The implementation of community-oriented primary care in the Cape Metro Health District: A programme evaluation

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Background. An implementation framework for community-oriented primary care (COPC) was developed in the Cape Metro, Western Cape Province, South Africa. In 2018, four learning sites were identified to experiment with the framework. A study was undertaken to explore the implementation of this framework.
Objectives. To explore the process and progress of implementation, as well as the perceptions of the barriers and enablers of implementation.
Methods. A programmatic process evaluation with a descriptive exploratory qualitative study design was used. A logic model was developed, and defined inputs, outputs and the sources of evidence for the implementation process.
Results. The understanding of COPC and its underlying philosophy contrasted with the traditional model of care, and the paradigm shift was challenging. Strong leadership was identified as a facilitator for change. Community and stakeholder engagement were the most challenging issues. COPC requires a wide range of skills and expertise supported by appropriate training and clear role definition. The use of electronic devices in the community was both an advantage and a barrier.
Conclusion. Implementation of COPC needs to be understood as a reform of the model of care, and not as an additional project or service. The findings can guide policy, further scale-up and implementation of COPC.

Keywords: community-oriented primary care, model of care, implementation research

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Strengthening the quality, efficiency and equity of primary healthcare (PHC) in South Africa (SA) is a national priority.[1] At national level, several strategies have been suggested to revitalise PHC, including a focus on community-oriented primary care (COPC) through the ward-based outreach teams (WBOTs).[1] COPC has been defined as 'a continuous process by which primary healthcare is provided to a defined community on the basis of its assessed health needs, by the planned integration of primary care practice and public health'.[2] COPC transforms the orientation of the health system from reactive facility-based primary care services that mainly respond to those that access care, with an emphasis on treatment of diseases, to proactive community-based services that engage the whole population with an emphasis on health promotion and disease prevention. The concept of COPC was originally pioneered in SA in the 1940s, but was abandoned during the apartheid era.[3] COPC has been successfully implemented in many countries, notably Brazil, where improvement in health indicators has been reported.[4-6] A systematic review conducted on the effectiveness of COPC across multiple countries reported that COPC is not fully implemented as originally described, and there are a wide variety of approaches towards implementation.[7]

In SA, COPC has emerged to embrace five principles: providing comprehensive care; improving health equity; analysing local health resources and institutions; practising with science; and integrating services around the needs of users.[8,9] A participatory process enables the community to agree on their health needs, as well as to prioritise and plan interventions. Community health workers (CHWs) visit and assess health risks in designated households, and intervene in terms of health promotion, disease prevention, referral, or home-based care. A scoping review of wider experiences in the African context identified a similar set of principles: a defined community; a multidisciplinary, evidence-based, comprehensive and equitable approach; analysis of health needs and assets; prioritisation of health needs and interventions; community participation; and service integration around users.[10] There is a need to evaluate the scale-up and effectiveness of the COPC approach.[7,10,11]

In 2016, the chief director of Metro Health Services (MHS), Western Cape Province, SA, decided that COPC should be one of the key strategies used to deliver the provincial Vision 2030.[12-14] A task team created a local framework for COPC implementation in 2017 (Fig. 1).[15]

Four learning sites were identified to experiment with implementation of the new framework during 2017 and 2018. In 2019, a study was undertaken to explore the implementation of the COPC framework in the four learning sites. The specific objectives were to explore the process and progress of implementation, as well

as the perceptions of health workers and key stakeholders on the barriers and enablers of implementation.

Methods

Study design

A programmatic process evaluation was conducted using a descriptive exploratory qualitative study design by embedded researchers.

Intervention

A logic model was developed (Appendix 1: http://coding.samedical.org/file/2329) for the evaluation, with defined inputs, outputs and expected outcomes. This study focused on evaluation of the key outputs and the factors influencing implementation.

Setting

The study took place within the Cape Metro Health District of the Western Cape in 2019 (population ~4.7 million).[16] The Cape Metro was divided into geographical service nodes based on Census subplaces.[16] Each geographical service node had a 'core' primary care facility that served a defined geographical area.

