuals, it reaches a point where there's no turning back and they can't go back. … And that the senior managers, the district directors are not aware. I'm not saying they should micromanage, but if the district director is aware that there are issues in a team, they need to deal with those issues, you know, get these two individuals together and thrash it out and start again on page one. … But managers, I don't even want to say most, but okay, some managers tend to avoid conflict. Do you know what I'm saying? They just think that it's going to get better with time or if it's not, they don't realize that it actually affects outcomes."* – District 4 Participant 2

DCST members felt that team cohesion was supported when engaging in joint activities, such as training events and in district level mortality and morbidity meetings.

> *"I think we have seen the district really pull together, especially at the time of quarterly maternal and child health meetings, which are led by the team and [name of DCST member] usually leads the discussion, which she is very good at. She really doesn't pull her punches when something needs to be said, and she is excellent at that"* – District 2 Participant 1

> *"With the training, I do not do trainings alone, but I ask the other members from the team, and we do call each other if there is a need."* – District 2 Participant 3

> *"We all attend the perinatal review, but the chair will be the advanced midwife and then we use the administrator for minute taking during the meeting. So, for us is just to support. So, again with child mortality review, I become the chair, they support me."* – District 1 Participant 1

4.4.3.5. Team leadership

The absence of team leaders in the KZN DCSTs was highlighted by the provincial specialist, who pointed out that it is the major contributor to poor team functioning within the DCSTs. He further pointed out that the two main factors that facilitate teamwork is common purpose and leadership.

> *"And I think the major contributing factors [to poor team functioning] is lack of leaders. You know, in a district clinical specialist team, not the dyad, the team, there's no identified leader. None of our teams have actually sat down, worked out a system for leadership, whether it's rotating. And you know, you have this individual as the leader of the team representing the team to management structures for a three- or six-month period .... I think you end up with very poor inter-dyad collaboration and a lot of duplication within a dyad."* – Provincial Specialist

> *"In terms of facilitating teamwork, I think the first point is common purpose. The second is coordination and to facilitate coordination, you've got to have a leader. ... Some of you are more qualified than others, but that's irrelevant to this purpose. But the team needs to identify, as I said, a leader to coordinate its activities, facilitate the identification of a common purpose, to ensure everybody has defined roles and responsibilities; and then to monitor the actual implementation of those roles, responsibilities towards a common purpose."* – Provincial Specialist

At the time of the interview, all DCST members indicated that their DCSTs did not have a team leader. Everyone in the team was working independently as they saw fit without any person coordinating team activities and holding team members accountable. DCST members reported that they did not have the willingness, and courage, to take up the leadership role by themselves without anyone appointing them, for fear of being perceived as elevating themselves. In some teams the family physicians did try to take on the leadership role, without success.

> *"The problem is mainly because there is no team leader, because it is nobody's responsibility. So, who is going to ask me [why] I was not part of the meeting because [they] are not the boss or the supervisor here. Then someone needs [be] push[ed] to that role. However, if someone tries to take that role then it becomes trouble again."* – District 3 Participant 3

"... I think the model for the district clinical specialist team is that the family physician takes a nominal lead. That's what the ministerial handbook talks about. And that has been, I think that [name of family physician] has made significant efforts to meet every month" – District 2 Participant 2

One of the DCSTs initially had an arrangement of rotating the leadership role amongst themselves every six months. However, even that arrangement seemed to have worked for only a limited period of time.

"So, yeah, no, I think even before I started, there used to be a leader for six-month period. Every six months, it would be a new person. I think I was leader twice. But then it just fell apart. ... I don't know why it fell apart. It fell apart about two years ago. There's been no real leader. And that's where sometimes there's disharmony or acrimony because the responsible people or the OCD [obsessive compulsive disordered] people want to take leadership, and then it doesn't go down well with the others. And, you know, that makes it difficult." District 4 Participant 2

Longstanding unresolved conflicts between some members of the team within the DCST was blamed for the collapse of the 6 monthly team leadership arrangement mentioned in the above quote.

"But I think when these two particular members started not agreeing with each other, I think the whole leadership thing fell by the wayside. Nobody said, let's not have a leader. But, you know, every six months, people would say, who's our new leader? And somebody would say: 'Oh, it's your turn.' And that just stopped happening. It just died a death. And I think, and honestly, personally, my view is it was because of the conflict between the two members." – District 4 Participant 2

One of the DCST members, when asked to suggest ways of improving DCST team functioning, simply highlighted the importance of having a team leader within the DCST.

"I think [to improve team functioning] is to have someone who will be kind of responsible for the direction of the team, because if everybody is in charge nobody is in charge. I

think that is the main thing that I have seen. People need to respect and trust each other." – District 3 Participant 3

Another DCST member, whom in her team a leader was nominated on a rotational basis, stated that the role of the leader was to coordinate meetings, activities and reporting and to improve communication.

"There's hundred and one meetings in the district, right? And we decided that not everybody on the team needs to attend all these meetings, let one person go. And so, for example, if there was senior management team meeting, the leader would go for that six-month period. Or, if there was something that the DCST needed to know, the district director's office would let the leader know and the leader would communicate it. And if there were reports due, then the leader would hand in those reports, you know, get the info from everybody, collate it and hand it in. It was a very good concept." – District 4 Participant 2

4.4.4. Individual team member attributes

Some DCST members highlighted that by nature, DCSTs are made up of people who are specialists with a lot of experience and who are likely to have very strong views. This will most likely cause some level of conflict within the teams.

"It is a little bit of contradiction in terms of the DCST because we have been asked to work as teams. But then you recruit people with experience with strong opinions, strong personalities because of what they do, and those personalities don't always get along together, they have got strong views, and it is a bit of a challenge" – District 2 Participant 1

"It's strong personalities. And at times, I don't want to lie, you know that when you have the first-hand information, but he won't accept it very easily. He can even display tantrums in a meeting, in front of other people. So, you can't be undermined to such a level. I refuse. I mean, I refuse a lot, because I've been doing the job for so many years, then I end up refusing to be treated like that." – District 2 Participant 5

Some DCST members reported the phenomena of territorialism, competitiveness and seeking personal recognition as being detrimental to team functioning.

> *"Some of us do not want people to tap into their territories. … Some of my colleagues would want to shine over others. It's like an 'I' or 'me', not us. Some people will use 'I' instead of a 'we'. Some of us would want a concept to come from 'me' and: 'I cannot share because this is my concept; this is what I've come up with and everybody should know that I have come up with this; and actually, I have established this, so it goes. I think the barrier is that people want to work as individuals, they don't want to share their expertise, ideas and opinions with others"* – District 2 Participant 4

Furthermore, DCST members recognised that people have different personalities and characters, which may cause them to do certain things or behave in a particular way. Also, attitudes and previous experiences may have significant influence and be an important determinant of success in team functioning.

> "*And some of us are born not team players. You find that as much as one of us would be so wanting that we work together, but the rest of us would want to be in [our] corners."* – District 2 Participant 4

> *"I need to say upfront, I'm not a team player, okay? I'm far happier working alone. So, for me to talk about teamwork is a bit of hypocrisy, I think"* – Provincial Specialist

> *"You know; you're working with people who … grew up differently. You know, their characters, they come in with their own, you know, egos, self-esteem. Some people feel as if: 'I know too much, you can't tell me anything.' So, what do you do? Those are all barriers to working together as a team. … For me, I'm just a humble person. ... Even if you don't invite me to a meeting, but if there's something about children being discussed, I will be sitting there. And [you'll be] saying: 'But you are not invited.' And I'll be saying: 'No, but you're discussing children, children are my concern and I'm here.' So, for me, I'm that kind of a person. But somebody else, you know, somebody who comes in like: 'Oh, you did not invite me. So, I'm not coming.' You know that kind of thing."* – District 4 Participant 1

DCST members highlighted the importance of individuals continually developing themselves to continue being competent and effectively contribute to the team.

> *"Well, we are lifelong learners, hopefully, as health workers. And we do what we need to do. For example, I did the in-reach to keep up with my [skills]. We attend conferences, we do research, we do what is necessary to keep ourselves developing professionally"* – District 2 Participant 1

> *"But for us, as far as our development is concerned, we attend a lot of, how can I say, webinars or trainings that are offered by the Department [Knowledge Hub of the Provincial Department of Health] or even those that are offered from national [Department of Health]; that is how we develop ourselves.* – District 4 Participant 1

> *"And it's also self-development. So, I'm a firm believer in that. So, for example, for years we've been hashing out training, right? And it may have made some difference, but now I find that it's not making a difference because the clinicians that were involved in managing patients sub-optimally were actually trained. So, you've got to be able to be learning all the time and analysing things all the time and being critical about it, being objective about it, not saying that: 'No, but we've always done this.' … And I think therefore self-development of the DCST is very important. People shouldn't just be in a post and not reading, not educating themselves, you know, not studying. And my DCST team members have not seen it in the same way as me. I can't, I don't want to sound like a preacher, but I can't be preaching it all the time. So, you know, I think all have the same goals, but the views on getting there are different. And it's because some people have forged ahead in their insight into how to get there. And they listen to more webinars, they attend more updates, they're reading more."* – District 4 Participant 2

People who were experienced and resourceful were reported to add a lot of value to their teams. Once they left the team, they were reported to have left a gap and were clearly missed for their contribution.

> *"She had a lot of experience, I mean, over 40 years of experience in primary healthcare. So, she was like, this PHC encyclopaedia. Everything that we didn't know, we didn't understand about PHC, we knew we had like a resource to go to… She would always advise us. She was*

like a resource to us, honestly. I think as [name of district], we were very blessed. I'm not sure if she's going to be replaced, but it's been two years now since she retired. And there isn't a replacement for her" – District 4 Participant 1

4.5. Team effectiveness

4.5.1. Team performance

DCST members felt that their contribution had brought about improvements in a number of areas. Some of the improvements highlighted included consistency and quality of perinatal mortality meetings held by health facilities. Attendance and participation of PHC clinic staff at these meetings was also reported to have improved.

