4 Understanding roles, enablers and challenges of District Clinical Specialist Teams in strengthening primary health care in South Africa

Authors:

Kafayat O. Oboirien[i]
John Eyles[i]
Diane McIntyre[ii]
Chimbindi[iii]
Bronwyn Harris[i]
Marsha Orgill[ii]
Natsayi
Jane Goudge[i]

District Clinical Specialist Teams (DCSTs) were introduced into the South African District Health System (DHS) in 2011. Their introduction was prompted by growing pressure in South Africa to achieve the Millennium Development Goals for maternal and child health before and after 2015. As emerging teams in the DHS, their roles are yet to be fully understood and defined in practice. Little is known about how other actors, implementers (district/sub-district managers) and intended beneficiaries (facility managers and staff) in the health sector perceive and relate to them. Documenting how roles and relationships are unfolding will help in understanding and learning from the process of their implementation and strengthening of primary health care (PHC).

This chapter engages with the early implementation process of the DCST reform in three of the 52 districts in South Africa. In-depth interviews were conducted between September 2013 and July 2014, and informal discussions and available district documents on the progress of implementation are drawn on to contextualise the process. Preliminary findings revealed the DCST to be an important innovation, with high and positive expectations from most actors about their role in PHC strengthening. Existing capacity and systems, flexibility, matching of expected roles to resources and targeted collaboration impacted on the extent of the DCSTs' integration into the system.

The DCSTs serve as an interface between different layers of the healthcare system which offers an opportunity to strengthen collaboration and teamwork. As districts begin to monitor and evaluate the early implementation of these teams, there is a need to continuously clarify and complement roles (of individuals and teams), build a shared understanding of these roles, and find spaces to reflect on innovative ways of managing the complex health system environment.

Preliminary findings revealed the DCST to be an important innovation, with high and positive expectations from most actors about their role in PHC strengthening.

i Centre for Health Policy/MRC Health Policy Research Group, School of Public Health, Faculty of Health Sciences, University of the Witwatersrand, Johannesburg

ii Health Economics Unit, School of Public Health and Family Medicine, University of Cape Town

iii Africa Centre for Health and Population Studies, University of KwaZulu-Natal

Introduction

District Clinical Specialist Teams (DCSTs) were introduced into the South African District Health System (DHS) at the end of 2011. Their introduction was prompted by the country's growing pressure to achieve the Millennium Development Goals (MDGs) for maternal and child health (MCH) before and after 2015. The DCST innovation or stream is part of the strategy to re-engineer primary health care (PHC),[1] along with the introduction of Ward-Based Outreach Teams (WBOTs), School Health Teams (SHTs) and contracted General Practitioners (GPs).[1-3]

South Africa's PHC re-engineering strategy falls within the broader health system goal of moving towards realising universal health coverage (UHC), whereby access to needed health services is available to all individuals irrespective of socio-economic or geographic characteristics.[4,5] The main task of the DCSTs is to provide clinical governance at the district level by overseeing quality in service delivery and effective management of resources to enhance health outcomes. They are responsible for co-ordinating other streams of the PHC re-engineering strategy, and collectively (with other streams) promoting an integrated community-based approach to PHC delivery and the achievement of UHC.

A ministerial task team (MTT) consisting of experienced clinical specialists was set up in June 2011 to provide guidance on the DCST composition, structure, functions and performance monitoring.[6] A stakeholder consultative process was also instituted with submissions made to the MTT from relevant disciplines and all provinces.[6] DCSTs are envisaged to comprise seven team members with a nurse-doctor dyad in three key disciplines: Family Medicine (Family Physician and PHC Nurse), Obstetrics and Gynaecology (Obstetrician and/or Gynaecologist and Advanced Midwife) and Paediatrics (Paediatrician and Paediatric Nurse), and Anaesthetics.[6]

The process of the DCSTs' recruitment started in October 2011, although their induction and integration into the DHS level is ongoing and being refined in different contexts. As emerging teams in the DHS, their roles are yet to be fully understood and defined in practice. Little is known about how actors in the health sector perceive and relate to them. Documenting how these roles and relationships are unfolding will help in understanding and learning from the process of their implementation and potential contribution to strengthening of PHC.

This study is part of a five-year multi-site project entitled Universal Coverage in Tanzania and South Africa: monitoring and evaluating progress (UNITAS).[7] The overall project aims to explore experiences of policy implementation in relation to UHC reforms over time, including the DCSTs, and to document factors that may explain changes in experience. This chapter engages with the early implementation process of the DCST reform in three of the 52 districts in South Africa. We examine how DCSTs' roles are being defined, communicated and integrated at different levels. Drawing on perceptions and understandings of actors at district and sub-district level, i.e. implementers (district/sub-district managers) and intended beneficiaries (facility managers and staff), we also consider how roles and relationships are unfolding in the process of policy change and highlight some of the factors that hinder and support the successful implementation and functioning of the DCSTs.