At the time of the evaluation, primary care was offered through a network of public sector facilities (run by the province and City of Cape Town municipality) organised into four substructures. A variety of non-profit organisations (NPOs) were contracted by the MHS to employ CHWs and other key staff members. CHWs offered a range of services such as supporting HIV or TB adherence, running chronic disease support groups and offering home-based care. Patients were mostly seen by CHWs in the community following referral from primary care facilities.

Four learning sites, each linked to a primary care facility, one in each substructure, were identified to experiment with implementing the new COPC framework. The primary care facilities were: Nomzamo Community Day Centre (CDC), Mamre CDC, Mitchells Plain Community Health Centre and Bishop Lavis CDC.

Study population, sample size and sampling

The intended sample included all of the following participants from each learning site: the substructure director; PHC manager; facility manager; comprehensive health manager; and NPO project manager (n=20). The provincial information manager was also included. In addition, the study population included 10 nurse co-ordinators, 175 CHWs and 21 primary care staff. The researchers intended to purposively sample from these groups across the four learning sites. CHWs needed to have been working for at least 3 months, and were selected by the NPO to participate in the study. The facility managers were requested to identify staff who worked closely with the CHWs. The NPOs at the learning sites could also include additional staff if they were seen as key informants.

Data collection

Semi-structured focus group interviews (FGIs) were held in each of the four learning sites with participants from the PHC facility and NPO. Semi-structured key informant interviews (KIIs) were conducted with the substructure staff and provincial manager. The interview guides were developed by the task team using the 10 components of the COPC framework (Fig. 1) as key topics.

Each FGI and KII was facilitated by a member of the task team at a mutually convenient venue. The FGIs lasted 2 - 3 hours, and the KII 1 - 2 hours. Interviews were conducted in either English or Afrikaans, and an interpreter was available for anyone speaking isiXhosa. The interviews were recorded and transcribed.

Meeting minutes and reports were reviewed to obtain information on expected outcomes.

Data analysis

All interviews were transcribed by a professional transcriber. Transcripts were checked for errors against the audio-recordings. Data analysis was a shared process by five members of the task team. The team adopted the framework method for thematic analysis assisted by ATLAS.ti version 8 (ATLAS.ti, Germany):

- Familiarisation: All task members familiarised themselves with the transcripts and identified issues that could be coded.
- Coding index: All members of the task team agreed on the coding index. Although codes were derived inductively from the data, the organisation of codes was deductive to evaluate the 10 components of the COPC framework.
- Coding: Each task team member dealt with their own set of transcripts. All transcripts were coded using the coding index.

Fig. 1. The 10 elements of the community-oriented primary care framework.[15] (PHC = primary healthcare.)

The individual analyses were then merged into one ATLAS.ti project.
- Charting: Charts were created for the 10 components.
- Interpretation: Interpretation of the data in different charts was divided between task team members. The final synthesis of the interpretation of the data was obtained by group discussion and consensus.

Trustworthiness

The five task team members were two health service managers, one public health specialist and two academic family physicians. The team were known to the participants, as they were all part of monthly workshops with the learning sites. During the data analysis phase, the task team reflected on their own biases and engaged in the interpretation of data. Preliminary feedback was provided to participants before final reporting, to improve the confirmability of the findings.

Ethical considerations

Ethical approval was obtained from the Health Research Ethics Committee of Stellenbosch University (ref. no. N17/10/092), and permission for the study was obtained from the relevant authorities.

Results

A total of nine FGIs and six KIIs were conducted (Table 1). Overall, 108 participants were interviewed: 58 CHWs, 7 nurse co-ordinators, 4 NPO managers, 1 NPO dietician, 5 facility managers, 19 nurses, 2 family physicians, 1 pharmacy manager, 1 clerk, 1 PHC manager, 4 comprehensive health managers (supervising the NPOs), 3 substructure managers, 1 director and 1 provincial information manager. The findings are presented according to the 10-point implementation framework.