> *"I think for me in general if you look at what has changed since DCSTs came, it would be mainly the improvements in the outcomes for paediatrics and obstetrics. Previously, a perinatal meeting was something which happened sometimes, at times it did not happen. Some people did not have it every month. Also, the quality of perinatal meeting because as soon as somebody [from] outside sits there and says let us discuss this case, and then people put their minds into it. ... And also, getting the management involved also tends to speed up the process in terms of correcting some of the gaps. I think those are some of the things that are now functioning well in the institutions."* – District 3 Participant 3

> *"And, you know, just with our persistence and saying to the medical managers: 'You know, we are [here] to support you. We are to make sure that these meetings have positive outcomes for our mothers and our children.' You know, everybody started to come on board. You know, they started to now have these meetings monthly. ... So, at the moment, we even have our community health centres that do quarterly perinatal and child health forum meetings where they discuss all the data that's on the dashboard. They discuss the case presentation. ... Even the child deaths at primary health care are [now being] reported and the mother facility is the one that takes charge of the auditing that happens. So, yeah, we've come a long way from 2012, where it was just like, OK, a child death is happening. And [it is ok] as long as it's captured on Child PIP and our data is up to date."* – District 4 Participant 1

Some DCST members reported that they can't really measure their performance as a team since they do not have an integrated plan, and their activities are not coordinated.

"We don't have an integrated plan, we can't even monitor our own progress, we depend on the district performance … Yes, we are doing so much, and you will find that the district is performing, but you can't even tell if it's our doing or my doing, whether it's ours as a team or it's just me … In terms of team performance, as I have mentioned that as much as we are doing well in our respective specialties, we are not strong as a team and our performance is not measured as a DCST performance. It will be PHC specialist performance, advanced midwife who has conducted and done this and that, a paediatric nurse who has done this and that. We cannot say that as a team where we are coming from or how are we performing, we don't have a collective thing like that, and I don't think we are measured like that even with the people around us" – District 2 Participant 4

Also, in many districts DCST members are often deeply involved in the performance of tasks that are clearly outside of the DCST job description (as previously described). This will further pose a challenge if one is to assess effectiveness of DCSTs.

Some of the hindrances to performance were reported to relate to the limited authority of DCSTs, who were responsible only for providing supportive supervision, and were not able to implement any consequence management when facilities/clinicians did not follow their advice.

"We're restricted, because we have no jurisdiction over anything. We're merely like advisors. So, you facilitate, okay, so we're auditors, we're facilitators, we're trainers, we're teachers. But at the end, when it comes to actually insisting that something gets done, we have no leverage. For example, if there's a child that dies at a facility, and we tell them: 'Send this doctor for in-reach', and they don't send the doctor [for whatever reason] … then we are in no position to insist. And then the next month, the same thing happens. So, can you see that you can make all those efforts, but the conditions don't change for the patient?" – District 4 Participant 2

DCST members felt that their support was not adequately felt in health facilities, mainly because they had limited powers to intervene and bring about a change when identifying challenges. All they could do is to write reports and make recommendations. However, their recommendations are often not acted upon by those in authority mainly due to budget constraints.

"I think most people, they don't feel us, they don't feel the support. They were orientated well enough by [the national minister of health]. And I think they had many expectations from the DCSTs. They thought that maybe when we are in their meetings, we can move things for them. Like for instance, the HR issues. And whenever you are in their meetings, they say: 'This is our problem. We can't be able to deliver this and this and this, because here are our challenges.' What do we do with their challenges? Even if you can present them, you can write your challenges in your quarterly report, but they will end there. They can't be escalated to a high level. And you don't have a budget to do anything. ... We are just going there to listen and then we share our ideas and then we work with them, but there's nothing much that we have as DCSTs. ... You don't have powers as DCSTs" – District 2 Participant 5

District Directors described DCST members as individuals who are passionate and who go the extra mile in their work. However, one district director mainly appreciated the good performance of the PHC nurse specialist in the team and was concerned with the paediatric nurse and the advanced midwife who seemed to be supporting mainly the regional hospital, which has its own specialists. Thus, she then felt that the impact of the DCST was not necessarily felt in the district.

"They are passionate, and they go an extra mile to assist, and I can tell you that. There is no resistance… They are there, they are working very hard, all of them."- District Director 1

"With the PHC specialist, we see a lot of supportive supervision of PHC facilities, mentoring and coaching, and also training. And it goes as far as the school health teams because she supports also the school health teams. So, the concept of community-based model, she is actually championing that, and also ideal clinic realization and maintenance. She is championing that to the extent that we are able to see the outputs of her interventions. ... So, what maybe comes out with the midwife and the paediatric nurse is that sometimes they are supporting mainly the hospital and then we are seeing less of their intervention at PHC [level], which makes it difficult to measure their indicators or outputs. ... Hospitals already have their own specialists ... So, if you were to measure their [DCST] effectiveness in this course then you cannot because they are supporting the already enriched areas. I know they are supposed to be supporting district hospitals and

CHCs, but we do not have a district hospital, and our CHC is performing very low …" – District Director 2

According to the provincial specialist, the potential of DCSTs has never been fully realised because of incomplete teams.

> *"I think the lack of whole teams has really undermined the potential because the potential that the DCSTs brings to strengthening health services is incredible. But we've never had whole teams, you know, we've never had a team of seven district specialists, we've had four, we've had, I think at one stage we had six, but the majority of our teams have been three or four members, probably four, and that creates a degree of frustration because you've got this programme with such huge potential. But the potential is unrealized because we've never fully recruited the teams"* – Provincial Specialist

4.5.2. Team viability

In terms of team viability, some DCST members indicated that they are satisfied and willing to continue being part of the team. Some members, however, were very doubtful whether 'team functioning' will ever happen.

> *"I'm very willing to work with the team and I am very satisfied that we have got good people that are supportive. And I think in terms of the functioning of the team, I think we can do better, and we should try to do better. I think [name of DCST member] has been particularly good in trying to get this going and I think the rest of us could be a little bit better in supporting that, and I think we should prioritize it."* – District 2 Participant 2

> *"I'm happy [with] my position in the team, So, for me, there's no problem. I mean, even if our paediatrician should leave, and another one should come in. I have no problem orientating that, uh, the person that comes in and just working together as a team. … I think just because I am as developed as I am and because I've been functioning within this team for such a long period of time, where people come and go, for me, it's not a problem. … At the end of the day for me, when I'm on duty I'm able to perform. I'm able to work with any kind of an ego... It's about outcomes for me."* – District 4 Participant 1

Some DCST members reported having tried in vain to make the team 'function as a team'. In some of the districts DCST members reported having given up on the idea of 'teamwork' for DCSTs and they don't see any point of even being called 'a team'.

> *"The level of satisfaction is 5 out of 10, like 50% again; willingness is 0%. I would like to work on my own now because it [the team] has never worked. I wish I was just a specialist in my own field and report to the district director and just work as myself. … We can just continue working like we usually do because we are really not a team, we are just working as individuals as specialists. So, if there was a way to undo this, and work as individuals. I would gladly go through that route … I would be very glad if I could work as an individual. It is not that I am not a team player, by the way, because I have tried all these years, and it seems like you are nagging people that are not interested."* – District 2 Participant 4

In general, the DCST members do see the need of having functional DCSTs. This is particularly as the country is implementing NHI. The health system strengthening, including capacitation of NHI doctors, was pointed out as one of the areas in which, for example the PHC dyad, seemed to be playing a critical role. One participant brought this point across as indicated in the following quote.

> *"Because now, we are waiting for an NHI. Now, the family physician and the PHC [nurse specialist], I think it [the NHI] has accommodated them. Maybe also, it has made them to strengthen their knowledge and expertise in terms of maternal health and child health, so that they can be able to support, to mentor and coach the NHI doctors that are being placed in the primary health care settings."* – District 2 Participant 5

Affecting team viability were those DCST members who were said to be close to retirement and were reported to be less motivated.

> *"And what I also find challenging with some of my team members is that they're counting down to retirement. So, they just want to, you know, not take anything new, not take anything, not go on this exciting adventure on how to change outcomes, because it's downhill for them. And they say to you openly, it's downhill for me"* – District 4 Participant 2

Some DCST members felt that they are losing their clinical skills since they aren't involved that much in the day-to-day clinical examination and management of patients in their disciplines.

> *"Because, but I know that I still palpate. But since I've stopped delivering babies and doing all those things, to say: 'Now, this is how we can do the vacuum [extraction].' ... To be there when they're doing their vacuums and all those things. I think we can do much better if we can be placed in such a position of being around [in a clinical setting]. Whenever maybe they need some assistance, they can call you, if you are around. But now we are very far, sitting in the district office and working in a district setting."* – District 2 Participant 5

In terms of improving team viability and team functioning, some DCST members suggested that perhaps team development interventions could possibly assist. One of the district directors suggested that perhaps the roles of DCSTs should be re-defined. Another district director mentioned that the orientation of DCSTs must be broader and must involve every aspect of service delivery, not just maternal and child health.

> *"I think the team development [intervention] is one, and the only one, because from it, it will be able to unpack what need to happen amongst people who refer to themselves as a team. And all other [things] would fall under that ... [We] first need to acknowledge that we are a team. So, if we have not come to an understanding of that, then there would be nothing else. So, team development [intervention] would be crucial, because it will help to build a team, I hope that it will then assist us to improve our communication, our interaction, so that we are able to work together, integrate and talk more. ... I will gladly facilitate that."* – District 2 Participant 4

> *"[Team viability could be improved by] the redefining of their roles so that everyone knows what their expectations are and then they would be forming a very strong team which will improve working together, it will improve the performance indicators in the district."* – District Director 2

> *"Orientation now must be broader and involve every aspect of service delivery. ... I think going back to re-orientation of the cadre that we have so that we change focus. Because*

we understand that it was the first move [intervention] and as we implement you might have some shortcomings and identify it could be better when we do this and that. I think the re-orientation program will cover all the loopholes that we are seeing now. … Remember at first it was the national and the province appointing them, and later this was decentralized to the districts. So, if for instance, I'm sitting there, I appoint, then I must know I need to have a formal orientation and induction program for that person. This is what we should be looking at as a province" – District Director 1

According to the provincial specialist, attention has been given to enhancing the viability of the paediatric dyads, but not to enhancing the viability of the 'whole team'.