Brief overview of DCSTs as a reform measure and progress in implementation

As a result of the increasing need to provide quality health care, the term 'clinical governance' has gained global recognition as a policy instrument for improving healthcare delivery and includes all strategies and activities targeting continuous quality improvement.[8] In South Africa, the handbook on clinical governance for the DCSTs defines clinical governance as:

> A framework that helps managers and clinicians (such as nurses, doctors, physiotherapists) to improve the quality of their services and safeguard standards of care, continuously, thoughtfully and in a co-ordinated fashion, by creating an environment in which excellence in clinical care will flourish.[9]

South Africa's PHC re-engineering policy also anticipated the role of the DCSTs in providing supportive supervision and clinical governance[1,6] (an oversight role) to district and sub-district actors managing the provision of PHC, as well as training and mentorship to healthcare workers providing care at facility-level (a pedagogical role). The DCSTs are also encouraged to engage in clinical care for about 20% of their time in order to retain and build on their own clinical competence and expertise.[6,10]

In South Africa, the role and activities of DCSTs in improving quality, particularly in MCH services, is being articulated through an integrated approach, both through the composition of the team as well as its location between different district-level programmes and other teams. It is recommended that each DCST should develop work plans that will complement other policy/programme objectives,[9] including the Strategic Plan for Maternal, Newborn, Child and Women's Health (MNCWH) and Nutrition, a strategy for a Campaign of Accelerated Reduction of Maternal and Child Mortality in Africa (CARMMA)[11] and the National Core Standards for Quality.[12] There is potential for flexibility in the DCST work plans[9] which gives the DHS discretion in shaping the activities and role of the DCST according to local context or need.

A number of activities have been undertaken at national, provincial and district levels to facilitate effective implementation of the DCSTs.[13] In October 2011, the DCST posts were advertised by the National Department of Health (NDoH) and candidates were shortlisted in November that year.[11,13] The national launch of the DCSTs, including health systems actors countrywide, took place in September 2012. As of March 2015, 49 out of the 52 districts in South Africa had appointed at least a minimal team (a dyad – nurse/doctor pair in one discipline).[13,14]

However, the human resources crisis in the country coupled with variations in district capacity and opportunities to attract staff have hindered recruitment and there are only two teams with a full complement in the country.[13-15]

An induction and orientation programme (carried out over one year) comprising eight workshops commenced in one province from August 2012 and was adapted and implemented in the other eight provinces from mid-November 2013. The first workshop was designed to help DCSTs identify and define their roles and to help DHS actors who would be working closely with the DCSTs to clarify their roles.[13] In order to ensure the effectiveness of teams,

it was recommended that DCSTs should report to specialists at the provincial level.[6] In addition, the DCSTs should report to the district manager on general operational management of resources and functioning of the team at district level.

Voce and colleagues (2014) state that the induction and orientation programme has helped the DCST in identifying their roles.[13] However, how these roles emerge in practice and how they are being conceived at the point of implementation require exploration. Here, we set out to understand the perceptions and experiences of the DCST implementation as discerned in evidence available from three districts. These documented reflections can contribute to understanding organisational and behavioural characteristics that support and challenge the strengthening of PHC.

Methods

The work presented in this chapter is guided by a theory of change (ToC) approach. A ToC approach is often undertaken in the evaluation of programmes[16] to engage with actors involved in the implementation of a particular reform or programme (in this case, DCSTs). The ToC approach allows researchers to gather and document experiences of DCST reform through engaging in collaborative and reflective inquiry with those implementing it.[16,17] The approach enables us to tell a story about the DCST reform[17] and to compare reflections and experiences of implementation against the objectives, motivation and assumptions guiding its development. The ToC approach also offers a way of conceptualising change over time and provides a practical tool for engaging with stakeholders, monitoring change processes and evaluating the implementation of the DCSTs.[18]

Once the requisite permissions for the study were obtained, 31 ToC in-depth interviews (IDIs) were held. Respondents included District Health Management Team (DHMT) managers, sub-district managers and National Health Insurance (NHI) co-ordinators (at provincial and district level) in three districts. A ToC Focus Group Discussion (FGD) was also held with DCSTs in each district. The first round of data collection was conducted between September 2013 and July 2014, which included informal discussions and review of available district documents on the progress of implementation, to contextualise the process. In line with the Theory of Change approach, we explored actors' roles in and assumptions about the goal of DCST reform, as well as actors' perceptions and experiences about the DCSTs' roles, activities, relationships and processes involved in the DCST implementation.

Results

Setting and institutional structure

DCSTs in the three districts were introduced into varying demographic and socio-economic contexts but with a fairly similar mix of rural and urban settings. There are also differences in their expected population coverage and the number of facilities in each district. For example, in one district, the DCST will be responsible for twice the population anticipated to be covered in another (Table 1). However, all districts share comparable MCH burdens[19] confirming a national challenge in that DCSTs are placed in contexts with a seemingly high need for quality improvement activities.

Table 1: Summary statistics of DCST innovation between September 2013 and May 2015

DCST	District A	District B	District C
Population coverage[a] (fixed facilities)[20]	695 933 *(44)*	1 017 763 *(84)*	1 364 943 *(157)*
Salary[b]	District (as at May 2015)	Province	Province
Members[c]	*As at March 2015*		
Family Physician	✓	●	✓
PHC Nurse	✓	✓	✓
Paediatrician	✓	✗ (resigned in 2012)	✓
Paediatric Nurse	✓	✓	✓
Obstetrician & Gynaecologist	✓	✗ (resigned in 2012)	✗
Advanced Midwife	✓	✓	✓
Anaesthetist	✗	✗	✗ (resigned in 2013)
Provincial specialists in place	1 (Family Physician)	3 (Obstetrician & Gynaecologist, Family Physician and Paediatrician)	(1) (Obstetrician) and Paediatrician's appointment almost finalised
Reporting lines	District Family Physician and District Manager	Provincial specialist and District Manager	Provincial specialist and District Manager
Leadership role	District Family Physician	District Family Physician / acting Family Physician – DCST	PHC Nurse – DCST

Note: ✓ – Filled, ✗ – unfilled, ● – acting position

Source: National Department of Health, 2013;[20] Census 2011;[21] National DCST database, 2015.[14]

a Note: Population coverage – indicates the population size of the district and the number of facilities in ( ) – including PHC clinics, community health centres and district hospitals. Differences in reporting on demographic indicators have been noted, but information presented for all districts is derived from a uniform source.

b The expectation that DCST posts will be formally created within the district structure in the 2013/14 financial year has not been realised.

c Note: The DCST/Provincial specialist complement and roles are those reported at the time of the interview; some of these may have since changed.