The findings related to the implementation outcomes are described in Table 2, and the barriers and facilitators towards implementation are described below. Table 2 compares the expected outcomes with the actual outcomes, as extrapolated from the qualitative data.

Delineation of sub-areas and teams

Each site applied a different approach to delineating the geographical area, but all sites defined smaller areas to allocate to specific CHW

Table 1. Characteristics of study participants

Interview	Learning site	Participant type	Participants, *n*
FGI 1 (NPO)	1	CHW	20
		Nurse co-ordinator	2
		Project manager	1
FGI 2 (NPO)	2	CHW	18
		Nurse co-ordinator	2
		Project manager	1
FGI 3 (NPO)	3	CHW	15
		Nurse co-ordinator	2
		Project manager	1
FGI 4 (NPO)	4	CHW	5
		Nurse co-ordinator	1
		Dietician	1
		Project manager	1
FGI 5 (PHC facility)	1	Facility manager	1
		Nursing staff	4
FGI 6 (PHC facility)	2	Facility manager	1
		Nursing staff	5
		Family physician	1
		Pharmacy manager	1
		Information management clerk	1
FGI 7 (PHC facility)	3	Facility manager	1
		Nursing staff	6
		Family physician	1
FGI 8 (PHC facility)	4	Nursing staff	4
FGI 9 (substructure management)	2	Primary healthcare manager	1
		Community based co-ordinator	2
		HAST manager	1
		Rehabilitation co-ordinator	2
KII 1	2	Director of learning site 1	1
KII 2	2	Comprehensive health manager	1
KII 3	3	Comprehensive health manager	1
KII 4	1	Facility manager	1
KII 5	4	Facility manager	1
KII 6	-	Provincial information management manager	1

FGI = focus group interview; NPO = non-profit organisation; PHC = primary healthcare; KII = key informant interview; CHW = community health worker; HAST = HIV/AIDS, STIs and tuberculosis.

teams. One site went further and matched specific practitioners in the facility with specific CHW teams. Benefits of this delineation were described as improved alignment with community health needs and targeted interventions:

'With subdivisions, one understands how needs can vary within a community.' (person S – FGI 1)

Some areas were difficult to allocate to CHW teams as they were unsafe to enter:

'…what can I say, a persistent concern for us from the beginning. Is that, you know, how does COPC work in this war zone?' (person Z – FGI 2)

Governance relationship

The relationship between NPOs and the Western Cape Government: Health and Wellness (WCGHW) was governed by a contract and financial regulation. NPOs viewed themselves as partners, while the WCGHW viewed them as service providers who needed to