"Now I can only speak with respect to paediatrics here. I think the paediatric cohort of district specialists have developed together as a collective and the majority, there are one or two exceptions who just don't come up to scratch. The rest have all continued to develop on an ongoing basis. But that's the paediatric team, it's not [the whole] district team. So individual members of the DCSTs have shown ongoing development. Development as a team, the global DCSTs, I don't think there's been much development. And development of dyads, where they exist, is a bit of hit and miss. And the reason is, I mean, we've only got four dyads, and in one dyad, we've got a nurse who's off sick all the time. So, it's very difficult for her to develop. In the second dyad, [name of paediatric nurse specialist] has now retired, so we have a doctor but not a nurse. So, our dyads are slowly collapsing. You know, the only fully functional dyads we've got are [name of two paediatric dyads]. So, the development has been as individuals rather than as teams, but as a collective, the paediatric cohort I think has developed quite nicely on an ongoing basis."- Provincial Specialist

The provincial specialist suggested three ways to improve team viability for the DCSTs, and these include reorientation of the teams, promoting team functioning at district level, and the reinstatement of the provincial level, six monthly, 'whole' DCST team meetings.

"I think we need a reorientation. So, at a provincial level we need all DCSTs to come together for a couple of days for realignment, reorientation and upskilling. You know, revisiting things like leadership and communication, not just revisiting clinical governance. The second thing I think that is required is, at the district level, the creation of teams, an

active attempt to force the DCSTs to get together. I think they need to be given time to sit down together to look at the function of the DCS teams, to identify a leadership system and to appoint leaders along the lines of that leadership system, whether it's rotating or whatever they choose. And then thirdly, I think we need to recreate those six-monthly provincial meetings. Whether six monthly is enough, I don't know, but I think there's so many meetings, quarterly may be a problem. But we need six monthly face-to-face meetings, not virtual, face-to-face meetings, along the lines of the meetings we used to have; and face-to-face because the networking is so critical. And you can't do your networking online. So, I would push for those three things." – Provincial Specialist

4.6. Summary

Participants constructed teamwork as: 'Members of the team having a common goal, with each person in the team having their own roles and responsibilities contributing towards the common goal.' Cooperation and interdependent collaboration were identified as key features of teamwork. Joint planning, delegation of activities and mutual accountability were also identified as important components of teamwork within the DCSTs. Factors influencing team functioning were reported as ranging from contextual to intra-team and individual team member attributes. Contextual influences were reported as those pertaining to organisational culture, mission clarity, induction and orientation, supervision and autonomy, support, reporting, as well as the physical environment. DCST members reported good external integration, and incomplete teams were reported to have various impacts on team functioning across the different DCSTs. Factors affecting team development were those related to roles and responsibilities, interpersonal processes, intra-team leadership individual team member attributes. DCST members reported that their interventions have resulted in improvements with regards to systems in maternal and child health within their districts. DCST members mainly reported willingness to continue being part of their teams.

CHAPTER 5 – DISCUSSION

DCSTs were introduced as one of the four streams for PHC re-engineering strategy in SA [2, 6]. The main aim was to strengthen the District Health System in order to improve the quality of care for, and the health outcomes of, mothers, newborns and children [6]. They were introduced as a team-based approach, and the MTT report stated that DCST members were to function first as a "team" and second as individuals within their respective disciplines [6, 7]. Team functioning then became the focus of this study, with the objectives of exploring the understanding of the construct "teamwork" in relation to the DCST, exploring the influences on team functioning of DCSTs, and exploring team effectiveness within DCSTs.

Teamwork is viewed internationally as an important strategy in delivering quality healthcare services [20]. Team-based interventions have been increasingly desirable in the strengthening of health systems [57] and collaborative teamwork has become a pre-requisite for effective practice and quality care [36]. The use of teams can improve both the quantity and quality of health care services [58]. However, if collaborative teamwork is to succeed, it cannot just be left to clinicians to learn it through trial and error experiences [36]. Action is therefore needed at all levels, starting with politicians putting in place legislations that will ensure that collaborative teamwork becomes the foundation of health care practice [36]. Other countries such as United Kingdom and Canada provide good examples of how legislation that supports collaborative practice could facilitate the necessary change [36]. With the correct legislations, teamwork in healthcare organisations and among healthcare professionals can be promoted.

DCST members reflected an understanding of the construct of teamwork that aligns with what is described in the literature. Critical to teamwork is the concept of achieving a common goal, relying on joint planning, interdependent collaboration and cooperation [20, 22, 23].

Regarding the influences on teamwork, Sundstrom *et al.* [25] provided a useful analytical framework, which was adapted and used for exploring the influences on the teamwork of district clinical specialist teams in KwaZulu-Natal. The main domains that influence team functioning include organisational context, team boundaries and team development. In turn, these three have an impact on team effectiveness.

An organizational context with a prevailing vertical and hierarchical organisational culture poses a challenge to team functioning. This culture in the KZN Department of Health was highlighted by participants in this study. A similar organisational context was reported in the early days of the implementation of the District Health System in SA and was viewed as posing a challenge to integration at the point of service delivery [26, 59]. Gilson [27] states, with regards to the SA Health Sector: "People at every level, but particularly front line managers and providers, feel that they work in isolation from others at their own level, and face a top heavy and rigid management hierarchy that imposes multiple and often conflicting demands" [27]. The challenges that are currently being experienced by the DCSTs, caused by the selective support of dyads by provincial specialists, based on their individual disciplines, is therefore an inherent problem in our health system. This is a barrier to team functioning of DCSTs and may lead to fragmentation along the lines of individual disciplines. DCST members raised frustrations caused by the demands that are coming directly from the Provincial DOH and that require people at district office to drop everything and attend to those demands. McCoy and Engelbrecht [26] stated that success of the DHS requires that provincial and national departments of health accept a diminished role in terms of exerting control at local/ peripheral levels. Tendencies towards centralization of power and authority often require officials from district level to attend to strict instructions from the provincial or national office level [26]. This could have detrimental effects when it undermines the implementation of programs that have been deemed important by the district officials based on the health needs identified on the ground. Team functioning of DCSTs is also negatively affected as team members are sometimes forced to attend to such priorities that are determined by the 'higher office'.

The introduction of an innovation with the aim of transforming the health system is always likely to face a variety of challenges [60, 61]. This study raises questions as to the preparedness of the health system for the DCST innovation in the province of KZN. One of the areas of concern is that DCST members reported that, for a very long time, they found themselves working in an environment where people were displaying uncertainty about their role in the health system. This was particularly challenging when their immediate supervisors were also seemingly unclear regarding their role. This situation created conflicts between some DCST members and their district-level supervisors.

The issue of supervision in the context of teamwork may be a bit complex, particularly so in the context of DCSTs who have a dual reporting system, reporting both to the district directors, as

well as to provincial specialists. Griffin *et al.* found that the supervisor's support tends to diminish in the context of teamwork [62]. So, it is somehow expected that district directors would allow some level of autonomy to the DCST members. Indeed, most DCST members in this study reported that they are autonomous. This certainly bodes well for team functioning because for individuals to be able to collaborate well, they themselves need to have some level of autonomy. MacNaughton *et al.* [34] state that 'collaboration' and 'autonomy' may seem be opposed to each other, but they actually work in synergy in this context. In one situation where a DCST member reported being micromanaged by the supervisor, one of the things that was quite apparent was that she was just unable to make and carry out any decisions independently on her own. Such a condition would clearly cripple the ability to freely commit, collaborate and make a meaningful contribution to the team. This demonstrates the necessary synergy between autonomy and collaboration. However, there are situations where autonomy may also prove to be a challenge. People who are not self-driven and passionate about their work may find opportunities to do much less work. This could particularly occur in cases where 'team functioning' is lacking and individuals decide to function in silos other than being part of the team. This scenario was also evident in this study where DCST members reported absence of communication and collaboration within their teams.

The training of new appointees to any job is necessary to ensure that they are clear and confident in their new roles and responsibilities. Orientation of the DCST members that were appointed at the inception of the DCST innovation certainly played a critical role in capacitating them for their various roles, including team functioning. However, the non-orientation of the newly recruited DCST members was, in a way, a set-up for failure. The deficiency was clearly highlighted in this study and in previous studies that were looking at DCST roles and effectiveness [37].

In terms of work team differentiation, variation in terms of team composition across the different DCSTs brought about certain dynamics. The impact was felt differently in different teams. In teams where members retired or left for other reasons, they were not replaced, resulting in a shifting of responsibilities, with remaining members having to take over some of their work. Shifting of responsibilities can also occur as part of adaptation where a new team member has more knowledge in a certain area [34]. However, it was intriguing that some DCST members felt that it wasn't necessary to have certain specialists in their teams. This is an area requiring further exploration.

With regard to external integration, the complexity of 'teams within teams' was highlighted in this study as DCSTs are working within a broader organization. Oboirien *et al.* highlighted that DCSTs have strong ties to every department and level of the district health system, encouraging cooperation, exercising leadership, and developing capacity through mentoring [8, 17].