Each DCST has been institutionalised into differing DHS organisational arrangements or structures. In one district, there is acknowledgement that the DCST fits well within the vision of a Provincial Family Medicine Department that has been supporting the district for some time "in improving clinical expertise to what was formerly run as a nurse and management type of structure" (DHMT Manager). In another district, the implementation of the team has been linked to a history of maternal health teams and forums. Another district is located in a province where there had been a moratorium on the appointment of health workers during the early implementation phase of the PHC re-engineering reforms (due to budgetary shortfalls and financial mismanagement).[22] This sets the DCSTs within varying organisational spaces in each district. For all three districts, support from the provincial specialists and/or district managers were seen as important for early implementation of the DCSTs.

Recruitment

The advertising of posts was co-ordinated by the National Department of Health, while each province was responsible for shortlisting candidates, interviewing and appointing DCSTs. At a district level, DHMT managers from all three sites commented on the need for head-hunting processes to attract specialists, because they had found the recruitment process challenging given the current shortages in human resources for health in the country.[15] Table 1 shows the team composition in the three districts. The positions of doctor-specialists have been the most difficult to fill, especially the post of the anaesthetist which remains vacant in all three districts, and nationally, only six such posts have been filled.[14] In one district, two PHC-oriented medical officers with more than 10 years' experience were recruited in favour of "hospi-centric" specialists. This was done in accordance with the flexibility highlighted in the National Department of Health's DCST job descriptions[6] (DHMT Manager).

In the early phase of the recruitment process, DHMT managers reflected on a high turnover rate among DCST appointees, either as a result of resignation or appointees not taking up their positions. The DHMTs indicated that the recruitment process was done at provincial level and there was limited involvement at the district level; this was demotivating for DHMT managers in two of the sites. In one district, poor communication resulted in two headhunted specialists ultimately not taking up their appointments (DHMT Manager). However, across all three districts, most of the DCST members themselves found their recruitment process to have been satisfactory.

DCST motivation

DCST members described their motivation to participate in the reform as linked to personal, professional and social goals, including professional development, family commitments, an opportunity to serve in their place of birth, an inspirational quotation of the Minister of Health in the DCST advertisement, and their willingness to contribute to a particular field or discipline. DCST members also reflected on their passion for maternal and child health services and their commitment to being part of change, which they all saw as timely. These personal, organisational and social motivators form a basis on which DCSTs can relate to their roles and activities. DCST members did not comment on financial incentives as a motivation. Yet, DHMT members see the DCST innovation as expensive (but worthwhile) when compared to healthcare workers on the same level in the DHS structure.

> *They are earning more than ordinary nurses; they are earning a lot of money. (DHMT Manager)*

> *We appoint doctors at specialist level; money is being eaten up by their posts. (DHMT Manager)*

At the same time, the rate of turnover among DCST members (see Table 1) also suggests factors other than financial incentives as influencing motivation. These remain unclear but are important for further understanding of early implementation processes.

Induction and orientation

Most of the DCST members in the three districts highlighted their participation in the induction and orientation programme – designed to help them clarify their roles, standardise their activities and integrate them into the DHS – as being useful.

> *…[has] built most of the relationships so that everybody could feel and see the importance and see the role that is going to be played; …not that we are here to step in other people's posts ...and we do not talk different languages whilst you are doing one and the same programme. (DCST member)*

However, some district-based actors and DCST members expressed concerns around the length of time required to attend the workshops, preferring continuous on-the-job mentorship rather than monthly training events. In one of the districts, the district manager also raised concerns about the frequency and length of days per month used in travelling for training by the DCST.

> *You know, they must be practising their clinical skill. Unfortunately most of their time has been absorbed by meetings and by training sessions…for instance travel; but I said we have to agree that it is not okay to travel outside of the district for more than 50 per cent of your time. (DHMT Manager)*

Among the additional challenges of the nationally led induction programme was the exclusion of sub-district and facility-based managers; their involvement could have helped the DCSTs better understand their local context. Therefore, in one district, it was suggested that a district-level induction process be instituted to formally introduce the team to different district, sub-district and facility-based actors to ease future relationships and expectations.

Reporting

DCST members have multiple reporting lines at district and provincial levels. In this study, four different reporting lines were observed. Firstly, DCSTs in all three districts report to the district manager (see Table 1). Secondly, in two of the districts, DCSTs also reported directly to provincial specialists, where available (Table 1), while in the third (where the DCST is headed by a District Family Physician), there is no indication of a reporting line between the DCST and the provincial specialist. Lastly, in another team, the district Family Physician plays a dual role: acting in the post of the district Family Physician and leading the DCST. Our analysis shows that there is linkage and communication between the DCSTs and the district managers. However, there was insufficient data to reflect on the extent of communication between the DCSTs and the provincial

specialists, and deeper understanding of these relationships will be important for effective co-ordination.

Resources

The DCST policy recommends that provincial Health Departments should be responsible for DCST salaries, benefit packages and incentives.[6] There are differences in sources of funding for the DCST in terms of salaries and operational resources across districts. DCST salaries are managed at the provincial level in two of the districts in line with policy recommendations[6] (Table 2). However, DHMT managers in one study site reported resource constraints regarding salaries. In this district, for the first three to six months of appointment, one DCST member's salary was paid through the tertiary hospital budget. As at September 2013, DCST members' salaries in the same district were paid through the district's budget, yet the expectation that posts would be formally created within the district structure by the province in the 2013/2014 financial year has not been realised (DHMT Manager). Respondents in two of the districts also commented on the unavailability of funds for DCST outreach visits or transport-related costs. DCST members in one of these districts were advised to use their own transport for official duties until transport allowances are subsidised at the provincial level. DHMT managers commented on the possibility of raising additional funding for DCST activities through a European Union conditional grant/ MCH grant, but there is a low expectation about approval for such a measure.