Table 2. Implementation outcomes

Framework component	Expected outcome	Finding
Delineation of sub-areas and teams	Each learning site has a clear map of the catchment area delineating sub-areas, PHC teams and the NPO involved.	All the COPC sites throughout the Cape Metro District were delineated on maps and each site was linked to an NPO.
Partnership with NPO	Contracts are modified with the learning site NPOs. Changes required to the existing contract are clarified in a report to the MHS from the task team.	Changes required to the existing contract were clarified in a report to the MHS from the task team. Contracts were modified with all NPOs, and not only learning sites.
Composition of team	Learning sites have revised and operationalised PHC teams. The composition of the ideal PHC team and the variables influencing this are defined in a model from the task team.	Learning sites revised and operationalised PHC teams based on their own context and resources available. The composition of the PHC team and the variables influencing this were defined in a model from the task team.
Facility- and community-based teamwork	Learning sites provide evidence of teamwork by linking facility-based staff with specific PHC teams and sub-areas, monitoring referrals, listing meetings and collaboration in training or critical thinking.	Learning sites provided evidence of teamwork by linking facility-based staff with specific PHC teams and sub-areas, monitoring referrals and meetings.
Scope of practice	CHWs operationalise the scope of practice at the learning sites. The task team defines the new scope of practice in a report to the MHS.	CHWs aligned their role and responsibilities at the learning sites and throughout the Metro area. The task team defined the roles and responsibilities in a report to the MHS. Changed from scope of practice to roles and responsibilities.
Information system	CHWs use an m-health system. Report from the task team to the MHS on what data CHWs should collect as part of an m-health system for the PHC teams.	Report from the task team to the MHS on m-health system for the PHC teams was submitted.
Community engagement	Evidence of engagement and participation of community and PHC teams in a community health forum. Reports on safety and acceptance of CHWs. Documentation of community diagnosis, community assets and resources, priorities and interventions at learning sites.	Evidence of engagement and participation of community and PHC teams in a community health forum at all learning sites. Mapping of community assets and resources at all primary care facilities.
Stakeholder engagement	Evidence of relationships and collaboration between PHC teams and other stakeholders as members of PHC teams, via referrals, or participation in community health forum.	Evidence of relationships and collaboration between PHC teams and other stakeholders as members of PHC teams, via referrals, or participation in community health forum was provided.
Training and development of the PHC team	Comprehensive educational plan adopted by the task team. Reports of training events/feedback from participants. Data on recruitment, retention, progression of CHWs.	Training needs were identified, and recommendations were made with regards to training methodology.
System preparation, communication and change management	Awareness and understanding among the broader managerial, support and clinical staff. Participation of above in the development of the framework. Approval at formal structures – minutes of formal meetings. Changes to policy documents. Engagement with key stakeholders – minutes of meetings.	Awareness and understanding among the broader managerial, support and clinical staff. Approval of implementation framework. Engagement with key stakeholders on COPC.

PHC = primary healthcare, NPO = non-profit organisation; MHS = Metro Health Services; CHW = community health worker.

be governed in terms of the contract. The substructure offices monitored and managed the NPOs:

> 'We are responsible to monitor the obligations of the NPO, thus the governance of the NPO.' (person Y – FGI 9)

Less collaboration and joint planning took place in areas where the NPOs were seen as paid service providers than in areas where the NPOs were seen as partners, and this also impacted on support for implementation.

Composition of the PHC team

The PHC team was comprised of facility- and community-based members. Enrolled nursing assistants, enrolled nurses, clinical nurse practitioners, medical officers and family physicians, were identified as key facility-based members of the team. The community-based teams included CHWs and nurse co-ordinators. Funding to employ additional staff was made available to NPOs via the substructures to support COPC implementation. These additional staff were employed to fill gaps in service needs in the community:

> 'We employed more CHWs, digital officer, project officer, dietician, social workers and now we can better support our community.' (person O1 – FGI 1)

Integrated facility- and community-based teams

The aim of one integrated team was not achieved to the same degree at each of the four sites. There was a sense from the NPOs that facility-based staff only managed clients inside the facility, while NPO-appointed staff were responsible for planning and co-ordination of services in the community. Such a rigid separation of responsibilities weakened relationships and hindered the integration of the team at certain sites.

> 'We almost work separate and do not plan and work together. I see my patients and I do my groups.' (person V – NPO staff)

The importance of good relationships between the team members at the NPO and primary care facility was highlighted. CHWs were able to fulfil their roles more confidently, and this led to greater trust in their services within the community. Relationship with the facility staff improved as CHWs received more feedback:

> 'We now get feedback about the people we have sent. I refer someone for TB testing after I have screened and then at the MDT [multidisciplinary team] meeting Sr [sister] will say how many people came and how many people tested positive.' (person C – FGI 3)

MDT meetings were identified as key strategies across all four learning sites for building relationships and discussing referrals. These meetings did not usually include joint planning of services or broader community health needs:

> 'We have monthly MDT meetings, and everyone comes and discuss patient referrals.' (person O2 – FGI 2)

At an organisational level, there was a perceived improvement in service delivery, as services were more aligned with and targeted towards the health needs of a defined population. Services became more integrated, and greater trust was developed with local communities.