Understanding one's own roles and responsibilities within a team is important for team functioning. Also, acknowledging and respecting the expertise and contribution of other professionals within the team is equally important [32]. For effective collaboration, the thinking of team members must be aligned to the core competencies of all professionals who are part of the team [32]. In this study, DCST members who understood and practiced this principle were able to collaborate and work well with their team members and were able to maintain team functioning. The KZN CHAI study [37] revealed that DCST members were clear about their roles and responsibilities. However, district directors were not entirely clear about the roles of DCSTs. The current study also showed similar findings. The 'scope creep' was also reported by the CHAI study, where the role of DCSTs was extending beyond their job description [37]. DCST members in this study also raised similar concerns and this was a barrier to team functioning.

Health professionals from different disciplines that are part of the same team and with a common goal ought to have an integrated plan directed at achieving the common goal. This will then cause them to use their diverse expertise, with each person tackling the task using their discipline-specific skills. This requires coordination and interdependent collaboration. Suter *et al.* [32] highlighted that when healthcare providers are focused on the task at hand, such as the patient's needs, it reduces professional boundaries and role conflicts. The patient-centred vision and realization that individual disciplines are not able to fully cater for the patient's needs becomes a motivator for collaboration [32]. An important point raised by DCST members in this study was that one of the things that made them work together as a team was when the district director gave them a task that they all needed to work on. The importance of getting the task completed caused them to forget their differences and focus on what needed to be done. The essential elements of teamwork such as communication, coordination and interdependent collaboration were now brought on by the pressure to complete the task at hand. Suter *et al.* stated that one objective of communication is to employ effective negotiating skills to overcome the differences in perspectives brought about by various professional cultures or other factors such as personality differences [32]. Communication is therefore an important part of team functioning. However, in this study consistent communication was reported to be lacking in the DCSTs because none of the

participants reported that regular team meetings were being held. Perhaps this deficiency exists mainly because of lack of intra-team leadership within the DCSTs. MacNaughton *et al.* [34] stated that a team leader can facilitate team interactions through formal meetings and also make these meetings a platform for strengthening collaboration within the team.

In this study, individual DCST members who had a positive attitude and were willing to collaborate with other team members seemed to have better working relationships and were able to function as a team. Suter *et al.* stated that positive attitude and willingness to collaborate are antecedent for effective collaboration [32]. The diversity of individuals who are part of a team calls for tolerance as each member adjusts to the different personalities within the team [36]. Professional knowledge and skills of individual members in the team have been found to play a role in the intensity of collaboration between individuals within a team [34]. In this study, individuals within the team who had more experience and knowledge were seen to be very resourceful for the team and were frequently consulted. This therefore highlights the importance of self-development as an individual and ensuring that each one is well updated in terms of professional knowledge and skills.

Team effectiveness of the DCSTs remains a critical goal for improved health outcomes for maternal and child health. DCST members reported a positive impact on systems related to maternal and child health. Previous research has also shown that the work of DCSTs has had a positive impact for maternal and child health and for the health system [12, 38]. The CHAI study reported improvements in maternal and child indicators in the Province of KZN, but could not necessarily link this to the effectiveness of DCSTs because of the many other interventions that are currently in place that may also be playing a role [37]. Other studies have also highlighted that, given the complexities of teamwork, it is often difficult to measure team effectiveness [58]. The CHAI study highlighted the concept of 'power dynamics', where it is noted that DCSTs do not have the authority to ensure that their recommendations are being implemented by clinicians at facility level. The current study also showed similar findings. Despite the poor team functioning reported by many DCST members, most members remain willing to be part of their teams. There were however a number of areas that needed interventions in order for teams to be viable. This also includes ensuring that DCST members remain clinically relevant. Some of them mentioned having lost their clinical skills due to being away from the clinical setting and thus are unable to constantly sharpen their discipline-specific skills.

Study Limitations and suggestions for further research

Data saturation was not reached in this study. Redundancy may indicate that code saturation was reached. However, meaning saturation may have been compromised by not being able to recruit the full sample originally intended. This study intended to involve a total of six districts (in order to achieve maximum variability), but only four districts were finally included in the study. In one of the districts with a DCST comprising 6 members only two members (a dyad) were included in the study. The other DCST members who were not interviewed in that district could possibly provide additional information, which may have brought a different perspective. DCSTs with fewer team members tended to report positive results. However, these DCSTs mainly comprised nurse specialists and perhaps a family physician. There was only one DCST that also comprised a paediatrician and obstetrician. Good team functioning in this DCST was reported within a dyad, but not within the entire team. Therefore, a full exploration of team dynamics is required in teams that are fully constituted.

The influence of the broader district and provincial contexts were not fully explored. DCSTs operate within a variety of district contexts, including rural/remotely located districts versus urban/centrally located districts. Differing location, the varying number and types of health facilities, the overall human and material resourcing, and overall district leadership and governance could influence DCST teamwork dynamics.

Lastly, with regard to the small group interviews conducted (one with three DCST members and the other with two), it is possible that some individual members may have not fully expressed their personal views regarding some sensitive aspects of their team functioning. However, the effects of this would be minimal due to most data being generated from individual interviews.

Conclusion

Many of the challenges that have been brought forth in this study in terms of achieving and sustaining effective team functioning of DCSTs are evidently contextual. Challenges associated with inefficient decentralization in the health sector in SA have been reported in many studies and they continue to pose challenges in the effectiveness of the DHS in the country [1, 26, 27, 63]. Disagreements at the level of Provincial Department of Health (i.e. between the provincial specialists and the Chief Director for District Health Services) clearly demonstrates differing expectations as far the functioning of DCSTs is concerned. Filtering down to various districts, district directors had their own opinion on how DCSTs ought to work, and this was sometimes in

conflict with what DCSTs themselves understood what their core mandate ought to be. These issues highlight challenges that could be encountered in a top-down implementation of health innovations and question the thoroughness of the consultative process prior to the implementation of the DCST innovation. Full exploration and consideration of the variety of local contexts at various provinces and districts within the country, both urban and rural, was of fundamental importance even before the actual implementation of the DCSTs. The nature of DCSTs, being multi-disciplinary and inherently hierarchical requires firm leadership, clear goals and guidance for the team to ensure egalitarianism and harmony. Despite what did or did not happen in the past, the role of DCSTs remain important in the country's health sector, especially with the current implementation of NHI. So, striving to achieve team functioning of the DCSTs remains an important goal.

Recommendations

Strengthening district-level supervision of DCSTs and intra-team leadership: District level supervision of DCSTs should be strengthened, and DCST members should account, not only at individual level, but also at a team level. In each district, the team (DCST) must be afforded a platform to report on its integrated plan, activities and achievements 'as a team' on a regular basis. The above reporting should be facilitated by the intra-team leader and the report itself must clearly demonstrate various aspects of teamwork within the DCST. There must be a standardized system of establishing and maintaining intra-team leadership within the DCSTs.

Implementation of teamwork strengthening interventions: Both the National and Provincial Departments of Health must make concerted effort to strengthen teamwork in the DCSTs. The starting point could be the re-orientation of the current members of DCSTs, particularly capacitating them with regards to teamwork. There must also be a system of continually and fully orientating members who are being newly appointed to the teams, especially capacitating them on the teamwork aspect of DCST functioning. Systems must be put in place to ensure that DCST members do not lose their clinical competencies the longer they remain in the teams. Team building and team development interventions should be implemented to improve performance, interpersonal relationships and cohesion within the teams, with a particular focus to promoting egalitarianism as opposed to the hierarchical approach.

Establishing a platform for regular feedback, monitoring and evaluation of the DCST innovation: It is recommended that the National and Provincial Departments of Health establish

a system and platform for feedback, monitoring and evaluation of the work of DCSTs. This could be by means of regular (quarterly or six-monthly) provincial (or national) DCST meetings or workshops. All district directors must be fully part of these workshops so that they can make their input and also be well updated with all developments regarding DCSTs. During such meetings/workshops the following activities could be included:

- DCSTs could do presentations on their performance in various areas and there could be sharing of good practices by different DCSTs across the country or provinces. DCSTs could particularly share on teamwork practices within their respective teams.
- Department of Health to give feedback in terms of the overall progress that is being achieved through the work of DCSTs and also discuss challenges that are being encountered in the functioning of the DCST innovation. Necessary engagements could then be held on proposed interventions for the challenges identified.
- Discuss any major changes or new innovations that affect the functioning of DCSTs and districts that the Department of Health may be planning to introduce. This is considering the fact that implementation of the DCST innovation had a very clear focus in terms of strengthening the health system through improving maternal and child health outcomes. So, any deviation or amendment to that initial purpose must be properly and clearly communicated to avoid conflicts and disrupting team functioning amongst DCSTs.

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APPENDICES

Appendix A1: Initial BREC Approval

UNIVERSITY OF
KWAZULU-NATAL
INYUVESI
YAKWAZULU-NATALI

20 January 2020

Dr Nhlanhla Marco Gumede (963066188)
School of Nursing & Public Health
Howard College

Dear Dr Nhlanhla Marco Gumede

Protocol reference number: BREC/00000099/2019
Project title: Exploring the conditions influencing team functioning of the District Clinical Specialist Teams in KwaZulu-Natal in 2019/2020
Degree: Masters of Public Health

EXPEDITED APPLICATION: APPROVAL LETTER

A sub-committee of the Biomedical Research Ethics Committee has considered and noted your application.

The conditions have been met and the study is given **full ethics approval** and may begin as from 20 January 2020. **Please ensure that outstanding site permissions are obtained and forwarded to BREC for approval before commencing research at a site.**

This approval is valid for one year from **20 January 2020.** To ensure uninterrupted approval of this study beyond the approval expiry date, an application for recertification must be submitted to BREC on the appropriate BREC form 2-3 months before the expiry date.

Any amendments to this study, unless urgently required to ensure safety of participants, must be approved by BREC prior to implementation.