> *It [the process of sourcing additional funding] has been managed so chaotically. I am not sure that we are going to end up getting anything. (DHMT Manager)*

However, in another district, one of the participants indicated that the National Health Insurance (NHI) pilot process and the PHC re-engineering processes have brought substantial resources to the district.

> *For the first time you'll hear somebody saying, "Yes, for NHI, if you're asking for resources, within the period I've been here I think we have more than enough resources." It's a question of how we use the resources. (NHI Co-ordinator)*

There are also mixed feelings among the DCST members about the availability of resources. There is a clear need for mobile technology (data and phone) for their effective communication, especially during outreach or support visits. In one district where unavailability of such technology was raised as a challenge by DCST members, the district allocated a personal assistant to help manage their diaries and administrative needs (DCST member). In another district, mobilisation of resources such as laptops and mobile (data and phone) connections through external funding sources from mining and insurance companies, and the municipality, occurred as part of the induction process for the DCST (DHMT Manager). Despite reports of limited operational resources, DCSTs' salaries have been paid in all three districts.

Expectation of roles and activities

The perceptions of DCST roles by team members seem to align broadly with those stipulated in the DCST policy documents. Specifically, DCST members see their role as contributing to improving quality of care, striving towards meeting the MDGs for mother and child health, assisting healthcare professionals in identifying systems problems, and supporting mechanisms for appropriate and timely referrals. Generally, each member was able to link their role and desired change to a dyad/speciality-specific set of goals and reducing maternal and child mortality, and all were keenly aware of the importance of PHC and its required support.

However, one DCST member expressed a lack of clarity about her role due to her newness to the district:

> *Even up to now, I don't know some of the facilities or some of the areas, so yes, it has taken some time for me to get to know what my role is and I'm still working on that. (DCST member)*

Yet, across districts, DHMT members' perceptions and reflections of DCST roles coincide with DCST members' understanding of their own roles and that of policy documents, even though DCST members sometimes feel otherwise. Expectations and perceptions of the DCST roles by managers at the different levels of service delivery within the DHS are depicted in Table 2.

Table 2: Expectations of DCST roles at different levels of the DHS

Expectations of roles	District level	Sub-district level	Facility level
Policy	Policy development once gaps have been identified	Reviewing district level policies	Training on policy – clinical guidelines and protocols
Monitoring and evaluation	Align DCST role with planned monitoring and evaluation units	Identifying skills gap and developing related interventions	
	Collect and review high-quality statistics, provide feedback in the form of reports and undertake follow-up		
	Roles of DCST relative to the roles of clinic supervisors, programme managers, facility managers and facility doctors or contracted GPs in clinical governance to be clarified over time		
	Independent assessment of PHC services		Identify equipment needs
Mentorship	Collegial engagements with hospital specialists on clinical governance	Mentoring clinic supervisors and programme managers (MNWCH)	Mentoring facility managers, staff and improving professionalism of healthcare workers
	Role of facility doctors or contracted GPs in clinical supervision	Support in supervision of and training for chronic services	
Training	Develop plan for continuous medical education		Training linked to continuous professional development
Leadership	Assert leadership roles	Facilitate pro-active engagements with relevant actors	
Clinical support	Strive to reduce maternal and child mortality and morbidity	Improve the effectiveness of the referral pathways	Support facility by undertaking more clinical work

There are broad overlaps in the reflections of DCSTs regarding their roles and those of DHMT members and sub-district managers. Most of the similarities observed are in line with the expected outcomes of the DCST reform. Some disjuncture in the perceptions about roles is linked to expectations that others might have but which are not wholly beyond the scope of the DCSTs' functions.

> *For us they go to community health centres at clinical level and we are envisaging them also doing night duty there because that's where you need the advanced paediatric skills. (DHMT Manager)*

There is also the expectation that the DCSTs should support the delivery of chronic services and not be limited to maternal and child health services:

> *I would like the DCSTs to focus out of the box of maternal and child [health]. We have cases of tuberculosis running out there; let it be for all health problems. (Sub-district Manager)*

Yet our analysis highlights gaps in expectations of roles at the different levels (district, sub-district or facility) which were not clearly articulated in the reflections and experiences of actors and are potentially contradictory. The white boxes in Table 2 highlight some of the roles and relationships that need to be clarified in order to address some of the disjuncture either in the expected range or nature of the DCST role and activities at the different levels where DCST support is required. Further analysis and exploration of roles and activities is required.

DCSTs were also identified in different ways among district and sub-district managers who had high expectations and values. This related particularly to the managers' expectations of the DCST roles in monitoring and evaluation, mentoring and clinical support (see Table 3). For some, DCSTs are assumed to be 'consultants' with capacity to cover a large geographical area. They are also seen as 'specialists' "…means that you know everything". Others saw the DCST members as 'spies' who could identify practices that are not known to district management.

> *What I said to the facilities and to the DCST, they are my 'spies'. If they see something wrong in a facility, I am going to send them and it is not in a punitive way, it is to understand properly what has happened and take appropriate action… Some at the facility level don't recognise that as part of their role and accept it. Then we have got a problem. (DHMT Manager)*

There is a close link between how the DCSTs are being identified as 'spies' and their approach or way of working. DCSTs used their discretion in this regard and resolved to adopt an unannounced approach to outreach visits to deter facilities from false preparedness. This approach may contribute to their identity being perceived as 'spies' at the facility level.