Roles and responsibilities of the PHC team

The importance of clearly defined roles and responsibilities was highlighted, and the monthly workshops enabled the PHC team members to develop a better understanding of the shift in roles and responsibilities. Facility staff assisted by seeing more patients in the community. CHWs had a strong focus on individual health needs, guided by the household assessment form, and identifying people who needed screening. There was a shift in the CHWs' understanding of their roles, and referrals became more comprehensive, although managers thought that a greater focus on prevention and wellness was needed:

> 'I just think there needs to be a far, far greater focus on wellness, you know, and on sort of a healthy living type of approach.' (person R – KII 3)

Professional nurses employed by the NPOs were often working in an administrative role, and needed to embrace their clinical capabilities more in support of the CHWs:

> 'The professional nurse has a scope of clinical practice, and they should be doing the full scope.' (person L – FGI 5)

Information systems

Some sites collected data on paper, while other experimented with an m-health system (data captured on a mobile phone), although the safety and security of CHWs was a concern. The benefits of using an electronic system were highlighted, as data could be immediately analysed and reported on. This allowed users to determine the community's health needs per geographical area, and guide targeted interventions:

> 'If there are more TB referrals from a particular area, we can use this [electronic data] to zoom in on that area and pay it more attention.' (person A – FGI 1)

There were also many challenges with the information system. Paper-based data might be incomplete, inaccurate, not captured electronically and not analysed. The m-health system had many technical glitches and errors that needed to be resolved. The accuracy of the patient's recorded address was a particular problem in following up patients in the community, and people living in informal settlements might not have a formal address:

> 'It is difficult to capture address if you are living in an informal settlement and the address at the clinic is not updated.' (person O – FGI 5)

CHW teams used mobile phone technology (phone calls, SMS) and social media (such as WhatsApp) to communicate with the facility-based teams, but insufficient airtime and mobile data was a challenge.

> 'We have a WhatsApp group where we communicate with the staff about patients. But, ja, as you say they have to use their own data.' (person T – facility staff)

The following needs were identified of what an information management system should be providing: (*i*) performance management of the PHC teams; (*ii*) identifying community-level health needs; (*iii*) individual-level information on risks, needs and follow-up required; (*iv*) information on other activities such as support groups; and (*v*) operational data for reporting at higher levels.

Engagement with community

Community engagement was challenging across all sites. There was no clear guidance on how to engage communities, and move from merely informing people to active participation. It was difficult to sustain engagement with community members, and there was a belief that representatives lacked commitment, particularly the local ward councillors. There was a sense that if staff were personally involved in a community organisation, then it was easier to engage community

members and get buy-in. Despite these challenges, there was still a perception that greater trust was developed with local communities:

'So as I am saying, I don't actually know that we know how to do this.' (person K – FGI 2)

'Where we (staff members) are involved in organisation then it is easier to get them involved e.g. I am the chairperson of X and Sr T is on the church committee.' (Person O – FGI 8)

Engagement with stakeholders

Stakeholder mapping to identify key resources and potential collaborations was recognised as an important step, but it was perceived that the approach was not standardised or prioritised:

'We have done it [but it] is not structured as that because we, first of all we have to take what's available you know.' (person D – FGI 7)

Various NPOs, Departments of Education and Social Development, religious organisations and ward councillors were identified as key stakeholders to engage with.

There was also a sense across the sites that stakeholders did not see engagement with facilities as a priority:

'From my own perspective I would say that one of the experiences had been that the stakeholders in COPC are not similarly invested in the process. We haven't found that there's been a consistent presence in my experience of that cohort external to the facility and the actual NPO' (person M1 – FGI 8)

Training and development of the PHC team

Each substructure appointed a trainer who supported the general training of CHWs. Training was therefore somewhat *ad hoc* and eclectic. In addition, there was no guidance on how to implement more ongoing experiential in-service training for the CHW teams. The challenge of providing training without disrupting service delivery was highlighted by both facility and NPO staff:

'I don't think it's as structured as that because we, first of all we have to take what's available, you know. And also, we have to be very careful around our availability. Training often requires people to leave their posts and, you know, when our group from the facility went on the foot screening program, we virtually had a skeleton staff at work.' (person J1 – FGI 7)