Your acceptance of this approval denotes your compliance with South African National Research Ethics Guidelines (2015), South African National Good Clinical Practice Guidelines (2006) (if applicable) and with UKZN BREC ethics requirements as contained in the UKZN BREC Terms of Reference and Standard Operating Procedures, all available at http://research.ukzn.ac.za/Research-Ethics/Biomedical-Research-Ethics.aspx.

BREC is registered with the South African National Health Research Ethics Council (REC-290408-009). BREC has US Office for Human Research Protections (OHRP) Federal-wide Assurance (FWA 678).

The sub-committee's decision will be noted by a full Committee at its next meeting taking place on **11 February 2020.**

[redacted]

Appendix A2: BREC Amendment Approval

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

07 June 2021

Dr Nhlanhla Marco Gumede (963066188)
School of Nursing & Public Health
Howard College

Dear Dr Gumede

Protocol reference number: BREC/00000099/2019
Project title: Exploring the conditions influencing team functioning of the District Clinical Specialist Teams in KwaZulu-Natal in 2019/2020
Degree: Masters of Public Health

We wish to advise you that your response to BREC letter dated 03 June 2021 has been **noted** by a subcommittee of the Biomedical Research Ethics Committee. Your application for amendments listed below received on 11 May 2021 for the above study has now been **approved** by a subcommittee of the Biomedical Research Ethics Committee.

Amendments approved:

1. Amendment requested: change to "2021/2022"
2. Focus group discussions (FGDs) and individual interviews will be conducted either onsite or virtually (via zoom or similar online platforms)
3. Data will be transcribed by one or two transcribers. PI will then check the transcripts, double-checking with the voice recorded data.
4. FGDs may be conducted via a conference call.
5. Revised timelines.
6. Internet Data costs included.

The committee will be advised of the above at its next meeting to be held on 13 July 2021.

[redacted]

Ms A Marimuthu
(for) Prof D Wassenaar
Chair: Biomedical Research Ethics Committee

Appendix B1: KZN DOH Gatekeeper Permission

health
Department:
Health
PROVINCE OF KWAZULU-NATAL

Physical Address: 330 Langalibalele Street, Pietermaritzburg
Postal Address: Private Bag X9051
Tel: 033 395 2805/ 3189/ 3123 Fax: 033 394 3782
Email:
www.kznhealth.gov.za

DIRECTORATE:
Health Research & Knowledge Management

Ref: KZ_201910_001

Dear Dr N M Gumede
(UKZN)

Subject: Approval of a Research Proposal:

1. The research proposal titled '**Exploring the conditions influencing team functioning of the District Clinical Specialist Teams in KwaZulu-Natal in 2019/2020**' was reviewed by the KwaZulu-Natal Department of Health (KZN-DoH).

   The proposal is hereby **approved** for research to be undertaken at Amajuba, iLembe, uMgungundlovu, uMzinyathi, Ugu and King Cetshwayo districts

2. You are requested to take note of the following:

   a. *Kindly liaise with the facility manager BEFORE your research begins in order to ensure that conditions in the facility are conducive to the conduct of your research. These include, but are not limited to, an assurance that the numbers of patients attending the facility are sufficient to support your sample size requirements, and that the space and physical infrastructure of the facility can accommodate the research team and any additional equipment required for the research.*
   b. *Please ensure that you provide your letter of ethics re-certification to this unit, when the current approval expires.*
   c. *Provide an interim progress report and final report (electronic and hard copies) when your research is complete.*

3. Your final report must be posted to **HEALTH RESEARCH AND KNOWLEDGE MANAGEMENT, 10-102, PRIVATE BAG X9051, PIETERMARITZBURG, 3200** and e-mail an electronic copy to hrkm@kznhealth.gov.za

For any additional information please contact Ms G Khumalo on 033-395 3189.

Yours Sincerely

[redacted]

Dr E Lutge

Chairperson, Health Research Committee

Date: 21/10/19

Appendix B2: District 1 Gatekeeper Permission

KWAZULU-NATAL PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

DIRECTORATE:

Private Bag X2052, Dundee, 3000
34 Wilson Street, Dundee, 300
Tel: 034 299 9100 Fax: 034 212 4800 Email: charlotte.vanross@kznhealth.gov.za
Umzinyathi Health District Office

Enquiries: Mrs. P.C. Mbatha
Date: 09th June 2021

To: Dr. Nhlanhla M. Gumede
Ethekweni DCST Paeds &
Student at the School of Nursing and Public Health, University of KwaZulu -Natal

RE: PERMISSION TO CONDUCT RESEARCH AT UMZINYATHI DISTRICT.

This letter serves to confirm that your application to conduct the research study titled "*Exploring the conditions influencing team functioning of District Clinical Specialist Teams in KZN in 2019/2020.*"

Please also note the following:

1. This research project should only commence after final approval by the KwaZulu- Natal Health Research and Knowledge Unit, and full ethical approval has been granted,
2. That you adhere to all the policies, protocols and guidelines of the Department of Health with regards to this research.
3. All research activities must be conducted in a manner that does not interrupt clinical care at the health care facility,
4. Ensure that this office is informed before you commence your research,
5. The District Office / Facility will not provide any resources for this research
6. You will be expected to provide feedback on your findings to the District Office / Facility.

Yours sincerely

[redacted]

Appendix B3: District 2 Gatekeeper Permission

KWAZULU-NATAL PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

DIRECTORATE:
DISTRICT DIRECTOR

Private Bag X9124, PIETERMARITZBURG, 3200
Physical Address :171Hoosan Haffejee, Pietermaritzburg 3219
Tel: 033 8971002 Fax: 033 8971078 E-mail: Thule.sunene@kznhealth.gov.za

Enquiries: Nokuthula Nzimande
09 JUNE 2021

TO: **DR NHLANHLA M GUMEDE**
ETHEKWNINI DCST: PAEDIATRICIAN & STUDENT AT THE SCHOOL OF NUSDING AND PUBLIC HEALTH, UNIVERSITY OF KWAZULU-NATAL

Dear Dr Gumede

RE: EXPLORING THE CONDITIONS INFLUENCING TEAM FUNCTIONING OF THE DISTRICT CLINICAL SPECIALIST TEAMS IN KWAZULU-NATAL IN 2021/2022

I have pleasure in informing you that permission has been granted to you by UMgungundlovu Health District to conduct research on ***" Exploring the conditions influencing team functioning of the District Clinical Specialist Teams in KwaZulu-Natal in 2021/2022"***

PLEASE NOTE THE FOLLOWING

1. Please ensure that you adhere to all policies, procedures, protocols and guidelines of the Department of Health with regards to this research.
2. This research will only commence once this office has received the full ethics approval has been received and the confirmation from the Provincial Health Research Committee in the KZN Department.
3. Please ensure that this office is informed before you commence your research.
4. The District Office will not provide any resources for this research.
5. You will be expected to provide feedback on your findings to the District Office.

Thank you,

[redacted]

DR M.T ZULU
DISTRICT DIRECTOR:
UMGUNGUNDLOVU HEALTH DISTRICT

Appendix B4: District 3 Gatekeeper Permission

health
Department:
Health
PROVINCE OF KWAZULU-NATAL

38 Voortrekker street
Newcastle
Tel: 0343287002 Fax: 0343123123 Email: abdus.cassim@kznhealth.gov.za
www.kznhealth.gov.za

DIRECTORATE:
AMAJUBA DISTRICT OFFICE

MEMORANDUM

Date: 23/03/2020	File No: 12/1
TO: DR. NHLANHLA M GUMEDE SCHOOL OF HEALTH SCIENCE UNIVERSITY OF KWAZULU-NATAL	FROM: MRS. C. M. KHUMALO ACTING : DIRECTOR DISTRICT
Subject: APPROVAL TO CONDUCT STUDY	

Dear Dr. Nhlanhla M Gumede

I have pleasure in informing you that permission has been granted to you by the Amajuba District Office to conduct research on "Exploring the conditions influencing team functioning of the District Clinical Specialist Teams in KwaZulu-Natal in 2019/2020"

Please note the following:

1. Please ensure that you adhere to all policies, procedures, protocols and guidelines of the Department of Health with regards to this research.

2. Please ensure that this office is informed before you commence your research.

3. The District Office will not provide any resources for this research.

4. You will be expected to provide comprehensive feedback on your findings to the District Office upon completion of the study.

5. The study is subject to full ethics approval and the researcher is advised to provide the relevant documentation when data collection commences.

Thank you

[redacted]
MRS.C.M. KHUMALO
ACTING: DIRECTOR DISTRICT
AMAJUBA DISTRICT OFFICE

Fighting Disease, Fighting Poverty, Giving Hope

Appendix B5: District 4 Gatekeeper Permission

KWAZULU-NATAL PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

DIRECTORATE:
ACTING DISTRICT DIRECTOR

Physical Address: 41 Bisset Street, Port Shepstone, 42400
Postal Address: P/Bag X 735,Port Shepstone,4240
Tel: 093 6883000 Fax: 0396826296 Email Address: Siphokazi.Mabaso@kznhealth.gov.za
Www.kznhealth.gov.za

Enquiries: Mrs S Mabaso
Date: 25 June 2021

To:
Dr Gumede

PERMISSION TO CONDUCT RESEARCH ON "EXPLORING THE CONDITIONS INFLUENCING TEAM FUNCTIONING OF DISTRICT CLINICAL SPECIALIST TEAMI IN KZN IN 2019/2020"

Dear Dr Gumede

I have the pleasure in informing you that permission has been granted to you by Ugu District Office to conduct research on "Exploring the Conditions influencing team functioning of District Clinical Specialist Team in KZN in 2019/2020".

Please note the following:

a) Please ensure that you adhere to all the policies, procedures, protocols and guidelines of the Department of Health.

b) All research conducted in Ugu District must comply with government regulations relating to COVID-19.These include but are not limited to: regulations concerning the social distancing, the wearing of personal protective equipment and limitations on meetings and social gatherings.

c) Please ensure that this office is informed before you commence with your research.

d) The District Office /Facility will not provide any resources for this research.

e) You will be expected to provide feedback on your findings to the District Office.