> *Most of the time when we are going to the facilities, we don't tell them that we are coming because we want to see things as they are, so that everything is under normal circumstances. (DCST member)*

> *In general, there seems to be a high expectation of their capacity at the DHS level, with one of the actor's reflections being: "Maybe we shall say we expect more than they can produce" (DHMT Manager).*

Actual activities in practice

DCSTs seem to be engaging in similar activities across the three districts. Table 3 illustrates some of their activities as categorised in the monitoring indicators recommended in the Ministerial Task Team Report.[6]

There is uniformity in practices and activities in some aspects, originally guided by the orientation and induction series of workshops. For example, the baseline situational analysis was reported in all districts, showing similar quality improvement activities. However, activities unique to each district, informed by actual district needs, are also recorded. In District A, one of the key focus areas is a quality improvement programme for malnutrition. Monitoring and mentoring on the South African Newborn Care Initiative (SANCI) and CARMMA strategy are focal points in District B, while there is emphasis on proper recording of patient histories and benchmarking practices in District C.

In terms of the DCSTs' engagement with the DHMT (Table 3), there are differences in the DCST's role in management, particularly their involvement in DHMT meetings. In one site, the longstanding local experience and influence of the district Family Physician team-leader was acknowledged as important in facilitating organisational support.

> *Our supervisor, she will be there to represent us, if there is anything that we need to take to that forum then she will take it. (DCST member)*

Contrastingly, in another site, DCST members are actively involved in the DHMT meetings and are also responsible for facilitating the discussions and ensuring that their planned agenda secures the necessary support.

Enablers of DCST implementation

The following themes emerged as enablers of DCST implementation across the three districts: existing capacity and systems, individual/local discretion and strategies, trust-building, knowledge of local context and systems, and leadership and/or championship.

Existing capacity and systems

Existing organisational structures, resources and networks have influenced the implementation of the DCSTs and their activities. For example, the conceptualisation of the DCST within an existing Family Medicine-based structure was seen as a means of rapidly constituting the team and providing leadership. The role of national non-governmental organisations (NGOs) was also highlighted as a useful support mechanism for DCSTs. NGOs in one district have been involved in capacity-building for some time.

> *The [NGO] partners, they are assisting us a lot. Because if we are doing our district health management plan…they assist us to come with one vision really…a shared vision within the district; also maybe in identifying areas, because they are there as the eye for the district to say 'here are the areas where we need to strengthen'… because they are not all over. (DCST member)*

Table 3: Activities of DCSTs reported by various actors

Recommended roles/activities	Reflections on activities/roles		
	District A	District B	District C
Annual situational analysis	**Baseline situational analysis**	**Baseline situational analysis**	**Baseline situational analysis**
Continuous quality improvement	Auditing of CHIPP[d] and PPIP[e]	Auditing CHIPP, PPIP and PMTCT[f] quality improvement	Auditing of CHIPP and PPIP
	High-risk clinics at hospitals and community health centres		Mentoring on risk assessment and recording of patient history
	Identification of skill gap	Monitoring CARMMA strategy	Assessing facility structures, benchmarking good practices
	Supporting hospital QIP[g] on malnutrition	Mentoring on the SANCI	Supporting a neo-natal project
Education and training of health care workers	Mentoring on use of appropriate guidelines and protocols	Mentoring on use of appropriate guidelines and protocols	Mentoring on use of appropriate guidelines and protocols
	Training on IMCI,[h] PC 101,[i] ESMOE,[j] partogram plotting, neonatal resuscitation	Training in ESMOE, family planning and HIV/AIDS management	Mentoring on management of born before arrival (BBA)
	Workshop on MDGs, ministerial priorities		Mentoring medical officers
	Campaigns and mentoring on cervical screening		Mentoring on use of equipment
Engagement with DHMT and other organisational activities	One- to two-member representation at the extended DHMT meeting	Attend the DHMT executive committee meetings	Actively involved in DHMT meetings when required
	Supporting the referral system and practices	Supporting the referral system and practices	Supporting the referral system and practices
	Finalisation of emergency trolley and development of a Road-to-Health passport card	Developed a mentorship plan and team	
	Report to DHMT on a quarterly basis		Report to DHMT for reflection and decision-making
Clinical outreach visits to facilities	Supporting maternal waiting homes and maternal obstetric units (MOU)	Supporting maternal obstetric units	Supporting hospitals and some clinics
	Monitoring and evaluation		Initiated an outreach programme to include existing hospital specialists
Supporting the integration of the three streams of PHC re-engineering and community engagement	Supporting GP contracting readiness activities	Supporting GP contracting readiness activities	
	Facilitated the procurement of equipment for Ward-based Outreach Teams (WBOTs)	Working with the Family Health Teams (also known as (WBOTs)	Orientating WBOTs on their role in the community and referral system
	Started a PHC re-engineering forum	Started a mentorship team	
	Working with families and social groups	Working with School Health Teams	Health prevention and promotion activities in communities

In all three districts, DCSTs were able to access and utilise existing human and physical resources at the DHS level for their work. The DCST members are building networks using existing human resource capacity. For instance, the DCST in one district is liaising with the PHC development and training co-ordinator for their training activities, and involving existing sub-district trainers to form mentoring/training teams. Similarly, a Regional Training Centre is being used as a physical resource for organising meetings, borrowing mannequins and utilising budgeted funds to provide catering during training sessions.

Local/individual discretion and strategies

The use of discretion by individual actors or the whole team in operationalising DCSTs also emerged as a factor enabling their implementation. The manner in which DCSTs are asserting their leadership role in the interpretation of policy is important for their functioning. In one district, the DCST demonstrated the need for strategic planning and a well-considered way of working. Certain criteria were developed in the selection of facilities for their clinical supervision visits based on need or rural setting. This was informed by their baseline situational analysis and a vision to develop some facilities as "clinics of excellence".