System preparation, communication and change management

There was little prior understanding of the COPC approach, and various workshops were held to explain and explore the concept, its potential benefits and the framework for implementation. Participants reported that the components of the framework were appropriate, and assisted in planning implementation. The workshops helped to develop buy-in from staff, but there was still uncertainty about the practical steps:

'Um, the other things was, um, we didn't have a cooking clue what, uh, COPC was really all about. Though it was just roughly explained, we still just couldn't get to the deeper part of the logistics regarding, um, COPC but by going to the workshops it helped a lot.' (person C – FGI 4)

Although respondents appreciated the potential benefits of COPC, many saw it as just another project that they were being asked to deliver:

'…but COPC is something extra that we must do.' (person L – FGI 5)

There was not a coherent plan or focus on change management across the system. Both facility and NPO staff did what was asked without internalising it:

'We just did it as we were told we must do it.' (person G – FGI 2)

Effective leadership was, however, identified as an enabler to change management. The central roles of the facility manager and NPO leadership were highlighted, but also the need for substructure management to ensure regular feedback and support to facility managers:

'She was the facility manager there before. So, if she was still the facility manager, it would have been completely different, because she's very much into this relationship building, intersectoral getting people in.' (person O – facility staff)

'What we can see from the workshops that where the NPO leadership is strong, they had better implementation.' (person Y – management)

Discussion

The key findings are summarised in Fig. 2 using an implementation research logic model.[17] The key factors that enabled or hindered implementation are summarised as contextual factors. The contextual factors resonate with the findings of a scoping review on the effectiveness and feasibility of COPC in sub-Saharan Africa.[10] Various implementation strategies were used to support the implementation of COPC. The achievement of the implementation outcomes per the COPC implementation framework are summarised.

The understanding of COPC and its underlying philosophy contrasted with the traditional model of care, and such a paradigm shift was challenging.[18] For example, the shift towards inclusion of communities, analysing and defining local community needs and developing interventions to address them was complex and not part of the traditional way of doing business.

The conceptual understanding by some NPO and facility staff of COPC as a project, rather than an approach to service delivery, highlighted the need for a clearer communication strategy prior to implementation. Strong leadership at substructure, facility and NPO levels was also identified as a facilitator for change. Building strong relationships and partnerships as well as integrating primary care and public health functions are key factors.[17] It is further argued that the core leadership behaviours that drive collaborative practices are promoting change, building bridges between people and organisations, mobilising resources, navigating organisational politics, convincing people with a well-articulated vision and contributing to organisational skill building.[19]

The governance arrangements impacted on the relationship between NPO staff and facility staff owing to the contractual and supervisory arrangements. Governance has been identified as a critical issue in service integration to clarify roles and policy, as well as support joint planning and relationships between stakeholders and communities.[19] Community and stakeholder engagement were the most challenging issues at all learning sites. Getting community leaders to participate was difficult, and there was inequitable availability and participation of stakeholders across sites. Health committees were perceived as key mechanisms for future engagements, and ward councillors were identified as key stakeholders. A lack of political commitment and poor intersectoral collaboration have been noted elsewhere as key challenges.[10] There is a need to shift towards participatory processes that empower people to co-design solutions to address health needs, and strong links between the PHC team, community, other stakeholders and levels of care.[15,20]

COPC requires a wide range of skills and expertise supported by appropriate training and clear role definition to deliver effective population-based services.[21] There were differences and similarities