Thank you

[redacted]

Mrs S Mabaso
Acting District Director
Ugu District Office

Appendix C1: Participant Information Sheet

Study title: Exploring the conditions influencing team functioning of the District Clinical Specialist Teams in KwaZulu-Natal

Dear Sir/ Madam

I would like to invite you to take part in the above-mentioned research study. Before you decide, in order to understand why the study is being done and what it would involve you, please take time to read the following information carefully. Please do ask questions if anything is unclear or if you need any further information.

Who I am and what is the purpose of the study:

My name is Dr Nhlanhla Marco Gumede. I'm a specialist paediatrician and I've recently been appointed to be part of the eThekwini District Clinical Specialist Team (DCST). I am also a student at the University of KwaZulu-Natal (UKZN), registered for the Master of Public Health (MPH) in the Discipline of Public Health Medicine, School of Nursing and Public Health.

The purpose of this research is to fulfill the requirements for my Master of Public Health qualification.

Why are you being invited to take part in this study:

The aim of this study is to explore perspectives of the DCST members and other role players regarding the concept of teamwork and all factors/ conditions influencing teamwork amongst the DCSTs in KZN. The study is expected to enroll a total of six DCSTs in KZN. The KZN DCSTs that have been selected for inclusion in the study are from the following districts: Amajuba, iLembe, uMgungundlovu, uMzinyathi, Ugu and King Cetshwayo districts. The main consideration in selecting the above districts was purely based on the number of team members within each team. The idea was to get a mixture of teams: those with fewer team members, as well as those with more team members that are almost fully constituted (with 5 or 6 members). The following people will also be invited to participate in the study: DCST supervisors at the district level, and at provincial level, as well as DCST coordinators, both in the Provincial and National Departments of Health.

What will taking part involve?

Data collection in the study will involve the following two methods: focus group discussions (FGDs) and individual interviews. A focus group discussion will involve all members of the team (DCST), and individual interviews will only be conducted with certain members of the team. The duration of your participation, if you choose to enroll and remain in the study, is expected to be at least an hour for the FGDs plus an additional 30 to 45 minutes if you also participate in the individual interviews. Individual interviews will normally be held after the FGD but may not necessarily be held on the same day or at the same venue as the FGD.

Possible risks and benefits for participating:

There is no known risk involved in the study. The study may not provide direct benefits to participants in the short term. However, in the long term, if those in authority in the Department of Health in KZN find this information useful, they may consider implementing changes that will possibly contribute to improved DCST teamwork.

Funding of the study:

The study will be funded by the Discovery Foundation Academic Fellowship Awards. These Discovery Foundation Awards are aimed at promoting research-focused training in academic medicine in South Africa and to develop more clinician scientists to benefit healthcare in South Africa. There is no conflict of interest and Discovery Foundation will not directly benefit from the proposed study other than the benefit that has already been mentioned.

Voluntary participation:

Participation in this research is voluntary, and participants are free to withdraw their participation in the study at any point. In the event of refusal/withdrawal of participation, the participants will not incur penalty or loss of any benefit to which they are normally entitled.

Recording of FGDs and individual interviews:

Your permission is sought to record the FGDs and individual interviews using either a digital voice recorder or via the zoom platform. The recordings will later be transcribed accordingly. The recording of interviews is purely to ensure accuracy and efficiency in collecting data. No one, other than the researcher and/or research assistant will have access to the recorded data. Should a participant be strongly against the use of a voice recorder, he/she is encouraged to indicate as such in the consent form below.

Confidentiality

All participants in the study will remain anonymous. To ensure anonymity, before commencement of FGDs all participants will be assigned special codes or numbers. During the discussion, participants will then be referred to by their assigned codes or numbers and not by their real names. No personal information will be recorded in the voice recorder, transcripts or study report.

What will happen to the results of the study?

Information obtained from the study will be used in the following ways:

1. Submission of the dissertation to the UKZN for academic assessment towards MPH qualification as stated above;
2. Results will be presented to the KwaZulu-Natal Department of Health; and
3. Study findings may also be published in an academic journal.

Names of individual participants will not be stated in any of the above reports and publications.

Re-imbursement:

If participants incur travelling costs as a result of attending the venue of the FGDs or individual interviews, they will be refunded up to an amount of R300 per person for a return trip. A light lunch/finger lunch may be provided for participants after the FGD meetings.

What if there is a problem?

In the event of any problems or concerns you may contact the researcher at the following contact number and e-mail address: 031 273 5516/nhlanhla.gumede2@kznhealth.gov.za. The research supervisor for this study is Dr. Anna Voce, and she may be contacted on the following number: 031 260 4493, or e-mail: voceas@ukzn.ac.za. The UKZN Biomedical Research Ethics Committee can also be contacted, using the contact details as follows:

BIOMEDICAL RESEARCH ETHICS ADMINISTRATION
Research Office, Westville Campus
Govan Mbeki Building
Private Bag X54001
Durban 4000
Tel: 27 31 2604769 - Fax: 27 31 2604609
Email: BREC@ukzn.ac.za

Appendix C2: Participant Consent Form

Consent form: Exploring the conditions influencing team functioning of the District Clinical Specialist Teams in KwaZulu-Natal

I, …….....(name of the participant) have been informed about the study entitled "Exploring the conditions influencing team functioning of the District Clinical Specialist Teams in KwaZulu-Natal by Dr Nhlanhla M. Gumede.
I understand the study is being implemented as part of fulfilling the requirements for the qualification of Master of Public Health.
I understand that participation in the study involves taking part in the Focus Group Discussions, as well as possibly being involved in an individual interview. I understand that these may be recorded.
I declare that my participation in this study is entirely voluntary and that I may withdraw at any time without affecting any benefit that I would usually be entitled to. I have been given an opportunity to ask questions about the study and have had answers to my satisfaction.

If I have any further questions/concerns or queries related to the study I understand that I may contact the researcher at 031 273 5516 or at e-mail: nhlanhla.gumede2@kznhealth.gov.za. Alternatively, I may contact the researcher's supervisor at 031 260 4493 or at e-mail: voceas@ukzn.ac.za. If I have any further questions or concerns about my rights as a study participant, or if I am concerned about any aspect of the study or the researchers, I may also contact the Biomedical Research Ethics Administration, Research Office, UKZN Westville Campus, Govan Mbeki Building, Private Bag X 54001, Durban 4000. KwaZulu-Natal, SOUTH AFRICA, Tel: 27 31 2604769 - Fax: 27 31 2604609, Email: BREC@ukzn.ac.za

- **I hereby give my consent to participate in an individual interview:** Yes/ No (please circle applicable option)
- **I hereby give consent for the interview to be recorded either via the voice-recorder or via the zoom platform:** Yes/ No (please circle applicable option)

_____	_____
Signature of Participant	**Date**
_____	_____
Signature of Witness (Where applicable)	**Date**
_____	_____
Signature of Translator (Where applicable)	**Date**

Appendix D1: Original Data Collection Tool

EXPLORING THE CONDITIONS INFLUENCING TEAM FUNCTIONING OF THE DISTRICT CLINICAL SPECIALIST TEAMS IN KWAZULU-NATAL

TOPIC GUIDE: DCST FGD AND IN-DEPTH INTERVIEWS

Informed Consent Process

The concept of Team/teamwork:

1. How is this DCST constituted?
2. How does this DCST work as a team?
   - What are your experiences with regards to "team" and "teamwork" in this DCST?
   - What facilitates teamwork and what are the barriers to teamwork?
   - How is the division of responsibilities? What are common responsibilities and what are joint responsibilities?
3. What do you was the main intention behind the formation of DCS "Teams"?
   - Why not just District Clinical Specialists?
4. How do you conceptualise/understand "teamwork" in the context of DCSTs
5. How does your understanding of teamwork have expression in how this DCST functions?

Organizational context:

6. How would you describe the organizational context under which the DCSTs are functioning?
   - Probes and follow up questions:
   - How would you describe the **clarity of purpose** for the DCSTs within your organisation? (i.e. the clarity of purpose that the DCSTs have about their own role, and also the clarity of purpose other members of the District Management team have, and even hospital and clinic managers)
   - What is the level of **autonomy** amongst the DCST members?

7. How would describe supervision and levels of reporting for the DCSTs?
   - Probes:
   - Who offers support to your DCST? Who is your supervisor?

How would you describe the nature of **supervision** received by the DCST members?

- Briefly explain the **reporting** done by the DCSTs? What is reported? To whom?

8. What can you say about the **orientation, training and induction** of the DCSTs.
   - Did you receive orientation training and induction when you were appointed?
   – By whom?
   - what did it cover?
   - how did it help you prepare for your role?
   - how did it help you with regards to teamwork?

9. How would you describe the **physical environment** where the DCST is located?
   - Probes:
   - What are the barriers and/or enablers imposed by the physical environment?

Boundaries:

10. How is the level of the team **integration and synchronization** within the working environment?
    - Probes:
    - Synchronization with and level of involvement of the **district manager**
    - Synchronization with and level of involvement of **others (programme coordinators)**
    - Synchronization with and level of involvement of the **provincial specialists and provincial and national coordinators**
11. What is the degree of **specialization**/ differentiation and **independence** of the team?

Team viability, development and performance:

12. How do you feel about the **composition** of your team?
13. What is the level of understanding of the DCST **norms and roles** within your team?
14. How would you describe the working relationships within the team?
    - Probes:

- **Leadership and coordination**?
- How is the **communication**, **interdependency** and **decision-making**?
- **Conflict management** and **problem-solving**?
- **Cohesion & relationships** - are there supportive relationships?