> *We considered a lot of things. Some of them (clinics) are new, brand new… they have just been built and opened officially, so we thought those people (healthcare workers) are new, they are coming from all over, they needed to be guided. Some of them are big clinics, some of them are MOUs, and we thought they will need more of our support. We thought those people should not feel that they are on their own, that we are there to support them. (DCST member)*

d CHIPP: Child Identification Programme
e PPiP: Perinatal Problem Identification Programme
f PMTCT: Prevention of Mother-to-Child Transmission of HIV
g QIP: Quality Improvement Plan
h IMCI: Integrated Management of Childhood Illnesses
i PC 101: Primary Care 101 Guidelines 2013/14
j ESMOE: Essential Steps in the Management of Obstetric Care

There is a degree of flexibility at an individual and organisational level to influence the DCST implementation processes and to ensure their effective functioning. At an individual level, DHMT managers used their influence to garner resources for the team. In one instance, financial resources were sourced outside the DHS, while in another district, a personal assistant was appointed for the DCST to help in their administrative duties. At the DHS level, there was also an indication of human resource processes being mobilised to help DCST appointees secure school placements for their children, in order to assist the team members in taking up their appointments. (DHMT Manager)

Trust-building

For DCSTs to work effectively, they need to establish relationships with a range of actors within the DHS. Relationship-building is being fostered at different levels of the DHS and among different actors in all three of the study sites. To ensure a flourishing relationship, the DCST highlighted the need to gain DHS actors' buy-in through reaffirming the team's role. In one district, the DCST facilitated a meeting with DHS actors to introduce themselves and to initiate a trust-building process.

We started slowly. We had to even go to an extent of having a meeting with the CEOs, heads of departments of hospitals and maternal and child health [units]. They were called to a meeting, we were introduced formally and we presented our specific expectations and roles. So we wanted them to get to know who we were and what we also expected from them. I think that helped a bit; they started to understand who we were, also to say what we were there for and slowly, gradually people got to know… I can say people are now at ease. (DCST member)

Knowledge of local context and systems

Most of the DCST members recruited across the districts had previously worked within their respective DHS. This places some of these DCST members in a position to adapt rapidly to their new roles, given their knowledge of the local context:

They gave me the chance to serve in my area. (DCST member)

I am also a member of the Society of the Midwives […] So [as a DCST member it] means now I would be having a better chance to be able to capacitate, to see what is going on about midwives. (DCST member)

Leaders and champions

There are actors who seem to be facilitating and influencing processes to integrate the DCSTs and ensure their effective functioning at the DHS level. Some of the DHMT managers exhibited values which were seen as features of a champion or important for effective leadership. In each district, there is evidence of enthusiasm and ownership of the DCST innovation by at least one or two DHMT members, pre-planning and agenda-setting, influencing decisions in favour of the DCST activities, mobilising resources for DCST functioning, and continuous monitoring of their activities and operations.

We were already there for 8 or 9 years. We knew people and how the districts worked. Therefore, we could facilitate how this new group [would be] coming in and how… this [would] fit in. (DHMT Manager)

Challenges in the DCST implementation

The process of the DCST implementation has highlighted a number of enablers for its implementation, yet some challenges remain.

Poor communication

The early implementation experiences reflect some level of confusion, particularly regarding the role of the DHS in the recruitment process. There are also human and financial resource issues which were not effectively discussed and resolved between the DHS and the provincial structures. Some of these seem to have been addressed in the short term in all districts, but were not well communicated for better planning of the early implementation process. In addition, some of the potential contradictions in terms of the expected roles and activities of the DCST are the result of a perceived communication gap at a district/sub-district or facility level.

Difficulty in expanding coverage

The scope of the DCST activities is still constrained by geographical access, especially in rural and remote areas. For example, in one of the study sites, the number of facilities is immense. There was a need for benchmarking practices "because it is difficult to finish up those 134 clinics". It was also indicated that there is limited time to engage in support visits and clinical work, given the competing demands from various programmes. One DCST also highlighted an incomplete team complement and too many meetings as challenges to their functioning and activities.

Resistance and concerns at the frontline

DHMT managers and DCSTs reflected on the resistance by some facility and sub-district managers to the DCSTs working in 'their' facilities. Supervision by the DCST was seen as undermining existing practices and exposing apparent skill gaps and clinical incompetence. In all three districts, DCST members and senior managers noted that initially, there was a defensive and unreceptive attitude towards the team among some sub-district, programme and facility managers. However, this was reported to be changing as the role and value of the DCSTs becomes clearer to some of the actors.

People perceived them [as] a bit of a policing. It didn't matter how nicely and how positively we presented the stuff. We were welcomed [in a] very friendly [way] but then we found that we were not welcome back in the facilities. It's much better now. (DHMT Manager)

Some people were even uncomfortable about their posts… thought their posts were going to be redundant or invalid and that we were going to take over and be the principals and I think they know now that we are just there to support, coach them…not direct, but assist where possible. (DCST member)

Potential implications of experiences

Experiences and reflections in the interviews suggest that DCSTs are engaging in many activities at the different levels of the DHS. This requires them to attend many meetings and forums for engagement. Most of the DCST members acknowledged that the induction and orientation programme workshops were useful but also time-consuming. However, early stage implementation may require multiple meetings and ongoing communication in the process of role definition or clarification and the integration of teams into the DHS. Given that the induction and orientation programme is conducted over the period of a year, it is likely that the time perceived as lost to meetings or the frequency of meetings will reduce. However, the DCST will still be required to participate in other meetings or forums that require their time and knowledge to influence change and promote their agenda. It might be necessary for districts to continue to find innovative ways of engaging the DCST without doing so through physical contact.