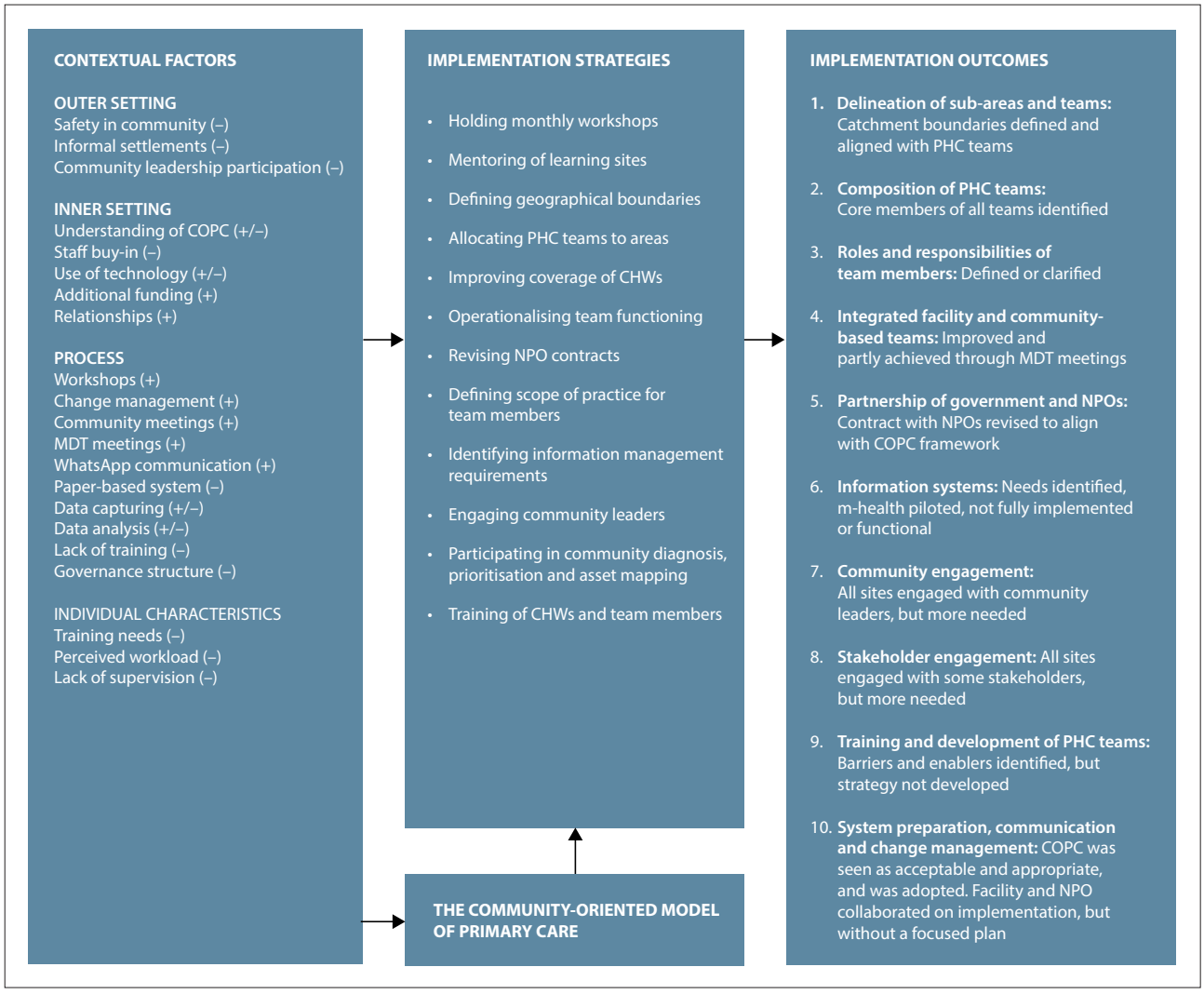

Fig. 2. Implementation research logic model for COPC implementation. (+ = facilitator; – = barrier; COPC = community-oriented primary care; MDT = multidisciplinary team; PHC = primary healthcare; CHW = community health worker; NPO = non-profit organisation.)

between the PHC team composition in the MHS, and other examples of COPC. In Brazil, the doctor appeared to be more actively engaged within the PHC team, and the whole team more oriented towards a specific geographical area.[6,8,10] The SA national policy on engagement with an environmental health officer and health promoter was not realised. Environmental health officers are employed by a different PHC organisation, and health promoters are more facility-based. All CHW teams had dedicated nurse co-ordinators, which is not the case in many other parts of SA, where nurses in the facility are also expected to supervise the CHWs.