15. How would you describe **team performance** for your DCST?

Appendix D2: Amended Data Collection Tool

EXPLORING THE CONDITIONS INFLUENCING TEAM FUNCTIONING OF THE DISTRICT CLINICAL SPECIALIST TEAMS IN KWAZULU-NATAL

TOPIC GUIDE: DCST FGD & IN-DEPTH INTERVIEWS – V 1.7

Site (District): ……
Interviewer: ……
Interviewee (designation)……
Date of interview: ……
Start Time: ……
End Time: ……..
Total Duration: ……..

Informed Consent Process

The concept of Team/teamwork:

1. The current **Team Composition & your personal feelings** regarding this constitution/composition (i.e. are there any limitations imposed by the current composition of your team?)
2. **Years of experience** in the team (i.e. when were you appointed)

3. E**xperiences with regards to "team" and "teamwork"**:
   - **Personal experiences** in this DCST
   - What **facilitates teamwork?**
   - What are the **barriers to** teamwork?

4. **Working relationships** within the team:
   - **Interpersonal relationships** and **social cohesion** L**eadership and coordination**
   - C**ommunication** and **coordination**
   - **Level of interdependency**
   - **Leadership**
   - **Conflict management** and **problem-solving**

5. Overall understanding of the **concept of 'teamwork' in relation to DCSTs**

6. The main intention behind the formation of **DCS 'Teams' (and not just individual specialists)** – personal understanding

Organizational context:

7. C**larity of purpose** for the DCSTs

8. Nature of **support and supervision**

9. Level of **autonomy**

10. R**eporting** lines: What is reported and to whom, at what level?

11. O**rientation, training and induction**:
    - **Describe your own** orientation, training and induction when you were appointed
    - The impact of orientation/induction in **preparing you for your role** as the DCST
    - The impact of the orientation/induction in preparing you for **teamwork**

12. **Physical/working environment**
    - Barriers imposed by the environment
    - Enablers in the environment

13. Team **integration and synchronization** vs **specialization/ differentiation and independence**

Team development, viability and performance:

14. Team development over time

15. Describe **team performance** for your DCST? (*Performance = acceptability of the output from the activities of the team*)

16. Describe how adequately are you **functioning in your role** (as a person) in relation to **your job description**?

17. Tell me about your **level of satisfaction** and your **willingness to continue** as a member of your team.

18. **Team development interventions:**
    - Has there been **any and what** were the **focus** areas (e.g. interpersonal processes, goal setting, role definition and problem-solving).
    - The **impact** of such interventions (e.g. in terms of improved communication, cohesion, or other areas of team viability)
    - If there has never been any such interventions, will there be any value in implementing them, and what value-add will they have?

19. What are your suggestions for improving team functioning of the DCSTs?

Appendix D3: Data Collection Tool – District Directors

EXPLORING THE CONDITIONS INFLUENCING TEAM FUNCTIONING OF THE DISTRICT CLINICAL SPECIALIST TEAMS IN KWAZULU-NATAL

TOPIC GUIDE: DCST SUPERVISORS IN-DEPTH INTERVIEWS – Version 1.0

Informed Consent Process

Site: ……
Interviewer: ……
Date: ……...
Start Time: ……
End Time: ……..
Total Duration: ……..

The concept of Team/teamwork:

1. How is your DCST constituted?

2. How does this DCST work as a team?
   - What are your **experiences with regards to "team" and "teamwork"** in this DCST?
   - What can you tell me about the **functioning of dyads**, as opposed to the entire team?
   - What do you think **facilitates teamwork** and what are the **barriers to** teamwork?
   - How is the **division of responsibilities** amongst the DCSTs? What are their **common/joint responsibilities**?

3. What do you think was the main intention behind the formation of DCS "Teams"?
   - (*Why not just District Clinical Specialists*)?

4. How do you **conceptualise/understand "teamwork"** in the context of DCSTs?

Organizational context:

5. How would you describe the **organizational context** under which the DCSTs are functioning?
   - How would you describe the **clarity of purpose** for the DCSTs within your organisation?
   - clarity of purpose that the DCSTs have about their own role,
   - clarity of purpose other members of the District Management team have,
   - clarity amongst the hospital and clinic managers

   - How would you describe the level of **autonomy** for the DCST members?

6. How would you describe supervision for the DCSTs?
   - Who offers **support and supervision** to your DCST?
   - If you are the DCST supervisor, how long have you been involved in supervising of DCSTs?
   - From your perspective, how would you describe the **nature of supervision** given to the DCST members?

7. Briefly explain the **reporting** done by the DCSTs?
   - What is reported, to whom and at what level?

8. What can you say about the **orientation, training and induction** of the DCSTs?
   - Did they all receive orientation training and induction when they were appointed?
   - By whom?
   - What did it cover?
   - What impact do you think the orientation/induction had in **preparing each one of them for their role** in the DCST?
   - What do you think was the impact of the orientation/induction with regards to **teamwork** amongst the DCST members?

9. How would you describe the **physical environment** where the DCST is located?
   - What do you think are the barriers and/or enablers imposed by the physical environment?

Boundaries:

10. How is the level of the team **integration and synchronization** within the working environment?
    - Synchronization with and level of involvement of the **district manager**
    - Synchronization with and level of involvement of **others (programme coordinators)**
    - Synchronization with and level of involvement of the **provincial specialists and provincial and national coordinators**

11. What is the degree of **specialization/ differentiation and independence** of the team?

Team viability, development and performance:

12. How do you feel about the **composition** of your DCST?

13. What do you understand the **norms and roles** of DCSTs to be?

14. Do you think an **incomplete team** (DCST) poses any **limitations**? Please tell me more about such limitations.

15. How would you describe the **working relationships** amongst your DCST members?
    - Describe in terms of **leadership and coordination**
    - How is the **communication**, **interdependency** and **decision-making**?
    - **Conflict management** and **problem-solving**?
    - **Cohesion & relationships** - are there supportive relationships?

16. How would you describe **team performance** for your DCST? (*Performance = acceptability of the output from the activities of the team*)

17. Tell me about **team development** over time as it adapts to its context

18. Kindly explain if there has been any **team development interventions** for the DCST and what has been the **areas of focus** for these interventions (e.g. interpersonal processes, goal setting, role definition and problem-solving).

19. If there has been team development interventions, do you think these have had an **impact** or not with regards to **improvements** in the areas of focus (e.g. improved communication, cohesion, or other areas of team viability)? Kindly explain.

20. If there has never been any team development interventions, what improvements do you think such interventions are likely to have in the DCST team functioning (should they be implemented)?

21. What could be your suggestion to improve team functioning of the DCST?

Appendix D4: Data Collection Tool – Provincial Specialist

EXPLORING THE CONDITIONS INFLUENCING TEAM FUNCTIONING OF THE DISTRICT CLINICAL SPECIALIST TEAMS IN KWAZULU-NATAL

TOPIC GUIDE: KZN PROVINCIAL SPECIALISTS IN-DEPTH INTERVIEWS – Version 1.0

Site: ……
Interviewer: ……
Date: ……..
Start Time: ……
End Time: ……..
Total Duration: ……..

Informed Consent Process

The concept of Team/teamwork:

1. How do you **conceptualise/understand "teamwork"** in the context of DCSTs?
2. What can you say regarding the concept of teamwork amongst the DCSTs in KZN?
   - What are your **experiences with regards to "teamwork"**?
   - What are your experiences with regards to the **functioning of dyads**, as opposed to the entire team?
   - What do you think **facilitates teamwork?**
   - What do you think are the **barriers to** teamwork?
   - How is the **division of responsibilities** amongst the DCSTs? What are their **common/joint responsibilities**?
3. What was the main intention behind the formation of DCS "Teams"?
   - (***Why not just District Clinical Specialists***)?

Organizational context:

4. How would you describe the **organizational context** under which the DCSTs are functioning?
   - How would you describe the **clarity of purpose** for the DCSTs within your organisation?
   - clarity of purpose that the DCSTs have about their own role,
   - clarity of purpose other members of the District Management team have,
   - clarity amongst the hospital and clinic managers
   - How would you describe the level of **autonomy** for the DCST members?

5. How would you **describe supervision for the DCSTs**?

6. Briefly explain the **reporting** done by the DCSTs?
   - What is reported, to whom and at what level?

7. What can you say about the **orientation, training and induction** of the DCSTs?
   - What impact do you think the orientation/induction had in **preparing each one of them for their role** in the DCST?
   - What do you think was the impact of the orientation/induction with regards to **teamwork** amongst the DCST members?

8. How would you describe the **physical environment** where the DCST is located?
   - What do you think are the barriers and/or enablers imposed by the physical environment?

Boundaries:

9. How is the level of the team **integration and synchronization** within the working environment?
   - Synchronization with and level of involvement of the **district managers**
   - Synchronization with and level of involvement of **others (programme coordinators)**
   - Synchronization with and level of involvement of the **provincial specialists and provincial and national coordinators**
10. What is the degree of **specialization/ differentiation and independence** of the team?

Team viability, development and performance:

11. How do you feel about the **composition** of most DCSTs in KZN?

12. What do you think are the limitations posed by **incomplete teams** (DCST) in KZN?

13. How would you describe **working relationships** amongst DCST members in KZN in general?
    - Describe in terms of **leadership and coordination**
    - How is the **communication**, **interdependency** and **decision-making**?
    - **Conflict management** and **problem-solving**?
    - **Cohesion & relationships** - are there supportive relationships?

14. How would you describe **team performance** for the DCSTs? (*Performance* = ***acceptability of the output from the activities of the team***)

15. Tell me about **team development** over time as it adapts to its context

16. Kindly explain if there has been any **team development interventions** for the DCSTs in KZN.

    ➔ What has been the **areas of focus** for these interventions (e.g. interpersonal processes, goal setting, role definition and problem-solving).

17. If there has been team development interventions: Do you think these have had an **impact** or not with regards to **improvements** in the areas of focus (e.g. improved communication, cohesion, or other areas of team viability)? Kindly explain.