DCST implementation also highlights the importance of leadership in clinical support. Despite the multiple lines of reporting, all districts are managing the DCSTs' functioning processes. It is, however, important that a constant and clear communication between provincial specialists, district managers, other district and sub-district managers and DCSTs be facilitated. At the facility level, open communication about DCST roles could minimise tension observed regarding their role of mentoring or training healthcare workers, while simultaneously offer an opportunity to appraise the effectiveness of their own interventions through feedback and follow-up visits. In the process of assessing their impact on training, they will continuously face the challenge of balancing the perceptions of being a supportive mentor on one hand, and a policing agent on the other. Further thought is required on how relationships between DCST and other actors can be built to minimise tension and promote collaborative practices and teamwork.

The varying socio-economic and demographic contexts of the study sites should be addressed with caution, especially when assessing the impact and effectiveness of the team. Although DHMT managers and DCSTs are utilising their individual and team discretion to mobilise resources for the DCSTs' functioning, these resources are still inadequate, especially in under-resourced settings where it may be difficult for DHMT managers to raise external funding. Similarly, DCSTs are constrained by the requirement for large geographical coverage, poor transport networks in rural settings, and an incomplete team complement. The initial lack of funding for DCST outreach activities and salaries suggests that the DHS and the DCSTs are being placed under continuous pressure to effect changes in service delivery. However, expectations of the DCST role in reducing MCH indicators would have to be aligned with the required resources and mechanisms in order to achieve the desired changes.

The question arises as to whether it is still justifiable to have a homogenous team given the differences in population size, number of facilities and rural context of the districts that DCSTs are supporting. There is also a potential trade-off between expanding the number of DCST members within one team and recruiting more than one team in a district, which will require decision-making around ideal team size, composition and ways of working. Further consideration must be given to recruitment challenges as well as the incremental costs and economies of scale of an expanded team, while acknowledging the need to establish value for money.

There is a need for further study to determine the most cost-effective way to maximise outcomes for clinical governance. Such an approach will strengthen the evaluation of the current DCSTs as well as hold lessons for similar future reforms including, for example, the newly anticipated mental health DCST. Moreover, such evaluation would require consideration of the complexity involved in assessing the impact of one team in one context in terms of changes in health outcomes. In addition, there may be challenges in drawing conclusions about the impact of the DCSTs on MCH outcomes given several parallel programmes focusing on MCH service quality improvement.

District Clinical Specialist Teams are intended to inform and reform clinical governance within districts. However, clinical governance should not be restricted to this team as its success requires collaboration between DHMT managers, clinicians and the DCSTs. It is still unclear as to the extent to which existing specialists at the PHC level and other actors at sub-district level can expand the scope of clinical governance or serve as a means of strengthening clinical supervision at the PHC level. There is an indication that DCSTs in some of the sites are facilitating engagements with other teams to improve training and mentorship activities; however, the extent of those relationships and their impact has not been analysed or assessed.

The DCSTs will need to assert a strong leadership role to facilitate and sustain collaboration in a targeted way. The implementation process clearly demonstrates that as DCSTs begin to embed themselves within the health system, there will be a need for negotiation around the use of their time, capacity and roles. In order for clinical governance activities to achieve desired outcomes, all stakeholders will have to exhibit a sense of ownership of the process. This implies that clinical governance is not limited to clinical supervision alone, but requires resources that enable clinicians to perform their work efficiently.

Recommendations and conclusions

Drawing on the reflections and experiences from the early phase of the DCST implementation, we note the following operational issues for consideration:

- Districts should promote awareness of DCSTs, acknowledge that the DCST is a team, and consider the role of team work/ lessons for facilitating team work and how the organisational arrangements or structures could promote teamwork, especially among actors within the district who have similar roles to those of the DCSTs.
- Districts should draw on or engage with outcomes of a national costing exercise for PHC re-engineering streams (including the DCST reform) that was reported to have been commissioned.[23] An additional costing exercise to assess the operational expenses for DCSTs' activities, or an appraisal thereof, is required at a district or national level.
- National and provincial Departments of Health should support districts financially to properly implement the DCST reform. These investments should focus on resources and discretion –

seemingly small interventions that can make a difference, e.g. a personal assistant, 3G data, and appropriate transport for serving rural areas.

- High-quality communication devices such as 3G connection and the opportunity for tele-conferencing might be part of a solution for helping the DCST members to co-ordinate activities and manage time more efficiently.

In addition, strategically:

- districts should develop innovative human resource support systems and strategies (e.g. finding schools for children of DCST members and continuing professional development/ leadership training) that would make acceptance of job offers more attractive to prospective specialists, given that personal factors are one of the motivators for uptake of these posts; and
- DCSTs should identify and sustain collaborative strategies (through programmes, other teams and resources) that could expand their coverage and improve the effectiveness of their work at a district level by marketing the idea of 'clinical governance' to a wider team of clinical specialists and practitioners.

This study shows that while there was a degree of confusion in the introduction of the DCSTs, there was also a measure of consensus among different actors in each district about the perceived role of the DCSTs. It is important to acknowledge that processes of change take time and roles themselves are evolving. Role flexibility and adaptation is an important feature of effective teamwork.[24–26] There is also merit in each district having flexibility to implement 'their' DCSTs in ways that are appropriate to local-level needs. Differences in district contexts should be recognised as opportunities for learning.