An integrated PHC team is essential for a co-ordinated response to the healthcare needs of a defined geographical population.[10,12,20] Although the focus was often on defining the roles of the CHWs, there was a clear gap in defining roles and changing job descriptions for nurse co-ordinators and facility managers. Clinical staff at the facility need to be re-oriented and upskilled towards a COPC approach, including training and mentoring CHWs, analysing and interpreting information from the CHW teams and participating in community-level activities.[14] A standardised approach to the training of new CHWs is required that aligns with their roles and responsibilities.[22,23] A need was identified for a comprehensive training plan for all members of the PHC team.

The value of geographical delineation was highlighted in line with the principles of COPC,[2] as it assisted with better understanding of health needs, directed service delivery and focused engagement with communities and stakeholders. Information and communication technologies have assisted in the use of data to analyse patterns and trends and improve targeted interventions.[15] The use of electronic devices in the community was both an advantage and a barrier, owing to safety concerns and technical problems. A monitoring and evaluation strategy should be developed.[21]

Study strengths and limitations

Although the task team were embedded researchers and could have a positively biased interpretation of the data, many of the task team members acted in an advisory capacity and were not directly involved in the learning sites. Another limitation was that only one substructure PHC manager was interviewed. The voices of the CHWs are not specifically attributed because they were interviewed as part of a group from the NPOs that also included nurse co-ordinators and other members. The four learning sites had long-established NPOs and long-term relationships with the health services. Transferability of the findings to less-established NPOs might be an issue. Nevertheless, it is likely that these findings can guide scale-up of implementation across the district. While

not all the targeted individuals were interviewed, 108 people were included across all team member types, and the researchers achieved saturation of data in the last few interviews.

Implications

This study focuses on the first phase of implementation, and further research is needed to evaluate the longer-term sustainability of COPC at the learning sites. To improve implementation of COPC, the roles and responsibilities of managers should be clearly defined at macro, meso and micro levels. Governance of the facility- and community-based members of the team should be better integrated, and the important role of the facility manager clarified.

There should be a clear description of the service delivery model in each geographical service node, including the organisational and clinical governance structures, and the building of sustainable partnerships. A costing and financing of the service delivery model should be performed to support service delivery.

Relationships and functional integration of facility- and community-based members of the team need to be further improved. More clinical support and capacity building needs to come from the practitioners at the facility. The conversation needs to expand to the needs of the community, and not just individuals. The relationship with the NPO should be a collaborative partnership, moving away from being purely transactional, in that the health services inform them of what they require, towards embracing more collaboration and participation in the implementation of COPC.

Community engagement needs marketing to motivate participation and improve safety of the PHC team. An enabling environment needs to be created to build the capacity of staff in community and stakeholder engagement. The clinic committee should be better empowered to participate in COPC.

The information system needs to be developed to ensure functioning m-health technology, integration of household and other community data with data from the primary care facility, and creation of health information to guide COPC at an individual and community level.

A clear change management strategy is required to shift from seeing COPC as a project to seeing it as the model of care. This strategy must be transversal for the district, with the opportunity for adaptation at the local level. The training needs of the whole PHC team should be considered, and not just those of CHWs.

Conclusion

Good progress was made with delineating the geographical areas served by primary care facilities, and defining the sub-areas and households served by CHW teams. Most teams were composed of the required CHWs, nurse co-ordinators, practitioners and additional support staff. The scope of practice was defined, particularly for the CHWs. Some progress was made in terms of building a partnership between NPOs and the WCGHW, establishing relationships between facility- and community-based team members, training CHWs and experimenting with better information systems, including m-health. Much more work is required to enable community participation and stakeholder collaboration. Attention needs to be given to improved governance and change management in the functioning of one integrated and appropriately trained PHC team. Implementation of COPC needs to be understood as a reform of the model of care, and not as an additional project or service. The findings can guide policy, further scale-up and implementation of COPC.

Data availability. Anonymised data can be made available on request from the authors.

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