18. If there has never been any team development interventions, **what improvements do you think such interventions are likely to have** in the DCST **team functioning** (should they be implemented)?

19. What could be **your suggestion to improve team functioning of the DCST**?

Appendix E: Codebook

EXPLORING THE CONDITIONS INFLUENCING TEAM FUNCTIONING OF THE DISTRICT CLINICAL SPECIALIST TEAMS IN KWAZULU-NATAL

Code Book: Deductive Coding

	Codes
Construct of teamwork	- Constr twk – common goal - Constr twk – individual skills contribution for common purpose - Constr twk – individual knowledge contribution - Constr twk – individual capabilities contribution valued - Constr twk – mutual respect - Constr twk – mutual accountability - Constr twk – cooperation - Constr twk – interdependent collaboration - Constr twk – joint planning - Constr twk – regular feedback - Constr twk – team within a team - Constr twk – interdependency - Constr twk – complementing each other - Constr twk – collective contribution to maximise impact - Constr twk – delegation of activities - Constr twk – moral support
Organisational Context:	
• Organizational culture	- Org cult – vertical and hierarchical - Org cult – fragmentation and duplication
• Mission Clarity	- Mssn clar – uncertainties about roles - Mssn clar – team (DCST) members clear about roles - Mssn clar – other role players unclear - Mssn clar – some district directors unclear - Mssn clar – role uncertainties leading to conflict - Mssn clar – some role players understanding and supportive - Mssn clar – programme coordinators feeling threatened - Mssn clar – DCST members repeatedly explaining their roles - Mssn clar – improvement in the understanding of roles by other role players - Mssn clar – misguided expectations at higher level health facilities - Mssn clar – some abdication of responsibilities at facility level - Mssn clar – provincial level disagreements on purpose and focus areas for DCSTs - Mssn clar – varying views by District Health Services at Provincial level
• Training (induction and orientation)	- Inductn & Orient – 18 months duration - Inductn & Orient – only done for the first DCST appointees - Inductn & Orient – equipped DCSTs on roles & responsibilities - Inductn & Orient – opportunity to practice teamwork

	- Inductn & Orient – original DCST members subsequently expected to orientate newly appointed team members - Inductn & Orient – felt to be deficient on PHC training - Inductn & Orient – lack of onsite mentoring - Inductn & Orient – prepared DCSTs for teamwork - Inductn & Orient – provided common perspective for diverse individuals - Inductn & Orient – differing view → had no impact in preparing DCST members for teamwork - Inductn & Orient – its influence on teamwork limited by teams having mainly incomplete membership - Inductn & Orient – DCST members felt lacking capacity to adequately orientate newly appointed team members - Inductn & Orient – some newly appointed DCST members orientated by provincial specialists in their respective specialties
• Supervision	- Supervsn – district directors providing district-level supervision - Supervsn – DCSTs members having a supportive r/ship with district directors - Supervsn – frequent change of district directors causing instability and lack of continuity. - Supervsn – district director lacking capacity to supervise DCSTs
• Support	- Suppt – sourcing technical/clinical support from provincial specialists - Suppt – district directors providing admin support - Suppt – sourcing support from various sources and institutions
• Autonomy	- Autonomy – DCST members autonomous - Autonomy – viewed positively by DCST members - Autonomy – complete autonomy also reflecting lack of support - Autonomy – some district directors of the view that autonomy will enable DCST members to grow - Autonomy – DCST members being trusted since they are specialists - Autonomy – complete autonomy risks some DCST members slacking off - Autonomy – some DCST members preferring less autonomy - Autonomy – lack of autonomy reported (one DCST member)
• Reporting	- Reprtng – lack of standardized system of reporting - Reprtng – reporting inconsistent and incomplete - Reprtng – lack of feedback on submitted reports - Reprtng – collapse of provincial-level reporting
• Physical environment	- Phys env – DCST offices located at district office - Phys env – office conditions vary across different districts

	- Phys env – close proximity of offices promoting DCST members seeing each other frequently - Phys env – some districts with adequate office space and well furnished offices - Phy env – availability of meeting boardrooms - Phys env – complete satisfaction with offices - Phys env – shared offices due to unavailability of office space (some districts) - Phys env – sharing of offices promoting cohesion - Phys env – lack of boardrooms for holding meetings - Phys env – complete dissatisfaction with offices - Phys env – unconducive office environment - Phys env – lack of packing space for personal vehicles - Phys env – location at district office limiting clinical exposure - Phys env – feeling detached from clinical environment - Phys env – working tools available, but extremely difficult to replace if they get lost
Team Boundaries	
• External integration	- Ext intgrtn – working with and within broader teams - Ext intgrtn – part of district office structures - Ext intgrtn – programme coordinators supportive & cooperative
• Work team differentiation	- Wk tm diff – teams (DCSTs) generally incomplete - Wk tm diff – incomplete teams causing increased work load on existing team members and affecting quality of work - Wk tm diff – absence of medical specialists being a hindrance - Wk tm diff – high turnover and attrition of medical specialists - Wk tm diff – medical specialists (paediatrician & obstetrician) unnecessary and would not add value in some districts - Wk tm diff – medical specialists not being fully utilized (some districts)
Team development	
• DCST Roles and responsibilities	- Roles & resp – performing tasks & duties that are not part of job description - Roles & resp – acting in other positions outside of the DCST - Roles & resp – swamped with other responsibilities and neglecting core duties - Roles & resp – attending long meetings with little or no relevance to the DCST core functions - Roles & resp – introduction of ideal clinic realisation and maintenance programme completely detached some DCST members from their core responsibilities - Roles & resp – ability to integrate DCST work with ideal clinic - Roles & resp – some demands from the provincial office causing DCST members to neglect their main responsibilities

	- Roles & resp – DCST members never forced to do tasks or duties outside of their job description (some districts) - Roles & resp – persistent resistance of DCST members to do irrelevant duties eventually eliminating the demands for their involvement in such duties (some districts) - Roles & resp – voluntarily participating in activities not related to DCST responsibilities - Roles & resp – roles of family physicians within the teams generally extending beyond the DCST defined roles
• Communication	- Communctn – regular team meetings necessary - Communctn – teams unable to hold regular meetings - Communctn – mainly *ad hoc* and informal communication - Communctn – unavailability of time to meet due to work demands - Communctn – open communication, frequently touching base and consulting with other happening within dyads (most dyads)
• Joint planning, coordination and interdependent collaboration	- Jntplng coord intdpt collab – small teams performing better - Jntplng coord intdpt collab – common background of having attended induction & orientation together advantageous - Jntplng coord intdpt collab – poor coordination and lack of interdependent collaboration in larger teams and teams where new members are being added - Jntplng coord intdpt collab – lack of joint planning & no DCST integrated plan - Jntplng coord intdpt collab – duplication of activities due to lack of joint planning - Jntplng coord intdpt collab – DCST members collaborating better with other role players compared to their teammates - Jntplng coord intdpt collab – team members working in silos - Jntplng coord intdpt collab – collaboration happening in response to external pressure - Jntplng coord intdpt collab – collaboration happening within dyads (most dyads) - Jntplng coord intdpt collab – generally good and respectful engagements within dyads
• Social relationships, conflict management and team cohesion	- Scl r/ship cnflctMx tmchsion – varying quality of social r/ships - Scl r/ship cnflctMx tmchsion – good relationships - Scl r/ship cnflctMx tmchsion – poor relationships - Scl r/ship cnflctMx tmchsion – personality clashes - Scl r/ship cnflctMx tmchsion – lack of tolerance for each other - Scl r/ship cnflctMx tmchsion – power struggles between nurses and doctors - Scl r/ship cnflctMx tmchsion – fragmentation - Scl r/ship cnflctMx tmchsion – lack of involvement of the district director in managing conflicts

• Team leadership	- Tmleadrshp – absence of intra-team leadership contributing to poor team functioning - Tmleadrshp – no system of electing intra-team leadership - Tmleadrshp – unsuccessful attempts by family physician to assume leadership role - Tmleadrshp – 6 months rotation of leadership role initially worked, but later collapsed (one district) - Tmleadrshp – unresolved conflicts between team members leading to collapse of the 6 monthly leadership role rotations
• Individual team member attributes	- Indiv attrbt – personalities and characters - Indiv attrbt – territorialism - Indiv attrbt – competitiveness - Indiv attrbt – seeking personal recognition - Indiv attrbt – previous personal experiences influencing belief and current behaviour - Indiv attrbt – importance of continued personal development - Indiv attrbt – remaining competent and effective
Team Effectiveness	
• Team performance	- Tmperf – DCST potential not fully realized because of incomplete teams - Tmperf – inability to accurately measure team performance due to lack of DCST integrated plan and lack of team coordination - Tmperf – inability to assess effectiveness of DCSTs due to many DCST members being involved in tasks and duties that are outside DCST job description - Tmperf – passionate and going an extra mile - Tmperf – improved consistency and quality of perinatal mortality meetings at health facilities - Tmperf – improved participation of PHC clinics at perinatal mortality meetings
• Team viability	- Tmviablty – satisfied and willing to continue being part of the team - Tmviablty – seeing the need of having functional DCSTs - Tmviablty – DCSTs having a role to play in the implementation of NHI - Tmviablty – doubtful about success of teamwork within DCSTs - Tmviablty – previous failed attempts to facilitate teamwork - Tmviablty – given up on the idea of teamwork for the DCSTs - Tmviablty – not seeing the need to even be called a team - Tmviablty – DCST members losing their clinical skills - Tmviablty – team development interventions needed to improve team functioning of DCSTs - Tmviablty – need for re-defined DCST roles - Tmviablty – reorientation of the DCSTs important

	- Tmviablty – general promotion and strengthening of team functioning at district level important - Tmviablty – reinstatement of provincial 6 monthly DCST meetings necessary