We conclude that DCSTs are serving as an interface between different layers of the healthcare system. DCSTs and DHMT members are utilising existing structures, setting up systems and fostering relationships that could promote well-functioning teams and strengthen the PHC service delivery system. The DCST initiative offers an opportunity to enhance collaboration and teamwork at the PHC level. As districts begin to monitor and evaluate the early implementation of these teams, there is a need for sustained clarification and capacitation of individual and team roles, for building a shared understanding of these roles and for finding spaces to reflect on innovative ways of managing the complex health system environment.

While we have presented the perceptions and experiences of actors in only three of the 52 districts in the country, the analysis has also excluded key informants such as the NDoH co-ordinators, district MCH co-ordinators and clinical specialists at the district level. Further understanding of the nature of the relationships and networks between these actors and the DCSTs is important for PHC strengthening and the integration of clinical governance in the districts is required.

Acknowledgements

We thank members of the UNITAS project team including Professor Lucy Gilson, Dr Filip Meheus, Dr Maylene Shung-King, Dr Ayako Honda, Ms Janet Michel, Mr Ermin Erasmus, Dr Wezile Chita, Prof Till Barnighausen and Ms Lwazi Sikuza. Special thanks to all district and sub-district managers, NHI co-ordinators and DCST members in all the three districts. This research was funded through the European Commission's Seventh Framework Programme (FP7-CP-FP-SICA, grant agreement number 261349).

References

1 South African National Department of Health. Re-engineering Primary Health Care in South Africa: Discussion document. Pretoria: National Department of Health; 2010.

2 Minister of Health. National Health Insurance in South Africa Policy Paper. Government Notice 657. Pretoria: Government Gazette No. 34523; 12 August 2011.

3 South African National Department of Health. Negotiated Service Delivery Agreement (NSDA): A Long and Healthy Life for All South Africans. Pretoria: Department of Health; 2010.

4 World Health Organization. Primary Health Care: Now more than ever. Geneva: World Health Organization; 2008.

5 World Health Organization. Health systems Financing: Path to Universal Coverage. Geneva: World Health Organization; 2010.

6 Ministerial Task Team. District Clinical Specialist Teams in South Africa: Report to the Honourable Minister of Health, Dr Aaron Motsoaledi. Pretoria: National Department of Health; 2012.

7 Universal Coverage in Tanzania and South Africa (UNITAS); monitoring and evaluating progress – research partnership project. [cited 24 March 2015].] URL: http://www.unitas-africa.org/.

8 Som CV. Clinical governance: a fresh look at its definition. Clinical Governance: An International Journal. 2004;9(2):87-90.

9 Connell L. A clinical governance handbook for District Clinical Specialist Teams. Durban: Health Systems Trust; 2014.

10 Nathan R, Rautenbach P. Risks identified in implementation of district clinical specialist teams. SAMJ. 2013;301(3).

11 South African National Department of Health. National Launch and Induction of the District Clinical Specialist Teams – Workshop Report 27-28 September 2012; St George Hotel, Irene, Gauteng. Pretoria: National Department of Health; 2012.

12 Republic of South Africa. National Core Standards for Health Establishments in South Africa: Towards quality care for patients. Pretoria: National Department of Health;2011. [cited 7 August 2015]. URL: http://www.sarrahsouthafrica.org/LinkClick.aspx?fileticket=YnbSHfR8S6Q=

13 Voce A, Bhana R, Monticelli F, Makva M, Pillay Y, Ngubane G et al. District Clinical Specialist Teams. In: Padarath A, English R, editors. South African Health Review 2013/14. Durban: Health Systems Trust; 2014. p.45-58.

14 DCST Recruitment Status Update (March 2015). In: Reducing Maternal and Child Mortality through Strengthening Primary Health Care (RMCH). National Department of Health, editors. [Unpublished presentation]; 2015.

15 Coovadia H, Jewkes R, Barron P, Sanders D, McIntyre D. The health and health system of South Africa: historical roots of current public health challenges. Lancet. 2009;374(9692, 5-11):817–34.

16 Vogel I. Review of the use of Theory of Change in international development. UK Department of International Development (DFID); 2012. [cited 7 August 2012]. URL: http://r4d.dfid.gov.uk/pdf/outputs/mis_spc/DFID_ToC_Review_VogelV7.pdf.

17 UNITAS. Monitoring progress towards universal health coverage in three NHI pilot districts in South Africa. 2014.

18 Mason P, Barnes M. Constructing Theories of Change. Methods and sources. Evaluation. April 2007 13(2):151-170.

19 Massyn N, Day C, Peer N, Padarath A, Barron P, English R. District Health Barometer. Durban: Health Systems Trust; 2014.

20 Strengthening South Africa's Response to HIV and Health (SARRAH). Status of NHI Pilot districts: 12-month progress report. National Department of Health; 2013. [cited 7 August 2015]. URL: http://www.sarrahsouthafrica.org/LinkClick.aspx?fileticket=X1uDSr-YH4w%3d&tabid=2321

21 Statistics South Africa. Census 2011. Statistical release. Pretoria: Statistics South Africa; 2012.

22 Treatment Action Campaign/Section 27. Death and Dying in the Eastern Cape: An investigation into the collapse of a health system. 2013. [cited 7 August 2015]. URL: http://www.section27.org.za/wp-content/uploads/2013/09/SECTION27-report-redacted.pdf

23 Matsotso MP, Fryatt R. National Health Insurance: The first 18 months. Pretoria: National Department of Health; 2013.

24 Mickan S, Rodger S. Characteristics of effective teams: a literature review. Australian Health Review. 2000;23(3).

25 Finn R, Learmonth M, Reedy P. Some unintended effects of teamwork in healthcare. Social Science & Medicine. 2010;70:1148-54.

26 Campbell SM, Sweeney GM. The role of clinical governance as a strategy for quality improvement in primary care. British Journal of General Practice. 2002;52:S12-S7.